

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
193911	1.0	19.9	362357	1.1	21.8	34435	1.2	17.8	152725	1.2	20.7	76439	1.3	18.8	401990	1.4	20.7
291049	1.0	20.4	58451	1.1	18.0	286710	1.2	19.6	497290	1.2	22.1	189026	1.3	21.0	503574	1.4	21.3
238781	1.0	19.7	430011	1.1	20.7	223771	1.2	19.8	183221	1.2	18.5	57669	1.3	17.9	386572	1.4	21.0
385052	1.0	20.6	244593	1.1	19.2	204972	1.2	20.7	213067	1.2	20.1	321320	1.3	19.4	411262	1.4	22.4
174299	1.0	19.4	469090	1.1	20.5	79171	1.2	20.1	432310	1.2	21.5	256180	1.3	19.6	359980	1.4	20.4
434810	1.0	21.5	139644	1.1	19.2	374086	1.2	20.6	148328	1.2	19.7	17242	1.3	18.2	114163	1.4	19.7
29189	1.0	18.3	252664	1.1	17.7	321592	1.2	21.3	326416	1.2	19.4	398777	1.3	19.8	463828	1.4	20.6
303287	1.0	19.4	95447	1.1	19.3	280412	1.2	20.2	450192	1.2	21.1	54302	1.3	18.7	103206	1.4	19.8
428966	1.0	20.2	56159	1.1	18.6	207482	1.2	19.6	146453	1.2	17.7	226933	1.3	19.8	252981	1.4	21.9
273682	1.0	19.6	44639	1.1	18.0	51894	1.2	18.3	178975	1.2	20.9	412577	1.3	21.0	203502	1.4	18.4
184064	1.0	20.2	265741	1.1	21.3	216531	1.2	21.6	131454	1.2	20.6	52375	1.3	19.3	409998	1.4	20.5
68356	1.0	18.5	517168	1.1	21.7	77871	1.2	18.5	149532	1.2	18.9	272656	1.3	20.4	299051	1.4	20.3
359037	1.0	19.6	406419	1.1	21.5	419610	1.2	22.0	203356	1.2	20.5	456764	1.3	22.2	308193	1.4	20.4
288620	1.0	21.9	91561	1.1	19.3	238312	1.2	20.1	428422	1.2	20.7	340760	1.3	19.7	209385	1.4	20.6
17774	1.0	17.8	6342	1.1	17.5	460831	1.2	20.8	114719	1.2	19.7	299976	1.3	21.7	142693	1.4	19.3
453354	1.0	20.9	218443	1.1	20.3	299005	1.2	20.2	164799	1.2	19.4	26110	1.3	17.4	55979	1.4	19.1
186093	1.0	20.5	336265	1.1	21.2	168495	1.2	19.7	102496	1.2	18.1	30464	1.3	18.3	291331	1.4	20.2
341683	1.0	20.6	402019	1.1	21.4	310150	1.2	20.9	317161	1.2	20.3	415926	1.3	21.2	286083	1.4	20.7
518167	1.0	20.8	197556	1.1	20.4	316815	1.2	20.9	308221	1.2	20.4	346761	1.3	21.0	378732	1.4	21.6
496269	1.0	22.6	316742	1.1	20.8	347549	1.2	21.3	207994	1.2	19.4	490060	1.3	22.0	458990	1.4	21.2
427528	1.0	21.1	294593	1.1	20.7	171397	1.2	19.7	33915	1.2	19.1	391003	1.3	21.1	143498	1.4	20.0
266605	1.0	20.7	165345	1.1	19.8	117117	1.2	18.6	67908	1.2	18.5	246813	1.3	20.7	430945	1.4	21.7
283207	1.0	21.0	427552	1.1	21.3	354361	1.2	21.0	345648	1.2	20.5	251545	1.3	20.9	244694	1.4	21.1
435284	1.0	21.0	501186	1.1	21.3	208364	1.2	19.3	469198	1.2	19.8	328705	1.3	21.0	77825	1.4	18.2
209598	1.0	20.3	107021	1.1	18.2	109525	1.2	19.3	305973	1.2	19.9	455237	1.3	20.8	422171	1.4	21.9
463303	1.0	20.1	522466	1.1	20.0	281754	1.2	20.0	301134	1.2	19.5	115240	1.3	19.3	56743	1.4	18.7
119673	1.0	19.5	455710	1.1	20.6	160754	1.2	20.4	373513	1.2	21.5	42893	1.3	18.2	371116	1.4	21.7
328741	1.0	21.0	340858	1.1	19.8	140410	1.2	21.0	100635	1.2	20.0	169919	1.3	20.6	363780	1.4	20.1
325343	1.0	20.7	416208	1.1	22.3	101496	1.2	19.6	450232	1.2	22.0	284380	1.3	20.4	333240	1.4	21.4
379070	1.0	21.4	111308	1.1	19.7	431539	1.2	21.2	32354	1.3	18.2	125926	1.3	19.4	285602	1.4	20.8
300190	1.0	20.5	207943	1.1	21.1	108678	1.2	19.9	199080	1.3	20.3	402043	1.3	21.8	408163	1.4	20.4
139169	1.0	19.6	401398	1.1	20.6	292570	1.2	20.5	496733	1.3	21.0	220317	1.3	20.1	338417	1.4	18.9
141261	1.0	19.7	167063	1.1	20.6	203504	1.2	19.5	63562	1.3	19.4	324498	1.3	21.0	499118	1.4	20.5
11180	1.0	17.9	417642	1.1	21.8	452353	1.2	21.6	56049	1.3	18.7	108684	1.3	19.2	4014	1.4	17.4
103013	1.0	17.9	498821	1.1	21.8	346845	1.2	20.0	430410	1.3	21.7	157915	1.3	20.2	315897	1.4	19.8
403838	1.0	21.3	14967	1.1	18.6	171968	1.2	19.6	20242	1.3	18.1	359641	1.3	21.5	241627	1.4	20.1
467441	1.0	21.2	51260	1.1	17.9	373439	1.2	21.6	459635	1.3	21.1	210865	1.3	20.3	412610	1.4	21.3
412656	1.0	21.3	388327	1.1	19.9	123240	1.2	19.7	117036	1.3	19.6	95164	1.3	19.0	299880	1.4	20.9
124709	1.0	20.4	3252	1.1	15.5	32436	1.2	17.3	2034	1.3	14.7	296165	1.3	20.3	429319	1.4	20.9
100742	1.0	19.9	190291	1.1	20.6	298837	1.2	20.8	42027	1.3	18.7	362426	1.3	21.7	181693	1.4	19.8
205055	1.0	18.5	381429	1.1	21.3	343510	1.2	19.7	225136	1.3	20.9	410042	1.3	21.3	213856	1.4	19.8
186188	1.0	19.3	272630	1.1	20.1	284978	1.2	20.6	457905	1.3	21.9	190159	1.3	20.3	372418	1.4	21.3
131838	1.0	18.8	406210	1.1	21.2	190072	1.2	20.6	227306	1.3	18.9	498583	1.3	21.6	241110	1.4	20.1
36297	1.0	18.9	15179	1.1	18.0	105098	1.2	20.6	369606	1.3	21.3	190231	1.3	19.9	267502	1.4	19.1
207077	1.0	19.1	403320	1.1	20.5	465701	1.2	20.4	233816	1.3	20.8	160092	1.3	18.7	243137	1.4	19.9
456641	1.0	22.3	117070	1.1	20.3	259268	1.2	19.2	87564	1.3	19.6	16532	1.3	17.5	78968	1.4	19.0
127944	1.0	20.4	23665	1.1	17.9	162196	1.2	20.4	144457	1.3	19.0	283418	1.3	20.5	456645	1.4	21.7
110700	1.0	19.3	388293	1.1	21.3	467353	1.2	20.7	341445	1.3	20.9	377364	1.3	20.5	347304	1.4	19.9
410425	1.0	20.8	358569	1.1	20.3	243205	1.2	20.7	117493	1.3	19.9	289196	1.3	19.5	423404	1.4	21.1
196894	1.0	20.5	406102	1.1	21.2	218738	1.2	20.4	466294	1.3	21.9	520114	1.3	20.4	88428	1.4	20.1
404603	1.0	20.2	397457	1.1	20.8	285152	1.2	20.8	59875	1.3	19.5	170726	1.3	19.8	168953	1.4	20.0
213611	1.0	21.5	397485	1.1	21.3	474114	1.2	20.6	104830	1.3	18.7	290398	1.3	20.1	195506	1.4	19.8
249409	1.0	20.6	499370	1.1	20.1	387654	1.2	21.4	165245	1.3	20.9	181853	1.3	19.5	102801	1.4	18.9
361218	1.0	21.3	458845	1.1	22.0	375968	1.2	20.8	204995	1.3	19.4	30945	1.3	18.2	436342	1.4	21.2
408329	1.0	20.4	199025	1.1	21.2	238657	1.2	20.1	66415	1.3	19.7	139797	1.3	18.9	294010	1.4	21.0
191150	1.0	20.2	500468	1.1	21.7	500612	1.2	21.4	401902	1.3	20.3	166633	1.3	20.3	474008	1.4	20.8
260084	1.0	19.4	112423	1.1	19.0	50951	1.2	19.3	298773	1.3	20.5	2126	1.3	16.1	241908	1.4	20.9
302132	1.0	22.6	376727	1.1	21.5	426099	1.2	20.4	6286	1.3	15.9	62313	1.3	18.8	466896	1.4	20.5
415309	1.0	21.2	426357	1.1	21.7	105414	1.2	19.0	370044	1.3	20.8	64813	1.3	18.9	158554	1.4	20.2
162397	1.0	20.4	488852	1.1	21.2	289966	1.2	20.9	492531	1.3	21.7	396182	1.3	20.0	17658	1.4	17.0
312028	1.1	20.5	127787	1.1	19.6	81582	1.2	19.2	142704	1.3	20.7	522430	1.3	20.7	113018	1.4	19.5
268799	1.1	20.7	328584	1.1	20.6	458886	1.2	20.5	465444	1.3	21.0	83517	1.3	19.4	332109	1.4	20.3
298789	1.1	20.8	281888	1.1	20.2	396625											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
345706	1.4	20.3	341720	1.5	21.5	300846	1.6	20.4	145339	1.6	19.8	301472	1.7	20.6	33045	1.8	18.5
259126	1.4	19.2	289976	1.5	20.1	116998	1.6	19.6	321541	1.6	21.4	79661	1.7	19.3	196165	1.8	19.1
460211	1.4	21.7	376670	1.5	20.3	371783	1.6	20.1	192276	1.6	19.9	375851	1.7	21.5	127054	1.8	19.8
403330	1.4	20.1	21955	1.5	17.2	291949	1.6	20.5	2151	1.6	14.4	35286	1.7	18.4	72443	1.8	18.1
80127	1.4	19.6	155357	1.5	20.3	237651	1.6	19.9	361606	1.6	21.3	470285	1.7	19.8	89265	1.8	18.5
114818	1.4	19.8	250153	1.5	20.5	8629	1.6	19.0	38901	1.6	18.5	166101	1.7	19.3	459270	1.8	21.5
412180	1.4	20.3	109348	1.5	19.5	397144	1.6	21.5	42983	1.6	19.6	477934	1.7	21.0	413107	1.8	20.5
237340	1.4	20.9	70221	1.5	20.0	94459	1.6	18.6	373484	1.6	20.1	171922	1.7	21.0	471809	1.8	21.8
406844	1.4	21.1	60918	1.5	19.2	7730	1.6	18.4	286413	1.6	19.0	49676	1.7	19.2	25322	1.8	17.4
500911	1.4	21.2	270380	1.5	19.7	467029	1.6	21.1	491226	1.6	20.3	258328	1.7	20.2	358027	1.8	20.5
487140	1.4	20.6	464227	1.5	20.7	362152	1.6	20.0	155931	1.6	20.1	199210	1.7	18.7	215847	1.8	19.2
69011	1.4	19.1	17527	1.5	18.8	208236	1.6	20.3	135422	1.6	21.1	110023	1.7	20.4	458916	1.8	21.7
405950	1.4	20.9	452481	1.5	19.8	379047	1.6	20.7	350698	1.6	20.2	453404	1.7	20.4	207029	1.8	20.3
122246	1.4	20.0	279159	1.5	20.1	333117	1.6	20.2	463718	1.6	21.3	169280	1.7	19.6	459614	1.8	21.1
192802	1.4	20.9	330675	1.5	19.6	37718	1.6	19.4	339493	1.6	20.6	206238	1.7	19.2	278272	1.8	20.0
204379	1.4	20.5	350046	1.5	20.5	13646	1.6	18.7	148972	1.6	20.1	364868	1.7	20.6	152051	1.8	19.0
114642	1.4	19.3	252205	1.5	19.5	308168	1.6	20.9	415930	1.6	21.3	262709	1.7	20.2	276573	1.8	20.6
384194	1.4	21.1	248711	1.5	21.7	296978	1.6	20.7	204588	1.6	20.6	384121	1.7	20.4	96376	1.8	17.7
170865	1.4	19.5	520955	1.5	20.6	75071	1.6	20.1	295538	1.6	20.8	140725	1.7	19.5	380882	1.8	21.1
413099	1.4	21.0	495402	1.5	22.1	308101	1.6	21.7	371679	1.6	20.4	63024	1.7	19.4	84253	1.8	18.9
242959	1.4	19.9	186871	1.5	20.3	122397	1.6	20.5	405562	1.6	22.1	500006	1.7	21.7	111187	1.8	20.1
219368	1.4	18.9	114250	1.5	20.0	231393	1.6	20.1	66417	1.6	19.3	376829	1.7	21.0	29383	1.8	18.3
234363	1.4	19.8	126129	1.5	19.2	210488	1.6	20.4	209071	1.6	20.9	172109	1.7	19.8	431085	1.8	20.1
508255	1.4	21.6	325303	1.5	21.1	341674	1.6	20.5	264647	1.6	20.0	221179	1.7	20.4	271708	1.8	20.9
496006	1.4	21.5	213465	1.5	19.7	92265	1.6	18.9	58072	1.6	19.1	62628	1.7	19.2	198492	1.8	20.2
83051	1.4	18.8	520101	1.5	21.1	246811	1.6	19.4	204691	1.6	20.0	108531	1.7	18.9	419176	1.8	20.5
23178	1.4	18.1	209723	1.5	20.2	152485	1.6	18.9	500533	1.6	21.7	421650	1.7	21.0	57885	1.8	18.4
419532	1.4	21.8	116311	1.5	18.9	400399	1.6	21.3	299887	1.6	20.6	49153	1.7	17.4	37322	1.8	18.7
501359	1.4	21.0	272561	1.5	19.6	216982	1.6	19.6	272820	1.7	20.5	472243	1.7	21.9	105846	1.8	18.6
365571	1.4	21.1	374092	1.5	22.3	157311	1.6	20.2	68685	1.7	17.5	160081	1.7	20.0	458915	1.8	21.3
412223	1.5	20.6	400313	1.5	20.9	234857	1.6	20.3	150452	1.7	20.5	271731	1.7	20.8	127882	1.8	18.6
378964	1.5	20.6	425272	1.5	20.4	130452	1.6	18.9	495382	1.7	20.8	37830	1.7	18.2	405894	1.8	21.1
397	1.5	14.1	465420	1.5	22.6	355801	1.6	20.8	311632	1.7	20.2	286026	1.7	21.0	347212	1.8	20.6
160738	1.5	19.2	213793	1.5	20.1	326417	1.6	20.0	325240	1.7	20.8	262668	1.7	19.9	508223	1.8	21.3
439808	1.5	19.6	93411	1.5	18.8	360374	1.6	20.1	196579	1.7	19.9	138493	1.7	19.3	519605	1.8	21.7
345554	1.5	21.3	253157	1.5	20.6	520032	1.6	21.6	197515	1.7	19.5	154660	1.7	19.1	230824	1.8	21.3
507710	1.5	21.9	174473	1.5	20.4	374536	1.6	20.8	166779	1.7	19.2	300106	1.7	20.7	294052	1.8	20.3
64215	1.5	16.5	298965	1.5	20.5	323060	1.6	21.0	269537	1.7	19.8	246424	1.7	19.8	417500	1.8	21.9
351546	1.5	21.0	212574	1.5	19.8	6959	1.6	16.8	503111	1.7	20.8	366817	1.7	21.4	460372	1.8	20.6
206262	1.5	19.1	495880	1.5	22.3	518163	1.6	21.7	136188	1.7	21.1	163656	1.7	18.7	271655	1.8	19.7
295163	1.5	19.5	415218	1.5	20.4	458816	1.6	21.5	348480	1.7	20.9	473866	1.7	20.9	33204	1.8	18.5
333866	1.5	20.2	454102	1.5	20.2	437102	1.6	21.7	160580	1.7	19.0	409917	1.7	22.4	264572	1.8	21.5
464961	1.5	20.6	399316	1.5	21.3	110054	1.6	19.1	180643	1.7	19.8	271705	1.7	19.7	3839	1.8	16.7
496591	1.5	21.2	528486	1.5	19.5	431390	1.6	19.8	467221	1.7	21.1	54112	1.7	19.3	20467	1.8	18.4
52610	1.5	18.4	428887	1.5	20.1	190364	1.6	17.6	464614	1.7	21.7	79495	1.7	18.9	267403	1.8	20.8
120309	1.5	19.8	179884	1.5	18.6	232189	1.6	18.6	422794	1.7	21.0	23486	1.7	20.2	383765	1.8	20.7
500934	1.5	20.8	57532	1.5	18.4	430043	1.6	21.4	37102	1.7	19.2	206177	1.7	19.3	498024	1.8	19.8
55423	1.5	19.0	353449	1.5	21.1	43654	1.6	18.4	364651	1.7	20.6	327837	1.7	20.5	451902	1.8	20.6
127736	1.5	19.5	364638	1.5	20.7	330961	1.6	21.0	374352	1.7	20.7	205239	1.7	20.3	317664	1.8	18.9
303429	1.5	19.2	88835	1.5	19.3	203872	1.6	20.6	337622	1.7	20.3	381948	1.7	20.3	464755	1.8	21.5
501110	1.5	21.7	343053	1.5	20.4	165521	1.6	18.6	145245	1.7	20.4	298912	1.7	21.1	249667	1.8	20.9
498567	1.5	21.3	417024	1.5	20.6	88088	1.6	20.1	284817	1.7	19.8	86951	1.7	19.8	74884	1.8	18.4
60733	1.5	19.6	119458	1.5	20.0	317600	1.6	20.4	275228	1.7	20.0	338985	1.7	20.0	264426	1.8	21.0
33931	1.5	18.9	28856	1.5	17.4	341215	1.6	19.6	95724	1.7	19.3	288513	1.7	19.9	335596	1.8	20.8
89460	1.5	19.0	17562	1.5	17.0	133587	1.6	20.3	454142	1.7	19.9	500679	1.7	22.0	142363	1.8	20.9
90233	1.5	18.6	467026	1.5	20.6	176232	1.6	19.6	450720	1.7	20.4	396735	1.7	21.2	425863	1.8	20.1
251007	1.5	21.3	195550	1.5	19.4	182274	1.6	20.8	354067	1.7	20.0	50376	1.7	17.5	354897	1.8	20.1
323440	1.5	21.3	52225	1.5	19.0	324513	1.6	20.9	90943	1.7	19.6	28554	1.7	18.8	458925	1.8	21.1
233021	1.5	20.3	153164	1.5	20.0	80360	1.6	18.1	230667	1.7	20.1	112419	1.7	20.1	107703	1.8	18.5
60649	1.5	18.6	348859	1.5	21.4	369300	1.6	20.9	125905	1.7	18.9	502030	1.7	20.3	222455	1.8	20.3
48257	1.5	18.6	61339	1.5	19.5	176671	1.6	20.3	502467	1.7	21.2	106466	1.7	18.4	66887	1.8	19.6
288672	1.5	19.5	63708	1.5	18.9	78525	1.6	19.1	424927	1.7	20.3	432163	1.7	20.3	328785	1.8	21.3
284333	1.5	21.2	489579	1.5	21.7	57114	1.6	19.9									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
230951	1.8	20.5	234468	1.9	21.6	47954	1.9	18.4	68557	1.9	17.9	25310	2.1	18.4	159676	2.1	19.3
351526	1.8	21.6	242417	1.9	20.5	231831	1.9	20.7	365872	1.9	20.5	153367	2.1	19.0	303220	2.1	19.9
172124	1.8	19.5	497668	1.9	21.2	246366	1.9	20.1	277172	1.9	21.5	27861	2.1	16.7	184143	2.1	18.8
91092	1.8	19.7	224540	1.9	20.8	284863	1.9	20.0	467174	1.9	20.3	289072	2.1	21.0	58286	2.1	19.2
351552	1.8	20.3	299001	1.9	19.3	460346	1.9	21.1	179932	2.0	19.9	95195	2.1	19.1	3475	2.1	15.8
79203	1.8	20.2	244543	1.9	19.7	83693	1.9	20.1	224566	2.0	19.9	496065	2.1	21.4	292224	2.1	22.0
11557	1.8	17.7	263734	1.9	20.4	172958	1.9	19.5	69356	2.0	18.1	381230	2.1	20.7	88789	2.1	19.8
456905	1.8	21.2	109193	1.9	18.8	211873	1.9	20.7	500636	2.0	21.4	126968	2.1	19.1	180143	2.1	20.6
400251	1.8	21.4	433864	1.9	20.3	465203	1.9	21.0	314681	2.0	20.9	268574	2.1	19.9	423204	2.1	21.4
522358	1.8	20.6	380497	1.9	20.9	289335	1.9	20.4	104171	2.0	18.9	489219	2.1	22.1	491025	2.1	21.1
74890	1.8	19.0	410049	1.9	20.6	8483	1.9	17.4	374147	2.0	21.3	135361	2.1	18.8	29424	2.1	16.9
236961	1.8	21.0	268473	1.9	20.4	302440	1.9	19.2	26631	2.0	18.0	146417	2.1	20.4	70691	2.1	19.2
53354	1.8	19.1	374065	1.9	20.7	319469	1.9	20.4	135047	2.0	19.3	368226	2.1	21.4	208732	2.1	19.4
50774	1.8	17.6	432459	1.9	20.9	125748	1.9	20.2	453368	2.0	20.6	450466	2.1	21.5	163084	2.1	19.4
43098	1.8	20.0	54627	1.9	19.1	518907	1.9	20.9	20993	2.0	18.9	93624	2.1	19.3	42129	2.1	18.7
265753	1.8	20.1	203842	1.9	19.9	20586	1.9	18.5	275442	2.0	20.9	495912	2.1	22.1	352444	2.1	20.4
25836	1.8	18.6	154003	1.9	20.2	364749	1.9	21.2	317076	2.0	20.6	414877	2.1	21.0	62227	2.1	19.2
120239	1.8	19.1	384160	1.9	20.4	66940	1.9	19.6	160270	2.0	19.3	228147	2.1	21.3	464689	2.1	21.5
420135	1.8	20.9	341463	1.9	21.2	255822	1.9	21.2	98284	2.0	18.1	194070	2.1	19.2	122166	2.1	19.8
198472	1.8	20.4	117498	1.9	18.0	330061	1.9	20.1	190077	2.0	20.5	430439	2.1	21.7	375299	2.1	21.1
170040	1.8	20.1	205897	1.9	19.0	114123	1.9	19.9	39245	2.0	19.1	421500	2.1	21.6	140393	2.1	19.6
304789	1.8	20.0	164777	1.9	19.8	93510	1.9	18.4	108779	2.0	18.7	5961	2.1	15.6	493711	2.1	20.5
171864	1.8	20.7	190069	1.9	20.1	177506	1.9	19.7	117168	2.0	20.4	90745	2.1	18.4	334520	2.1	21.9
130521	1.8	19.2	160755	1.9	19.7	24987	1.9	18.2	30882	2.0	17.1	472779	2.1	21.3	431254	2.1	21.3
497475	1.8	19.6	290222	1.9	20.1	16511	1.9	17.3	503020	2.0	20.5	23371	2.1	18.4	455	2.1	13.9
348455	1.8	20.7	503600	1.9	20.2	428785	1.9	21.5	392958	2.0	21.0	498906	2.1	21.0	73145	2.1	20.1
59906	1.8	18.9	499877	1.9	20.5	337849	1.9	20.2	283910	2.0	20.5	497270	2.1	21.2	338182	2.1	20.4
471682	1.8	21.0	268510	1.9	20.1	456712	1.9	21.3	497447	2.0	21.4	244087	2.1	20.7	89308	2.1	18.9
256891	1.8	19.9	506365	1.9	21.5	66	1.9	13.1	190413	2.0	20.2	469158	2.1	21.1	436332	2.1	20.4
132450	1.8	20.4	512399	1.9	21.3	192737	1.9	20.0	231893	2.0	20.5	68019	2.1	18.3	495475	2.1	21.4
164117	1.8	18.8	426607	1.9	20.5	497762	1.9	20.7	362191	2.0	20.3	36338	2.1	18.7	424465	2.1	20.4
82529	1.8	18.1	377720	1.9	20.6	224294	1.9	20.3	269054	2.0	20.8	488934	2.1	20.1	193884	2.1	19.9
430049	1.8	20.9	76821	1.9	17.9	40511	1.9	18.9	249134	2.0	21.0	333413	2.1	20.9	309761	2.1	20.6
499039	1.8	20.7	100141	1.9	19.8	286423	1.9	19.8	276932	2.0	21.6	423555	2.1	21.1	151552	2.1	20.8
186229	1.8	19.7	150823	1.9	19.2	354931	1.9	20.4	503411	2.0	21.0	220300	2.1	19.6	17453	2.1	18.0
278010	1.8	19.1	387172	1.9	20.9	420972	1.9	20.8	433150	2.0	20.7	94666	2.1	19.7	415189	2.1	20.2
263618	1.8	19.5	276818	1.9	20.4	21482	1.9	17.6	14345	2.0	17.7	378791	2.1	21.0	237633	2.1	20.8
70890	1.8	19.0	87944	1.9	19.3	185497	1.9	20.1	124210	2.0	19.7	133515	2.1	20.5	508584	2.2	21.8
467049	1.8	19.9	277006	1.9	19.7	42889	1.9	18.4	68942	2.0	19.2	89174	2.1	18.9	457581	2.2	21.2
452364	1.8	21.6	498427	1.9	22.1	494998	1.9	21.6	421055	2.0	20.0	503086	2.1	20.4	111611	2.2	19.8
128158	1.8	19.9	416648	1.9	20.9	154635	1.9	18.6	298724	2.0	20.7	345527	2.1	20.4	233479	2.2	19.7
162518	1.8	20.1	353316	1.9	21.9	448142	1.9	22.1	118736	2.0	19.0	97195	2.1	19.3	102614	2.2	19.8
96140	1.9	19.7	238316	1.9	19.0	208278	1.9	19.9	200048	2.0	19.3	14446	2.1	17.3	36748	2.2	17.5
33194	1.9	18.7	70302	1.9	19.0	365100	1.9	20.5	492523	2.0	20.8	118478	2.1	20.5	158574	2.2	19.3
433463	1.9	21.1	240769	1.9	21.5	61611	1.9	19.8	133277	2.0	20.0	52512	2.1	17.9	479305	2.2	20.8
458890	1.9	21.8	112618	1.9	19.9	192130	1.9	20.2	139428	2.0	18.1	496069	2.1	22.3	82471	2.2	18.0
469109	1.9	20.6	284144	1.9	20.8	349980	1.9	20.1	208170	2.0	19.3	244148	2.1	20.0	456654	2.2	21.7
345884	1.9	21.8	503406	1.9	20.9	362111	1.9	20.0	426338	2.0	20.7	248696	2.1	21.2	104592	2.2	19.1
110532	1.9	17.8	20488	1.9	18.7	372394	1.9	20.6	425903	2.0	20.9	188492	2.1	20.6	412939	2.2	19.8
358491	1.9	21.4	386174	1.9	21.1	178924	1.9	20.9	503716	2.0	20.4	500264	2.1	21.1	464981	2.2	20.1
130898	1.9	19.1	294480	1.9	19.8	89778	1.9	19.5	138839	2.0	20.3	176641	2.1	20.1	414778	2.2	21.2
433077	1.9	21.1	211446	1.9	18.8	82111	1.9	18.4	414820	2.0	21.3	314142	2.1	20.2	266219	2.2	20.5
492473	1.9	21.6	292026	1.9	20.8	317061	1.9	20.4	165730	2.0	19.5	336912	2.1	20.3	471697	2.2	21.1
157914	1.9	19.9	370206	1.9	20.0	497832	1.9	22.6	434333	2.0	19.6	468846	2.1	20.5	116217	2.2	19.2
352009	1.9	22.1	132840	1.9	20.3	20901	1.9	17.7	301178	2.0	20.6	363331	2.1	21.4	386500	2.2	20.3
170988	1.9	19.3	411450	1.9	19.7	463898	1.9	21.2	68077	2.0	18.8	224303	2.1	20.8	237653	2.2	19.7
352719	1.9	20.4	436751	1.9	20.5	435937	1.9	20.3	141241	2.0	19.1	490258	2.1	21.1	171006	2.2	19.3
193818	1.9	20.0	30433	1.9	17.3	23773	1.9	18.0	454301	2.0	21.1	505191	2.1	21.5	477639	2.2	20.0
373282	1.9	20.9	200787	1.9	20.1	44620	1.9	18.9	148097	2.0	19.6	322846	2.1	21.4	228154	2.2	20.5
371270	1.9	20.4	212021	1.9	19.7	118096	1.9	20.3	174149	2.0	20.1	385963	2.1	20.9	495986	2.2	21.8
371745	1.9	20.1	114940	1.9	20.4	229747	1.9	20.6	104865	2.0	18.8	103159	2.1	19.6	358035	2.2	18.9
425057	1.9	20.6	19415	1.9	17.2	275008	1.9	19.9	338915	2.0	20.3	298854	2.1	19.7	183316	2.2	19.9
342977	1.9	20.0	122857	1.9	19.4	4555	1.9	17.5									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
363870	2.2	20.9	27194	2.3	17.6	456928	2.3	20.2	387372	2.4	21.6	138560	2.5	20.3	474004	2.5	20.6
460482	2.2	21.7	488776	2.3	20.9	328725	2.3	20.4	13360	2.4	16.8	205717	2.5	19.7	410494	2.5	19.3
258334	2.2	20.4	362172	2.3	20.3	83024	2.3	19.5	373982	2.4	19.7	24441	2.5	18.0	462079	2.5	19.6
103088	2.2	19.7	229544	2.3	20.1	33893	2.3	18.2	498902	2.4	21.2	92503	2.5	18.6	76042	2.5	19.4
365877	2.2	19.3	127173	2.3	19.0	300882	2.3	21.3	459896	2.4	20.9	324527	2.5	20.8	281772	2.5	21.0
169405	2.2	19.9	4906	2.3	18.2	206771	2.3	19.5	98046	2.4	18.3	265505	2.5	21.2	413896	2.5	21.0
386520	2.2	20.4	251623	2.3	19.7	252194	2.3	19.3	287428	2.4	20.8	27229	2.5	17.0	363394	2.5	20.2
110956	2.2	19.7	44304	2.3	16.6	198693	2.3	19.8	200143	2.4	19.4	503595	2.5	20.9	331292	2.5	20.9
206271	2.2	19.2	96302	2.3	19.0	165353	2.3	18.6	450460	2.4	20.3	82038	2.5	19.7	223300	2.5	19.6
41054	2.2	19.0	90938	2.3	19.3	145043	2.3	19.9	495436	2.4	21.9	459061	2.5	20.2	169643	2.5	19.5
416995	2.2	20.9	506248	2.3	21.4	109087	2.3	18.1	343292	2.4	20.6	13718	2.5	18.0	58757	2.5	17.2
148901	2.2	19.6	94070	2.3	18.7	116585	2.3	18.7	466813	2.4	20.9	65609	2.5	20.1	74615	2.5	20.0
413963	2.2	19.5	406052	2.3	20.7	32279	2.3	18.0	522599	2.4	20.7	321245	2.5	20.6	497954	2.5	20.8
52208	2.2	18.3	130504	2.3	18.6	117252	2.3	20.1	57217	2.4	18.4	331010	2.5	20.9	140943	2.5	19.1
361599	2.2	20.5	299292	2.3	20.1	110602	2.3	19.1	433606	2.4	20.1	56235	2.5	18.6	408370	2.5	20.2
357136	2.2	17.9	49952	2.3	19.1	264493	2.3	21.3	494817	2.4	21.4	59667	2.5	19.0	357509	2.5	21.0
98637	2.2	19.2	68624	2.3	17.7	498715	2.3	21.5	331820	2.4	21.3	88100	2.5	19.4	214208	2.5	20.6
193941	2.2	19.6	428439	2.3	20.8	241276	2.3	19.8	187143	2.4	20.9	187725	2.5	20.0	91460	2.5	19.1
326392	2.2	20.7	170516	2.3	18.9	372619	2.4	20.6	427797	2.4	20.5	124867	2.5	19.1	333451	2.5	20.2
427156	2.2	20.1	66575	2.3	19.4	56521	2.4	19.9	196913	2.4	20.2	375315	2.5	20.3	412993	2.5	20.8
499189	2.2	22.6	369357	2.3	22.5	455196	2.4	21.1	459935	2.4	21.3	374440	2.5	20.2	270600	2.5	21.0
94775	2.2	18.7	461993	2.3	21.6	385626	2.4	20.9	93966	2.4	18.6	7485	2.5	16.5	500317	2.5	21.5
497246	2.2	20.9	498745	2.3	21.8	208954	2.4	19.6	268150	2.4	19.5	89770	2.5	17.9	481321	2.5	20.0
405919	2.2	20.8	433013	2.3	21.0	494211	2.4	21.0	209895	2.4	20.3	326414	2.5	19.8	146594	2.5	20.3
6213	2.2	17.1	165193	2.3	20.3	151292	2.4	18.2	125704	2.4	19.1	67303	2.5	19.4	91440	2.5	18.6
496332	2.2	21.8	241471	2.3	19.9	464680	2.4	20.7	463254	2.4	19.8	236067	2.5	19.8	368574	2.5	21.3
7136	2.2	17.3	44455	2.3	18.3	259558	2.4	19.2	329837	2.4	20.6	154307	2.5	19.6	88628	2.5	17.9
200708	2.2	19.9	431427	2.3	21.0	504019	2.4	22.1	300309	2.4	20.4	10379	2.5	17.6	99277	2.5	16.9
462860	2.2	20.2	333394	2.3	20.7	21823	2.4	18.4	15661	2.4	18.4	429866	2.5	20.3	176360	2.5	21.0
126137	2.2	19.4	130631	2.3	18.9	429879	2.4	19.9	290070	2.4	21.1	306243	2.5	21.0	491725	2.5	20.9
66702	2.2	19.4	190085	2.3	20.4	151535	2.4	19.9	54592	2.4	18.6	73055	2.5	19.4	160973	2.5	18.3
322144	2.2	20.6	155095	2.3	19.6	221733	2.4	20.4	329083	2.4	20.8	218979	2.5	20.8	140542	2.5	20.7
200853	2.2	19.4	290690	2.3	20.5	326991	2.4	20.6	127583	2.4	19.8	493491	2.5	21.3	148620	2.5	20.1
142617	2.2	19.6	68740	2.3	19.9	210150	2.4	19.7	435251	2.4	20.3	427769	2.5	21.8	465733	2.5	21.1
149873	2.2	19.8	336665	2.3	19.7	201986	2.4	20.8	244205	2.4	19.4	465896	2.5	20.9	83271	2.5	19.3
346878	2.2	19.9	20387	2.3	18.2	251312	2.4	20.2	68739	2.4	20.2	130686	2.5	19.7	426772	2.5	20.8
91738	2.2	18.6	221070	2.3	20.8	148016	2.4	20.2	165169	2.4	21.4	457743	2.5	20.3	496938	2.5	21.0
391791	2.2	21.6	433199	2.3	20.3	13937	2.4	18.4	417120	2.4	20.4	210168	2.5	20.4	81887	2.5	18.6
88670	2.2	18.6	431167	2.3	21.0	459071	2.4	20.6	212472	2.4	20.6	134797	2.5	19.5	453839	2.5	21.3
519282	2.2	20.2	205783	2.3	19.6	363882	2.4	21.0	70283	2.4	20.1	29160	2.5	17.0	165872	2.5	20.1
377896	2.2	20.7	97003	2.3	19.2	14094	2.4	18.7	501013	2.4	19.9	372948	2.5	21.1	462633	2.5	20.8
409904	2.2	21.7	49461	2.3	17.3	520291	2.4	20.4	293954	2.4	21.0	288769	2.5	20.0	167813	2.5	18.6
225588	2.2	20.4	439547	2.3	20.4	206857	2.4	20.0	347610	2.4	21.5	355861	2.5	20.6	306755	2.5	19.7
503818	2.2	20.7	68353	2.3	18.3	345618	2.4	21.2	94385	2.4	19.0	373825	2.5	19.9	124514	2.5	18.6
176920	2.2	20.2	463656	2.3	20.3	153025	2.4	20.2	205285	2.4	20.8	37005	2.5	18.9	85632	2.6	18.7
123180	2.2	19.5	413959	2.3	19.0	439753	2.4	20.4	117066	2.4	19.6	373450	2.5	21.1	123490	2.6	19.4
215244	2.2	18.4	298806	2.3	20.3	4320	2.4	16.9	238842	2.4	19.2	115372	2.5	20.2	5778	2.6	16.2
459540	2.2	19.6	496379	2.3	21.9	325192	2.4	20.2	466147	2.4	20.7	365212	2.5	20.6	193814	2.6	19.6
273647	2.2	20.6	245456	2.3	20.2	391288	2.4	21.0	156495	2.4	19.1	364302	2.5	21.8	43058	2.6	17.2
135755	2.2	20.0	419045	2.3	21.0	422435	2.4	21.6	427711	2.4	20.0	265604	2.5	19.8	58494	2.6	18.5
299664	2.2	20.9	363054	2.3	21.1	85550	2.4	18.0	432552	2.4	21.9	507281	2.5	20.2	472437	2.6	19.9
112167	2.2	19.0	409870	2.3	20.9	203613	2.4	19.7	366887	2.4	21.6	118445	2.5	19.6	522201	2.6	20.6
127074	2.2	19.3	348421	2.3	20.5	138763	2.4	19.8	377336	2.4	20.8	354344	2.5	21.3	228389	2.6	19.8
181763	2.2	20.1	422564	2.3	20.8	455170	2.4	22.1	357189	2.4	20.0	283310	2.5	20.6	388309	2.6	21.7
269934	2.2	21.2	373235	2.3	19.2	286669	2.4	20.3	277129	2.4	20.8	337707	2.5	20.6	28361	2.6	17.5
477968	2.2	21.0	110052	2.3	18.4	186265	2.4	20.1	315312	2.4	20.4	267032	2.5	21.1	57024	2.6	19.0
19624	2.2	18.9	139573	2.3	20.1	190332	2.4	20.1	411620	2.4	20.8	257300	2.5	20.5	132735	2.6	20.1
310416	2.2	19.1	245003	2.3	19.5	435019	2.4	20.7	312050	2.4	21.2	200630	2.5	19.8	451493	2.6	20.3
497662	2.2	21.7	286178	2.3	20.1	417460	2.4	21.1	87929	2.4	19.5	273996	2.5	19.7	208964	2.6	20.2
414428	2.2	20.3	146823	2.3	17.5	285364	2.4	19.9	390286	2.4	21.2	216083	2.5	19.9	221040	2.6	20.9
238767	2.2	20.0	229440	2.3	19.6	360757	2.4	19.9	406540	2.4	19.9	53236	2.5	17.5	304848	2.6	20.0
402964	2.2	21.0	468604	2.3	20.8	254513	2.4	20.9	200625	2.4	20.8	458762	2.5	21.1	237681	2.6	20.8
362404	2.2	20.7	285973	2.3	21.2	427196	2.4	21.0									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
219148	2.6	19.0	32432	2.7	17.7	37446	2.7	19.4	40281	2.8	17.1	221237	2.9	20.8	84868	2.9	18.9
170226	2.6	20.4	325640	2.7	22.0	238813	2.7	20.8	238659	2.8	20.4	323858	2.9	20.9	170851	2.9	20.4
243105	2.6	21.0	417186	2.7	20.9	453244	2.7	21.3	234351	2.8	19.3	221065	2.9	21.2	80495	2.9	19.9
111410	2.6	20.0	417510	2.7	22.3	149706	2.7	20.2	291835	2.8	21.0	207615	2.9	19.8	463545	2.9	20.6
495020	2.6	21.9	385024	2.7	21.2	426509	2.7	20.7	169353	2.8	19.1	140631	2.9	20.1	113727	2.9	19.3
213586	2.6	20.8	142050	2.7	19.0	328389	2.7	20.6	352116	2.8	20.1	28525	2.9	18.9	254482	2.9	19.6
93172	2.6	20.3	155365	2.7	20.2	216111	2.7	18.9	484590	2.8	20.5	267468	2.9	19.2	330984	2.9	20.3
333234	2.6	20.5	179208	2.7	20.1	408319	2.7	19.9	241241	2.8	20.2	81577	2.9	18.7	441845	2.9	21.5
160572	2.6	19.0	238671	2.7	20.3	150642	2.7	21.9	470159	2.8	20.7	385063	2.9	21.0	347128	2.9	20.9
437969	2.6	21.2	229740	2.7	19.6	331911	2.7	20.5	282936	2.8	19.4	79159	2.9	18.6	439771	2.9	19.6
31912	2.6	19.2	67446	2.7	17.5	99381	2.7	19.6	279425	2.8	20.7	86830	2.9	19.3	306914	2.9	20.3
61888	2.6	18.3	127914	2.7	18.7	498100	2.7	21.8	146811	2.8	19.5	172401	2.9	18.6	328633	2.9	21.0
92748	2.6	18.9	338200	2.7	20.5	177531	2.7	18.9	288251	2.8	20.2	468842	2.9	21.4	73257	2.9	18.5
248820	2.6	20.1	437775	2.7	20.7	390014	2.7	19.9	83697	2.8	19.1	263930	2.9	20.0	195255	2.9	19.0
242044	2.6	20.0	297666	2.7	21.2	109173	2.7	19.0	221125	2.8	20.5	357345	2.9	20.0	123065	2.9	19.9
98632	2.6	19.6	281260	2.7	19.6	295946	2.7	19.0	175037	2.8	19.6	332725	2.9	19.9	430488	2.9	20.8
378742	2.6	20.1	158282	2.7	20.0	473191	2.7	20.9	17148	2.8	18.9	157516	2.9	19.8	368729	2.9	20.8
310957	2.6	21.2	135046	2.7	18.6	26173	2.7	17.2	379327	2.8	19.4	109272	2.9	19.5	206303	2.9	20.6
424402	2.6	20.6	272582	2.7	19.8	15717	2.7	16.6	284163	2.8	20.2	147801	2.9	19.8	100483	2.9	19.4
328286	2.6	20.7	145568	2.7	20.2	210229	2.7	20.2	6542	2.8	15.9	238433	2.9	21.1	112879	2.9	20.4
322795	2.6	19.5	38644	2.7	19.0	378796	2.7	20.9	365879	2.8	21.1	102086	2.9	19.6	334910	2.9	18.8
366412	2.6	22.2	497552	2.7	20.8	219726	2.7	19.8	340705	2.8	20.5	335772	2.9	20.6	191979	2.9	20.6
463625	2.6	21.2	217847	2.7	19.7	370762	2.7	21.3	104151	2.8	19.1	375901	2.9	20.8	459477	2.9	21.1
268517	2.6	20.3	731	2.7	14.6	417080	2.7	20.6	383755	2.8	21.1	83953	2.9	19.3	465656	2.9	21.8
468245	2.6	20.8	454096	2.7	20.6	12413	2.7	18.7	331072	2.8	20.9	377322	2.9	20.8	354816	2.9	20.5
1389	2.6	15.3	460598	2.7	21.7	27656	2.7	16.9	288931	2.8	21.1	301475	2.9	19.4	320519	2.9	20.0
454136	2.6	20.6	409153	2.7	21.4	246948	2.7	21.2	42677	2.8	18.7	141135	2.9	19.6	179130	2.9	20.1
318025	2.6	19.7	33724	2.7	17.7	301996	2.7	20.2	425797	2.8	20.7	401090	2.9	20.9	183459	2.9	19.7
447212	2.6	19.8	156401	2.7	18.9	82634	2.7	19.2	260671	2.8	20.6	347189	2.9	19.3	362315	2.9	20.2
496384	2.6	22.1	242819	2.7	19.3	333996	2.7	20.5	157646	2.8	19.6	415837	2.9	21.1	26808	2.9	16.7
464809	2.6	21.9	328345	2.7	20.3	352637	2.7	20.6	80806	2.8	22.9	474102	2.9	20.6	432183	2.9	20.2
30473	2.6	18.1	408479	2.7	21.8	122562	2.7	19.0	368780	2.8	20.9	56611	2.9	17.7	54315	2.9	17.8
338899	2.6	19.4	495339	2.7	21.8	186535	2.8	20.2	241291	2.8	20.3	402957	2.9	21.2	184783	2.9	20.5
512280	2.6	21.0	158897	2.7	19.9	345091	2.8	20.6	214878	2.8	20.7	468289	2.9	19.7	410045	2.9	20.2
172810	2.6	18.7	488729	2.7	22.1	243443	2.8	19.7	467510	2.8	20.4	148908	2.9	18.9	462619	2.9	20.7
87911	2.6	18.6	259936	2.7	19.4	73014	2.8	19.2	77779	2.8	18.2	30077	2.9	18.3	374135	2.9	21.3
44747	2.6	16.9	290127	2.7	20.3	240068	2.8	20.2	343986	2.8	21.0	506239	2.9	20.7	330473	2.9	20.9
167611	2.6	19.7	139702	2.7	19.4	122585	2.8	19.5	315417	2.8	20.8	334927	2.9	20.9	55358	2.9	18.1
333106	2.6	20.4	60100	2.7	18.8	500965	2.8	22.3	81854	2.8	19.4	426286	2.9	20.8	157108	2.9	19.0
488992	2.6	21.2	810	2.7	15.6	182646	2.8	20.1	457688	2.8	20.0	489522	2.9	22.6	17530	2.9	18.3
205338	2.6	19.1	170427	2.7	19.2	221151	2.8	21.4	36681	2.8	17.3	31553	2.9	19.2	33875	2.9	18.5
519559	2.6	21.1	276829	2.7	20.1	209085	2.8	20.6	64295	2.8	17.9	459256	2.9	20.6	408877	2.9	21.1
458177	2.6	21.0	385902	2.7	20.9	212780	2.8	20.2	522643	2.8	21.4	348196	2.9	20.8	436981	2.9	20.3
304134	2.6	19.7	1493	2.7	15.8	370788	2.8	20.6	246950	2.8	20.6	60490	2.9	18.1	61264	2.9	18.5
210478	2.6	20.8	372719	2.7	19.9	361640	2.8	20.9	368692	2.8	21.9	348478	2.9	20.6	260752	2.9	20.7
154029	2.6	19.6	78749	2.7	19.0	112382	2.8	19.1	52826	2.8	18.4	358507	2.9	20.9	33976	2.9	17.8
214911	2.6	20.2	238546	2.7	20.8	467661	2.8	21.4	383282	2.8	20.7	283414	2.9	21.2	239797	2.9	20.6
306410	2.6	20.1	447267	2.7	20.6	301677	2.8	20.1	502810	2.8	21.2	53724	2.9	18.9	238499	2.9	19.6
162529	2.6	20.3	327178	2.7	18.6	405215	2.8	20.8	503164	2.8	20.6	136877	2.9	18.2	330293	2.9	20.9
166699	2.6	20.0	140993	2.7	18.9	341626	2.8	20.9	178069	2.8	20.4	217250	2.9	20.5	486703	2.9	20.3
289918	2.6	20.5	363334	2.7	22.2	329392	2.8	20.2	247843	2.8	20.3	105804	2.9	18.9	377187	2.9	21.4
209111	2.6	20.3	93934	2.7	19.9	157772	2.8	20.0	81483	2.8	19.0	346879	2.9	20.6	271184	2.9	20.2
110539	2.6	19.0	375378	2.7	20.2	212931	2.8	19.2	508159	2.8	21.8	161744	2.9	20.6	462392	2.9	22.0
437055	2.6	20.9	145577	2.7	20.0	91282	2.8	18.6	467645	2.8	21.3	238864	2.9	19.9	386941	2.9	20.8
211685	2.6	19.3	328333	2.7	20.4	109685	2.8	19.0	158892	2.8	19.8	407283	2.9	21.1	503565	2.9	20.5
428096	2.6	21.6	370767	2.7	20.7	495365	2.8	21.1	374168	2.8	20.6	298758	2.9	19.6	5772	2.9	16.8
310425	2.6	20.3	155102	2.7	19.7	209424	2.8	19.4	19321	2.8	17.3	422955	2.9	20.5	17361	2.9	19.3
358017	2.6	20.6	292471	2.7	20.4	182698	2.8	20.3	406428	2.8	21.9	317023	2.9	20.0	352115	2.9	20.7
109454	2.6	19.0	432194	2.7	20.8	426570	2.8	21.6	76232	2.8	18.4	279337	2.9	20.1	240878	2.9	20.3
360528	2.6	20.7	301777	2.7	21.4	388261	2.8	20.4	454211	2.8	20.0	500412	2.9	21.8	388367	2.9	20.4
197579	2.6	20.0	304784	2.7	19.9	52337	2.8	19.2	123688	2.8	18.9	278	2.9	12.7	17691	2.9	17.9
125597	2.6	20.2	27680	2.7	17.8	335603	2.8	20.3	387729	2.8	19.5	417334	2.9	20.5	47900	2.9	18.1
256225	2.6	20.4	212865	2.7	19.7	256202	2.8	19.1</td									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
56899	3.0	18.0	420445	3.1	20.4	5944	3.1	16.5	345671	3.2	20.9	203481	3.3	20.0	119369	3.3	18.8
387328	3.0	20.8	1812	3.1	15.5	116675	3.1	19.1	64306	3.2	19.5	386242	3.3	21.6	471773	3.3	21.7
108538	3.0	19.6	454090	3.1	20.9	53286	3.1	17.5	430369	3.2	21.0	292658	3.3	20.5	52994	3.3	18.7
365534	3.0	20.2	468309	3.1	21.1	124639	3.1	19.9	200595	3.2	20.5	209912	3.3	20.6	35171	3.3	17.9
498574	3.0	20.7	58339	3.1	18.1	34915	3.1	18.4	455172	3.2	22.0	500693	3.3	19.9	56409	3.3	18.3
378715	3.0	20.9	242600	3.1	20.4	348848	3.1	21.4	18720	3.2	17.4	265595	3.3	21.0	68777	3.3	19.2
354925	3.0	19.0	500432	3.1	22.1	456579	3.1	20.3	243424	3.2	20.6	183154	3.3	20.2	464682	3.3	20.6
248664	3.0	20.2	39000	3.1	19.5	498888	3.1	20.6	217904	3.2	20.2	3027	3.3	17.8	222675	3.3	20.3
279310	3.0	20.0	163003	3.1	20.4	282044	3.1	21.2	327463	3.2	21.2	340596	3.3	20.5	58168	3.3	18.4
431266	3.0	21.4	82049	3.1	19.5	206925	3.1	20.6	410154	3.2	20.5	24187	3.3	18.5	303351	3.3	21.2
359032	3.0	20.0	261504	3.1	19.9	416948	3.1	21.6	125181	3.2	19.0	327330	3.3	21.1	387406	3.3	21.3
504164	3.0	21.4	133237	3.1	19.9	329826	3.1	20.1	320815	3.2	20.2	149240	3.3	19.1	93385	3.3	19.6
25604	3.0	18.0	38925	3.1	18.6	118681	3.1	19.6	67818	3.2	18.5	206997	3.3	19.6	445978	3.3	20.3
490558	3.0	20.9	155273	3.1	20.1	106051	3.1	19.4	32217	3.2	18.4	492722	3.3	21.3	23598	3.3	17.1
500767	3.0	20.2	113266	3.1	18.7	370715	3.1	21.2	230371	3.2	19.4	419356	3.3	20.2	501957	3.3	19.9
330698	3.0	21.0	129326	3.1	20.6	328471	3.1	19.5	213626	3.2	20.6	89078	3.3	19.5	240313	3.3	21.3
377913	3.0	20.7	405256	3.1	21.8	128273	3.1	20.2	158522	3.2	19.2	133160	3.3	19.6	156470	3.3	19.1
2728	3.0	16.1	54844	3.1	19.2	124848	3.1	18.9	204755	3.2	20.6	394393	3.3	21.0	301081	3.3	19.9
495064	3.0	20.7	204283	3.1	20.2	186608	3.2	19.8	282248	3.2	19.9	498379	3.3	21.3	234833	3.4	19.5
81496	3.0	18.6	365182	3.1	19.9	359639	3.2	20.9	363530	3.2	20.7	160712	3.3	19.1	422229	3.4	20.7
330049	3.0	20.9	293158	3.1	19.6	18373	3.2	19.0	166643	3.2	19.0	454673	3.3	19.9	81273	3.4	18.0
426686	3.0	21.3	96437	3.1	17.5	370706	3.2	21.3	164060	3.2	20.3	113891	3.3	19.4	411254	3.4	21.0
500682	3.0	21.2	462384	3.1	21.9	408272	3.2	20.4	173712	3.2	19.9	186117	3.3	20.1	506690	3.4	22.5
282629	3.0	21.1	20083	3.1	17.5	511705	3.2	20.1	121300	3.2	18.9	412111	3.3	20.8	317389	3.4	20.8
519485	3.0	20.3	294344	3.1	19.2	465717	3.2	21.1	468122	3.2	19.9	86035	3.3	18.3	467795	3.4	20.9
334568	3.0	20.3	269793	3.1	19.9	367174	3.2	20.9	135161	3.2	18.2	209779	3.3	19.4	168374	3.4	19.7
118680	3.0	19.5	95138	3.1	19.0	499458	3.2	19.7	404328	3.2	20.7	318630	3.3	19.8	409013	3.4	20.4
209468	3.0	20.8	146908	3.1	19.7	461717	3.2	21.4	187874	3.2	20.8	225668	3.3	21.7	122410	3.4	19.2
135392	3.0	19.9	119521	3.1	19.2	173645	3.2	18.4	34398	3.2	17.8	59949	3.3	19.5	345572	3.4	20.5
462806	3.0	21.2	175464	3.1	19.8	190373	3.2	20.4	388347	3.2	20.6	183408	3.3	18.8	30610	3.4	19.7
289908	3.0	20.8	283587	3.1	20.6	343094	3.2	20.4	381174	3.2	21.7	455154	3.3	20.9	369396	3.4	21.2
49597	3.0	18.4	201603	3.1	20.0	402082	3.2	21.5	342983	3.2	20.5	5636	3.3	17.0	89763	3.4	18.9
497613	3.0	21.7	176846	3.1	20.1	354907	3.2	18.8	427411	3.2	20.1	4753	3.3	16.3	276400	3.4	20.2
277690	3.0	20.6	430051	3.1	21.3	462067	3.2	19.4	3852	3.2	17.1	151079	3.3	19.5	111653	3.4	18.8
519305	3.0	20.9	297920	3.1	19.7	92388	3.2	18.6	214202	3.2	19.3	225572	3.3	20.3	21846	3.4	17.6
458832	3.0	21.3	53116	3.1	18.3	173791	3.2	19.8	452720	3.2	19.1	302089	3.3	19.3	85423	3.4	18.7
221959	3.0	20.4	243108	3.1	20.3	223751	3.2	19.6	437039	3.2	21.0	140335	3.3	19.0	330078	3.4	21.0
194125	3.0	20.0	203739	3.1	20.3	471618	3.2	20.8	183396	3.2	20.0	120590	3.3	19.7	290701	3.4	20.4
5585	3.0	19.8	461428	3.1	21.5	176026	3.2	20.5	233906	3.2	19.6	83764	3.3	18.6	301207	3.4	20.2
257209	3.0	20.2	45695	3.1	18.9	108552	3.2	19.1	519537	3.2	21.4	172628	3.3	19.8	462375	3.4	20.6
280191	3.0	21.0	74269	3.1	17.9	21454	3.2	17.5	5833	3.2	19.2	61059	3.3	18.1	1784	3.4	15.3
50974	3.0	18.7	32219	3.1	16.4	480927	3.2	22.8	424653	3.2	20.5	329056	3.3	20.3	50168	3.4	17.9
99667	3.0	17.9	303706	3.1	21.2	293146	3.2	19.4	193878	3.2	20.0	161557	3.3	19.9	117467	3.4	18.6
239919	3.0	20.1	237971	3.1	20.3	56849	3.2	18.9	226744	3.2	20.0	348559	3.3	20.4	212599	3.4	21.1
363450	3.0	20.8	229150	3.1	20.7	144571	3.2	19.2	378948	3.2	21.0	298851	3.3	19.8	206086	3.4	19.9
201220	3.0	19.8	447348	3.1	20.6	371017	3.2	22.3	319007	3.2	19.9	503155	3.3	20.4	504925	3.4	20.6
1964	3.0	16.8	401394	3.1	20.7	473908	3.2	21.0	303296	3.2	21.0	218030	3.3	19.4	87004	3.4	19.0
116410	3.0	18.2	232374	3.1	19.3	65116	3.2	18.8	405343	3.2	22.0	122901	3.3	19.5	367908	3.4	19.2
414783	3.0	21.7	54764	3.1	19.0	426590	3.2	21.2	194423	3.2	19.3	168879	3.3	19.8	417627	3.4	20.5
186911	3.0	19.5	465762	3.1	20.6	59512	3.2	18.4	235609	3.2	20.1	64299	3.3	18.6	458138	3.4	21.2
145594	3.0	19.4	199943	3.1	21.1	150672	3.2	20.4	458526	3.2	20.5	168878	3.3	21.3	32838	3.4	17.6
289580	3.0	21.4	466564	3.1	20.4	121522	3.2	19.5	470037	3.2	21.9	59477	3.3	17.7	466397	3.4	20.9
249380	3.0	19.9	251413	3.1	20.7	472574	3.2	21.2	84635	3.2	18.7	356297	3.3	20.3	379174	3.4	21.6
430206	3.0	21.1	187453	3.1	20.2	101232	3.2	19.3	377684	3.2	20.3	276663	3.3	20.6	417078	3.4	20.3
303376	3.0	19.5	53166	3.1	17.4	292915	3.2	21.5	501602	3.2	21.4	498071	3.3	21.5	38183	3.4	18.5
233879	3.0	20.6	105069	3.1	19.1	309883	3.2	19.8	468594	3.2	20.7	282343	3.3	19.8	293626	3.4	20.2
327322	3.0	21.2	461750	3.1	21.7	320986	3.2	20.3	246837	3.2	19.5	6203	3.3	18.0	120964	3.4	19.8
270058	3.0	21.2	331786	3.1	19.2	19813	3.2	17.4	50378	3.2	18.1	79202	3.3	19.3	350613	3.4	20.5
166588	3.0	20.4	149715	3.1	20.1	423725	3.2	19.4	14918	3.2	16.4	90838	3.3	19.1	303384	3.4	19.6
322645	3.0	20.7	111049	3.1	19.5	249392	3.2	19.4	173066	3.2	19.9	463266	3.3	20.8	360425	3.4	21.2
180585	3.0	19.2	310024	3.1	20.0	481058	3.2	20.4	327277	3.2	20.7	123762	3.3	18.7	458134	3.4	19.6
350229	3.0	22.4	416637	3.1	20.3	293966	3.2	20.4	33554	3.2	18.9	331300	3.3	20.8	410194	3.4	21.3
435949	3.0	20.6	482020	3.1	19.6	63778	3.2	19.1	473742</								

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
132135	3.4	19.5	341220	3.5	20.5	271652	3.5	21.0	39119	3.6	19.0	360774	3.7	19.8	469149	3.8	20.4
292646	3.4	21.1	26251	3.5	17.3	503215	3.5	20.1	374514	3.6	20.3	286288	3.7	20.2	138565	3.8	19.2
282850	3.4	20.3	419850	3.5	20.1	311127	3.5	19.0	505009	3.6	21.3	95787	3.7	18.6	284344	3.8	20.4
247847	3.4	21.4	144962	3.5	19.4	110968	3.5	19.7	496306	3.6	20.2	462281	3.7	20.5	272970	3.8	19.5
326984	3.4	21.5	366380	3.5	20.3	82172	3.5	18.3	375535	3.6	20.3	464145	3.7	20.7	265680	3.8	20.4
362079	3.4	19.0	489647	3.5	21.4	269772	3.5	20.7	52469	3.6	18.8	412114	3.7	20.3	283212	3.8	19.6
35678	3.4	17.4	33165	3.5	18.9	381679	3.5	20.2	321808	3.6	19.3	208435	3.7	19.8	16267	3.8	18.0
387514	3.4	21.3	403730	3.5	20.0	498135	3.5	20.4	82973	3.6	18.3	412135	3.7	21.5	464431	3.8	20.0
35424	3.4	18.3	192107	3.5	19.5	246071	3.5	21.2	135612	3.6	19.7	284625	3.7	20.7	20493	3.8	18.5
219736	3.4	21.2	71901	3.5	17.6	362636	3.5	20.1	492737	3.6	21.8	490102	3.7	21.6	354872	3.8	19.5
424752	3.4	21.0	539	3.5	14.7	130459	3.6	19.5	1550	3.6	16.2	259187	3.7	20.2	345624	3.8	20.9
480106	3.4	21.5	421390	3.5	20.3	131736	3.6	18.3	257321	3.6	20.2	282144	3.7	21.1	334756	3.8	21.1
6118	3.4	17.0	402016	3.5	20.7	56298	3.6	18.4	358635	3.6	21.5	192828	3.7	20.8	331138	3.8	19.5
283316	3.4	22.0	341450	3.5	21.1	453247	3.6	21.5	240765	3.6	19.8	10766	3.7	16.8	168503	3.8	19.5
452415	3.4	21.7	496264	3.5	21.6	249460	3.6	20.6	388268	3.6	20.8	304892	3.7	19.7	295343	3.8	21.0
428927	3.4	20.7	430859	3.5	21.8	165426	3.6	18.7	97002	3.6	19.2	430318	3.7	20.2	84178	3.8	19.1
406472	3.4	20.1	467735	3.5	20.9	222351	3.6	20.3	199775	3.6	20.3	285195	3.7	20.2	71993	3.8	19.1
317728	3.4	20.5	330422	3.5	20.0	360403	3.6	19.2	29803	3.6	18.5	136657	3.7	20.5	94503	3.8	19.1
492906	3.4	21.2	463517	3.5	21.7	116945	3.6	19.3	115	3.6	11.0	456754	3.7	21.8	412670	3.8	20.4
150893	3.4	20.4	363246	3.5	19.4	323431	3.6	20.7	422471	3.6	21.9	185997	3.7	20.1	503543	3.8	21.1
81793	3.4	19.6	410762	3.5	20.7	8962	3.6	17.4	409924	3.6	21.4	149769	3.7	19.6	323879	3.8	20.1
507413	3.4	21.0	274408	3.5	19.8	270554	3.6	19.9	36817	3.6	18.0	31384	3.7	18.5	117190	3.8	19.8
344313	3.4	20.6	302049	3.5	20.0	512982	3.6	21.3	401979	3.6	23.0	249218	3.7	19.5	27052	3.8	18.1
373657	3.4	19.8	148514	3.5	19.7	498560	3.6	21.6	221397	3.6	20.3	414822	3.7	21.1	150843	3.8	19.2
429235	3.4	20.5	52268	3.5	18.6	429872	3.6	20.0	263859	3.6	19.8	95463	3.7	18.8	165328	3.8	19.3
406743	3.4	20.4	233271	3.5	19.5	302813	3.6	19.7	421441	3.6	19.9	222768	3.7	19.0	432118	3.8	20.7
370748	3.4	21.4	407751	3.5	21.4	231543	3.6	20.4	346065	3.6	20.9	434331	3.7	20.7	23151	3.8	18.1
303421	3.4	19.6	153047	3.5	20.3	39873	3.6	18.2	8617	3.6	17.9	16593	3.7	17.1	241716	3.8	21.1
387819	3.4	20.8	300750	3.5	19.0	380565	3.6	22.4	330722	3.6	20.8	489566	3.7	21.9	366404	3.8	22.2
433166	3.4	21.4	495989	3.5	21.7	303464	3.6	19.4	132171	3.6	18.7	42853	3.7	17.8	376182	3.8	20.1
419319	3.4	21.0	109365	3.5	19.6	84449	3.6	19.4	345697	3.6	20.2	214825	3.7	20.0	138713	3.8	19.3
96008	3.4	19.2	100288	3.5	20.2	62137	3.6	18.0	58794	3.6	17.9	98439	3.7	18.9	268641	3.8	19.1
285092	3.4	20.8	161588	3.5	21.0	309355	3.6	20.1	187994	3.6	20.0	426670	3.7	20.7	483324	3.8	20.5
417290	3.4	19.9	172055	3.5	19.5	497642	3.6	22.2	470246	3.6	20.7	497578	3.7	20.1	51194	3.8	18.5
366845	3.4	20.6	119510	3.5	19.7	402974	3.6	21.3	469563	3.6	21.0	261323	3.7	19.9	357135	3.8	20.1
370734	3.4	21.0	100430	3.5	19.4	522594	3.6	21.0	231541	3.6	20.4	209584	3.7	19.1	313777	3.8	20.6
345655	3.4	19.9	205304	3.5	19.7	254549	3.6	19.9	376452	3.6	20.8	157394	3.7	19.8	424681	3.8	20.7
362066	3.4	19.7	267454	3.5	18.8	396899	3.6	22.1	237236	3.6	20.2	156111	3.7	20.4	136434	3.8	19.3
196394	3.4	20.0	29284	3.5	18.0	258218	3.6	20.0	495939	3.6	22.1	292308	3.7	20.2	501209	3.8	20.8
225547	3.4	20.3	83847	3.5	18.5	379932	3.6	20.6	63088	3.6	18.5	288017	3.7	21.0	272580	3.8	21.0
205927	3.4	19.9	240272	3.5	19.4	500378	3.6	20.7	93538	3.6	19.2	498476	3.7	21.6	108933	3.8	19.0
46461	3.4	19.1	371249	3.5	20.7	81752	3.6	19.0	292526	3.6	21.4	344507	3.7	20.5	405244	3.8	21.7
21773	3.4	17.3	7012	3.5	16.9	59228	3.6	17.8	350261	3.6	19.5	124680	3.7	18.9	317851	3.8	21.0
124724	3.4	18.9	402879	3.5	20.3	377382	3.6	21.6	104494	3.6	19.9	357336	3.7	21.1	300174	3.8	20.3
362650	3.4	20.7	290072	3.5	18.9	84175	3.6	19.1	36304	3.6	18.5	370166	3.7	20.1	221226	3.8	19.6
499019	3.4	21.4	359054	3.5	19.9	463929	3.6	20.0	463699	3.6	19.9	162577	3.7	19.6	281843	3.8	20.4
36374	3.4	18.1	200742	3.5	20.2	255593	3.6	21.5	489711	3.6	20.6	310951	3.7	20.8	29593	3.8	17.9
165777	3.4	19.4	461092	3.5	20.4	227588	3.6	18.1	70019	3.6	18.2	116266	3.7	19.7	349299	3.8	20.3
403888	3.4	20.9	400330	3.5	20.2	301107	3.6	21.5	402907	3.6	21.0	16498	3.7	16.5	492861	3.8	21.8
294975	3.4	20.3	219642	3.5	21.1	140574	3.6	19.3	134481	3.6	19.1	283500	3.7	20.2	340672	3.8	19.6
256319	3.4	20.7	248540	3.5	20.5	430445	3.6	21.6	310328	3.6	20.0	405822	3.7	19.7	467170	3.8	20.5
324501	3.4	20.9	27204	3.5	17.7	147354	3.6	18.7	109663	3.6	20.5	409830	3.7	21.5	226793	3.8	19.9
232741	3.4	19.0	291909	3.5	20.2	343011	3.6	20.4	280879	3.6	20.1	374400	3.7	21.4	385112	3.8	21.0
109592	3.4	19.4	153374	3.5	19.9	331797	3.6	21.3	280833	3.6	20.9	224396	3.7	20.8	94956	3.8	19.3
104284	3.4	19.2	88382	3.5	18.1	485	3.6	11.4	497912	3.6	22.0	128445	3.7	19.3	467500	3.8	21.9
418287	3.4	20.7	70529	3.5	20.2	218365	3.6	20.6	432059	3.7	21.0	18807	3.7	17.8	6133	3.8	17.5
36551	3.4	17.9	89240	3.5	19.7	2070	3.6	16.6	384518	3.7	20.7	497278	3.7	21.5	393800	3.8	20.7
497787	3.4	20.3	119319	3.5	20.5	96779	3.6	19.6	245488	3.7	20.2	124138	3.7	19.8	151814	3.8	19.0
384983	3.4	20.4	365170	3.5	20.2	330094	3.6	21.0	58439	3.7	17.8	473165	3.7	21.0	90197	3.8	18.8
377210	3.4	20.7	371032	3.5	20.4	253204	3.6	20.6	24499	3.7	18.6	68025	3.7	18.0	501042	3.8	21.3
287603	3.4	19.6	219429	3.5	19.8	413207	3.6	20.9	417243	3.7	20.0	379928	3.7	19.9	423757	3.8	20.5
224863	3.5	19.4	298992	3.5	20.5	405369	3.6	20.1	246709	3.7	20.1	247867	3.7	21.3	293335	3.8	20.5
461685	3.5	20.9	184529	3.5	19.3	222598	3.6	20.6	17								

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
349882	3.8	20.6	53539	3.9	17.6	148784	3.9	19.3	352657	4.0	19.3	106378	4.1	20.5	54894	4.1	19.2
449181	3.8	20.7	384973	3.9	20.7	87697	3.9	17.3	312076	4.0	21.2	15178	4.1	18.8	44777	4.1	17.9
391332	3.8	20.7	152696	3.9	20.0	498165	3.9	21.6	426773	4.0	21.0	105595	4.1	18.9	373593	4.1	19.0
416235	3.8	19.1	321083	3.9	20.3	500309	3.9	20.0	212609	4.0	20.2	456795	4.1	21.8	141406	4.1	18.7
204470	3.8	18.5	421404	3.9	21.1	498721	3.9	21.6	312245	4.0	21.0	429547	4.1	20.3	71014	4.1	20.0
181252	3.8	20.5	200474	3.9	17.4	218690	3.9	20.0	500959	4.0	21.2	306652	4.1	20.4	95524	4.1	19.0
471126	3.8	19.5	64592	3.9	17.7	426690	3.9	21.0	456681	4.0	21.8	30684	4.1	18.1	132018	4.1	18.3
80403	3.8	17.4	423239	3.9	21.3	295690	3.9	20.7	156106	4.0	20.0	164610	4.1	20.0	169343	4.1	19.5
195202	3.8	19.5	32387	3.9	18.5	19559	3.9	18.2	190151	4.0	20.2	105998	4.1	19.7	42081	4.1	18.8
266296	3.8	19.7	97090	3.9	19.3	208560	3.9	19.9	116692	4.0	18.9	463182	4.1	20.6	209577	4.1	18.8
357563	3.8	20.9	56438	3.9	18.7	497784	3.9	22.0	21710	4.0	18.5	167206	4.1	19.3	169418	4.1	20.6
309339	3.8	21.0	267377	3.9	19.8	437462	3.9	20.2	427608	4.0	21.4	100597	4.1	20.7	418999	4.1	20.2
500384	3.8	21.2	118278	3.9	19.8	327418	3.9	19.2	160443	4.0	20.3	340797	4.1	20.7	169141	4.1	20.0
454473	3.8	20.3	127347	3.9	19.3	305671	3.9	20.0	508601	4.0	21.3	378802	4.1	21.3	384892	4.1	21.1
240317	3.8	19.8	241563	3.9	19.5	224956	3.9	20.0	370961	4.0	22.1	79150	4.1	19.4	132037	4.1	19.2
74909	3.8	20.0	34305	3.9	18.4	210943	3.9	19.3	456692	4.0	21.5	174027	4.1	19.2	504197	4.2	22.0
118874	3.8	20.0	59358	3.9	22.6	288293	3.9	20.4	437602	4.0	19.9	161531	4.1	20.2	360559	4.2	21.1
281364	3.8	19.8	173563	3.9	18.9	265734	3.9	20.2	415325	4.0	21.0	289946	4.1	19.7	197634	4.2	20.0
64974	3.8	18.6	66870	3.9	18.6	3965	3.9	16.1	134148	4.0	19.6	308648	4.1	19.7	302435	4.2	20.5
112142	3.8	19.9	488894	3.9	22.4	395737	3.9	20.1	347738	4.0	20.4	435996	4.1	20.4	117042	4.2	18.3
303408	3.8	20.2	388379	3.9	21.2	299950	3.9	20.3	246933	4.0	19.2	393315	4.1	21.0	433217	4.2	21.0
235602	3.8	20.9	151916	3.9	19.6	140881	3.9	19.5	89167	4.0	19.0	117211	4.1	19.8	57012	4.2	19.0
190988	3.8	19.4	215881	3.9	19.3	521072	3.9	20.3	106476	4.0	19.8	319095	4.1	20.4	375300	4.2	21.5
175387	3.8	19.9	163495	3.9	20.2	94496	3.9	19.3	415921	4.0	21.8	144802	4.1	20.0	172784	4.2	19.0
412531	3.8	21.3	82562	3.9	19.7	467498	3.9	19.8	217555	4.0	20.2	168267	4.1	20.2	401068	4.2	20.7
293032	3.8	21.4	239227	3.9	20.2	433938	3.9	20.6	453080	4.0	19.5	341618	4.1	20.5	421542	4.2	20.9
106973	3.8	18.7	316651	3.9	20.5	250931	3.9	19.9	5612	4.0	16.2	519965	4.1	20.9	166680	4.2	20.0
166635	3.8	20.5	190086	3.9	19.9	417128	3.9	21.3	48843	4.0	17.8	462883	4.1	20.4	182350	4.2	19.8
269382	3.8	20.7	190400	3.9	19.9	130671	3.9	19.1	459985	4.0	21.6	198839	4.1	21.0	435910	4.2	20.3
186056	3.8	19.6	326179	3.9	20.2	55091	3.9	19.5	490046	4.0	21.8	502273	4.1	21.4	101561	4.2	19.7
331944	3.8	21.7	99385	3.9	18.8	87627	3.9	19.9	332695	4.0	20.4	278824	4.1	20.0	64453	4.2	18.7
282091	3.8	22.0	357530	3.9	20.8	328613	3.9	20.6	68852	4.0	19.2	67045	4.1	19.3	112279	4.2	19.6
176020	3.8	20.3	9127	3.9	18.5	155449	3.9	18.7	334030	4.0	18.2	103057	4.1	19.7	31638	4.2	18.4
498310	3.8	21.2	498256	3.9	22.2	7869	3.9	18.2	455234	4.0	22.2	63073	4.1	18.6	429343	4.2	21.0
64528	3.8	18.4	505545	3.9	20.9	188470	3.9	19.0	122280	4.0	19.5	369377	4.1	20.4	44647	4.2	19.1
129123	3.8	20.3	61457	3.9	18.9	302139	3.9	21.0	159920	4.0	20.1	344646	4.1	21.1	425110	4.2	21.6
17652	3.8	17.4	504533	3.9	22.0	265736	3.9	21.0	283457	4.0	23.6	102748	4.1	19.9	505909	4.2	20.0
174673	3.8	20.4	436725	3.9	20.6	431286	3.9	21.8	390246	4.0	21.6	153926	4.1	19.5	272914	4.2	19.7
116934	3.8	19.4	475553	3.9	21.0	354084	3.9	20.0	72322	4.0	18.1	272739	4.1	19.2	188130	4.2	19.9
148564	3.8	19.7	408996	3.9	21.6	333241	3.9	20.1	402856	4.0	21.7	235420	4.1	19.4	460074	4.2	20.6
320903	3.8	19.9	422207	3.9	20.8	55115	3.9	19.6	83887	4.0	18.4	157444	4.1	19.8	281186	4.2	19.8
307221	3.8	19.2	131549	3.9	18.5	401500	3.9	20.1	264656	4.0	20.3	298808	4.1	20.6	121236	4.2	18.8
316563	3.8	19.4	91470	3.9	18.5	460079	3.9	20.5	430933	4.0	21.6	50893	4.1	19.1	400384	4.2	21.1
304485	3.8	20.8	456897	3.9	21.9	382004	3.9	22.8	132142	4.0	18.9	267496	4.1	19.8	45785	4.2	18.5
275616	3.8	20.3	312713	3.9	20.7	420574	3.9	20.3	464962	4.0	20.3	429744	4.1	20.6	506414	4.2	22.4
34097	3.8	17.7	415784	3.9	21.5	51193	3.9	19.1	186213	4.0	20.0	310384	4.1	19.8	15189	4.2	18.1
388670	3.8	20.9	87915	3.9	19.4	295788	3.9	20.8	192113	4.0	19.8	432169	4.1	21.4	452626	4.2	21.4
352731	3.8	20.9	465131	3.9	20.5	327004	3.9	20.6	210075	4.1	20.0	163510	4.1	19.3	499092	4.2	20.1
110020	3.8	19.7	229110	3.9	20.9	290022	3.9	20.1	124565	4.1	19.2	172054	4.1	20.2	56750	4.2	17.8
375263	3.8	20.9	121315	3.9	19.8	303295	3.9	21.5	419188	4.1	20.9	226758	4.1	19.8	255918	4.2	19.8
463704	3.8	20.4	205666	3.9	18.1	286030	3.9	19.9	376000	4.1	20.0	199282	4.1	20.1	523777	4.2	21.0
141302	3.8	19.0	141894	3.9	19.6	31274	3.9	17.4	80291	4.1	19.7	337741	4.1	21.8	247799	4.2	20.5
99959	3.8	18.6	125133	3.9	18.5	296593	3.9	21.6	100454	4.1	19.8	234098	4.1	20.2	166228	4.2	19.0
383733	3.9	20.4	19802	3.9	18.3	194430	3.9	19.5	337710	4.1	20.9	458985	4.1	20.6	385319	4.2	21.2
210687	3.9	18.8	345675	3.9	20.9	340716	3.9	21.1	81096	4.1	18.9	308340	4.1	20.8	468510	4.2	21.2
366426	3.9	22.0	283438	3.9	16.6	163002	3.9	19.5	452637	4.1	21.5	170254	4.1	20.6	401146	4.2	21.3
453254	3.9	20.9	274369	3.9	20.4	144562	3.9	18.6	383773	4.1	21.0	348573	4.1	19.9	347900	4.2	21.5
166563	3.9	19.6	168072	3.9	19.4	459568	3.9	20.3	350578	4.1	19.5	356618	4.1	19.7	431258	4.2	20.5
285150	3.9	21.1	101849	3.9	18.8	29235	3.9	17.1	41586	4.1	19.2	462899	4.1	20.6	427801	4.2	19.9
161758	3.9	19.0	299314	3.9	20.4	366856	3.9	21.9	318090	4.1	18.3	464244	4.1	20.3	167551	4.2	19.7
48813	3.9	18.9	435914	3.9	19.8	492293	3.9	20.7	18202	4.1	19.6	388148	4.1	20.8	276167	4.2	20.8
377430	3.9	21.2	148841	3.9	19.1	495885	3.9	21.7	29407	4.1	19.2	43755	4.1	18.6	308700	4.2	20.0
22408	3.9	18.8	175611	3.9	20.7	114692	3.9</td										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
162750	4.2	20.6	312142	4.3	20.9	431189	4.3	20.2	518890	4.4	20.7	87876	4.5	19.8	341130	4.6	20.2
26828	4.2	17.4	459916	4.3	22.1	472145	4.3	19.6	196846	4.4	20.0	293422	4.5	19.1	52399	4.6	18.9
246917	4.2	19.8	363314	4.3	21.3	364649	4.4	20.4	370726	4.4	20.8	328913	4.5	21.0	453864	4.6	21.1
156742	4.2	18.8	386184	4.3	20.9	334608	4.4	21.6	266300	4.4	20.1	39237	4.5	17.9	297061	4.6	20.3
41590	4.2	18.3	386557	4.3	20.7	180822	4.4	20.2	256399	4.4	18.8	462256	4.5	20.1	396904	4.6	21.1
135119	4.2	19.9	269143	4.3	20.1	383694	4.4	20.4	386944	4.4	20.4	8782	4.5	17.8	51870	4.6	18.0
352102	4.2	25.2	422596	4.3	20.8	269274	4.4	20.2	29282	4.4	18.8	269830	4.5	20.4	348904	4.6	20.2
295678	4.2	20.3	33473	4.3	17.7	340938	4.4	20.6	278791	4.4	20.6	92666	4.5	18.8	84316	4.6	18.9
313626	4.2	21.5	492637	4.3	21.1	456824	4.4	21.1	6137	4.4	15.8	393815	4.5	21.3	14557	4.6	18.4
94308	4.2	18.8	55876	4.3	18.5	384233	4.4	20.5	465915	4.4	21.1	171153	4.5	19.3	144818	4.6	19.6
18775	4.2	17.9	356736	4.3	20.3	29557	4.4	17.4	451008	4.4	21.5	503088	4.5	21.3	16699	4.6	17.1
267257	4.2	20.1	341819	4.3	20.2	208967	4.4	19.6	285190	4.4	20.6	117776	4.5	19.4	298749	4.6	19.6
221288	4.2	20.5	264430	4.3	20.4	310122	4.4	20.7	35729	4.4	16.8	508387	4.5	21.1	200559	4.6	20.7
426604	4.2	20.2	396862	4.3	21.6	165322	4.4	20.5	306190	4.4	21.0	417714	4.5	19.6	57418	4.6	19.1
372102	4.2	21.0	162021	4.3	20.3	139505	4.4	19.5	411421	4.4	20.8	266255	4.5	20.4	353224	4.6	19.0
174612	4.2	20.7	78606	4.3	19.3	341368	4.4	19.5	145655	4.4	20.0	406245	4.5	19.6	207585	4.6	19.5
225594	4.2	18.2	288703	4.3	21.1	234956	4.4	20.5	101883	4.4	19.4	437016	4.5	20.7	465400	4.6	20.5
238893	4.2	19.7	413129	4.3	21.5	258352	4.4	19.7	358015	4.4	20.0	321255	4.5	19.9	115390	4.6	19.0
81888	4.2	18.6	506383	4.3	20.9	305719	4.4	19.9	357193	4.4	18.9	116504	4.5	19.3	283937	4.6	20.3
231286	4.2	19.8	422758	4.3	20.5	151129	4.4	19.2	234837	4.4	20.5	343489	4.5	20.6	292716	4.6	20.7
88173	4.2	19.1	259171	4.3	19.3	459738	4.4	20.7	110891	4.4	19.2	354823	4.5	19.6	473001	4.6	20.5
87038	4.2	19.1	519553	4.3	20.0	388411	4.4	20.6	241144	4.4	21.1	437531	4.5	19.9	100759	4.6	18.9
423236	4.2	21.2	272810	4.3	19.9	158868	4.4	20.7	70542	4.4	19.3	238538	4.5	20.2	415316	4.6	20.8
79623	4.2	18.7	90718	4.3	19.4	241517	4.4	19.6	130432	4.4	18.7	59092	4.5	18.4	215663	4.6	19.5
264542	4.2	21.5	170185	4.3	19.8	42325	4.4	17.3	36003	4.4	17.4	157268	4.5	19.9	288624	4.6	19.0
293757	4.2	21.2	508480	4.3	21.4	313740	4.4	20.9	384992	4.4	20.9	161639	4.5	20.1	27799	4.6	18.3
436694	4.2	21.5	1625	4.3	14.5	59478	4.4	19.4	83634	4.4	18.9	241465	4.5	20.5	332542	4.6	21.2
169172	4.2	19.6	419872	4.3	20.5	340820	4.4	20.6	133642	4.4	19.7	427483	4.5	21.9	145361	4.6	19.9
205247	4.2	20.6	92470	4.3	18.3	352705	4.4	21.0	341752	4.4	20.9	376748	4.5	20.0	454742	4.6	19.4
503025	4.2	19.8	503205	4.3	20.6	325294	4.4	20.0	210871	4.4	20.2	246278	4.5	20.4	212957	4.6	18.5
344317	4.2	20.8	148248	4.3	18.2	466633	4.4	20.6	490020	4.4	20.7	434925	4.5	20.5	112291	4.6	19.1
499806	4.2	21.5	82233	4.3	19.7	425060	4.4	21.0	415849	4.4	20.8	30609	4.5	17.6	268485	4.6	19.7
423618	4.2	21.9	351594	4.3	20.5	131448	4.4	19.2	158442	4.5	19.7	243148	4.5	19.9	384938	4.6	20.5
240465	4.2	20.5	26602	4.3	18.3	306487	4.4	19.9	46732	4.5	18.6	94999	4.5	19.8	333602	4.6	20.2
282532	4.2	20.6	459038	4.3	21.2	187794	4.4	18.2	258966	4.5	20.6	206283	4.5	20.3	224375	4.6	20.0
450484	4.2	20.7	356469	4.3	20.9	365985	4.4	20.9	67864	4.5	19.2	498882	4.5	20.9	343467	4.6	20.1
314676	4.2	20.1	331810	4.3	20.5	208985	4.4	19.6	306036	4.5	21.1	208391	4.5	20.4	354748	4.6	21.0
148575	4.2	19.3	415815	4.3	21.7	426932	4.4	20.6	491570	4.5	20.3	286025	4.5	20.3	422230	4.6	21.3
171981	4.2	19.2	304014	4.3	19.9	132329	4.4	20.7	82408	4.5	19.3	156455	4.5	19.2	237978	4.6	20.8
253036	4.2	22.3	142877	4.3	19.1	123310	4.4	18.1	164243	4.5	19.5	41782	4.5	17.9	423783	4.6	20.7
337821	4.2	20.8	337359	4.3	21.3	109083	4.4	18.7	56858	4.5	19.2	282840	4.5	19.9	367542	4.6	22.1
338261	4.2	20.5	134279	4.3	20.3	281276	4.4	20.7	258166	4.5	21.5	264745	4.5	19.8	173113	4.6	19.9
214711	4.2	20.6	521144	4.3	21.9	325494	4.4	20.2	308353	4.5	21.5	461735	4.5	21.2	57863	4.6	18.6
258153	4.2	21.6	24588	4.3	18.6	23452	4.4	17.3	148573	4.5	20.1	280789	4.5	20.4	217072	4.6	21.1
410033	4.2	20.5	505089	4.3	21.4	387807	4.4	20.1	204398	4.5	20.3	156621	4.5	19.6	308148	4.6	19.5
134805	4.2	19.4	368634	4.3	19.9	301542	4.4	19.5	488724	4.5	21.7	410760	4.5	20.2	39038	4.6	17.7
266794	4.2	21.1	405904	4.3	20.8	120503	4.4	20.3	58336	4.5	19.7	283917	4.5	20.1	325201	4.6	20.8
498369	4.3	21.1	1392	4.3	15.4	501587	4.4	20.6	12874	4.5	17.4	275136	4.5	20.8	135515	4.6	20.4
75096	4.3	17.4	125445	4.3	19.3	303333	4.4	20.6	492699	4.5	21.8	386215	4.5	19.9	80204	4.6	19.5
205295	4.3	19.4	236129	4.3	20.3	496097	4.4	21.8	2452	4.5	15.3	57495	4.5	17.7	133313	4.6	19.9
512345	4.3	21.9	278837	4.3	20.5	114670	4.4	18.7	341388	4.5	21.0	302496	4.5	19.6	211863	4.6	19.6
54828	4.3	18.4	494185	4.3	20.7	203402	4.4	19.1	323773	4.5	21.4	410748	4.5	20.9	326344	4.6	21.1
97767	4.3	19.9	420012	4.3	20.6	6654	4.4	17.6	32776	4.5	17.5	502707	4.5	21.1	185702	4.6	21.0
288697	4.3	21.9	57601	4.3	18.5	453044	4.4	20.5	393543	4.5	21.2	406578	4.5	21.1	503637	4.6	20.7
165719	4.3	19.7	267358	4.3	19.4	47105	4.4	17.5	340710	4.5	20.6	241609	4.5	21.3	246242	4.6	19.9
464735	4.3	19.2	35056	4.3	17.3	32547	4.4	19.0	98106	4.5	18.3	332876	4.5	19.9	370769	4.6	20.0
325182	4.3	20.9	72456	4.3	20.1	358020	4.4	20.7	466816	4.5	21.0	427326	4.5	20.3	456775	4.6	21.7
96916	4.3	18.4	267220	4.3	21.5	144426	4.4	19.6	470523	4.5	21.7	9337	4.5	17.2	145305	4.6	20.2
282499	4.3	20.1	385866	4.3	21.0	500818	4.4	20.2	259101	4.5	18.3	73991	4.5	20.1	340346	4.6	19.1
241155	4.3	20.9	34699	4.3	19.2	381146	4.4	19.8	200675	4.5	21.0	42636	4.5	18.1	124885	4.6	19.3
192326	4.3	19.9	64625	4.3	19.4	488259	4.4	20.7	258118	4.5	20.8	405555	4.5	21.1	508242	4.6	21.3
387420	4.3	20.1	108788	4.3	19.8	497559	4.4	20.1	285881	4.5	21.2	19603	4.5	18.4	505014	4.6	21.6
463452	4.3	20.6	212314	4.3	20.1	385903	4.4	20.4</td									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
328308	4.6	19.8	162630	4.7	20.1	204702	4.8	18.9	54644	4.8	18.4	105511	4.9	18.7	211224	4.9	20.5
402955	4.6	21.6	80764	4.7	19.0	46298	4.8	18.6	213935	4.8	19.7	326443	4.9	20.7	138607	4.9	19.8
28941	4.6	18.9	497779	4.7	21.4	61617	4.8	18.5	352137	4.8	20.1	51765	4.9	18.8	15605	4.9	17.1
393865	4.6	20.5	310934	4.7	20.0	212575	4.8	20.8	102616	4.8	18.9	94492	4.9	18.2	33345	4.9	16.1
360574	4.6	20.2	189221	4.7	19.9	246606	4.8	20.7	141280	4.8	18.3	101664	4.9	19.1	8693	4.9	16.7
15371	4.6	18.8	145366	4.7	20.3	497411	4.8	21.7	32296	4.8	19.3	473998	4.9	20.5	85882	4.9	18.3
367329	4.6	20.1	109922	4.7	19.9	412752	4.8	20.9	421391	4.8	20.5	73761	4.9	18.8	465413	4.9	21.7
83112	4.6	20.2	21479	4.7	17.4	465180	4.8	20.1	10441	4.8	17.4	121913	4.9	18.5	467658	4.9	20.6
155319	4.6	20.1	427395	4.7	21.8	130852	4.8	19.5	94895	4.8	18.9	466420	4.9	20.9	151800	4.9	19.5
136461	4.6	20.1	8948	4.7	17.9	210697	4.8	20.3	318780	4.8	19.5	421321	4.9	20.9	406195	4.9	20.4
310944	4.6	20.7	399585	4.7	21.0	162975	4.8	20.0	168898	4.8	17.8	214229	4.9	19.1	399254	4.9	20.4
189045	4.6	20.4	119989	4.7	19.5	420889	4.8	21.8	3827	4.8	17.2	385932	4.9	20.6	40419	4.9	18.8
292779	4.6	20.5	208428	4.7	20.2	102110	4.8	19.5	83489	4.8	19.4	193774	4.9	19.9	22130	4.9	18.3
128309	4.6	18.9	426564	4.7	20.9	366890	4.8	21.4	199076	4.8	19.2	66905	4.9	19.6	409014	4.9	18.8
280488	4.6	20.4	500520	4.7	21.9	497736	4.8	22.1	98158	4.8	18.3	334345	4.9	20.5	27631	4.9	18.9
241868	4.6	20.0	284091	4.7	20.5	357186	4.8	20.4	191817	4.8	19.9	300208	4.9	21.4	110839	4.9	19.9
435321	4.6	20.9	323531	4.7	20.2	196537	4.8	20.3	55523	4.8	18.3	152242	4.9	19.8	371171	4.9	20.7
285887	4.6	20.8	270240	4.7	22.1	239904	4.8	21.0	51372	4.8	18.8	458197	4.9	21.7	82945	4.9	19.3
400260	4.6	20.4	341629	4.7	20.8	372528	4.8	20.0	6388	4.8	16.6	83557	4.9	17.7	217079	4.9	20.5
323756	4.6	20.5	406299	4.7	21.1	463476	4.8	21.4	358022	4.8	20.0	83250	4.9	18.9	128113	4.9	18.7
375330	4.6	20.4	140598	4.7	18.7	216798	4.8	20.6	190147	4.8	20.6	455518	4.9	21.8	324525	4.9	20.6
214210	4.6	19.3	312121	4.7	20.9	143320	4.8	19.0	498847	4.8	20.7	523676	4.9	22.7	473944	4.9	20.9
39430	4.6	18.7	197054	4.7	20.5	91291	4.8	18.7	207964	4.8	19.6	301999	4.9	19.9	331921	4.9	19.9
197560	4.6	20.1	355806	4.7	21.2	52642	4.8	18.7	5377	4.8	15.6	354043	4.9	21.3	31020	4.9	17.9
165227	4.6	20.6	368972	4.7	20.0	273656	4.8	20.0	96618	4.8	18.2	94451	4.9	19.8	84380	4.9	19.0
217106	4.6	20.1	421709	4.7	20.6	177629	4.8	19.8	385321	4.8	20.0	361580	4.9	20.6	290128	4.9	19.6
418347	4.6	19.7	89912	4.7	19.1	288822	4.8	21.4	331063	4.8	21.3	405179	4.9	21.3	368627	4.9	21.1
462055	4.6	19.7	292443	4.7	21.1	109473	4.8	18.2	366411	4.8	21.9	381678	4.9	20.8	31954	4.9	17.6
81351	4.6	20.2	12107	4.7	16.8	84957	4.8	19.4	393920	4.8	20.6	112165	4.9	18.7	375319	4.9	19.7
106821	4.6	17.4	66404	4.7	18.8	21121	4.8	17.8	376473	4.8	20.7	241893	4.9	20.6	354794	4.9	21.1
93876	4.6	19.2	335893	4.7	21.1	418226	4.8	20.3	286223	4.8	20.5	62840	4.9	18.8	143073	4.9	19.6
158093	4.6	19.9	287458	4.7	20.0	130951	4.8	19.9	416826	4.8	20.6	164172	4.9	19.7	329980	4.9	20.5
5558	4.6	16.4	261123	4.7	20.2	402072	4.8	21.4	115632	4.8	19.4	52697	4.9	18.4	26982	4.9	18.8
180615	4.6	19.5	65434	4.7	17.3	144489	4.8	20.0	414911	4.8	20.3	100361	4.9	19.9	173312	4.9	20.4
501140	4.6	21.9	459602	4.7	20.3	501270	4.8	19.5	506659	4.8	21.9	370631	4.9	20.2	315473	4.9	20.0
173306	4.6	20.4	112654	4.7	20.3	160820	4.8	20.4	104365	4.8	19.5	42661	4.9	18.0	293176	4.9	20.0
355767	4.6	21.0	368606	4.7	20.1	290833	4.8	20.7	357346	4.8	21.2	164291	4.9	19.1	15060	4.9	16.9
468320	4.7	18.9	393990	4.7	21.2	157269	4.8	19.5	316347	4.8	20.0	470303	4.9	20.9	192145	4.9	19.9
58127	4.7	19.1	433853	4.7	20.8	518675	4.8	21.4	143506	4.8	19.1	379991	4.9	20.1	411389	4.9	20.9
264282	4.7	18.9	6708	4.7	17.0	379254	4.8	20.6	58369	4.8	19.5	167774	4.9	19.9	458840	4.9	20.7
427114	4.7	19.9	365119	4.7	19.7	492623	4.8	21.4	83434	4.8	20.0	105528	4.9	19.6	373499	4.9	20.2
122201	4.7	19.8	389257	4.7	20.9	5991	4.8	16.3	357125	4.8	20.9	383396	4.9	20.2	49368	4.9	18.2
368144	4.7	19.8	492510	4.7	22.1	143529	4.8	19.6	165096	4.8	20.8	316590	4.9	20.4	14230	4.9	16.6
56634	4.7	19.3	340613	4.7	20.1	260828	4.8	20.4	406143	4.8	20.6	343145	4.9	19.9	175433	4.9	20.0
20885	4.7	17.9	285872	4.7	21.0	195444	4.8	20.4	356350	4.8	20.1	109591	4.9	19.4	473123	4.9	20.7
63519	4.7	17.9	77830	4.7	19.0	249833	4.8	18.8	118222	4.8	18.9	337798	4.9	20.6	136814	4.9	19.9
268555	4.7	19.7	295035	4.7	20.7	334706	4.8	19.0	17746	4.8	16.5	195394	4.9	19.4	384926	4.9	20.8
67853	4.7	19.4	377438	4.7	21.5	153299	4.8	19.1	492698	4.9	21.5	130446	4.9	20.4	283465	4.9	21.0
496949	4.7	20.8	47281	4.7	18.1	222276	4.8	19.6	466018	4.9	21.2	22609	4.9	18.3	425212	4.9	20.9
499072	4.7	20.8	89493	4.7	18.9	59939	4.8	19.2	239053	4.9	20.9	173733	4.9	20.0	85740	4.9	19.7
143264	4.7	18.5	66588	4.7	19.0	282140	4.8	20.6	110795	4.9	19.9	416100	4.9	22.0	210188	4.9	21.3
172029	4.7	20.1	233927	4.7	19.0	40459	4.8	18.3	193793	4.9	20.4	498773	4.9	22.0	253404	4.9	20.2
90220	4.7	18.5	309404	4.7	20.1	50919	4.8	18.3	222692	4.9	20.6	80212	4.9	18.9	362731	4.9	19.8
84397	4.7	19.3	257465	4.7	20.1	294561	4.8	19.8	79992	4.9	18.6	340700	4.9	20.7	181861	4.9	18.9
398019	4.7	20.3	242348	4.7	19.4	205883	4.8	19.3	79048	4.9	20.3	34761	4.9	17.4	437539	4.9	20.2
287255	4.7	19.6	200846	4.7	18.2	453333	4.8	20.3	465146	4.9	20.6	367523	4.9	21.4	274066	4.9	20.8
245630	4.7	20.6	121250	4.7	19.5	364193	4.8	21.5	459673	4.9	20.9	156385	4.9	18.7	495841	4.9	21.2
472883	4.7	20.9	461445	4.7	21.0	199146	4.8	20.8	403881	4.9	21.3	85705	4.9	19.1	422193	4.9	21.2
498587	4.7	20.5	49588	4.7	19.3	25298	4.8	18.0	502972	4.9	20.8	502753	4.9	20.1	178626	4.9	19.9
173453	4.7	20.2	268978	4.7	19.6	371020	4.8	21.7	85649	4.9	19.7	358990	4.9	20.9	307245	4.9	19.1
218652	4.7	20.8	429596	4.7	20.2	94611	4.8	18.4	337512	4.9	20.6	223225	4.9	19.7	71033	4.9	18.7
402891	4.7	21.5	153925	4.7	20.6	445883	4.8	20.9	10342	4.9	18.0	465123	4.9	21.4	129806	4.9	19.8
214238	4.7	19.5	84789	4.7	18.9	307513	4.8	18.5	517121	4							

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
353704	5.0	20.2	207325	5.1	20.2	140924	5.1	19.1	408632	5.2	21.7	216622	5.3	20.6	292470	5.3	20.4
466910	5.0	20.2	78781	5.1	19.1	91970	5.1	18.6	292319	5.2	19.7	290314	5.3	19.7	464327	5.3	19.6
389451	5.0	20.4	281897	5.1	20.3	404962	5.1	21.3	149730	5.2	20.1	33797	5.3	18.5	51832	5.3	18.7
251016	5.0	19.9	109629	5.1	18.5	136349	5.1	19.6	346801	5.2	20.8	428903	5.3	20.7	233234	5.3	20.3
67375	5.0	19.3	115137	5.1	18.5	9524	5.1	17.8	289875	5.2	21.5	113372	5.3	20.6	57724	5.3	18.5
140006	5.0	19.0	212856	5.1	19.4	510096	5.1	21.5	488647	5.2	22.3	32979	5.3	18.3	469589	5.3	20.3
88372	5.0	20.0	269419	5.1	19.5	488744	5.1	20.7	61472	5.2	19.4	89278	5.3	19.0	466349	5.3	20.8
170315	5.0	20.3	252002	5.1	19.4	196890	5.1	19.8	182642	5.2	20.3	315323	5.3	20.9	239901	5.3	21.0
462900	5.0	21.2	306981	5.1	20.6	144576	5.1	19.6	8244	5.2	18.0	272744	5.3	20.9	442738	5.3	21.0
386198	5.0	21.1	500467	5.1	21.5	120466	5.1	20.5	59306	5.2	18.4	201326	5.3	19.7	463585	5.3	21.8
492636	5.0	22.4	453377	5.1	20.4	175324	5.1	20.3	358011	5.2	21.1	401010	5.3	22.1	468597	5.3	21.5
36537	5.0	18.8	326398	5.1	20.2	250254	5.1	19.8	400573	5.2	19.3	49722	5.3	18.2	62411	5.3	17.5
14121	5.0	17.3	361589	5.1	20.5	382747	5.2	20.0	22425	5.2	18.3	204230	5.3	19.8	348511	5.3	19.4
127857	5.0	19.4	373466	5.1	22.2	347419	5.2	19.5	500410	5.2	21.9	399594	5.3	21.0	20940	5.3	18.7
306015	5.0	20.9	226787	5.1	20.2	291765	5.2	20.7	370647	5.2	20.1	394843	5.3	20.5	329236	5.3	19.5
134819	5.0	19.3	212679	5.1	19.7	398675	5.2	20.1	288265	5.2	19.8	57392	5.3	17.9	77278	5.3	18.8
522567	5.0	21.5	79074	5.1	19.0	268848	5.2	20.0	465132	5.2	21.0	48586	5.3	18.8	258885	5.3	21.8
301884	5.0	20.5	502064	5.1	20.9	415898	5.2	21.2	243183	5.2	19.7	397923	5.3	21.9	503611	5.3	20.7
310928	5.0	20.6	239493	5.1	19.8	276546	5.2	20.6	409936	5.2	22.0	154401	5.3	18.8	274138	5.3	19.4
491668	5.0	21.0	416577	5.1	20.4	131323	5.2	18.8	206068	5.2	19.8	110434	5.3	19.1	39935	5.3	17.3
203798	5.0	19.4	229501	5.1	20.0	39546	5.2	18.2	332134	5.2	20.5	9028	5.3	16.7	155590	5.3	19.9
505047	5.0	21.3	518162	5.1	21.1	415791	5.2	21.0	333225	5.2	19.7	406383	5.3	21.3	384212	5.3	20.9
307920	5.0	19.9	459965	5.1	21.4	181710	5.2	20.9	468169	5.2	20.1	498803	5.3	21.3	82061	5.3	18.2
78282	5.0	19.5	413662	5.1	21.1	493482	5.2	20.5	459051	5.2	20.1	234513	5.3	20.7	20685	5.3	16.5
175430	5.0	19.9	430593	5.1	21.2	265688	5.2	20.9	365155	5.2	19.8	434709	5.3	22.8	377847	5.3	21.0
318755	5.0	19.7	252218	5.1	20.0	141325	5.2	19.3	79977	5.2	18.3	331222	5.3	20.2	109692	5.3	18.3
88417	5.0	19.0	405885	5.1	20.6	209400	5.2	19.5	272993	5.2	21.0	522579	5.3	20.8	459269	5.3	20.7
11110	5.0	17.2	492211	5.1	20.8	31958	5.2	19.2	284900	5.2	20.2	247312	5.3	20.0	281602	5.3	20.6
400300	5.0	20.5	170242	5.1	20.3	116130	5.2	19.3	230460	5.2	20.9	470386	5.3	21.0	375031	5.4	19.7
40343	5.0	18.3	386961	5.1	20.7	19840	5.2	17.3	493489	5.2	21.0	127560	5.3	19.1	127294	5.4	18.9
374572	5.0	20.4	178432	5.1	19.8	506339	5.2	21.7	104847	5.2	19.1	244610	5.3	20.1	190297	5.4	19.6
123342	5.0	19.1	321060	5.1	20.6	520910	5.2	19.7	453298	5.2	20.4	230928	5.3	20.0	473753	5.4	21.8
362054	5.0	20.2	128070	5.1	19.5	67262	5.2	18.2	451007	5.2	21.2	523683	5.3	21.9	258112	5.4	20.3
164173	5.0	19.8	135495	5.1	20.3	159018	5.2	20.2	353940	5.2	21.1	283581	5.3	20.6	14903	5.4	17.0
421172	5.0	20.8	431988	5.1	21.3	398724	5.2	20.5	224228	5.2	20.1	283004	5.3	20.0	341299	5.4	21.0
20347	5.0	18.3	175360	5.1	20.0	280438	5.2	20.2	41694	5.2	18.1	498156	5.3	21.4	170307	5.4	20.6
2134	5.0	15.9	57252	5.1	16.3	119658	5.2	18.0	135497	5.2	20.2	274353	5.3	21.2	210580	5.4	20.4
343991	5.0	20.3	31165	5.1	19.7	380035	5.2	21.3	468250	5.2	20.4	348413	5.3	21.0	147614	5.4	19.9
89188	5.0	19.9	124890	5.1	19.9	488602	5.2	21.3	341688	5.2	20.1	284674	5.3	20.2	334919	5.4	20.3
219457	5.0	20.1	425667	5.1	21.1	432910	5.2	21.3	2903	5.2	15.2	214572	5.3	20.1	64194	5.4	17.5
77717	5.0	19.2	226751	5.1	20.5	302816	5.2	19.1	419699	5.2	20.4	74503	5.3	18.5	452726	5.4	21.6
56665	5.0	19.2	389280	5.1	20.7	190160	5.2	20.0	122283	5.2	20.1	350010	5.3	19.2	199481	5.4	20.5
60076	5.0	16.7	232737	5.1	20.2	325165	5.2	20.8	184601	5.2	21.5	397168	5.3	21.8	386190	5.4	21.7
386563	5.0	20.2	246204	5.1	20.7	16114	5.2	18.3	503545	5.2	21.6	359820	5.3	20.7	93397	5.4	19.9
105090	5.0	19.1	12510	5.1	18.9	197839	5.2	19.9	208456	5.2	20.7	496007	5.3	20.4	23036	5.4	17.1
273944	5.0	20.1	501846	5.1	20.2	133336	5.2	18.4	89698	5.3	19.7	23843	5.3	18.0	144463	5.4	19.3
60136	5.0	19.0	505075	5.1	21.6	420825	5.2	21.7	342694	5.3	20.9	480111	5.3	21.1	150292	5.4	19.8
433969	5.0	20.7	494715	5.1	21.5	359682	5.2	20.4	89361	5.3	19.5	237004	5.3	20.2	239795	5.4	20.7
408131	5.0	20.3	433232	5.1	21.2	97173	5.2	18.8	139574	5.3	20.3	333446	5.3	21.5	83335	5.4	19.4
492041	5.0	19.8	433144	5.1	20.4	468408	5.2	21.0	19756	5.3	17.9	117849	5.3	20.3	488987	5.4	21.1
88511	5.0	19.7	124457	5.1	20.0	57647	5.2	17.8	504381	5.3	20.8	214079	5.3	19.4	137219	5.4	20.0
271831	5.0	20.2	31185	5.1	17.4	72949	5.2	18.0	341732	5.3	19.8	327282	5.3	21.2	258636	5.4	19.9
178200	5.0	19.3	322810	5.1	21.7	464980	5.2	21.1	459042	5.3	20.4	107081	5.3	18.2	34956	5.4	19.4
62236	5.0	19.5	326701	5.1	19.1	506407	5.2	20.0	127345	5.3	18.1	207494	5.3	20.6	470453	5.4	20.7
494890	5.0	20.9	496032	5.1	21.6	16237	5.2	17.0	402872	5.3	22.5	387246	5.3	20.6	131821	5.4	18.7
425796	5.0	20.6	331635	5.1	20.7	465183	5.2	21.1	270511	5.3	18.7	231683	5.3	20.3	1684	5.4	15.3
141048	5.0	19.1	204875	5.1	20.2	175621	5.2	20.3	80303	5.3	18.9	226807	5.3	20.0	506372	5.4	21.8
348945	5.0	21.2	431275	5.1	21.2	326124	5.2	19.8	79776	5.3	18.5	187873	5.3	20.4	210777	5.4	19.1
452997	5.1	19.9	48620	5.1	18.9	55102	5.2	17.7	218631	5.3	19.8	504656	5.3	20.7	135362	5.4	19.3
238031	5.1	20.4	210929	5.1	19.9	208205	5.2	19.5	453376	5.3	19.9	109163	5.3	19.1	365852	5.4	19.7
127626	5.1	19.3	265409	5.1	20.2	140577	5.2	19.3	499785	5.3	20.9	126458	5.3	18.0	337385	5.4	20.7
460870	5.1	20.8	330081	5.1	20.3	343021	5.2	20.3	173018	5.3	20.2	380084	5.3	20.2	299567	5.4	19.5
89138	5.1	18.8	73908	5.1	19.6	422480	5.2	20.									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
198209	5.4	19.9	417221	5.5	20.6	278608	5.5	21.2	134827	5.6	19.7	60887	5.7	18.4	212882	5.7	20.4
313649	5.4	21.2	117612	5.5	18.8	338892	5.5	20.7	362090	5.6	20.2	133339	5.7	20.2	253215	5.7	19.8
51201	5.4	18.6	172462	5.5	20.9	495010	5.5	22.1	429804	5.6	19.4	430678	5.7	20.3	171548	5.7	20.2
467889	5.4	20.9	349041	5.5	21.0	31879	5.5	18.1	10128	5.6	17.8	412085	5.7	20.0	100350	5.7	19.8
413967	5.4	20.3	183190	5.5	20.5	7934	5.5	16.8	190424	5.6	20.0	373474	5.7	21.4	242640	5.7	21.3
179984	5.4	19.7	253187	5.5	20.0	27549	5.5	17.6	427634	5.6	20.5	292364	5.7	21.6	100404	5.7	18.3
297632	5.4	21.5	498620	5.5	21.1	496067	5.5	21.6	407560	5.6	20.5	284146	5.7	20.7	186053	5.7	21.1
491622	5.4	21.4	117960	5.5	19.2	303480	5.5	19.8	430117	5.6	20.9	214052	5.7	19.9	92392	5.7	19.9
421196	5.4	20.9	237991	5.5	19.4	166965	5.5	20.3	5488	5.6	15.9	360377	5.7	19.4	33415	5.7	18.1
154872	5.4	19.6	87094	5.5	18.7	221275	5.5	20.3	116943	5.6	19.7	263185	5.7	20.3	133716	5.7	19.2
208326	5.4	20.8	378720	5.5	20.3	197279	5.5	20.9	303339	5.6	21.1	384180	5.7	20.2	90114	5.7	18.9
243821	5.4	20.1	280170	5.5	20.5	208455	5.5	19.8	279660	5.6	19.9	138543	5.7	19.9	85480	5.7	19.8
54394	5.4	17.1	416936	5.5	21.5	493043	5.5	21.2	210715	5.6	20.8	376464	5.7	20.4	222539	5.7	19.1
198380	5.4	19.9	522224	5.5	20.0	422163	5.5	21.2	159900	5.6	19.8	375047	5.7	20.5	425335	5.7	20.2
172338	5.4	20.1	377144	5.5	20.8	91701	5.5	19.3	142805	5.6	18.9	186207	5.7	20.4	248484	5.7	20.4
119158	5.4	20.9	459865	5.5	18.9	125085	5.5	19.8	240496	5.6	19.8	422967	5.7	19.1	24756	5.7	18.3
345712	5.4	21.2	43369	5.5	17.8	231736	5.5	20.7	471880	5.6	20.8	93472	5.7	20.0	87673	5.7	19.3
262767	5.4	19.8	313671	5.5	22.0	429965	5.5	21.0	335587	5.6	19.8	129787	5.7	18.3	484719	5.7	20.8
429304	5.4	20.2	384959	5.5	21.0	369397	5.5	20.9	110114	5.6	19.1	421195	5.7	20.2	252434	5.7	21.1
469500	5.4	20.1	415808	5.5	21.4	378421	5.5	20.2	435880	5.6	20.7	82836	5.7	19.1	495127	5.7	22.0
223608	5.4	19.5	431223	5.5	21.3	382705	5.5	21.0	256099	5.6	21.4	247529	5.7	20.6	235322	5.7	20.4
43685	5.4	18.4	245933	5.5	21.3	362135	5.5	20.3	276033	5.6	21.9	91258	5.7	18.1	79497	5.7	18.2
222341	5.4	19.6	233289	5.5	19.0	205557	5.5	19.9	406260	5.6	19.6	20863	5.7	19.8	288635	5.8	19.5
219414	5.4	20.3	498283	5.5	20.8	298801	5.5	19.9	368211	5.6	21.5	366955	5.7	22.1	139634	5.8	20.4
296000	5.4	21.1	467793	5.5	20.8	131501	5.5	19.9	140247	5.6	20.9	171028	5.7	18.7	165166	5.8	20.2
252999	5.4	20.9	219809	5.5	19.6	109762	5.5	20.2	316054	5.6	19.9	247339	5.7	20.1	17653	5.8	19.0
275012	5.4	20.0	82806	5.5	20.0	216140	5.5	20.4	416250	5.6	19.5	450285	5.7	20.8	503018	5.8	20.4
287322	5.4	20.8	305422	5.5	20.4	179087	5.5	19.1	258838	5.6	21.5	358496	5.7	19.9	171857	5.8	20.1
371706	5.4	19.6	324516	5.5	20.7	171496	5.6	21.0	501358	5.6	21.1	454285	5.7	21.1	56539	5.8	19.1
434607	5.4	21.5	142864	5.5	20.0	66525	5.6	19.0	268458	5.6	19.8	217067	5.7	21.3	154490	5.8	18.6
52551	5.4	18.3	250097	5.5	19.9	140697	5.6	20.4	399573	5.6	20.8	243266	5.7	19.8	500212	5.8	21.7
498790	5.4	21.4	337575	5.5	21.1	126955	5.6	18.8	468382	5.6	20.7	76734	5.7	18.8	265571	5.8	20.4
40542	5.4	19.1	374542	5.5	20.6	109941	5.6	19.4	463325	5.6	20.8	117116	5.7	19.9	372996	5.8	20.2
359773	5.4	20.8	376281	5.5	20.7	229495	5.6	19.5	458982	5.6	21.4	91434	5.7	19.9	413066	5.8	21.8
20468	5.4	19.9	313697	5.5	20.5	406583	5.6	21.2	215887	5.6	19.7	204973	5.7	21.0	324588	5.8	20.8
505943	5.4	20.7	284348	5.5	21.5	230604	5.6	20.0	135185	5.6	18.5	364187	5.7	21.5	380306	5.8	20.1
133091	5.4	20.0	89145	5.5	19.4	313400	5.6	19.9	379342	5.6	20.3	100161	5.7	19.8	161111	5.8	19.9
173824	5.4	20.1	61931	5.5	18.5	426729	5.6	20.0	128387	5.6	20.1	501406	5.7	21.5	7440	5.8	16.2
221129	5.4	19.8	105259	5.5	19.0	348811	5.6	20.6	221704	5.6	19.5	349044	5.7	20.9	100346	5.8	19.7
341364	5.4	21.3	92454	5.5	18.7	489573	5.6	22.1	87458	5.6	19.3	307547	5.7	18.5	297614	5.8	20.6
186533	5.4	18.6	466212	5.5	21.8	234146	5.6	20.1	510286	5.6	21.7	265795	5.7	20.5	6041	5.8	18.3
290219	5.4	19.9	424150	5.5	19.2	190274	5.6	21.2	415874	5.6	21.2	494127	5.7	21.5	288826	5.8	20.9
240731	5.4	20.1	324016	5.5	20.1	27466	5.6	17.5	29681	5.6	18.4	304925	5.7	20.3	503156	5.8	20.9
413851	5.4	22.3	468548	5.5	21.9	51257	5.6	18.1	161780	5.6	20.2	397134	5.7	21.5	426537	5.8	20.6
466603	5.4	20.8	59335	5.5	17.4	426223	5.6	20.7	326693	5.6	18.7	358082	5.7	20.6	432173	5.8	20.0
67560	5.4	17.1	226760	5.5	18.4	109621	5.6	19.8	378937	5.6	20.8	65074	5.7	19.3	225980	5.8	19.7
498338	5.4	21.2	273036	5.5	20.4	321176	5.6	21.0	357957	5.6	21.0	319706	5.7	19.8	110778	5.8	19.5
302090	5.4	19.3	301513	5.5	21.1	116793	5.6	19.5	36940	5.6	18.6	44947	5.7	17.1	522464	5.8	20.8
257684	5.4	20.4	421686	5.5	21.4	385258	5.6	21.3	318719	5.6	19.9	434186	5.7	19.1	425854	5.8	20.1
83203	5.4	19.4	195560	5.5	18.5	268474	5.6	20.2	387206	5.6	20.6	38005	5.7	17.9	153908	5.8	20.6
12586	5.4	18.5	119585	5.5	19.5	370797	5.6	20.7	397487	5.6	21.8	303281	5.7	21.0	227607	5.8	20.1
219631	5.4	20.7	433053	5.5	21.5	45334	5.6	18.5	376737	5.6	21.8	23004	5.7	18.7	18764	5.8	17.5
18768	5.4	17.6	153421	5.5	20.0	240904	5.6	20.6	356807	5.7	20.4	450208	5.7	21.5	360579	5.8	21.3
131417	5.4	20.0	466298	5.5	21.2	522463	5.6	20.6	399672	5.7	21.5	170715	5.7	18.9	522560	5.8	21.0
500181	5.4	20.8	138303	5.5	18.8	21049	5.6	17.0	69500	5.7	18.7	260334	5.7	20.6	180564	5.8	19.6
21030	5.4	19.5	296197	5.5	20.2	110776	5.6	19.6	49322	5.7	18.3	156420	5.7	19.5	358497	5.8	20.9
294343	5.4	20.3	54833	5.5	18.6	464713	5.6	21.1	190421	5.7	19.8	227531	5.7	20.6	491323	5.8	22.0
371114	5.4	22.0	286300	5.5	21.5	506030	5.6	21.1	26924	5.7	18.9	182408	5.7	20.7	341775	5.8	21.0
212718	5.4	20.4	363565	5.5	19.6	437656	5.6	20.9	224516	5.7	20.2	151161	5.7	20.0	219059	5.8	20.6
428919	5.4	20.3	339489	5.5	20.0	99510	5.6	18.5	431523	5.7	19.8	165660	5.7	20.0	414855	5.8	20.2
240008	5.4	20.6	88172	5.5	19.4	288606	5.6	20.1	492516	5.7	20.8	353482	5.7	20.2	264537	5.8	21.4
38308	5.4	19.1	100504	5.5	19.1	472973	5.6	20.8	125556	5.7	19.2	502404	5.7	20.6	401948	5.8	21.6
415526	5.4	20.4	419905	5.5	20.2	267084	5										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
94918	5.8	20.5	36904	5.9	18.0	222540	5.9	20.5	32605	5.9	18.2	82057	6.1	19.2	500019	6.1	21.1
105594	5.8	19.6	497820	5.9	21.3	496935	5.9	21.8	155596	5.9	19.1	406482	6.1	21.3	397859	6.1	21.9
53969	5.8	17.5	90659	5.9	19.0	238474	5.9	20.8	147235	5.9	19.2	54473	6.1	18.0	423265	6.1	21.0
6245	5.8	17.1	411431	5.9	21.3	219794	5.9	20.0	48274	5.9	19.2	306077	6.1	21.0	101684	6.1	17.8
289980	5.8	19.7	229082	5.9	20.5	210977	5.9	19.5	364646	6.0	21.3	373326	6.1	20.5	26665	6.1	19.0
214993	5.8	20.1	241475	5.9	20.0	421562	5.9	22.0	424828	6.0	21.1	337851	6.1	20.1	422524	6.1	20.6
292254	5.8	21.3	328736	5.9	21.4	107676	5.9	19.1	298295	6.0	19.3	184669	6.1	20.3	322781	6.1	21.2
113670	5.8	19.0	224373	5.9	21.4	6673	5.9	17.5	287824	6.0	20.4	122861	6.1	19.5	91121	6.1	18.8
348499	5.8	21.7	316642	5.9	20.9	25340	5.9	18.5	208714	6.0	19.1	138444	6.1	19.1	430658	6.1	21.0
473031	5.8	20.6	413860	5.9	21.8	218688	5.9	21.0	499814	6.0	20.6	227466	6.1	21.5	239547	6.1	20.0
470199	5.8	22.4	417517	5.9	22.6	20939	5.9	19.4	463138	6.0	21.6	83679	6.1	18.9	264578	6.1	20.3
123712	5.8	19.3	240293	5.9	19.3	288737	5.9	20.7	58725	6.0	20.1	265637	6.1	20.3	53758	6.1	18.2
384224	5.8	20.5	345690	5.9	20.9	502356	5.9	20.6	198579	6.0	18.9	32291	6.1	16.7	387592	6.1	21.0
121054	5.8	17.8	237133	5.9	20.7	157273	5.9	20.0	186140	6.0	18.9	52704	6.1	17.4	307940	6.1	19.0
214244	5.8	19.6	222867	5.9	19.7	90661	5.9	19.7	295405	6.0	20.5	285741	6.1	19.9	496897	6.1	19.5
464933	5.8	21.3	423665	5.9	20.4	90146	5.9	18.9	423571	6.0	20.7	148786	6.1	18.3	132255	6.1	18.5
360221	5.8	22.0	453234	5.9	20.5	44406	5.9	17.7	289106	6.0	20.2	375343	6.1	21.2	229602	6.1	19.6
337498	5.8	21.4	182073	5.9	18.8	129596	5.9	19.9	28714	6.0	18.1	351630	6.1	20.7	386131	6.1	21.9
435978	5.8	20.5	338341	5.9	20.6	357523	5.9	21.2	139589	6.0	19.2	209096	6.1	20.1	30913	6.1	19.2
182052	5.8	19.6	258851	5.9	20.7	423485	5.9	21.5	345532	6.0	21.5	460098	6.1	21.1	301029	6.1	20.2
343027	5.8	19.2	109884	5.9	19.6	157836	5.9	18.5	379693	6.0	20.3	24024	6.1	18.0	501144	6.1	21.4
206722	5.8	20.1	371956	5.9	20.8	115129	5.9	20.0	36913	6.0	19.1	135213	6.1	19.1	29169	6.1	17.9
236735	5.8	20.5	22628	5.9	18.6	283461	5.9	21.8	292266	6.0	20.8	499798	6.1	21.0	26365	6.1	18.1
240279	5.8	18.7	454188	5.9	19.8	263473	5.9	20.4	288893	6.0	20.6	312011	6.1	21.7	64814	6.1	19.4
208649	5.8	20.3	212927	5.9	19.8	521160	5.9	21.0	346008	6.0	20.4	462201	6.1	22.0	55947	6.1	18.5
66015	5.8	18.9	84151	5.9	19.8	405186	5.9	20.3	482836	6.0	20.2	162481	6.1	20.6	240768	6.1	20.7
85591	5.8	18.2	208344	5.9	20.4	120143	5.9	19.3	522626	6.0	20.2	503736	6.1	21.2	302166	6.1	21.8
341387	5.8	19.8	270157	5.9	21.6	143247	5.9	20.2	310988	6.0	20.6	298813	6.1	20.3	270641	6.2	19.3
436007	5.8	20.4	153998	5.9	18.5	56933	5.9	18.2	409868	6.0	21.7	312126	6.1	20.2	186094	6.2	20.1
455569	5.8	21.3	81667	5.9	19.1	264427	5.9	19.4	505952	6.0	21.1	462855	6.1	20.7	178289	6.2	20.6
404250	5.8	19.8	86147	5.9	18.2	46426	5.9	19.2	107347	6.0	19.1	296245	6.1	20.4	321874	6.2	21.4
245375	5.8	19.0	179974	5.9	18.9	267036	5.9	20.6	200577	6.0	19.8	154744	6.1	19.9	415760	6.2	21.5
237478	5.8	20.1	455578	5.9	21.7	171356	5.9	20.1	414759	6.0	21.4	425829	6.1	20.1	73390	6.2	18.7
522739	5.8	20.3	348503	5.9	19.3	456128	5.9	20.3	353942	6.0	20.8	148550	6.1	19.3	229185	6.2	20.1
502989	5.8	20.6	290348	5.9	21.4	158544	5.9	19.7	219763	6.0	19.9	198162	6.1	19.6	522690	6.2	20.6
74795	5.8	20.1	78321	5.9	19.2	68512	5.9	19.3	522494	6.0	21.3	437095	6.1	21.6	76614	6.2	19.3
425231	5.8	20.8	172158	5.9	20.4	306676	5.9	21.1	464144	6.0	20.9	412518	6.1	20.3	377878	6.2	19.6
283635	5.8	20.0	166968	5.9	20.1	3153	5.9	16.4	55573	6.0	19.1	368792	6.1	20.3	221902	6.2	21.1
437230	5.8	21.1	33210	5.9	18.1	271186	5.9	20.7	15385	6.0	18.0	9615	6.1	17.1	160701	6.2	20.1
125584	5.8	18.8	359706	5.9	20.1	100223	5.9	20.0	399588	6.0	21.3	24702	6.1	17.3	169522	6.2	18.2
331802	5.8	20.4	43878	5.9	18.2	208949	5.9	20.4	217890	6.0	19.6	226710	6.1	20.2	192209	6.2	20.6
140451	5.8	19.9	318504	5.9	19.9	75569	5.9	19.7	469138	6.0	20.7	376208	6.1	20.9	465156	6.2	20.9
170143	5.8	19.9	450988	5.9	20.3	345063	5.9	20.9	368225	6.0	22.5	333065	6.1	20.1	28211	6.2	18.7
34561	5.8	18.3	85028	5.9	18.0	104602	5.9	19.0	38894	6.0	18.7	284324	6.1	20.4	235253	6.2	20.2
323745	5.8	20.6	288597	5.9	20.4	419526	5.9	20.9	498079	6.0	21.4	426487	6.1	20.4	184085	6.2	20.2
456655	5.8	21.9	381255	5.9	19.4	165400	5.9	19.4	455716	6.0	20.8	188078	6.1	19.8	269025	6.2	19.5
352746	5.8	21.1	242187	5.9	22.7	78166	5.9	18.5	281991	6.0	20.0	319973	6.1	20.5	298805	6.2	21.2
449124	5.8	19.7	65945	5.9	18.9	288871	5.9	20.4	94531	6.0	19.0	95510	6.1	19.7	264690	6.2	20.0
505164	5.8	21.6	160099	5.9	19.2	207870	5.9	20.1	245947	6.0	19.8	456874	6.1	21.0	60248	6.2	19.0
123299	5.8	19.0	341719	5.9	20.2	496254	5.9	20.7	336870	6.0	18.5	200610	6.1	20.1	210475	6.2	20.2
56299	5.8	18.4	421632	5.9	20.7	279393	5.9	20.2	27508	6.0	17.4	361167	6.1	20.0	296029	6.2	19.8
341156	5.8	20.4	296338	5.9	20.5	266919	5.9	20.4	522737	6.0	20.8	314181	6.1	19.4	508573	6.2	21.1
251314	5.8	19.0	157200	5.9	19.4	433663	5.9	20.4	259807	6.0	19.5	207172	6.1	19.2	285940	6.2	20.6
49609	5.8	18.2	193914	5.9	20.0	104482	5.9	19.8	375085	6.0	21.0	412637	6.1	20.6	230127	6.2	20.2
174620	5.8	20.2	2165	5.9	16.0	426553	5.9	20.7	358084	6.0	19.3	243487	6.1	18.7	44945	6.2	18.3
203445	5.8	19.7	396784	5.9	20.3	258133	5.9	20.4	504213	6.0	22.3	502589	6.1	21.0	473050	6.2	20.4
58430	5.8	18.2	158244	5.9	20.1	234879	5.9	19.4	462334	6.0	20.2	111039	6.1	18.8	208347	6.2	19.6
300277	5.8	21.5	99100	5.9	19.0	179040	5.9	20.5	350872	6.0	22.5	236672	6.1	20.2	396614	6.2	21.4
492315	5.8	21.3	148521	5.9	20.8	68229	5.9	18.5	512975	6.0	21.7	74616	6.1	20.3	173141	6.2	20.3
437417	5.8	20.2	98638	5.9	19.5	9419	5.9	17.4	148092	6.0	19.9	223644	6.1	20.9	101073	6.2	19.2
271003	5.8	19.9	149640	5.9	19.8	140494	5.9	20.1	31970	6.0	19.3	77149	6.1	18.5	499297	6.2	21.1
270590	5.8	19.5	318695	5.9	20.6	15830	5.9	17.6	112269	6.0	19.1	380105	6.1	20.6	415513	6.2	21.0
501420	5.8	19.9	169631	5.9	18.8	341567	5.9	20.5									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V															
69700	6.2	17.8	503002	6.3	20.9	56098	6.3	19.1	42498	6.4	17.7	498344	6.5	24.1	237698	6.5	20.0
286400	6.2	20.2	434502	6.3	21.4	31515	6.3	18.0	383680	6.4	19.8	500568	6.5	21.4	455617	6.5	21.7
93036	6.2	19.6	35809	6.3	17.6	185879	6.3	20.4	365824	6.4	21.0	132033	6.5	18.8	496098	6.5	21.5
195078	6.2	19.2	272936	6.3	20.5	341530	6.3	21.2	319762	6.4	20.1	133503	6.5	19.4	463676	6.5	21.8
310408	6.2	20.2	41876	6.3	18.3	413855	6.3	21.5	419275	6.4	20.7	144970	6.5	19.6	421236	6.5	20.3
273281	6.2	21.0	25656	6.3	18.0	290551	6.3	20.2	224409	6.4	20.5	303830	6.5	20.0	432193	6.5	19.9
81974	6.2	20.1	41214	6.3	19.0	496559	6.3	20.7	518639	6.4	21.2	406439	6.5	21.7	466797	6.5	20.0
426386	6.2	22.0	411698	6.3	20.5	496247	6.3	20.5	220798	6.4	18.8	332750	6.5	19.8	133113	6.5	20.2
271872	6.2	19.7	272545	6.3	20.8	140579	6.3	19.8	13319	6.4	17.0	503605	6.5	21.2	351579	6.5	21.0
113772	6.2	18.8	3956	6.3	16.5	7883	6.3	16.7	99371	6.4	18.8	312024	6.5	21.1	413961	6.5	20.7
284879	6.2	19.7	35125	6.3	18.2	127718	6.3	18.9	522629	6.4	21.3	229499	6.5	21.4	194210	6.5	20.5
154757	6.2	20.5	500215	6.3	21.3	103048	6.3	17.2	30875	6.4	17.6	466926	6.5	20.3	141828	6.5	20.8
327308	6.2	21.1	435923	6.3	20.2	33388	6.3	17.4	155729	6.4	20.1	182334	6.5	20.7	376493	6.5	21.0
115957	6.2	18.9	165447	6.3	20.1	503056	6.4	20.4	24125	6.4	18.5	138725	6.5	19.9	434516	6.5	21.5
206174	6.2	19.8	438859	6.3	18.7	50883	6.4	18.5	502026	6.4	20.3	457558	6.5	20.6	354782	6.5	20.8
103648	6.2	18.4	2231	6.3	17.0	180045	6.4	19.3	415721	6.4	22.1	362685	6.5	20.8	275121	6.5	20.1
499848	6.2	20.9	146478	6.3	20.8	57113	6.4	19.1	209667	6.4	19.4	255921	6.5	20.5	346351	6.5	21.4
181173	6.2	20.8	505230	6.3	21.4	465083	6.4	21.2	207593	6.4	19.6	1942	6.5	16.6	199212	6.5	18.9
9052	6.2	18.1	282463	6.3	19.4	212310	6.4	21.4	275064	6.4	18.7	308682	6.5	20.5	124148	6.5	20.2
211019	6.2	19.8	400321	6.3	20.2	152784	6.4	19.3	360388	6.4	19.4	244743	6.5	20.8	142638	6.5	19.7
279014	6.2	20.2	342947	6.3	20.9	431245	6.4	21.3	292889	6.4	19.8	376444	6.5	20.2	210341	6.5	20.0
222730	6.2	20.1	360061	6.3	20.5	89002	6.4	19.6	206389	6.4	20.0	120539	6.5	19.1	110660	6.5	20.0
74658	6.2	19.7	472941	6.3	20.8	425916	6.4	19.8	292652	6.4	19.9	194189	6.5	19.9	268064	6.5	19.9
298763	6.2	20.4	379247	6.3	22.5	399433	6.4	24.0	430685	6.4	21.3	111941	6.5	19.7	246504	6.5	19.7
344589	6.2	19.5	7132	6.3	15.2	312224	6.4	20.2	501468	6.4	20.4	381663	6.5	20.3	354513	6.5	20.1
341390	6.2	20.2	497851	6.3	21.7	85175	6.4	18.4	224569	6.4	20.3	248184	6.5	19.4	117056	6.5	20.2
327383	6.2	21.4	30414	6.3	18.7	283904	6.4	19.6	351459	6.4	21.1	134372	6.5	21.0	464089	6.5	21.5
408680	6.2	21.2	96994	6.3	18.8	73001	6.4	19.0	297646	6.4	19.2	61607	6.5	19.3	75893	6.5	19.1
35778	6.2	18.0	191931	6.3	19.8	97828	6.4	18.7	81542	6.4	19.3	304363	6.5	20.6	401968	6.5	23.4
167693	6.2	19.4	413201	6.3	20.5	28308	6.4	16.9	459785	6.4	19.8	94103	6.5	19.1	298761	6.5	20.3
55685	6.2	19.5	297458	6.3	21.1	458960	6.4	20.3	267073	6.4	20.1	239886	6.5	20.4	458882	6.6	20.7
492234	6.2	21.5	322712	6.3	19.7	426369	6.4	21.6	92899	6.4	17.9	431482	6.5	21.0	98781	6.6	18.3
141101	6.2	19.6	366951	6.3	21.1	491230	6.4	20.4	320829	6.4	20.1	27193	6.5	18.1	10732	6.6	16.1
426035	6.2	20.9	380048	6.3	21.0	379044	6.4	21.3	321225	6.4	19.6	277775	6.5	20.5	130225	6.6	19.5
64365	6.2	18.6	352129	6.3	20.3	190141	6.4	20.2	111648	6.4	19.1	128415	6.5	19.4	148943	6.6	19.5
57033	6.2	19.2	289125	6.3	19.9	420316	6.4	20.1	407274	6.4	20.8	464416	6.5	20.4	455558	6.6	20.7
502902	6.2	20.1	105744	6.3	19.5	347454	6.4	20.8	65559	6.4	19.9	37629	6.5	19.1	332588	6.6	20.5
327028	6.2	20.8	435984	6.3	20.1	433522	6.4	21.4	286009	6.4	20.4	271896	6.5	20.7	379031	6.6	20.5
211130	6.2	19.0	114005	6.3	19.8	411634	6.4	20.2	337751	6.4	21.1	471512	6.5	22.5	160408	6.6	20.5
426975	6.2	21.1	148696	6.3	20.7	413879	6.4	19.7	282191	6.4	19.8	242995	6.5	19.8	30440	6.6	18.4
376345	6.2	19.7	61139	6.3	19.4	419857	6.4	20.4	425515	6.4	20.7	37966	6.5	18.4	387126	6.6	21.5
239399	6.2	19.8	328347	6.3	21.5	323768	6.4	19.4	394036	6.4	21.2	88832	6.5	19.4	190118	6.6	20.7
351647	6.2	20.6	30344	6.3	18.7	299300	6.4	20.4	5968	6.4	16.2	330898	6.5	20.7	29150	6.6	17.2
354035	6.2	21.2	29433	6.3	18.0	188787	6.4	20.4	119787	6.4	19.9	384599	6.5	20.9	464415	6.6	20.1
194937	6.2	18.6	244380	6.3	21.2	130093	6.4	19.8	256301	6.4	19.9	121114	6.5	17.5	210675	6.6	19.8
11078	6.2	16.3	210497	6.3	19.0	114676	6.4	19.3	408757	6.4	19.9	18428	6.5	18.7	18360	6.6	19.2
463638	6.2	21.7	33072	6.3	17.2	298918	6.4	20.3	298317	6.4	19.0	508267	6.5	21.3	182037	6.6	18.4
95250	6.2	18.4	382372	6.3	21.0	322786	6.4	20.1	205065	6.4	20.1	377323	6.5	21.1	114528	6.6	18.8
233558	6.2	20.4	318708	6.3	20.3	363362	6.4	21.9	298804	6.4	21.1	52648	6.5	19.1	501369	6.6	20.4
279646	6.2	19.4	384591	6.3	20.3	277815	6.4	20.5	432040	6.4	20.7	318904	6.5	21.3	81700	6.6	18.4
86977	6.3	18.7	159471	6.3	19.8	1200	6.4	15.2	101856	6.4	19.6	28967	6.5	18.6	500814	6.6	20.6
343052	6.3	19.7	520628	6.3	20.3	496648	6.4	20.0	409984	6.4	21.0	255674	6.5	20.2	74040	6.6	18.7
66368	6.3	18.7	142736	6.3	19.0	294592	6.4	20.5	182289	6.4	19.6	427138	6.5	21.5	30603	6.6	19.9
154545	6.3	19.6	16342	6.3	18.2	495115	6.4	22.5	443930	6.4	21.4	404195	6.5	19.6	466895	6.6	20.5
198973	6.3	20.4	258843	6.3	21.6	269655	6.4	20.6	510362	6.4	21.7	111266	6.5	18.7	9215	6.6	17.4
112267	6.3	19.5	5406	6.3	15.7	380901	6.4	20.7	460474	6.4	21.1	90664	6.5	19.8	159686	6.6	19.8
326335	6.3	21.1	208214	6.3	19.8	159604	6.4	19.2	81843	6.4	19.6	430474	6.5	22.3	382091	6.6	20.6
497845	6.3	22.1	79702	6.3	18.4	136599	6.4	18.8	32549	6.4	19.8	204395	6.5	19.7	53266	6.6	19.6
242043	6.3	20.7	320687	6.3	20.0	493256	6.4	21.3	369303	6.4	21.9	241223	6.5	19.8	371166	6.6	20.8
67377	6.3	18.1	595	6.3	12.9	203530	6.4	19.2	309249	6.4	21.3	36426	6.5	18.0	276899	6.6	21.0
234106	6.3	19.7	312113	6.3	20.3	96176	6.4	19.4	346875	6.4	20.2	54587	6.5	18.7	189461	6.6	19.2
119022	6.3	19.8	238358	6.3	18.7	259322	6.4	19.9	187291	6.4	19.3	423971	6.5	20.4	495972	6.6	21.4
417295	6.3	20.2	253098	6.3	19.4	503243	6.4	20.4	111061								

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
61151	6.6	19.1	327363	6.7	21.6	212533	6.7	20.5	312934	6.8	20.9	39374	6.9	18.9	139187	6.9	19.2
176788	6.6	20.4	258100	6.7	20.4	138674	6.7	19.7	422369	6.8	21.7	369392	6.9	21.2	297770	6.9	20.0
500596	6.6	21.4	246467	6.7	20.0	138787	6.7	18.0	456323	6.8	21.0	285134	6.9	20.6	379041	6.9	20.9
411269	6.6	20.0	66490	6.7	18.9	24796	6.7	18.1	347422	6.8	20.7	213842	6.9	20.2	418928	6.9	19.8
293819	6.6	19.4	213878	6.7	20.0	362166	6.7	20.5	125536	6.8	19.2	135263	6.9	19.0	430258	6.9	21.3
303362	6.6	20.3	62046	6.7	19.3	309840	6.7	19.6	18120	6.8	19.4	372701	6.9	21.8	341748	6.9	20.2
306423	6.6	21.7	165445	6.7	19.9	99717	6.7	18.2	40808	6.8	18.9	276812	6.9	21.1	223299	6.9	19.6
501002	6.6	20.7	66318	6.7	18.4	207948	6.7	19.3	451754	6.8	20.2	97950	6.9	20.3	46526	6.9	18.5
415988	6.6	19.9	291672	6.7	19.9	56513	6.7	19.4	346082	6.8	21.1	341765	6.9	21.0	474040	6.9	20.5
425812	6.6	20.7	157957	6.7	17.9	157515	6.7	18.7	347453	6.8	20.0	460061	6.9	21.2	465734	6.9	20.1
130971	6.6	19.1	170276	6.7	20.9	243505	6.7	21.7	176028	6.8	21.2	499217	6.9	22.5	121169	6.9	18.3
281762	6.6	20.8	176985	6.7	19.9	340554	6.7	20.7	131814	6.8	18.0	198804	6.9	20.4	404126	6.9	18.9
359382	6.6	20.4	391033	6.7	21.0	54510	6.7	17.5	426713	6.8	20.9	387440	6.9	20.7	123583	6.9	18.9
367172	6.6	20.9	31915	6.7	19.6	42864	6.7	18.7	245989	6.8	20.7	497930	6.9	21.3	233306	6.9	19.6
416285	6.6	20.5	244040	6.7	20.9	111423	6.7	20.1	86788	6.8	18.8	184099	6.9	18.2	113170	6.9	18.8
405219	6.6	21.4	302085	6.7	20.3	496270	6.7	21.3	123055	6.8	19.2	75093	6.9	19.1	234265	6.9	20.8
417237	6.6	20.6	238417	6.7	20.0	335912	6.7	21.1	503244	6.8	20.5	434872	6.9	21.2	456750	6.9	21.5
435337	6.6	21.6	346086	6.7	21.4	502456	6.7	20.0	87504	6.8	19.4	468832	6.9	20.9	467293	6.9	20.1
124598	6.6	20.1	154836	6.7	20.4	457733	6.7	19.5	457336	6.8	21.6	253214	6.9	20.7	35257	6.9	19.2
177624	6.6	21.0	123039	6.7	19.8	19396	6.7	18.8	35679	6.8	17.7	143532	6.9	19.3	436012	6.9	21.8
221440	6.6	19.4	250001	6.7	19.9	414789	6.8	21.6	239261	6.8	19.1	17311	6.9	17.0	209120	6.9	18.8
324168	6.6	21.0	56749	6.7	18.9	403249	6.8	20.3	19446	6.8	17.2	424720	6.9	21.6	500659	6.9	21.3
365125	6.6	20.4	111557	6.7	18.7	289767	6.8	20.3	519385	6.8	21.4	57790	6.9	18.6	205230	6.9	20.3
8199	6.6	17.7	16536	6.7	18.6	19049	6.8	17.3	464917	6.8	21.5	419074	6.9	19.7	272755	6.9	19.0
165687	6.6	19.6	253115	6.7	21.9	26407	6.8	19.1	306454	6.8	20.8	21228	6.9	20.4	67769	6.9	18.1
502381	6.6	20.8	162666	6.7	18.8	453819	6.8	20.6	184089	6.8	19.6	517621	6.9	19.8	416847	6.9	20.9
312063	6.6	21.0	58279	6.7	18.4	169294	6.8	18.4	426179	6.8	20.9	79156	6.9	18.8	132483	6.9	19.1
354812	6.6	21.3	35054	6.7	18.3	340767	6.8	20.1	430233	6.8	21.4	239024	6.9	19.4	91376	6.9	18.8
210501	6.6	19.2	91244	6.7	17.9	410069	6.8	20.6	281816	6.8	20.2	198653	6.9	19.8	422957	6.9	22.7
137068	6.6	19.9	138535	6.7	19.3	52065	6.8	19.3	77805	6.8	19.3	160794	6.9	20.1	427379	6.9	21.2
169114	6.6	20.2	182332	6.7	20.9	231844	6.8	19.7	318631	6.8	20.5	284706	6.9	21.4	56885	6.9	18.7
30429	6.6	18.2	53223	6.7	18.6	278385	6.8	20.4	464405	6.8	19.7	408779	6.9	21.8	1457	6.9	14.1
232826	6.6	19.7	261908	6.7	19.7	120202	6.8	19.4	175377	6.8	19.4	153949	6.9	19.5	237659	6.9	20.8
90782	6.6	20.2	164237	6.7	18.9	221149	6.8	20.2	173056	6.8	20.0	385293	6.9	21.5	104734	6.9	19.9
62686	6.6	17.6	210120	6.7	20.1	8118	6.8	16.8	390411	6.8	20.3	169398	6.9	19.6	172379	6.9	19.8
253061	6.6	20.4	63847	6.7	19.6	283199	6.8	20.4	372556	6.8	19.8	381609	6.9	20.4	367822	6.9	21.1
366841	6.6	21.4	67537	6.7	19.7	122086	6.8	19.2	423739	6.8	20.8	522671	6.9	21.0	426639	6.9	21.6
395147	6.6	20.8	419735	6.7	20.3	28394	6.8	19.8	343439	6.8	19.8	495119	6.9	21.3	33133	6.9	17.3
368704	6.6	21.1	299248	6.7	20.6	495434	6.8	20.4	121216	6.8	19.4	423974	6.9	21.1	331623	6.9	19.7
384760	6.6	20.3	223634	6.7	20.7	282867	6.8	18.7	496982	6.8	22.4	227532	6.9	20.4	31278	6.9	17.5
423262	6.6	21.7	97356	6.7	19.0	256368	6.8	19.6	429956	6.8	20.8	84418	6.9	18.7	377370	6.9	21.6
138581	6.6	20.8	408418	6.7	20.5	46516	6.8	18.6	328325	6.8	20.8	239913	6.9	21.7	157911	6.9	19.9
406920	6.6	19.5	25380	6.7	18.6	472712	6.8	21.0	194194	6.8	19.3	291271	6.9	19.1	68638	6.9	19.2
486710	6.6	20.0	107289	6.7	19.1	72001	6.8	18.6	148925	6.8	19.8	175900	6.9	20.9	353235	6.9	21.2
337770	6.6	21.0	52868	6.7	17.2	105872	6.8	19.2	48129	6.8	19.7	465645	6.9	21.4	16347	6.9	17.9
459505	6.6	21.3	135752	6.7	21.0	301626	6.8	20.8	416949	6.8	20.5	132667	6.9	19.3	206131	6.9	19.4
273005	6.6	20.2	312830	6.7	19.5	50095	6.8	17.3	171338	6.8	20.7	502226	6.9	21.0	351983	6.9	20.5
265713	6.6	20.3	418288	6.7	20.4	241133	6.8	20.1	134268	6.8	19.4	506200	6.9	21.7	29138	6.9	18.0
81975	6.6	19.4	286322	6.7	20.0	498600	6.8	21.8	181071	6.8	20.6	222270	6.9	21.4	227573	6.9	20.5
44899	6.6	17.0	24976	6.7	18.5	428972	6.8	20.7	297735	6.8	21.4	173327	6.9	19.8	413018	6.9	21.1
416666	6.6	20.5	144775	6.7	19.2	38008	6.8	18.1	194367	6.8	20.5	226379	6.9	19.9	58853	6.9	19.0
430345	6.6	20.3	499480	6.7	20.2	22129	6.8	18.8	241891	6.8	19.9	55996	6.9	18.8	43529	6.9	18.9
502584	6.6	20.3	465419	6.7	21.2	445880	6.8	21.2	206829	6.8	18.7	155512	6.9	19.3	351502	6.9	20.8
306187	6.6	19.7	297809	6.7	20.1	189778	6.8	20.0	166886	6.8	18.9	14960	6.9	17.9	167600	6.9	18.6
332334	6.6	19.8	430799	6.7	20.2	523782	6.8	21.5	499337	6.8	20.9	425275	6.9	20.9	407299	6.9	21.2
422497	6.6	20.9	134004	6.7	19.8	462782	6.8	20.0	368770	6.8	21.6	131717	6.9	19.8	496029	6.9	21.5
199761	6.6	20.2	413877	6.7	21.5	373050	6.8	20.2	432180	6.8	21.0	167991	6.9	20.1	148779	6.9	19.5
150531	6.6	18.3	333443	6.7	21.4	200689	6.8	20.4	354855	6.8	20.5	506787	6.9	20.0	337550	6.9	20.6
505559	6.6	21.1	88493	6.7	19.1	467096	6.8	20.5	117068	6.8	19.6	426412	6.9	22.2	372516	6.9	20.3
380575	6.6	20.5	42947	6.7	18.5	158912	6.8	19.0	158613	6.9	19.5	90368	6.9	19.3	27449	6.9	19.2
248047	6.6	19.4	89005	6.7	19.6	399628	6.8	22.0	317489	6.9	20.5	87677	6.9	19.7	284781	6.9	20.3
138012	6.6	19.0	358217	6.7	20.2	505995	6.8	20.1	124470	6.9	19.7	122708	6.9	19.2	500321	6.9	21.2
437097	6.6	20.6	379137	6.7	20.3	296131	6.8	19									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
330408	6.9	21.1	285889	7.1	20.2	42297	7.1	18.1	257308	7.2	19.8	314162	7.3	19.6	226867	7.3	20.0
351480	6.9	21.0	372392	7.1	20.7	241481	7.1	19.3	375028	7.2	20.7	299955	7.3	20.5	233572	7.3	19.9
111209	6.9	20.4	489762	7.1	20.7	366907	7.1	21.6	456204	7.2	20.8	455398	7.3	17.4	111373	7.3	20.7
87346	6.9	19.2	279270	7.1	20.3	173977	7.1	19.4	150103	7.2	20.1	427367	7.3	20.5	25799	7.3	18.0
433009	6.9	21.3	201470	7.1	19.3	506097	7.1	20.3	272372	7.2	20.7	146186	7.3	19.6	23055	7.3	18.5
453245	6.9	21.4	267757	7.1	20.4	473399	7.1	20.5	258089	7.2	19.8	74486	7.3	18.6	224411	7.3	20.9
459016	6.9	21.4	330982	7.1	20.8	111237	7.1	19.5	307514	7.2	19.7	52834	7.3	18.7	244061	7.3	20.4
131135	6.9	18.2	435670	7.1	19.8	69222	7.1	18.8	3112	7.2	17.0	17117	7.3	17.5	322752	7.3	19.2
299352	6.9	21.4	19309	7.1	18.4	419925	7.1	20.5	458878	7.2	21.5	417832	7.3	19.8	143514	7.3	19.3
50895	6.9	17.5	325232	7.1	20.7	310991	7.1	20.5	122276	7.2	19.6	354077	7.3	20.6	336365	7.3	20.7
218641	6.9	20.2	267505	7.1	19.7	502286	7.1	21.5	230350	7.2	20.1	200899	7.3	18.6	301339	7.3	19.4
133257	6.9	19.7	273025	7.1	20.7	1016	7.1	14.4	28818	7.2	17.9	73957	7.3	18.8	299327	7.3	20.7
2455	6.9	15.7	186124	7.1	20.0	458742	7.1	20.3	500331	7.2	21.0	23594	7.3	18.1	25232	7.3	18.1
108542	6.9	19.9	90944	7.1	20.2	62375	7.1	17.7	23063	7.2	18.9	88699	7.3	19.5	123472	7.3	20.0
349055	6.9	20.8	155188	7.1	19.9	361181	7.1	21.5	503340	7.2	19.9	81143	7.3	18.1	258841	7.3	21.7
239009	6.9	20.3	306306	7.1	21.0	342893	7.1	21.4	58896	7.2	18.5	106221	7.3	19.1	209419	7.3	19.0
380137	7.0	20.7	257634	7.1	19.9	218660	7.1	19.2	423235	7.2	21.1	248135	7.3	20.1	211140	7.3	18.8
208975	7.0	19.1	29415	7.1	19.3	270560	7.1	20.5	87713	7.2	19.7	353435	7.3	20.1	225509	7.3	20.0
415875	7.0	21.0	6424	7.1	16.6	65098	7.1	19.1	188122	7.2	19.9	450366	7.3	19.9	497740	7.3	20.9
190331	7.0	20.1	183618	7.1	20.6	167477	7.1	19.3	100432	7.2	19.3	188464	7.3	20.4	31512	7.3	18.1
424668	7.0	20.3	191964	7.1	20.0	172008	7.1	19.4	351540	7.2	19.9	500724	7.3	21.3	12735	7.3	18.3
56371	7.0	17.8	285106	7.1	19.7	427629	7.1	19.9	352654	7.2	21.0	61382	7.3	18.1	431596	7.3	20.8
366210	7.0	20.4	211008	7.1	19.3	497297	7.1	22.4	6249	7.2	16.2	286216	7.3	20.5	168040	7.3	19.4
498767	7.0	21.8	181240	7.1	20.1	332955	7.1	20.3	232558	7.2	20.4	460246	7.3	20.8	29312	7.3	17.9
449159	7.0	21.1	325062	7.1	20.6	500470	7.1	21.5	15907	7.2	18.9	235689	7.3	20.7	501951	7.3	19.9
178895	7.0	19.8	386777	7.1	19.1	236689	7.1	20.2	461074	7.2	20.3	358488	7.3	20.0	354807	7.3	20.1
431902	7.0	21.1	277613	7.1	20.4	247635	7.1	20.1	334846	7.2	20.4	203419	7.3	19.9	496063	7.3	22.0
35546	7.0	18.5	52764	7.1	18.6	176728	7.1	21.0	477207	7.2	20.9	169337	7.3	20.2	380547	7.3	20.8
212569	7.0	20.7	433910	7.1	20.7	419598	7.1	21.1	522221	7.2	20.6	200567	7.3	18.7	126084	7.3	20.0
142352	7.0	20.9	151072	7.1	18.8	232815	7.1	20.2	331930	7.2	20.7	415290	7.3	20.6	147732	7.3	19.1
226612	7.0	19.6	182398	7.1	20.8	499029	7.1	21.1	218720	7.2	20.4	473155	7.3	20.3	990	7.3	16.2
367289	7.0	19.9	72974	7.1	18.2	431454	7.1	20.9	876	7.2	15.6	239488	7.3	19.9	120494	7.3	19.2
351627	7.0	20.7	32075	7.1	18.1	29548	7.1	18.5	304779	7.2	20.7	349462	7.3	20.5	443950	7.3	18.7
58327	7.0	18.6	386957	7.1	20.6	88280	7.1	19.5	342951	7.2	20.5	258600	7.3	19.8	253182	7.3	20.5
371692	7.0	19.0	17138	7.1	16.9	35016	7.1	18.6	83553	7.2	18.8	274304	7.3	20.8	422683	7.3	20.4
119518	7.0	18.6	437523	7.1	20.2	96693	7.1	18.4	50323	7.2	18.4	38244	7.3	18.6	427596	7.3	20.2
202455	7.0	20.6	277529	7.1	20.9	32491	7.1	17.5	247701	7.2	18.9	404437	7.3	19.9	284870	7.3	20.8
182415	7.0	20.0	123365	7.1	18.7	327217	7.1	21.2	384260	7.2	19.8	246274	7.3	19.2	105453	7.3	19.4
316071	7.0	20.7	289715	7.1	20.3	134249	7.1	19.2	110214	7.2	19.2	465377	7.3	21.4	258203	7.3	19.4
346102	7.0	21.4	437251	7.1	20.4	103070	7.1	20.1	282204	7.2	20.7	80140	7.3	19.5	17602	7.3	18.6
285628	7.0	21.0	301520	7.1	20.2	508599	7.2	21.6	140219	7.2	20.2	106956	7.3	19.5	51358	7.3	18.4
489676	7.0	21.4	427031	7.1	19.9	36846	7.2	18.2	500728	7.2	21.3	55067	7.3	19.0	59812	7.3	18.2
215389	7.0	19.6	324553	7.1	20.7	15237	7.2	18.0	194223	7.2	19.2	312745	7.3	19.0	406601	7.4	20.4
462026	7.0	20.6	341389	7.1	21.3	521262	7.2	21.2	166769	7.2	20.3	19673	7.3	18.6	269455	7.4	20.6
89666	7.0	19.5	518896	7.1	19.9	5402	7.2	16.9	70336	7.2	17.9	196407	7.3	19.7	304904	7.4	20.1
386177	7.0	21.1	319611	7.1	20.3	43674	7.2	18.7	370687	7.2	19.3	290165	7.3	20.0	97284	7.4	18.2
347830	7.0	20.6	322831	7.1	20.3	81669	7.2	18.7	431547	7.2	21.1	354944	7.3	19.6	83792	7.4	19.1
218012	7.0	20.3	210595	7.1	19.9	145541	7.2	20.6	210968	7.2	19.6	23357	7.3	18.4	341447	7.4	21.0
148835	7.0	19.9	470009	7.1	21.5	33485	7.2	17.9	166666	7.2	19.8	68351	7.3	18.8	415823	7.4	20.7
239992	7.0	20.5	135105	7.1	20.1	251479	7.2	19.3	284992	7.2	20.1	313775	7.3	20.4	498096	7.4	21.7
154689	7.0	20.1	9761	7.1	17.6	139336	7.2	19.7	294291	7.2	20.7	341124	7.3	20.3	520104	7.4	20.5
99896	7.0	18.9	336829	7.1	20.1	241725	7.2	21.7	139879	7.2	19.6	102483	7.3	18.9	416915	7.4	21.1
379095	7.0	19.5	495001	7.1	20.9	383803	7.2	20.9	431887	7.2	20.8	142550	7.3	19.4	177915	7.4	19.9
143605	7.0	18.6	31016	7.1	17.3	424880	7.2	20.8	471453	7.2	22.3	30275	7.3	19.0	127608	7.4	19.4
421899	7.0	20.6	413118	7.1	21.4	59970	7.2	20.0	200857	7.2	19.6	426522	7.3	21.7	346855	7.4	19.7
189849	7.0	18.8	424926	7.1	20.2	79966	7.2	18.0	276138	7.2	20.3	124147	7.3	19.7	59761	7.4	19.1
463525	7.0	20.0	71677	7.1	18.5	16248	7.2	16.9	237632	7.2	20.7	501162	7.3	21.2	423515	7.4	22.1
45311	7.0	18.8	405173	7.1	20.8	472867	7.2	21.2	378726	7.2	20.2	242414	7.3	20.1	177057	7.4	18.7
21195	7.0	17.7	2276	7.1	15.9	303439	7.2	20.4	54832	7.2	18.8	295466	7.3	20.4	169007	7.4	18.1
207068	7.0	19.4	341334	7.1	21.2	33302	7.2	17.4	474097	7.2	20.7	345582	7.3	20.3	292654	7.4	20.7
288309	7.0	20.4	452737	7.1	20.9	499047	7.2	20.5	123565	7.2	19.2	137897	7.3	20.0	508626	7.4	21.5
463264	7.0	20.9	461287	7.1	20.4	123771	7.2	19.1	343380	7.2	20.2	495331	7.3	20.9	237164	7.4	19.2
277753	7.0	20.5	342863	7.1	19.9	256976	7.2	19.9	199027</td								

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
435911	7.4	20.5	301521	7.5	19.7	21632	7.5	18.6	105165	7.6	19.7	473238	7.7	20.7	110120	7.7	19.2
210385	7.4	21.0	390489	7.5	20.3	185347	7.5	20.6	240271	7.6	19.7	503688	7.7	21.5	411350	7.7	21.0
160779	7.4	20.3	26114	7.5	20.2	417018	7.5	21.0	112071	7.6	20.0	255987	7.7	20.5	383384	7.7	20.3
322643	7.4	21.2	463533	7.5	21.8	138644	7.5	19.7	401457	7.6	20.7	374148	7.7	21.9	153080	7.7	19.1
383251	7.4	20.6	253016	7.5	21.5	392524	7.5	20.6	64793	7.6	18.1	152340	7.7	19.9	372606	7.7	20.1
301540	7.4	20.1	115653	7.5	19.5	152623	7.5	19.9	269544	7.6	20.2	267407	7.7	21.0	367531	7.7	21.2
518143	7.4	21.0	100097	7.5	19.2	368247	7.5	21.6	292578	7.6	20.6	185426	7.7	20.0	240728	7.7	19.6
111177	7.4	18.9	180551	7.5	19.3	497696	7.5	22.2	293275	7.6	19.1	12601	7.7	18.5	488567	7.7	20.9
432561	7.4	20.5	310225	7.5	20.6	167704	7.5	19.3	10491	7.6	17.8	269317	7.7	19.9	132087	7.7	18.9
336796	7.4	19.7	185498	7.5	20.1	279333	7.5	20.5	163548	7.6	19.6	29376	7.7	17.9	142263	7.7	21.0
229143	7.4	20.7	375776	7.5	21.6	85184	7.5	19.5	260968	7.6	20.6	208707	7.7	20.3	376301	7.7	20.1
433068	7.4	21.2	265348	7.5	20.4	151091	7.5	19.3	282319	7.6	20.3	67484	7.7	17.5	212011	7.7	19.4
228269	7.4	20.3	297711	7.5	20.5	455425	7.5	20.2	459507	7.6	20.7	182705	7.7	20.4	341759	7.7	19.8
257426	7.4	20.8	368945	7.5	20.3	374355	7.5	21.8	270523	7.6	19.1	409052	7.7	21.4	164451	7.7	20.0
373012	7.4	21.3	378800	7.5	21.3	466570	7.5	20.4	500668	7.6	21.9	144708	7.7	18.9	146557	7.7	18.7
433242	7.4	20.9	265638	7.5	20.6	357038	7.5	20.7	496333	7.6	22.4	212965	7.7	20.3	431551	7.7	20.4
18374	7.4	18.6	11656	7.5	18.0	120083	7.5	18.2	347701	7.6	20.8	85155	7.7	18.8	91882	7.7	19.6
258449	7.4	20.9	209007	7.5	19.0	497873	7.5	22.0	61423	7.6	19.8	23206	7.7	17.5	439807	7.7	20.4
206993	7.4	20.1	141982	7.5	19.7	156768	7.5	19.5	338338	7.6	20.5	297469	7.7	22.0	173448	7.7	20.3
408935	7.4	20.0	434330	7.5	20.5	394015	7.6	21.5	155241	7.6	18.6	323084	7.7	20.0	148290	7.7	19.6
256038	7.4	19.7	331926	7.5	20.2	470907	7.6	20.8	7427	7.6	17.3	111359	7.7	19.7	262620	7.7	19.2
435327	7.4	21.2	44182	7.5	18.2	163190	7.6	17.8	310421	7.6	20.4	55200	7.7	18.8	369313	7.7	21.6
422186	7.4	21.7	366838	7.5	22.9	402621	7.6	21.3	8383	7.6	17.5	415880	7.7	21.7	436741	7.7	20.8
456926	7.4	20.8	277679	7.5	20.3	370684	7.6	19.8	147987	7.6	20.1	481543	7.7	20.9	90456	7.8	18.1
490002	7.4	21.7	433842	7.5	21.0	498093	7.6	20.9	327388	7.6	20.6	133412	7.7	19.9	296310	7.8	19.9
437777	7.4	20.9	120972	7.5	19.6	121746	7.6	19.7	402845	7.6	21.8	206140	7.7	19.3	202690	7.8	19.0
73533	7.4	19.3	125818	7.5	18.2	432918	7.6	20.7	29883	7.6	17.5	122692	7.7	19.4	94534	7.8	19.0
414713	7.4	19.9	144621	7.5	19.7	301800	7.6	19.8	358025	7.6	20.2	245224	7.7	19.9	56517	7.8	19.3
6919	7.4	16.0	297077	7.5	21.2	78669	7.6	19.7	168398	7.6	18.4	387473	7.7	19.9	463245	7.8	20.7
306808	7.4	21.0	398257	7.5	21.3	198572	7.6	19.8	251822	7.6	21.1	181113	7.7	17.3	501390	7.8	20.8
498894	7.4	21.9	262449	7.5	20.6	131782	7.6	18.6	144845	7.6	20.5	118110	7.7	19.5	129050	7.8	19.5
14271	7.4	17.3	501122	7.5	20.4	312107	7.6	20.2	130589	7.6	19.9	360032	7.7	19.8	375409	7.8	19.9
168990	7.4	18.9	21763	7.5	17.7	109604	7.6	19.2	269108	7.6	20.6	494220	7.7	23.1	297574	7.8	20.3
212432	7.4	20.6	166805	7.5	19.6	273988	7.6	20.5	404179	7.6	20.9	12866	7.7	17.9	175488	7.8	19.3
325568	7.4	20.9	72374	7.5	19.0	468023	7.6	21.3	496529	7.6	20.6	498206	7.7	21.7	275247	7.8	20.5
521104	7.4	20.6	106995	7.5	18.8	61753	7.6	19.2	299009	7.6	19.5	141784	7.7	20.7	105271	7.8	20.0
153346	7.4	19.6	129180	7.5	19.8	432167	7.6	20.6	465187	7.6	19.8	187981	7.7	20.0	295910	7.8	20.4
301234	7.4	20.8	299457	7.5	19.2	55396	7.6	18.0	188501	7.6	20.0	83615	7.7	19.0	299516	7.8	20.2
409099	7.4	21.4	189469	7.5	20.4	65475	7.6	20.0	170107	7.6	19.5	358096	7.7	20.3	385639	7.8	20.6
453567	7.4	20.4	32329	7.5	18.9	54047	7.6	17.5	212580	7.6	20.0	496358	7.7	21.9	349515	7.8	20.0
15567	7.4	19.0	2487	7.5	16.7	354539	7.6	21.1	8582	7.6	17.9	275425	7.7	18.8	107266	7.8	18.5
468270	7.4	20.6	498651	7.5	21.5	232588	7.6	20.1	125956	7.6	19.0	370966	7.7	21.7	277710	7.8	20.3
467678	7.4	21.7	180937	7.5	19.4	158537	7.6	19.5	292036	7.6	20.0	254629	7.7	20.3	29360	7.8	18.8
431561	7.4	21.1	338977	7.5	20.0	436960	7.6	20.5	389424	7.6	20.8	332527	7.7	21.1	496404	7.8	21.7
95460	7.4	19.6	228183	7.5	20.7	216267	7.6	20.2	454173	7.6	20.5	295673	7.7	20.1	352139	7.8	20.0
363224	7.4	21.0	245074	7.5	20.0	241889	7.6	19.7	31100	7.6	18.8	499307	7.7	23.7	157503	7.8	19.7
433210	7.4	21.2	489992	7.5	21.4	1643	7.6	16.4	191671	7.6	19.7	111624	7.7	18.4	59423	7.8	18.0
156452	7.4	18.3	89728	7.5	17.7	280925	7.6	21.1	438824	7.6	20.8	208685	7.7	19.4	326686	7.8	20.8
228362	7.4	19.8	169039	7.5	19.0	153045	7.6	20.3	172483	7.6	20.4	187210	7.7	20.6	169388	7.8	19.2
264719	7.4	19.4	496307	7.5	20.2	121041	7.6	19.4	230903	7.6	19.9	291520	7.7	20.2	135666	7.8	19.6
413916	7.4	20.8	89651	7.5	19.3	161083	7.6	19.7	430019	7.6	21.6	68657	7.7	19.4	242105	7.8	19.8
325179	7.4	21.1	117235	7.5	18.8	35019	7.6	18.7	261226	7.6	20.1	463766	7.7	20.5	94780	7.8	18.5
37906	7.4	17.5	290621	7.5	19.7	148649	7.6	20.1	432923	7.6	21.0	91818	7.7	19.2	57533	7.8	18.4
495951	7.4	22.1	187796	7.5	19.8	264519	7.6	21.3	29825	7.6	19.0	32636	7.7	19.0	417148	7.8	20.4
135373	7.4	19.8	249450	7.5	20.9	134044	7.6	19.4	154693	7.6	18.9	386163	7.7	21.2	459959	7.8	21.9
436667	7.4	21.1	437076	7.5	20.7	327366	7.6	20.2	429954	7.6	20.8	84115	7.7	18.8	123695	7.8	17.2
131628	7.4	18.4	173529	7.5	19.6	53200	7.6	18.6	58281	7.6	19.5	384197	7.7	20.6	125645	7.8	18.7
319718	7.4	20.7	302119	7.5	21.7	31519	7.6	17.5	214846	7.7	20.8	53413	7.7	18.5	497274	7.8	22.3
299943	7.4	20.6	149971	7.5	19.2	423666	7.6	21.8	299941	7.7	21.2	6957	7.7	16.5	497596	7.8	21.6
189183	7.4	19.3	428924	7.5	20.0	260044	7.6	19.7	468124	7.7	20.3	167074	7.7	20.1	323861	7.8	19.7
341666	7.4	19.9	435307	7.5	20.6	473758	7.6	19.5	347109	7.7	20.8	473763	7.7	20.0	93901	7.8	19.8
105376	7.4	19.1	21510	7.5	18.4	414205	7.6	20.1	54609	7.7	19.2	106036	7.7	18.9	503780	7.8	20.1
465918	7.4	21.4	508278	7.5	21.0	351587	7.6</										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
64534	7.8	18.9	511630	7.8	20.2	338889	7.9	19.5	191322	7.9	20.1	195211	8.0	20.1	67616	8.1	17.8
411200	7.8	20.9	176518	7.8	20.0	246646	7.9	20.8	364746	7.9	19.8	118411	8.0	18.5	33119	8.1	17.7
81302	7.8	18.8	406228	7.8	20.5	406876	7.9	19.9	324549	7.9	19.5	343042	8.0	21.1	480755	8.1	21.7
332916	7.8	21.2	331783	7.8	20.0	52261	7.9	18.7	499289	7.9	20.7	504228	8.0	21.5	286206	8.1	20.5
345603	7.8	21.0	330999	7.8	20.2	406504	7.9	20.6	497301	7.9	21.1	2203	8.0	16.6	325169	8.1	20.2
472817	7.8	21.6	82746	7.8	19.7	248403	7.9	20.5	473901	7.9	20.4	367524	8.0	21.3	297268	8.1	19.7
187861	7.8	20.8	367314	7.8	19.8	92592	7.9	19.6	388783	7.9	20.8	280112	8.0	19.0	312067	8.1	20.9
105875	7.8	20.0	309403	7.8	20.0	28296	7.9	18.2	226690	7.9	19.5	350270	8.0	20.4	292481	8.1	20.8
434892	7.8	21.0	271089	7.8	20.8	430646	7.9	21.7	141002	7.9	19.4	87636	8.0	17.1	8266	8.1	17.9
383728	7.8	20.3	382773	7.8	21.1	112631	7.9	19.0	98530	7.9	18.7	210720	8.0	19.6	374100	8.1	21.4
499234	7.8	20.8	33057	7.9	17.5	65706	7.9	21.6	310407	7.9	20.5	315460	8.0	19.1	435256	8.1	20.2
7900	7.8	17.0	436658	7.9	21.5	268961	7.9	20.0	149445	7.9	18.8	142414	8.0	18.9	422228	8.1	21.7
283594	7.8	20.1	151764	7.9	18.7	204870	7.9	20.3	148726	7.9	18.5	321629	8.0	20.9	267495	8.1	19.7
421182	7.8	20.9	217868	7.9	20.6	132078	7.9	19.7	521068	7.9	21.2	71188	8.0	19.5	490335	8.1	21.3
408840	7.8	20.2	206130	7.9	19.2	279866	7.9	19.5	90709	7.9	18.6	30985	8.0	18.4	271674	8.1	20.6
423475	7.8	21.8	417281	7.9	20.8	290157	7.9	20.3	272413	7.9	21.7	357362	8.0	20.9	211602	8.1	19.9
58169	7.8	18.7	502041	7.9	20.8	196175	7.9	20.8	116729	7.9	19.2	462893	8.0	20.4	237500	8.1	20.8
434957	7.8	20.7	294005	7.9	19.9	370050	7.9	19.6	145825	7.9	20.9	119367	8.0	20.1	267487	8.1	19.7
420796	7.8	20.9	37573	7.9	18.2	58474	7.9	19.6	469187	7.9	20.1	337682	8.0	21.4	209020	8.1	19.5
497163	7.8	22.6	252485	7.9	19.2	5972	7.9	15.2	482823	7.9	20.5	426978	8.0	20.9	209472	8.1	20.1
369748	7.8	19.9	354053	7.9	20.8	415548	7.9	21.0	100698	7.9	20.5	173493	8.0	20.5	432927	8.1	20.7
461304	7.8	20.4	68114	7.9	19.6	304019	7.9	20.8	286116	7.9	21.1	167471	8.0	19.6	495014	8.1	22.2
94237	7.8	19.6	75133	7.9	20.1	228042	7.9	20.3	148693	7.9	19.9	431056	8.0	21.4	464380	8.1	20.8
109832	7.8	19.4	404328	7.9	20.6	343083	7.9	20.8	192115	7.9	20.3	170058	8.0	19.1	217085	8.1	20.9
245138	7.8	20.5	381205	7.9	20.3	140060	7.9	19.9	109968	7.9	19.9	286215	8.0	21.1	294438	8.1	19.8
354845	7.8	20.2	168073	7.9	19.2	400289	7.9	21.1	183382	7.9	20.3	279301	8.0	20.6	345259	8.1	20.0
269586	7.8	19.8	500337	7.9	21.5	196575	7.9	20.7	26806	7.9	17.2	62500	8.1	18.7	157809	8.1	20.8
458842	7.8	20.4	400261	7.9	21.3	483028	7.9	20.8	43914	7.9	19.1	437481	8.1	19.6	463552	8.1	21.4
291227	7.8	20.2	299259	7.9	21.3	121136	7.9	18.7	411297	7.9	20.4	150286	8.1	20.0	73811	8.1	19.0
494772	7.8	21.7	212454	7.9	20.1	354057	7.9	21.0	269810	7.9	19.8	340626	8.1	20.8	298798	8.1	20.6
455145	7.8	21.7	460047	7.9	21.6	114266	7.9	19.5	458968	7.9	21.2	244589	8.1	20.0	271560	8.1	21.0
15172	7.8	17.6	88886	7.9	20.0	506386	7.9	20.0	397830	7.9	21.6	366392	8.1	21.2	11566	8.1	18.8
211565	7.8	21.1	28621	7.9	18.0	161069	7.9	20.8	318667	7.9	20.1	122325	8.1	20.0	92052	8.1	18.5
253238	7.8	18.8	205524	7.9	21.1	305926	7.9	21.5	411659	7.9	21.1	259513	8.1	20.2	431272	8.1	20.9
434450	7.8	21.2	214875	7.9	20.2	196671	7.9	19.5	31334	7.9	17.4	371759	8.1	20.4	286662	8.1	21.1
152330	7.8	19.0	122550	7.9	19.4	123277	7.9	19.5	185457	7.9	19.4	523531	8.1	20.9	464073	8.1	21.5
84457	7.8	18.4	215455	7.9	21.3	64795	7.9	18.5	111549	7.9	20.0	154341	8.1	19.1	5142	8.1	16.9
58104	7.8	19.2	34709	7.9	18.4	154570	7.9	19.5	500033	7.9	21.4	433050	8.1	21.2	229151	8.1	20.0
271864	7.8	20.7	211445	7.9	19.0	26378	7.9	17.6	192105	7.9	19.5	498103	8.1	21.5	503117	8.1	20.9
372385	7.8	21.5	495399	7.9	21.8	287655	7.9	20.2	207410	7.9	20.5	77770	8.1	18.6	472877	8.1	20.5
157293	7.8	19.7	353469	7.9	20.6	518129	7.9	20.7	460119	7.9	21.2	116452	8.1	19.2	489545	8.1	21.3
217629	7.8	18.6	429681	7.9	20.8	467348	7.9	20.0	498794	7.9	20.8	43855	8.1	18.3	153857	8.1	18.7
173958	7.8	20.3	246575	7.9	20.2	225871	7.9	21.3	61487	8.0	19.1	172968	8.1	20.3	124625	8.1	19.3
320067	7.8	19.9	385272	7.9	21.5	395352	7.9	20.7	11834	8.0	18.1	455229	8.1	20.2	66218	8.1	17.8
136944	7.8	20.3	153932	7.9	18.2	267469	7.9	19.7	271111	8.0	20.3	136722	8.1	20.1	461999	8.1	21.1
357342	7.8	20.9	432519	7.9	20.7	33939	7.9	19.3	4890	8.0	16.4	163881	8.1	20.4	522425	8.1	20.6
83522	7.8	18.8	157761	7.9	19.8	4093	7.9	16.7	234987	8.0	18.8	156505	8.1	19.0	424669	8.1	20.6
164604	7.8	20.4	229322	7.9	20.2	326963	7.9	21.2	272709	8.0	20.5	132124	8.1	16.9	364580	8.1	21.2
94553	7.8	18.5	88771	7.9	20.1	48411	7.9	18.7	218763	8.0	19.8	73697	8.1	18.6	366396	8.1	22.6
238420	7.8	20.6	346843	7.9	19.9	457531	7.9	21.4	244600	8.0	20.5	144551	8.1	19.4	55213	8.1	18.4
205774	7.8	19.7	88400	7.9	20.4	209529	7.9	19.8	59483	8.0	19.3	403007	8.1	20.4	66651	8.1	17.7
289387	7.8	19.9	408215	7.9	20.8	417783	7.9	20.1	402956	8.0	21.1	350269	8.1	20.3	383352	8.1	20.5
380249	7.8	20.4	24311	7.9	18.6	175260	7.9	19.2	10411	8.0	17.9	216811	8.1	19.4	341310	8.1	20.1
6804	7.8	15.9	500592	7.9	20.8	304122	7.9	21.5	312000	8.0	21.7	430315	8.1	19.4	360026	8.1	20.0
144763	7.8	19.5	157785	7.9	20.1	7447	7.9	17.4	426744	8.0	20.5	209780	8.1	19.7	349163	8.1	20.8
121534	7.8	19.4	17158	7.9	18.0	122318	7.9	19.2	305590	8.0	20.2	502156	8.1	20.8	68408	8.1	19.1
102677	7.8	20.1	499468	7.9	21.2	377836	7.9	20.6	351561	8.0	20.4	286769	8.1	20.1	174667	8.1	20.5
428722	7.8	21.8	90221	7.9	19.1	136735	7.9	20.7	466622	8.0	20.8	47080	8.1	18.1	209398	8.1	19.2
293890	7.8	20.4	430606	7.9	21.7	373409	7.9	20.6	351658	8.0	20.0	458346	8.1	20.0	271105	8.1	21.1
380345	7.8	20.2	213934	7.9	19.7	16103	7.9	16.9	340692	8.0	20.8	429348	8.1	20.4	258713	8.1	20.0
31272	7.8	17.5	464790	7.9	20.4	53205	7.9	18.0	139440	8.0	18.1	244302	8.1	20.0	489572	8.1	21.9
341665	7.8	20.0	477066	7.9	20.9	282815	7.9	20.8	114732	8.0	19.1	111292	8.1	19.4	310976	8.1	21.3
51204	7.8	18.1	104690	7.9	19.8	138681	7.9	19.1</td									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
336893	8.2	19.3	194338	8.2	19.8	16878	8.3	16.8	354070	8.4	20.2	496064	8.4	22.1	308146	8.5	20.5
341325	8.2	21.1	333448	8.2	20.5	147247	8.3	19.7	428298	8.4	19.7	83874	8.4	18.8	361612	8.5	20.8
272833	8.2	19.9	292789	8.2	20.1	22215	8.3	18.2	406405	8.4	22.3	31843	8.4	18.1	405168	8.5	20.7
500329	8.2	22.4	54765	8.2	19.3	155205	8.3	19.7	347351	8.4	20.5	164668	8.4	19.7	251737	8.5	21.7
90895	8.2	19.4	495355	8.2	22.2	83665	8.3	19.7	61165	8.4	19.4	420509	8.4	20.2	237052	8.5	20.0
357570	8.2	20.2	260710	8.2	21.0	388696	8.3	20.3	388302	8.4	21.2	267033	8.4	20.4	414750	8.5	20.9
372699	8.2	20.3	20877	8.2	18.9	36674	8.3	18.5	308147	8.4	19.2	138579	8.4	20.0	499984	8.5	20.8
8327	8.2	17.2	221180	8.2	19.0	59153	8.3	19.2	224460	8.4	20.5	379765	8.4	20.0	83128	8.5	18.4
17164	8.2	17.3	426691	8.2	21.0	123895	8.3	19.9	88165	8.4	19.0	6095	8.4	16.8	419371	8.5	20.7
274595	8.2	20.4	461574	8.2	20.8	18135	8.3	18.6	393822	8.4	22.1	214652	8.4	20.2	30277	8.5	18.0
431567	8.2	20.5	170819	8.2	19.1	380475	8.3	20.4	187546	8.4	20.0	505074	8.4	20.8	128911	8.5	20.4
393807	8.2	21.8	224406	8.2	19.9	224399	8.3	20.4	417529	8.4	20.9	176025	8.4	20.9	45536	8.5	18.6
463333	8.2	20.6	69582	8.2	18.2	492898	8.3	21.9	468628	8.4	21.1	469106	8.4	20.5	163499	8.5	19.1
166788	8.2	20.2	56362	8.2	18.0	401867	8.3	21.1	331913	8.4	20.6	3562	8.4	15.2	54229	8.5	18.8
206865	8.2	19.5	210417	8.2	20.9	231553	8.3	20.5	303451	8.4	19.9	307681	8.4	20.0	459918	8.5	21.2
302498	8.2	19.4	492833	8.2	21.8	466163	8.3	19.5	242972	8.4	20.2	26872	8.4	18.6	17276	8.5	18.3
503048	8.2	21.1	160012	8.2	21.3	308047	8.3	21.4	482445	8.4	20.8	150171	8.4	18.4	309032	8.5	19.6
334591	8.2	20.4	129690	8.2	19.3	223657	8.3	20.4	331003	8.4	20.6	491070	8.4	22.1	110565	8.5	20.3
431992	8.2	21.5	498347	8.2	21.5	201831	8.3	19.7	261749	8.4	20.0	337220	8.4	20.9	257174	8.5	19.9
401139	8.2	21.4	320782	8.2	20.0	426661	8.3	21.2	205439	8.4	20.4	180913	8.4	19.9	403894	8.5	21.7
324575	8.2	19.6	381319	8.2	20.0	61532	8.3	18.7	427672	8.4	20.5	292144	8.4	21.1	264633	8.5	21.2
284343	8.2	21.6	100078	8.2	19.3	76126	8.3	17.3	493578	8.4	22.3	141323	8.4	19.7	150913	8.5	19.9
131842	8.2	18.1	263763	8.2	18.7	119883	8.3	18.8	312022	8.4	21.2	41898	8.4	18.6	73024	8.5	18.5
144823	8.2	19.8	282832	8.2	20.5	79976	8.3	19.5	19697	8.4	18.5	505313	8.4	22.4	434878	8.5	21.0
398453	8.2	20.8	302171	8.2	20.4	206191	8.3	20.1	138777	8.4	20.6	257226	8.4	20.3	166813	8.5	19.4
66316	8.2	19.0	264613	8.2	20.7	168822	8.3	21.1	205613	8.4	19.3	362673	8.4	21.0	377906	8.5	20.3
345596	8.2	21.7	500615	8.2	20.2	379039	8.3	20.7	368196	8.4	19.7	135494	8.4	18.9	3497	8.5	15.1
406014	8.2	20.8	406407	8.2	21.4	155829	8.3	19.6	246001	8.4	20.8	388791	8.4	20.9	190113	8.5	20.5
486689	8.2	19.9	192640	8.2	19.5	127186	8.3	19.8	300130	8.4	22.1	374140	8.4	20.4	186200	8.5	20.7
330766	8.2	21.0	436350	8.2	21.0	495340	8.3	21.6	30396	8.4	18.3	406810	8.4	20.2	19687	8.5	17.1
15505	8.2	16.6	363428	8.2	21.8	388058	8.3	20.9	462326	8.4	20.7	187335	8.4	19.4	368784	8.5	20.4
232089	8.2	20.2	384995	8.2	20.6	31569	8.3	17.5	20778	8.4	17.6	3650	8.4	17.2	33743	8.5	18.2
340368	8.2	20.8	404300	8.2	20.1	472662	8.3	20.2	311568	8.4	21.0	503070	8.4	20.6	208398	8.5	20.0
193663	8.2	18.7	415908	8.2	20.4	208425	8.3	20.0	307473	8.4	20.3	363274	8.4	20.1	385059	8.5	20.8
421721	8.2	22.0	209609	8.2	19.1	263368	8.3	20.6	370709	8.4	21.6	417818	8.4	20.2	318343	8.5	20.5
503633	8.2	20.8	194277	8.2	20.7	267478	8.3	19.4	206737	8.4	19.2	63380	8.4	19.2	305407	8.5	20.3
489651	8.2	21.8	373462	8.2	21.8	228390	8.3	18.7	289913	8.4	19.7	208676	8.4	19.4	299834	8.5	19.2
89514	8.2	19.2	372543	8.2	21.0	219739	8.3	19.7	165221	8.4	19.3	343123	8.4	20.4	329965	8.5	20.4
418268	8.2	20.3	205632	8.2	21.1	88801	8.3	19.5	494798	8.4	21.2	250396	8.4	20.3	279178	8.5	21.0
387294	8.2	20.8	386243	8.2	20.5	39929	8.3	18.4	232079	8.4	20.1	341653	8.4	21.3	364620	8.5	20.2
204722	8.2	19.4	404936	8.2	21.6	341678	8.3	20.4	324245	8.4	19.2	427577	8.4	21.0	372550	8.5	22.3
109536	8.2	19.8	259227	8.2	19.0	379312	8.3	20.8	363542	8.4	21.3	282133	8.4	21.0	334575	8.5	20.2
407882	8.2	20.4	481284	8.2	20.2	518638	8.3	23.4	246268	8.4	20.4	168914	8.4	18.8	204104	8.5	21.5
66860	8.2	19.8	191962	8.2	19.5	301661	8.3	19.6	258301	8.4	20.6	67556	8.4	19.4	121540	8.5	19.2
409726	8.2	20.4	178162	8.2	20.5	366961	8.3	22.3	462908	8.4	20.5	168813	8.4	20.1	251755	8.5	19.2
499722	8.2	20.3	91120	8.3	18.4	323117	8.3	20.6	311126	8.4	21.0	465917	8.4	20.9	241873	8.5	20.1
504387	8.2	21.0	331331	8.3	19.2	426703	8.3	20.8	459318	8.4	20.3	201461	8.4	19.4	26163	8.5	18.2
144914	8.2	19.8	502490	8.3	20.2	208195	8.3	20.8	29231	8.4	18.3	419168	8.4	21.1	309333	8.5	19.9
194365	8.2	19.9	280662	8.3	21.0	133163	8.3	19.5	212440	8.4	20.5	299013	8.4	21.0	460048	8.5	21.9
261386	8.2	20.1	456843	8.3	20.9	470880	8.3	20.6	68716	8.4	19.2	89497	8.4	18.8	268982	8.5	20.7
4857	8.2	15.4	10180	8.3	17.9	117775	8.3	19.8	63800	8.4	19.3	498213	8.4	21.6	391153	8.5	20.6
501480	8.2	20.2	348409	8.3	20.3	30947	8.3	17.0	522489	8.4	20.1	92482	8.4	19.0	492238	8.5	21.5
173353	8.2	20.7	97518	8.3	18.7	57026	8.3	19.5	122577	8.4	19.2	102975	8.4	18.5	374173	8.5	21.2
240630	8.2	20.0	89126	8.3	20.0	213340	8.3	21.1	226720	8.4	20.3	111330	8.4	19.7	193407	8.5	20.2
464875	8.2	22.3	350011	8.3	20.7	54518	8.3	18.0	245419	8.4	19.9	430041	8.4	19.7	87712	8.5	19.4
297068	8.2	20.0	50012	8.3	18.9	418290	8.3	21.2	144358	8.4	19.0	422137	8.4	21.5	128802	8.5	19.4
21490	8.2	18.3	43908	8.3	18.4	258984	8.3	19.8	92334	8.4	19.8	451456	8.4	21.0	114933	8.5	20.6
167657	8.2	19.1	420839	8.3	21.4	32580	8.3	19.0	81760	8.4	18.0	313659	8.4	21.8	465649	8.5	21.6
411251	8.2	20.8	64470	8.3	18.7	400333	8.3	21.3	222331	8.4	19.8	183354	8.4	19.2	503602	8.5	21.3
62396	8.2	17.7	231326	8.3	20.4	267767	8.3	20.3	432155	8.4	20.0	5690	8.5	15.9	73105	8.5	18.9
463915	8.2	21.1	313650	8.3	21.1	233688	8.3	19.9	172423	8.4	20.5	342868	8.5	20.3	406341	8.5	21.6
144721	8.2	19.3	130663	8.3	18.6	413323	8.3	21.8	522706	8.4	21.4	136932	8.5	19.8	471398	8.5	20.2
431502	8.2	21.3	223293	8.3	19.7	425939	8.3	20.1</									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
67995	8.5	19.0	10688	8.6	17.7	164720	8.7	17.6	56949	8.7	18.7	312162	8.8	20.5	493514	8.9	21.1
261320	8.5	19.7	464939	8.6	20.9	186894	8.7	21.5	57291	8.7	18.3	454748	8.8	20.6	316827	8.9	20.6
227364	8.5	21.0	291644	8.6	21.4	211542	8.7	20.5	205511	8.7	20.8	41499	8.8	19.2	378856	8.9	21.1
465142	8.5	20.1	413817	8.6	20.9	31786	8.7	17.8	182417	8.7	21.1	60703	8.8	19.2	459063	8.9	20.4
454111	8.5	20.5	334571	8.6	20.8	133440	8.7	20.2	212711	8.7	20.3	497276	8.8	21.0	31472	8.9	18.1
239477	8.5	19.7	120756	8.6	20.2	429903	8.7	20.3	466433	8.7	22.1	462301	8.8	21.1	471952	8.9	19.4
234044	8.5	19.7	325154	8.6	20.5	412801	8.7	21.3	127633	8.7	18.9	403023	8.8	20.8	154654	8.9	19.1
114669	8.5	18.9	114857	8.6	19.6	35375	8.7	17.8	488546	8.7	20.6	114544	8.8	18.6	28023	8.9	18.2
160812	8.5	19.2	518160	8.6	21.3	121580	8.7	19.6	83461	8.7	18.4	503982	8.8	21.3	429102	8.9	20.7
229993	8.5	19.8	231438	8.6	19.7	81756	8.7	18.9	406126	8.7	20.7	433603	8.8	20.2	508590	8.9	22.6
163836	8.5	19.6	383708	8.6	20.2	86152	8.7	19.0	48594	8.7	17.9	362429	8.8	20.8	224398	8.9	20.0
305835	8.5	19.4	35982	8.6	18.0	313755	8.7	20.4	439972	8.7	20.5	243803	8.8	21.2	323814	8.9	21.6
34696	8.5	16.9	248860	8.6	20.3	104568	8.7	20.2	111537	8.7	19.7	51975	8.8	18.2	49700	8.9	17.8
164179	8.5	19.5	81391	8.6	19.6	340738	8.7	20.1	52297	8.7	17.1	55186	8.8	19.1	286398	8.9	20.0
15883	8.5	23.8	521161	8.6	21.0	7592	8.7	16.1	249111	8.7	20.3	17144	8.8	17.5	211176	8.9	19.7
362418	8.5	21.5	508189	8.6	21.1	242960	8.7	19.7	11049	8.7	17.8	460321	8.8	21.4	57753	8.9	19.0
171944	8.5	19.6	38200	8.6	17.9	401348	8.7	20.2	350414	8.7	20.5	429570	8.8	21.4	436021	8.9	20.6
264497	8.5	21.1	222284	8.6	19.8	249443	8.7	20.5	279636	8.7	20.0	201596	8.8	20.5	41017	8.9	18.7
329216	8.5	19.9	427763	8.6	21.5	32001	8.7	19.5	176567	8.7	21.0	89992	8.8	18.5	432430	8.9	20.6
116086	8.6	19.1	245472	8.6	20.9	432232	8.7	20.1	305769	8.7	19.3	108620	8.8	19.8	169173	8.9	19.8
136558	8.6	19.8	136075	8.6	19.9	437245	8.7	21.1	365554	8.7	20.1	207594	8.8	20.1	78513	8.9	18.7
328344	8.6	21.5	426577	8.6	20.2	57184	8.7	18.2	325533	8.7	20.8	414211	8.8	19.9	293055	8.9	20.5
83503	8.6	18.9	355257	8.6	20.7	167000	8.7	20.7	498539	8.7	21.0	471459	8.8	21.2	509011	8.9	21.4
304692	8.6	21.9	140840	8.6	18.8	18975	8.7	17.8	200649	8.8	21.3	64308	8.8	19.3	77905	8.9	18.2
519624	8.6	21.1	200146	8.6	19.1	173986	8.7	20.8	332541	8.8	21.4	247000	8.8	20.9	495368	8.9	22.0
257587	8.6	18.0	47871	8.6	18.1	15517	8.7	17.6	162662	8.8	19.2	347890	8.8	21.0	502465	8.9	20.4
173148	8.6	19.8	341739	8.6	19.8	89610	8.7	19.4	279677	8.8	19.5	406809	8.8	20.3	208211	8.9	21.2
94481	8.6	19.6	297852	8.6	19.9	66344	8.7	18.3	217616	8.8	19.8	352409	8.8	21.2	334454	8.9	20.6
83196	8.6	19.7	346684	8.6	20.4	224393	8.7	21.5	385164	8.8	20.2	1834	8.8	15.8	313789	8.9	20.1
384189	8.6	20.2	190714	8.6	20.1	434513	8.7	21.7	39924	8.8	19.1	209058	8.8	20.6	248292	8.9	20.7
175384	8.6	20.4	337693	8.6	20.6	460029	8.7	20.0	275730	8.8	18.9	29742	8.8	17.1	460388	8.9	21.5
171031	8.6	19.0	167078	8.6	20.2	351215	8.7	20.4	382844	8.8	21.3	158621	8.8	18.8	246248	8.9	19.3
489873	8.6	21.6	109969	8.6	20.4	264697	8.7	19.6	368762	8.8	20.9	22892	8.8	18.5	207786	8.9	20.1
58176	8.6	18.8	270601	8.6	21.0	464053	8.7	20.3	471496	8.8	20.2	167956	8.8	19.2	32576	8.9	18.5
424646	8.6	20.0	98590	8.6	17.7	140509	8.7	19.9	489257	8.8	21.4	172372	8.8	20.2	194579	8.9	19.1
521179	8.6	20.3	269765	8.6	20.4	288918	8.7	20.5	102542	8.8	20.1	469150	8.8	20.4	170923	8.9	20.0
133878	8.6	19.8	163604	8.6	19.8	337567	8.7	21.0	430604	8.8	20.7	430326	8.8	20.9	423207	8.9	21.7
87184	8.6	19.9	10497	8.6	17.6	380972	8.7	20.9	395956	8.8	21.0	466714	8.8	20.6	371673	8.9	19.4
213022	8.6	20.1	157913	8.6	19.8	33960	8.7	19.7	452620	8.8	22.3	221068	8.8	20.1	369875	8.9	20.0
373242	8.6	19.7	213334	8.6	20.4	432222	8.7	20.7	466825	8.8	21.0	93591	8.8	19.2	24981	8.9	18.5
331768	8.6	18.9	165774	8.6	20.0	274748	8.7	18.3	14950	8.8	15.8	115248	8.8	19.5	48242	8.9	17.3
80124	8.6	19.5	46637	8.6	17.6	301365	8.7	19.9	23266	8.8	18.7	283913	8.8	20.2	159631	8.9	17.6
372639	8.6	20.5	34704	8.6	16.1	498719	8.7	21.3	455393	8.8	20.7	384984	8.8	20.5	457076	8.9	20.1
428978	8.6	20.3	451096	8.6	20.9	498601	8.7	21.6	72329	8.8	18.6	287515	8.8	20.2	371758	8.9	20.7
82026	8.6	19.6	400212	8.6	19.8	428748	8.7	21.4	42004	8.8	19.5	307595	8.8	20.1	239850	8.9	20.2
212926	8.6	19.8	303401	8.6	20.3	451086	8.7	20.9	497877	8.8	21.2	148877	8.8	19.9	376251	8.9	20.5
374055	8.6	21.4	326896	8.6	19.5	246021	8.7	20.2	346853	8.8	19.8	242086	8.8	19.7	206181	8.9	19.8
425905	8.6	20.8	499081	8.6	20.8	491907	8.7	21.3	224389	8.8	19.3	174823	8.8	20.3	243357	8.9	20.1
89579	8.6	19.2	369457	8.6	20.4	437501	8.7	21.1	371104	8.8	21.2	408231	8.8	20.7	132632	8.9	18.7
364752	8.6	20.9	495239	8.6	21.6	502506	8.7	21.0	463002	8.8	21.4	520233	8.8	20.5	386951	8.9	20.8
426850	8.6	21.3	518583	8.6	21.1	154284	8.7	19.6	79487	8.8	17.9	436025	8.8	20.5	372697	8.9	21.3
133829	8.6	20.3	436691	8.6	21.5	96660	8.7	18.8	381170	8.8	20.9	136707	8.8	20.8	335198	8.9	20.6
332379	8.6	20.5	467295	8.6	20.4	421554	8.7	20.3	419064	8.8	19.0	81036	8.8	19.2	418345	8.9	21.0
271727	8.6	20.1	341781	8.6	20.1	270498	8.7	19.6	166612	8.8	19.3	471169	8.8	20.5	15312	8.9	18.7
309113	8.6	20.4	386157	8.6	20.8	263153	8.7	19.5	21587	8.8	16.9	320605	8.8	19.3	387168	8.9	20.5
28803	8.6	18.4	3685	8.6	17.8	223242	8.7	19.6	332365	8.8	21.0	215066	8.8	20.0	53012	8.9	18.3
188274	8.6	19.4	83636	8.6	18.9	118365	8.7	18.6	175807	8.8	20.4	63869	8.8	19.1	360393	8.9	20.5
408236	8.6	20.2	293498	8.6	19.8	463340	8.7	21.6	501381	8.8	20.2	459472	8.8	21.2	391189	8.9	20.5
500036	8.6	21.2	127090	8.6	19.0	427836	8.7	20.6	179138	8.8	20.2	208274	8.8	19.6	226944	8.9	18.8
184290	8.6	19.5	301131	8.6	21.7	85215	8.7	19.2	243082	8.8	19.6	65474	8.8	17.6	63392	8.9	20.0
13212	8.6	17.5	258451	8.6	18.9	498804	8.7	21.6	345616	8.8	20.1	274800	8.8	21.2	325270	8.9	19.3
224400	8.6	20.2	508180	8.6	20.9	438045	8.7	19.9	81964	8.8	20.5	8955	8.8	17.4	248718	8.9	20.4
358	8.6	13.2	417944	8.6	21.5	310217	8.7	21.5	46964								

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
202296	8.9	20.1	130647	8.9	19.6	337756	9.0	21.6	48825	9.1	18.7	353816	9.2	20.6	435863	9.3	20.4
87242	8.9	19.8	506098	8.9	19.6	466702	9.0	20.5	489757	9.1	21.4	293673	9.2	20.5	233826	9.3	20.0
169206	8.9	19.7	344124	8.9	20.4	450448	9.0	20.8	421319	9.1	21.0	467877	9.2	20.5	338944	9.3	19.3
221091	8.9	20.4	255741	8.9	21.1	318455	9.0	20.2	34743	9.1	19.6	128573	9.2	19.6	140122	9.3	19.7
222287	8.9	20.1	499805	8.9	21.1	258873	9.0	20.6	370739	9.1	22.0	480108	9.2	21.3	452361	9.3	21.5
168973	8.9	18.5	389245	8.9	19.5	432527	9.0	21.0	244642	9.1	19.4	247590	9.2	21.0	321998	9.3	20.4
15844	8.9	17.5	382714	8.9	19.3	115341	9.0	19.5	64763	9.1	18.4	384092	9.2	21.0	283472	9.3	21.5
206680	8.9	19.3	166332	8.9	18.7	399392	9.0	22.1	502681	9.1	20.5	400196	9.2	20.6	11718	9.3	18.7
210507	8.9	19.4	291117	8.9	20.1	169628	9.0	19.4	415064	9.1	20.7	243427	9.2	19.9	502668	9.3	19.7
348497	8.9	20.8	35285	8.9	18.5	299268	9.0	21.9	90095	9.1	19.7	495914	9.2	21.6	225545	9.3	20.8
502195	8.9	20.9	138762	8.9	19.9	12495	9.0	17.8	328991	9.1	20.4	111418	9.2	19.8	7431	9.3	17.6
131962	8.9	19.3	472163	8.9	20.1	257586	9.0	19.3	182325	9.1	20.8	141827	9.2	19.8	348984	9.3	21.8
119371	8.9	18.7	436495	8.9	20.6	374082	9.0	21.3	45722	9.1	18.1	425913	9.2	19.7	152395	9.3	20.4
401644	8.9	19.5	243839	8.9	20.4	213772	9.0	19.3	240512	9.1	20.5	5875	9.2	15.6	518992	9.3	21.1
277714	8.9	19.7	459989	8.9	21.5	66564	9.0	19.0	312877	9.1	21.4	204207	9.2	19.7	342966	9.3	20.4
500424	8.9	22.0	160503	8.9	20.0	413816	9.0	21.5	85296	9.1	19.9	288477	9.2	19.3	391646	9.3	19.7
328773	8.9	21.2	17589	8.9	17.4	361702	9.0	20.5	204287	9.1	20.7	266908	9.2	20.7	421325	9.3	20.1
413467	8.9	19.3	229172	8.9	20.1	39343	9.0	18.7	456744	9.1	20.6	284342	9.2	20.8	513105	9.3	22.2
331807	8.9	21.0	52450	8.9	18.4	328353	9.0	19.1	253138	9.1	18.9	499437	9.2	19.9	181847	9.3	19.7
35316	8.9	17.9	161189	8.9	19.7	230919	9.0	20.1	155202	9.1	20.1	114652	9.2	18.5	307711	9.3	20.4
328602	8.9	21.0	412530	8.9	21.3	26212	9.0	19.0	146389	9.1	20.3	282659	9.2	19.8	8835	9.3	16.8
196213	8.9	19.9	406802	8.9	21.4	282142	9.0	20.4	17355	9.1	19.8	212069	9.2	19.6	428799	9.3	21.2
279332	8.9	20.5	179811	8.9	19.4	497641	9.1	21.0	7606	9.1	17.7	406529	9.2	20.7	124533	9.3	19.4
289099	8.9	20.5	132203	8.9	19.4	251409	9.1	19.7	338411	9.1	18.9	148976	9.2	19.5	437591	9.3	21.1
364735	8.9	21.3	417592	8.9	20.7	110600	9.1	18.0	269083	9.1	19.9	380016	9.2	21.1	428446	9.3	20.5
497812	8.9	22.0	5077	8.9	17.0	202412	9.1	20.2	405252	9.1	22.2	73297	9.2	18.5	44168	9.3	19.8
437561	8.9	20.5	471156	8.9	21.3	400316	9.1	21.4	292417	9.1	19.8	229699	9.2	18.7	432221	9.3	20.6
413505	8.9	21.7	430809	8.9	19.7	469728	9.1	21.6	110769	9.1	19.5	299913	9.2	19.4	83283	9.3	20.2
124	8.9	11.5	147388	8.9	17.9	402952	9.1	20.8	103912	9.1	19.3	105589	9.2	20.1	468509	9.3	21.3
83338	8.9	19.5	143276	9.0	18.8	176013	9.1	20.2	274501	9.1	20.2	200723	9.2	20.0	284651	9.3	20.1
512330	8.9	21.5	455456	9.0	21.0	518723	9.1	20.1	326412	9.1	21.0	50971	9.2	18.6	435014	9.3	21.0
432531	8.9	20.8	499098	9.0	21.1	429342	9.1	20.6	281923	9.1	20.4	370801	9.2	20.4	269780	9.3	20.9
388273	8.9	21.5	52517	9.0	18.5	54085	9.1	17.8	279492	9.1	19.2	19518	9.2	17.2	377188	9.3	20.8
225520	8.9	21.0	221242	9.0	20.7	502541	9.1	20.9	354825	9.1	22.0	192111	9.2	20.8	235658	9.3	20.8
310982	8.9	19.8	44657	9.0	18.7	110271	9.1	20.0	120594	9.1	20.3	403595	9.2	20.7	500349	9.3	21.6
427743	8.9	20.9	465715	9.0	21.4	257305	9.1	21.2	217909	9.1	21.8	84808	9.2	19.6	70594	9.3	18.7
134483	8.9	19.7	52143	9.0	19.5	30929	9.1	17.1	234136	9.1	19.4	162752	9.2	19.4	94390	9.3	19.4
68642	8.9	19.6	58682	9.0	17.8	407387	9.1	20.5	136715	9.1	19.5	497277	9.2	22.4	368744	9.3	20.2
103815	8.9	19.3	469454	9.0	22.7	145118	9.1	20.0	374313	9.1	21.4	9895	9.2	17.3	419714	9.3	20.0
36710	8.9	19.4	290653	9.0	20.7	89566	9.1	19.7	455976	9.1	22.4	456315	9.2	21.9	371096	9.3	21.7
240868	8.9	19.7	218020	9.0	20.2	59157	9.1	17.9	157669	9.1	19.9	203529	9.2	19.4	76288	9.3	18.6
259186	8.9	18.7	335388	9.0	20.8	189620	9.1	19.4	214916	9.1	20.1	467671	9.2	21.7	393599	9.3	20.5
161077	8.9	19.7	502054	9.0	20.8	353268	9.1	19.5	500475	9.1	20.5	308022	9.2	20.9	214546	9.3	20.1
56240	8.9	18.1	384580	9.0	20.3	366430	9.1	22.2	424343	9.1	20.8	15443	9.2	17.6	337782	9.3	20.7
362081	8.9	21.0	458251	9.0	20.3	87898	9.1	19.3	68046	9.1	19.2	322720	9.2	20.1	422943	9.3	20.8
437361	8.9	21.0	16512	9.0	17.1	338077	9.1	21.4	500550	9.1	20.9	495316	9.2	22.2	61550	9.3	17.8
363784	8.9	21.5	140910	9.0	19.3	123440	9.1	18.7	433359	9.1	21.6	90956	9.2	19.5	301377	9.3	20.5
135240	8.9	20.3	80156	9.0	19.0	61106	9.1	19.1	466417	9.1	21.9	91454	9.2	19.4	219017	9.3	21.3
382282	8.9	20.2	163587	9.0	19.1	277022	9.1	20.4	430274	9.1	20.2	69850	9.2	18.7	135199	9.3	20.0
80411	8.9	18.1	138647	9.0	19.5	376312	9.1	20.4	461795	9.1	21.2	270377	9.2	20.2	78337	9.3	19.1
201443	8.9	18.8	206221	9.0	21.2	313394	9.1	21.2	221881	9.1	20.2	187455	9.2	20.2	286132	9.3	21.0
15003	8.9	17.6	17008	9.0	18.5	299781	9.1	20.6	136096	9.1	19.3	268411	9.2	21.1	374533	9.3	21.2
9852	8.9	17.4	170899	9.0	20.2	504139	9.1	22.1	424858	9.1	20.9	270090	9.2	22.0	35521	9.3	18.1
203535	8.9	19.7	156516	9.0	19.7	128184	9.1	19.5	74516	9.1	17.9	59318	9.2	17.0	246031	9.3	21.0
363271	8.9	19.4	226756	9.0	20.2	251385	9.1	20.7	435266	9.1	21.7	419894	9.2	21.1	341648	9.3	21.4
246004	8.9	20.3	359102	9.0	20.2	242397	9.1	19.2	422674	9.1	21.5	387185	9.2	20.1	488597	9.3	21.3
227858	8.9	19.5	343134	9.0	20.2	246918	9.1	20.8	450935	9.1	20.5	147200	9.2	19.5	97823	9.3	19.1
455714	8.9	19.9	98392	9.0	19.9	244197	9.1	20.5	86270	9.1	19.3	357955	9.2	21.5	162618	9.3	20.2
428493	8.9	20.0	304876	9.0	21.1	103132	9.1	19.6	402887	9.1	21.2	87446	9.2	19.9	166640	9.3	19.4
238038	8.9	21.1	291092	9.0	20.8	208367	9.1	19.8	14850	9.1	18.4	128962	9.2	20.0	107201	9.3	19.4
242458	8.9	20.3	437444	9.0	20.5	31027	9.1	18.1	333828	9.1	18.4	132085	9.2	18.3	352787	9.3	20.8
354942	8.9	20.7	271822	9.0	20.2	288968	9.1	20.0	323103	9.2	20.9	132396	9.2	19.0	43450	9.3	18.7
264082	8.9	20.0	463423	9.0	20.9	288812	9.1	20.4									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
421073	9.3	20.9	54654	9.4	18.9	326681	9.4	19.9	207617	9.5	20.7	429204	9.6	20.9	362437	9.6	21.2
522347	9.3	20.2	429761	9.4	19.9	343569	9.5	20.2	293707	9.5	20.5	204199	9.6	21.0	179094	9.6	20.9
469262	9.3	19.7	10738	9.4	16.7	81598	9.5	19.2	399545	9.5	21.4	219845	9.6	20.6	63952	9.6	17.9
243791	9.3	20.6	247023	9.4	21.0	251404	9.5	20.1	350923	9.5	20.7	192511	9.6	19.9	358085	9.6	19.9
358556	9.3	20.8	154344	9.4	19.5	61258	9.5	19.5	216002	9.5	19.0	334744	9.6	20.5	402950	9.6	21.6
206802	9.3	19.8	53733	9.4	19.1	459474	9.5	20.0	155771	9.5	20.4	456879	9.6	21.9	467684	9.7	21.2
98049	9.3	18.9	368751	9.4	21.6	253275	9.5	19.3	38930	9.5	18.8	139423	9.6	19.6	30587	9.7	17.9
467529	9.3	21.8	133771	9.4	19.4	325868	9.5	20.6	468167	9.5	20.7	297421	9.6	21.2	174725	9.7	20.3
304815	9.3	20.2	240817	9.4	19.8	83788	9.5	19.3	386538	9.5	19.5	91639	9.6	18.7	283575	9.7	21.0
410014	9.3	21.6	458896	9.4	21.5	333606	9.5	20.7	170217	9.5	21.0	160711	9.6	19.4	160236	9.7	18.8
495406	9.3	22.0	140957	9.4	20.4	18885	9.5	18.0	34701	9.5	18.0	499632	9.6	21.7	134243	9.7	19.1
520033	9.3	21.5	364397	9.4	20.9	109278	9.5	20.3	52718	9.5	18.6	478941	9.6	21.2	225008	9.7	19.3
7652	9.3	17.5	499382	9.4	21.0	496902	9.5	22.9	316848	9.5	19.6	361149	9.6	21.8	199203	9.7	18.8
33569	9.3	17.5	117650	9.4	19.7	459904	9.5	21.6	406429	9.5	22.1	387033	9.6	21.9	104794	9.7	18.3
472855	9.3	21.4	387296	9.4	20.9	140966	9.5	19.4	626397	9.5	20.2	76588	9.6	18.8	160185	9.7	19.1
493493	9.3	21.4	243019	9.4	20.1	52371	9.5	19.4	244265	9.5	20.1	503016	9.6	20.3	210171	9.7	20.1
368686	9.3	21.8	352732	9.4	21.0	420818	9.5	21.7	226644	9.5	20.9	229083	9.6	20.9	269820	9.7	20.3
164351	9.3	20.1	82214	9.4	19.5	106700	9.5	19.3	315379	9.5	21.5	466440	9.6	21.3	419042	9.7	19.9
217915	9.3	21.8	364447	9.4	20.9	187446	9.5	19.8	269474	9.5	20.2	465684	9.6	20.6	328319	9.7	20.7
274898	9.3	20.8	131294	9.4	19.2	464417	9.5	20.4	221178	9.5	20.5	305728	9.6	19.8	196460	9.7	19.6
131492	9.3	18.5	109523	9.4	18.5	118085	9.5	19.1	232312	9.5	20.3	63718	9.6	19.1	284990	9.7	21.2
157592	9.3	18.9	279581	9.4	20.3	458297	9.5	20.6	93193	9.5	19.1	429632	9.6	20.8	384181	9.7	19.9
327968	9.3	20.0	409981	9.4	21.1	238437	9.5	20.4	305446	9.5	20.4	122	9.6	12.3	495881	9.7	22.1
214545	9.3	20.3	212468	9.4	20.1	99351	9.5	18.1	203583	9.5	20.1	96668	9.6	18.1	291711	9.7	20.9
135345	9.3	19.7	291287	9.4	20.4	202897	9.5	20.6	16648	9.5	17.5	89806	9.6	19.3	88166	9.7	19.4
498712	9.3	21.1	84326	9.4	19.2	420804	9.5	20.2	203796	9.5	20.1	261392	9.6	20.2	259077	9.7	20.4
131133	9.3	19.4	423261	9.4	21.5	93908	9.5	19.3	302818	9.5	20.4	249354	9.6	19.5	159559	9.7	20.5
254038	9.3	20.6	501531	9.4	20.2	378699	9.5	21.2	466873	9.5	20.8	315537	9.6	19.6	85078	9.7	19.7
143642	9.3	19.8	241073	9.4	21.3	304547	9.5	20.5	377782	9.5	20.1	415070	9.6	20.7	369574	9.7	20.6
322419	9.3	20.8	155619	9.4	19.4	87830	9.5	18.8	146244	9.5	20.5	371206	9.6	21.0	258211	9.7	19.7
473503	9.3	20.1	78675	9.4	18.8	348925	9.5	21.7	353845	9.5	20.7	6796	9.6	17.6	380591	9.7	20.7
186141	9.3	18.9	44123	9.4	18.7	135065	9.5	19.0	18165	9.5	19.2	388296	9.6	20.3	408450	9.7	20.1
195408	9.3	19.9	308263	9.4	20.2	66823	9.5	19.0	94801	9.5	19.5	500993	9.6	21.8	313577	9.7	19.5
163561	9.3	19.7	307169	9.4	19.1	189258	9.5	20.1	457361	9.5	20.6	425228	9.6	21.1	331803	9.7	20.2
112400	9.3	19.7	473136	9.4	21.2	372597	9.5	21.2	312201	9.5	21.3	246364	9.6	20.7	146060	9.7	19.8
27987	9.3	18.9	262838	9.4	20.1	178963	9.5	20.9	413845	9.5	22.1	517026	9.6	21.0	365140	9.7	20.5
123060	9.3	19.9	98340	9.4	19.0	31493	9.5	17.9	325181	9.5	21.1	303205	9.6	19.8	248153	9.7	20.4
223778	9.4	20.1	215278	9.4	21.3	497634	9.5	22.1	499497	9.5	20.1	126970	9.6	18.7	156814	9.7	19.2
84497	9.4	18.6	187097	9.4	19.8	92997	9.5	18.4	500490	9.6	20.5	194271	9.6	19.7	144810	9.7	19.6
131440	9.4	19.7	502789	9.4	20.9	502185	9.5	21.1	361134	9.6	20.7	52422	9.6	17.9	500642	9.7	21.4
34883	9.4	18.8	208664	9.4	20.0	358013	9.5	20.6	276768	9.6	20.1	495999	9.6	21.4	464948	9.7	20.8
385870	9.4	21.2	206330	9.4	19.7	6275	9.5	16.8	182584	9.6	20.6	456722	9.6	21.6	158229	9.7	19.9
417398	9.4	20.8	134228	9.4	18.2	412920	9.5	20.9	156469	9.6	18.4	491676	9.6	21.8	340799	9.7	19.8
522899	9.4	21.5	473088	9.4	20.5	208213	9.5	21.0	403136	9.6	20.3	338307	9.6	20.1	284354	9.7	21.1
436732	9.4	21.8	268445	9.4	20.9	215885	9.5	19.1	360733	9.6	20.2	221260	9.6	20.8	470458	9.7	20.6
378362	9.4	20.5	325479	9.4	20.6	92449	9.5	20.0	303233	9.6	22.6	475686	9.6	21.1	72216	9.7	17.9
502293	9.4	21.0	430075	9.4	21.0	53977	9.5	17.6	472982	9.6	19.7	300272	9.6	21.1	106744	9.7	18.2
247947	9.4	20.4	239311	9.4	20.4	455583	9.5	21.7	241708	9.6	20.8	408856	9.6	20.4	330031	9.7	19.8
488637	9.4	20.4	37183	9.4	18.2	100919	9.5	18.9	278223	9.6	19.6	123676	9.6	19.3	345583	9.7	21.0
396717	9.4	20.7	55960	9.4	18.5	293703	9.5	19.9	244306	9.6	19.6	107907	9.6	18.3	424413	9.7	20.6
501609	9.4	21.2	284898	9.4	22.0	310992	9.5	19.5	474345	9.6	21.3	281112	9.6	20.3	108943	9.7	20.4
415581	9.4	20.6	469934	9.4	21.5	5609	9.5	17.5	252548	9.6	21.6	418305	9.6	21.2	411359	9.7	21.1
502009	9.4	21.2	189042	9.4	19.8	260086	9.5	19.3	249534	9.6	20.6	498035	9.6	21.0	236692	9.7	20.0
190043	9.4	19.9	416252	9.4	19.2	78832	9.5	20.0	159003	9.6	20.8	209042	9.6	19.8	53396	9.7	18.2
263891	9.4	19.9	246662	9.4	20.7	81991	9.5	19.3	466329	9.6	21.5	254607	9.6	19.8	506395	9.7	20.6
57712	9.4	18.8	501398	9.4	20.7	424980	9.5	21.0	22910	9.6	19.3	227893	9.6	20.3	272306	9.7	21.8
118168	9.4	19.2	9977	9.4	17.5	494679	9.5	21.9	456837	9.6	21.5	37681	9.6	19.8	162735	9.7	19.9
136063	9.4	19.7	497611	9.4	22.5	508669	9.5	21.4	498259	9.6	21.6	196601	9.6	18.4	379589	9.7	20.4
431463	9.4	21.7	81951	9.4	19.9	221062	9.5	19.6	438800	9.6	20.5	91557	9.6	19.8	488503	9.7	21.6
380086	9.4	20.9	367749	9.4	19.5	498364	9.5	21.4	422488	9.6	22.0	412280	9.6	21.3	148500	9.7	20.2
367912	9.4	20.0	269974	9.4	20.5	183442	9.5	19.4	307390	9.6	20.7	224340	9.6	18.9	34794	9.7	18.4
415073	9.4	21.1	489970	9.4	21.1	477687	9.5	20.9	179484	9.6	19.6	199324	9.6	20.4	33702	9.7	17.6
377153	9.4	20.3	405180	9.4	21.4	172647	9.5</										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V									
296472	9.7	20.2	125472	9.8	19.4	333712	9.8	20.2	208500	9.9	20.1	329793	9.9	20.9	135424	10.0	19.7
377900	9.7	20.9	174461	9.8	18.8	60010	9.8	20.1	375951	9.9	20.0	86324	9.9	20.5	63313	10.0	19.2
43222	9.7	18.6	15909	9.8	17.6	14929	9.9	17.4	121343	9.9	20.1	143022	9.9	19.3	269937	10.1	21.0
182513	9.7	19.9	166734	9.8	21.6	330671	9.9	21.2	325779	9.9	20.3	236721	9.9	20.1	232738	10.1	19.7
297127	9.7	21.5	437004	9.8	21.1	466545	9.9	20.8	136958	9.9	19.5	102560	9.9	19.4	208614	10.1	19.8
109235	9.7	19.7	401002	9.8	21.6	208185	9.9	20.1	381686	9.9	19.3	228372	9.9	20.3	42887	10.1	18.9
505923	9.7	21.4	251020	9.8	20.7	348238	9.9	21.0	259230	9.9	19.6	103045	9.9	20.3	115742	10.1	19.6
462934	9.7	20.1	401020	9.8	20.8	521137	9.9	20.2	109056	9.9	19.9	228031	9.9	19.4	307585	10.1	20.6
45280	9.7	19.5	296330	9.8	19.5	266329	9.9	19.8	269218	9.9	19.0	330444	9.9	20.1	4176	10.1	15.9
386182	9.7	21.3	428345	9.8	20.8	284376	9.9	20.8	3495	9.9	15.9	364711	9.9	20.4	415947	10.1	21.1
227606	9.7	20.1	305701	9.8	21.1	131072	9.9	20.3	212903	9.9	19.8	111181	9.9	20.0	173837	10.1	20.1
81955	9.7	19.7	280427	9.8	20.5	11606	9.9	20.9	378717	9.9	21.1	68783	9.9	18.5	240016	10.1	20.5
175502	9.7	20.5	458919	9.8	21.8	243181	9.9	20.0	423711	9.9	20.6	505084	9.9	21.9	61207	10.1	19.4
172967	9.7	19.3	345128	9.8	20.7	254642	9.9	19.1	249604	9.9	17.2	499170	9.9	21.2	433732	10.1	21.5
373429	9.7	21.3	94942	9.8	19.2	431153	9.9	21.6	423667	9.9	21.8	212426	9.9	20.8	148808	10.1	19.9
500400	9.7	20.9	375928	9.8	20.4	337045	9.9	21.1	46851	9.9	19.5	110853	9.9	18.6	218691	10.1	20.0
41219	9.7	20.2	284605	9.8	20.3	48776	9.9	19.3	374072	9.9	20.9	153377	9.9	20.0	145408	10.1	20.0
389883	9.7	20.9	371659	9.8	20.6	518120	9.9	20.7	138575	9.9	19.8	110065	9.9	18.1	497201	10.1	22.3
1263	9.7	13.4	300170	9.8	19.9	309826	9.9	19.8	10337	9.9	18.0	289890	9.9	20.6	53993	10.1	18.6
207227	9.7	20.6	219373	9.8	20.6	341348	9.9	21.0	246949	9.9	21.5	422789	9.9	21.2	297468	10.1	19.6
292493	9.7	21.3	258870	9.8	22.0	258332	9.9	20.9	177607	9.9	18.3	89549	9.9	19.6	243810	10.1	20.5
138615	9.7	19.6	275679	9.8	21.5	296357	9.9	20.2	299238	9.9	21.1	284382	9.9	20.9	162893	10.1	19.2
31147	9.7	16.8	362632	9.8	20.9	286373	9.9	20.4	379281	9.9	21.3	124191	9.9	19.9	164706	10.1	19.7
40307	9.7	19.5	90622	9.8	19.0	372458	9.9	21.3	151206	9.9	19.5	64955	9.9	19.4	350464	10.1	20.9
207606	9.7	20.4	258692	9.8	18.8	202782	9.9	19.4	207980	9.9	21.0	157343	9.9	20.2	244141	10.1	20.0
236731	9.7	20.5	91132	9.8	19.3	75315	9.9	19.0	17672	9.9	17.9	322828	9.9	21.6	1139	10.1	14.8
461689	9.7	21.8	423532	9.8	22.8	89421	9.9	19.7	424983	9.9	20.4	345628	9.9	21.4	200710	10.1	19.8
106403	9.7	19.4	50988	9.8	19.0	432772	9.9	19.8	236964	9.9	19.4	170232	9.9	20.3	281665	10.1	20.9
267835	9.7	20.3	50877	9.8	18.1	34854	9.9	17.8	31582	9.9	18.2	246037	9.9	21.0	433267	10.1	20.5
331777	9.7	18.7	490042	9.8	21.5	288260	9.9	20.8	68007	9.9	18.9	354706	9.9	21.1	331252	10.1	19.8
179985	9.7	19.9	183453	9.8	19.2	32497	9.9	17.1	172058	9.9	19.9	334629	9.9	21.4	43318	10.1	18.3
36754	9.7	18.7	236164	9.8	19.6	467682	9.9	21.8	338540	9.9	21.3	288683	9.9	21.1	217942	10.1	20.2
466754	9.7	20.8	182748	9.8	21.4	412620	9.9	20.3	489592	9.9	21.5	241557	10.0	20.0	309254	10.1	20.7
376442	9.7	19.4	284341	9.8	21.4	371208	9.9	21.2	263389	9.9	20.2	64430	10.0	18.6	296311	10.1	20.4
196196	9.7	18.9	274550	9.8	20.4	39206	9.9	20.0	170213	9.9	20.8	419840	10.0	20.4	297197	10.1	20.4
108921	9.7	19.6	68684	9.8	19.2	346805	9.9	21.8	458904	9.9	20.9	200714	10.0	20.1	92347	10.1	19.5
478162	9.7	21.3	1665	9.8	14.4	33003	9.9	20.5	119982	9.9	18.6	21192	10.0	18.0	335563	10.1	20.1
303211	9.7	20.5	204264	9.8	19.3	12414	9.9	18.7	328349	9.9	21.6	429532	10.0	20.7	215114	10.1	19.5
125152	9.7	19.3	88956	9.8	17.6	500263	9.9	21.7	266224	9.9	19.9	294148	10.0	19.7	353412	10.1	20.4
126998	9.7	19.5	373090	9.8	20.7	310981	9.9	20.3	361708	9.9	20.1	471131	10.0	21.5	272710	10.1	19.6
327897	9.8	19.7	127049	9.8	19.8	348492	9.9	19.5	159279	9.9	20.0	127883	10.0	18.6	506377	10.1	21.9
82478	9.8	19.5	459924	9.8	21.4	415996	9.9	21.5	519458	9.9	20.4	30158	10.0	19.5	230533	10.1	19.8
461700	9.8	20.9	8597	9.8	16.9	456906	9.9	21.9	383692	9.9	20.0	249584	10.0	20.5	190818	10.1	19.8
417059	9.8	20.7	62551	9.8	18.1	17334	9.9	16.5	39291	9.9	18.6	344506	10.0	20.8	165666	10.1	20.0
87401	9.8	19.7	302034	9.8	20.0	17748	9.9	18.7	134227	9.9	18.6	506053	10.0	21.6	415330	10.1	22.2
235520	9.8	19.9	268518	9.8	21.1	406337	9.9	22.0	126790	9.9	19.1	18653	10.0	17.1	181544	10.1	21.6
372804	9.8	20.5	271601	9.8	20.6	31214	9.9	18.2	98338	9.9	19.6	521280	10.0	21.2	430936	10.1	21.7
100897	9.8	19.7	147554	9.8	18.7	42068	9.9	18.1	34095	9.9	17.7	345388	10.0	21.0	388263	10.1	21.1
136834	9.8	19.5	337421	9.8	21.1	60166	9.9	20.1	19790	9.9	17.4	13556	10.0	18.2	134885	10.1	19.7
160821	9.8	19.6	274524	9.8	20.7	239679	9.9	20.3	297062	9.9	19.9	266197	10.0	20.3	310419	10.1	20.6
186611	9.8	19.4	387243	9.8	21.6	120685	9.9	20.4	17921	9.9	17.1	522216	10.0	20.1	215014	10.1	20.9
231975	9.8	20.2	59731	9.8	19.3	109535	9.9	19.2	194919	9.9	20.0	116027	10.0	19.8	170332	10.1	20.8
70733	9.8	19.2	411180	9.8	20.9	413199	9.9	19.1	25899	9.9	18.6	97065	10.0	18.3	87841	10.1	19.7
9146	9.8	16.5	307488	9.8	20.1	79002	9.9	19.4	458738	9.9	22.3	376520	10.0	20.3	454103	10.1	20.3
522286	9.8	20.9	59215	9.8	18.2	520109	9.9	20.8	468771	9.9	21.5	400283	10.0	21.6	109499	10.1	19.2
243783	9.8	21.7	167005	9.8	20.3	153387	9.9	19.3	425232	9.9	21.1	426818	10.0	22.2	94344	10.1	19.2
276926	9.8	19.9	378768	9.8	20.9	94387	9.9	18.8	214987	9.9	20.9	334452	10.0	20.9	32331	10.1	18.3
310321	9.8	20.2	31983	9.8	18.6	321248	9.9	20.7	162210	9.9	20.5	297698	10.0	21.0	159899	10.1	19.6
85329	9.8	20.0	97803	9.8	19.6	238335	9.9	19.3	456806	9.9	21.8	29954	10.0	18.1	55821	10.1	18.6
427229	9.8	21.5	251565	9.8	20.8	333444	9.9	21.3	128085	9.9	19.6	213202	10.0	20.5	498471	10.1	19.6
379989	9.8	20.3	69689	9.8	19.7	375042	9.9	20.0	326600	9.9	20.3	187543	10.0	19.5	27418	10.1	17.1
107300	9.8	19.1	168050	9.8	20.1	89668	9.9	19.1	157893	9.9	20.9	251798	10.0	19.5	344373	10.1	20.1

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
99665	10.1	19.6	36021	10.2	16.8	501056	10.3	21.3	71849	10.3	18.3	456829	10.4	20.5	415005	10.5	19.8
133849	10.1	19.7	341722	10.2	20.8	55237	10.3	19.3	309281	10.3	19.8	175150	10.4	19.8	400536	10.5	21.6
197191	10.1	19.1	247436	10.2	20.0	264692	10.3	19.5	208904	10.3	19.0	10933	10.4	16.4	30642	10.5	20.6
354583	10.1	20.8	9776	10.2	17.1	425689	10.3	21.0	278755	10.3	20.0	165357	10.4	19.5	172032	10.5	20.0
201717	10.1	20.3	371178	10.2	20.4	353478	10.3	20.5	215068	10.3	20.4	91002	10.4	18.2	488747	10.5	22.5
365141	10.1	20.3	214883	10.2	20.3	313019	10.3	21.1	437425	10.3	20.1	497831	10.4	21.6	430105	10.5	21.0
135397	10.1	20.3	281358	10.2	19.4	522234	10.3	20.5	406450	10.3	20.2	259144	10.4	20.0	135679	10.5	20.2
501376	10.1	20.7	107864	10.2	18.6	39375	10.3	17.4	409992	10.3	22.2	434511	10.4	21.4	125100	10.5	19.2
210920	10.1	19.6	500351	10.2	21.4	417156	10.3	20.8	467770	10.3	20.3	121304	10.4	19.8	192658	10.5	20.2
226889	10.1	20.1	201447	10.2	19.7	500506	10.3	21.2	153655	10.3	19.6	288595	10.4	20.2	410017	10.5	21.1
167590	10.1	19.4	27580	10.2	18.7	406348	10.3	21.7	466214	10.3	22.3	82261	10.4	18.7	63600	10.5	17.8
501404	10.1	20.8	381469	10.2	21.1	397526	10.3	21.4	467451	10.3	20.0	377130	10.4	20.1	142246	10.5	19.6
172111	10.1	19.5	310327	10.2	21.3	424728	10.3	20.4	99384	10.3	18.4	426200	10.4	20.2	461153	10.5	20.8
193115	10.1	19.0	467657	10.2	21.6	298826	10.3	21.1	273090	10.3	20.6	166095	10.4	19.2	89346	10.5	19.4
23025	10.1	17.2	130282	10.2	20.4	512536	10.3	20.8	252250	10.3	20.0	287491	10.4	19.7	409197	10.5	20.9
408007	10.1	21.2	437331	10.2	20.7	316280	10.3	20.9	61670	10.3	19.5	386571	10.4	20.7	163239	10.5	20.7
112294	10.1	19.9	499991	10.2	22.3	493512	10.3	20.9	402970	10.3	21.1	42646	10.4	17.9	150682	10.5	20.5
26156	10.1	18.9	372449	10.2	21.2	432997	10.3	21.6	399408	10.3	22.0	429945	10.4	21.0	21251	10.5	18.8
301607	10.1	19.9	17802	10.2	17.4	11490	10.3	18.4	27130	10.3	18.2	464155	10.4	20.8	113626	10.5	19.2
303358	10.1	20.5	422673	10.2	21.6	170133	10.3	20.0	273045	10.3	20.6	380645	10.4	21.4	8360	10.5	15.5
202914	10.1	20.4	352739	10.2	19.9	415814	10.3	21.6	439109	10.3	20.9	210982	10.4	20.8	133632	10.5	20.1
370730	10.1	21.8	38848	10.2	19.5	140862	10.3	19.6	461432	10.3	21.2	412104	10.4	21.1	22653	10.5	17.6
121050	10.1	17.8	245362	10.2	19.5	147716	10.3	21.0	341359	10.3	21.0	114437	10.4	19.7	375662	10.5	19.3
170141	10.1	18.7	312718	10.2	19.9	505430	10.3	21.2	270146	10.3	21.3	291207	10.4	21.0	284101	10.5	20.7
465141	10.1	20.7	133183	10.2	19.0	190062	10.3	20.2	303293	10.3	21.1	160941	10.4	19.4	198569	10.5	19.1
380454	10.1	22.0	202943	10.2	19.7	2925	10.3	15.7	501391	10.4	20.7	267294	10.4	21.4	414886	10.5	20.7
414776	10.1	20.6	371003	10.2	22.0	374612	10.3	20.9	42979	10.4	19.1	57853	10.4	19.1	309052	10.5	21.0
494991	10.1	21.0	88716	10.2	20.2	35920	10.3	17.7	135353	10.4	20.5	239111	10.4	20.8	505931	10.5	21.2
444628	10.1	20.9	34166	10.2	17.5	326180	10.3	20.2	458757	10.4	22.2	226007	10.4	18.7	174160	10.5	20.3
138726	10.1	19.3	312990	10.2	21.0	341704	10.3	20.3	384166	10.4	20.2	142852	10.4	19.5	507977	10.5	20.1
430347	10.1	20.6	66246	10.2	18.2	22525	10.3	17.8	264415	10.4	20.1	206797	10.4	18.8	259217	10.5	19.5
55431	10.1	19.0	330459	10.2	21.1	149452	10.3	19.1	130736	10.4	19.2	368229	10.4	21.2	326951	10.5	20.0
472370	10.1	19.8	319566	10.2	21.3	387409	10.3	20.5	273797	10.4	20.9	272918	10.4	20.6	425347	10.5	19.9
117662	10.1	20.3	109929	10.2	20.9	457044	10.3	20.7	459312	10.4	19.4	433069	10.4	21.5	384241	10.5	20.5
424747	10.1	20.8	169670	10.2	19.8	369972	10.3	22.5	1415	10.4	21.4	310744	10.4	20.5	11969	10.5	18.1
211230	10.1	20.4	141692	10.2	20.4	306198	10.3	21.0	4779	10.4	16.3	246944	10.4	21.2	206220	10.5	20.9
244704	10.1	20.4	306895	10.2	18.5	321266	10.3	19.8	55520	10.4	18.0	352119	10.4	21.1	8828	10.5	17.0
78614	10.1	18.9	363790	10.2	22.0	75019	10.3	18.8	410053	10.4	20.7	269955	10.4	20.9	480199	10.5	20.6
375430	10.1	21.1	369827	10.2	19.6	141810	10.3	21.0	162951	10.4	19.9	26021	10.4	18.2	456732	10.5	21.4
299507	10.1	19.5	396690	10.2	21.2	288262	10.3	19.9	473115	10.4	20.2	36403	10.4	19.6	43658	10.5	19.2
52532	10.1	18.3	54817	10.2	18.7	283397	10.3	19.8	331794	10.4	20.5	277456	10.4	21.5	127571	10.5	18.7
381635	10.1	20.2	522438	10.2	20.3	84847	10.3	19.5	379937	10.4	21.1	173953	10.4	20.9	244768	10.5	20.1
222301	10.1	20.8	269196	10.2	20.7	166141	10.3	19.2	502324	10.4	21.3	160293	10.4	18.4	473734	10.5	20.0
310273	10.2	20.8	336443	10.2	20.8	246427	10.3	20.3	243116	10.4	19.9	377864	10.4	20.5	34433	10.5	18.9
75463	10.2	19.3	215147	10.2	20.2	210540	10.3	20.5	160167	10.4	19.5	309222	10.4	20.2	424652	10.5	20.0
384126	10.2	19.9	314208	10.2	20.2	333760	10.3	19.5	306977	10.4	20.5	15958	10.4	18.0	117183	10.5	18.1
456828	10.2	20.4	163692	10.2	19.2	125731	10.3	19.6	90298	10.4	19.5	134666	10.4	20.5	211462	10.5	19.7
8016	10.2	17.2	190167	10.2	20.5	506203	10.3	21.7	504938	10.4	19.5	155149	10.4	20.4	374136	10.5	21.1
334220	10.2	21.6	189465	10.2	20.0	288617	10.3	20.4	329329	10.4	21.2	406424	10.4	21.4	192656	10.5	20.4
348808	10.2	21.6	369318	10.2	21.3	388801	10.3	20.4	336700	10.4	20.4	458921	10.4	21.3	228023	10.5	20.4
376207	10.2	20.9	393885	10.2	20.3	186554	10.3	19.5	371021	10.4	21.0	381199	10.4	20.8	123051	10.5	18.8
498696	10.2	21.3	497469	10.2	20.1	80286	10.3	19.1	16419	10.4	17.9	55715	10.4	20.0	139859	10.5	19.1
498686	10.2	21.3	432826	10.2	20.1	433947	10.3	22.1	369771	10.4	19.5	340125	10.4	19.3	10607	10.5	17.8
388368	10.2	21.0	493697	10.2	21.0	455319	10.3	19.6	417595	10.4	20.2	303832	10.4	21.1	341742	10.5	20.1
399413	10.2	21.0	140435	10.2	19.6	81563	10.3	19.1	206331	10.4	20.3	235943	10.4	18.9	239924	10.5	20.9
518700	10.2	20.4	503487	10.2	19.8	375272	10.3	20.9	461431	10.4	21.6	263464	10.4	19.9	263661	10.5	19.7
387198	10.2	20.6	522521	10.2	20.6	503781	10.3	21.0	394834	10.4	20.8	498787	10.4	20.9	21897	10.5	18.9
58629	10.2	19.5	265620	10.2	19.8	42061	10.3	19.1	95197	10.4	19.0	96713	10.4	18.9	89916	10.5	19.3
403803	10.2	21.2	309130	10.2	20.5	390448	10.3	20.0	13855	10.4	18.4	79275	10.4	19.0	159389	10.5	20.6
218686	10.2	20.5	17673	10.2	18.8	3774	10.3	15.4	27849	10.4	18.0	454651	10.4	20.6	500357	10.5	22.4
500591	10.2	21.7	13529	10.2	16.1	50060											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
87947	10.5	19.8	182346	10.6	20.7	458877	10.7	21.0	86960	10.7	18.2	499076	10.8	20.9	413835	10.9	21.3
31621	10.5	18.4	200154	10.6	20.5	306817	10.7	21.1	202817	10.7	20.2	102489	10.8	19.4	306384	10.9	20.9
469154	10.5	21.0	463608	10.6	21.5	140740	10.7	20.7	83347	10.7	18.6	35124	10.8	18.7	467454	10.9	21.3
485057	10.5	20.4	243218	10.6	20.1	374427	10.7	21.1	141025	10.7	18.6	416615	10.8	21.3	116478	10.9	19.6
479592	10.5	19.7	147802	10.6	20.1	270854	10.7	21.1	265676	10.7	20.9	128719	10.8	20.2	159254	10.9	19.0
62967	10.5	18.0	39478	10.6	18.5	13070	10.7	19.1	168614	10.7	19.3	210794	10.8	18.7	200780	10.9	19.9
455568	10.5	21.4	20314	10.6	17.3	362938	10.7	20.0	173503	10.7	20.2	352635	10.8	20.8	212848	10.9	20.0
29955	10.5	18.1	315074	10.6	20.8	90010	10.7	19.6	133231	10.7	19.2	388688	10.8	20.8	284652	10.9	19.8
50840	10.5	17.9	188459	10.6	20.3	151044	10.7	18.7	200297	10.8	19.9	348997	10.8	20.8	123407	10.9	19.5
36093	10.5	18.1	196868	10.6	20.0	267030	10.7	21.6	191833	10.8	20.1	29877	10.8	17.0	207873	10.9	19.7
159643	10.5	18.8	360358	10.6	20.5	85497	10.7	19.4	313129	10.8	19.3	121399	10.8	20.0	94872	10.9	19.1
402267	10.5	20.0	394089	10.6	20.7	210306	10.7	20.0	502022	10.8	21.4	375389	10.8	20.7	301723	10.9	20.0
198656	10.5	19.7	287107	10.6	19.6	81488	10.7	18.6	207626	10.8	19.6	105741	10.8	19.8	210245	10.9	20.3
33767	10.5	19.0	223746	10.6	19.8	122210	10.7	19.8	101730	10.8	20.5	190377	10.8	20.2	146176	10.9	20.0
171983	10.5	20.9	188788	10.6	20.5	461986	10.7	21.6	55421	10.8	18.7	57454	10.8	18.9	367716	10.9	19.3
329831	10.5	20.8	304253	10.6	20.4	380444	10.7	20.6	66779	10.8	18.7	393255	10.8	21.6	474087	10.9	19.9
465693	10.5	22.1	349437	10.6	19.9	70246	10.7	16.4	244000	10.8	20.2	101513	10.8	20.5	136995	10.9	20.3
353983	10.5	20.3	371731	10.6	20.4	433973	10.7	21.7	46197	10.8	17.9	374319	10.8	22.5	325699	10.9	20.7
4966838	10.6	21.8	56613	10.6	18.7	1194	10.7	14.5	113820	10.8	19.1	497169	10.8	22.3	171266	10.9	20.3
20178	10.6	17.1	469087	10.6	20.2	151011	10.7	20.4	89261	10.8	18.5	243844	10.8	20.2	163725	10.9	19.5
130590	10.6	20.9	189166	10.6	20.5	403295	10.7	20.3	44115	10.8	19.1	117286	10.8	19.8	496469	10.9	21.8
47382	10.6	17.6	253768	10.6	19.5	33448	10.7	17.9	210258	10.8	20.7	57907	10.8	18.8	466493	10.9	21.0
245017	10.6	20.2	338395	10.6	19.4	419761	10.7	20.8	191085	10.8	20.0	253067	10.8	21.7	374185	10.9	20.6
221095	10.6	21.6	503252	10.6	20.6	297399	10.7	21.3	489765	10.8	20.7	469423	10.8	21.4	253314	10.9	20.5
19634	10.6	17.8	241049	10.6	20.1	86702	10.7	19.3	170380	10.8	19.9	233548	10.8	19.1	199854	10.9	18.8
298852	10.6	20.4	271719	10.6	21.1	21806	10.7	19.0	79201	10.8	20.0	460205	10.8	21.4	224383	10.9	20.0
145233	10.6	19.8	373471	10.6	21.7	208485	10.7	19.4	187878	10.8	20.2	357063	10.8	21.7	259234	10.9	20.4
385843	10.6	20.0	103083	10.6	19.1	493111	10.7	21.5	416939	10.8	21.5	306312	10.8	20.8	386250	10.9	20.5
422800	10.6	19.3	386142	10.6	21.1	347311	10.7	20.9	52475	10.8	18.6	138794	10.8	20.8	425061	10.9	22.7
159629	10.6	20.8	93749	10.6	18.4	91281	10.7	17.9	135375	10.8	19.2	469274	10.8	20.2	122994	10.9	18.7
113417	10.6	19.3	440002	10.6	21.4	372553	10.7	19.8	326434	10.8	21.1	90326	10.8	19.7	348956	10.9	20.9
385878	10.6	20.8	458852	10.6	21.4	205772	10.7	20.0	105092	10.8	18.5	226727	10.8	19.8	435254	10.9	20.9
72488	10.6	19.1	383757	10.6	21.0	283378	10.7	21.9	272814	10.8	19.9	198214	10.8	20.7	284658	10.9	21.1
174444	10.6	18.4	115739	10.6	20.1	259334	10.7	19.0	192075	10.8	20.3	332543	10.8	20.4	357040	10.9	20.5
82021	10.6	19.8	133419	10.6	19.3	419071	10.7	21.2	192545	10.8	19.5	161652	10.8	20.3	90510	10.9	19.2
122167	10.6	20.7	310466	10.6	21.3	425658	10.7	20.9	342955	10.8	20.0	503249	10.8	20.6	462915	10.9	20.8
226859	10.6	20.1	317084	10.6	20.2	277735	10.7	19.7	505032	10.8	21.9	400337	10.8	21.9	468244	10.9	20.7
267701	10.6	20.0	40597	10.6	19.0	215971	10.7	20.6	285320	10.8	19.6	365498	10.8	21.0	432439	10.9	21.1
191659	10.6	20.6	498901	10.6	20.9	341632	10.7	21.4	294477	10.8	20.2	234490	10.8	21.2	37219	10.9	18.7
504157	10.6	21.8	454941	10.6	20.2	198400	10.7	19.5	185406	10.8	20.5	466429	10.8	21.1	309106	10.9	20.2
37326	10.6	18.4	88636	10.6	20.0	162498	10.7	20.1	53181	10.8	17.4	218018	10.8	20.0	348550	10.9	20.2
455790	10.6	20.5	361152	10.6	20.3	194594	10.7	18.7	426466	10.8	20.2	315116	10.8	19.6	64006	10.9	18.2
500476	10.6	21.2	271668	10.6	21.0	357062	10.7	21.2	41220	10.8	19.1	502266	10.8	20.9	385390	10.9	21.6
101500	10.6	20.2	386225	10.6	21.2	375032	10.7	20.3	58388	10.8	19.1	123789	10.8	18.7	362645	10.9	20.4
385268	10.6	21.3	382301	10.6	20.2	32805	10.7	18.5	293442	10.8	20.2	513050	10.8	21.5	369915	10.9	20.4
298816	10.6	21.1	179336	10.6	19.7	155513	10.7	19.7	367125	10.8	19.7	151007	10.8	20.9	332185	10.9	19.5
278103	10.6	19.6	364227	10.6	21.9	108156	10.7	19.2	89055	10.8	18.9	98222	10.8	19.4	329848	10.9	20.6
456839	10.6	21.5	213614	10.6	19.7	129876	10.7	20.9	269771	10.8	20.5	433865	10.8	19.2	292454	10.9	21.2
236329	10.6	20.4	10124	10.6	17.4	217972	10.7	20.1	459024	10.8	20.8	500518	10.8	20.8	18724	10.9	17.4
145684	10.6	19.9	59630	10.6	19.1	354052	10.7	21.0	487581	10.8	22.3	336553	10.8	19.3	324546	10.9	19.5
321058	10.6	21.0	148605	10.6	20.6	308199	10.7	20.3	132514	10.8	19.2	271878	10.8	20.3	273022	10.9	20.2
453847	10.6	19.8	253096	10.6	19.5	341751	10.7	20.2	468200	10.8	20.2	65458	10.8	18.9	415106	10.9	20.6
501038	10.6	21.4	85926	10.6	18.2	352450	10.7	21.0	498268	10.8	20.6	63528	10.8	18.8	433243	10.9	20.7
465983	10.6	21.5	235957	10.6	20.9	431161	10.7	21.5	139700	10.8	19.5	430004	10.8	21.8	111071	10.9	19.3
357341	10.6	21.4	158512	10.6	19.2	379507	10.7	20.1	207476	10.8	20.3	244697	10.8	21.8	506176	10.9	21.9
186173	10.6	19.4	344567	10.6	20.4	304587	10.7	21.1	84074	10.8	18.4	364190	10.8	21.4	498342	10.9	21.3
456594	10.6	19.4	216072	10.6	20.5	407714	10.7	22.0	121049	10.8	18.8	389771	10.8	21.1	467511	10.9	20.4
468444	10.6	21.2	89268	10.6	19.7	316994	10.7	20.5	207783	10.8	19.9	466772	10.8	21.0	497283	10.9	22.0
207704	10.6	20.0	320764	10.6	19.8	172598	10.7	19.3	383649	10.8	21.2	466057	10.8	21.1	375778	10.9	21.0
57212	10.6	18.0	471898	10.6	20.6	416015	10.7	20.4	492097	10.8	21.3	496724	10.9	21.0	313367	10.9	20.3
21248	10.6	17.3	376785	10.6													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
269727	10.9	20.5	326279	10.9	20.8	338031	11.0	20.7	497809	11.1	21.4	62144	11.2	18.4	239453	11.2	21.4
340647	10.9	20.8	115766	10.9	19.8	343641	11.0	21.3	16636	11.1	23.7	438651	11.2	20.6	417004	11.2	20.4
212012	10.9	18.9	203467	10.9	20.4	238787	11.0	19.8	351504	11.1	20.7	519531	11.2	21.4	326969	11.2	21.6
8623	10.9	18.0	348863	10.9	21.5	113800	11.0	19.4	501969	11.1	20.5	260174	11.2	20.0	160837	11.2	19.9
138722	10.9	20.3	471183	10.9	21.4	363527	11.0	21.8	305624	11.1	21.1	74960	11.2	19.3	339538	11.2	21.2
398337	10.9	21.5	12382	10.9	18.7	372540	11.0	21.2	133248	11.1	19.6	162576	11.2	19.4	118040	11.2	19.7
70208	10.9	18.7	135077	10.9	19.0	45724	11.0	18.6	501339	11.1	20.8	70377	11.2	18.1	305775	11.2	19.5
291962	10.9	20.1	208725	10.9	19.5	521146	11.0	21.3	465980	11.1	21.5	456738	11.2	21.9	345570	11.2	20.5
205864	10.9	19.2	182937	10.9	20.7	165347	11.0	18.8	148580	11.1	20.5	259170	11.2	19.8	271011	11.2	18.9
350098	10.9	19.6	156307	10.9	19.2	153980	11.0	19.6	446801	11.1	21.4	172524	11.2	21.1	113925	11.2	19.4
301331	10.9	19.8	452801	10.9	19.6	76301	11.0	19.0	522703	11.1	21.1	340730	11.2	19.9	14599	11.2	17.0
431162	10.9	21.0	277578	10.9	18.3	89773	11.0	18.1	207022	11.1	20.1	324398	11.2	20.8	406435	11.2	21.3
483474	10.9	20.9	97361	10.9	19.5	242609	11.0	20.1	427433	11.1	22.3	316395	11.2	20.9	140785	11.2	19.2
501428	10.9	20.4	492444	10.9	22.0	459094	11.0	21.0	239437	11.1	20.5	234021	11.2	20.5	25972	11.2	18.5
34393	10.9	19.3	187899	10.9	20.9	112354	11.0	19.3	243437	11.1	20.2	327334	11.2	19.9	138828	11.2	19.6
203588	10.9	19.4	174488	10.9	21.0	184440	11.0	19.0	325750	11.1	21.3	169558	11.2	19.9	298869	11.2	20.7
351919	10.9	21.6	81905	10.9	19.1	139807	11.0	18.7	167002	11.1	20.8	383355	11.2	20.8	69054	11.2	19.1
3053	10.9	17.1	386532	10.9	20.4	49686	11.0	18.8	163519	11.1	19.4	284370	11.2	21.5	107063	11.2	19.3
48312	10.9	19.4	135171	10.9	20.0	438867	11.0	19.7	452634	11.1	21.0	422733	11.2	20.6	114298	11.2	19.7
433879	10.9	20.8	423280	10.9	19.4	33363	11.0	18.7	371182	11.1	21.0	212461	11.2	20.6	289656	11.2	20.7
509233	10.9	22.4	497262	10.9	20.3	201912	11.0	19.5	145088	11.1	21.0	179834	11.2	19.5	58537	11.2	19.7
2742	10.9	16.1	403204	10.9	20.5	53887	11.1	18.4	405163	11.1	21.1	75668	11.2	19.6	78030	11.2	18.9
306624	10.9	20.7	210423	10.9	20.2	51843	11.1	17.0	271624	11.1	20.8	389933	11.2	20.2	434037	11.3	21.6
297107	10.9	20.8	75891	10.9	19.1	236189	11.1	19.7	508249	11.1	22.1	167876	11.2	19.8	377445	11.3	21.2
209463	10.9	20.1	212014	10.9	19.7	430895	11.1	21.1	430712	11.1	18.8	269114	11.2	20.2	16340	11.3	17.5
488738	10.9	21.8	194093	10.9	21.1	14688	11.1	17.5	344348	11.1	19.9	200785	11.2	19.7	140013	11.3	19.4
67768	10.9	19.0	86029	10.9	19.6	212017	11.1	19.7	61184	11.1	18.7	450437	11.2	21.3	302186	11.3	20.0
140619	10.9	20.8	283033	10.9	20.1	315962	11.1	20.7	149878	11.1	20.5	349928	11.2	20.5	39191	11.3	18.6
374105	10.9	20.2	24841	10.9	18.1	368222	11.1	21.6	518139	11.1	20.9	101340	11.2	19.5	129444	11.3	19.1
52687	10.9	18.9	292429	10.9	22.4	210850	11.1	20.5	350315	11.1	21.3	123389	11.2	19.3	158752	11.3	20.7
203808	10.9	20.4	502879	10.9	20.3	504245	11.1	21.9	270453	11.1	20.1	35648	11.2	18.9	466369	11.3	22.2
370064	10.9	19.9	415655	10.9	20.1	387214	11.1	20.8	177764	11.1	20.1	133987	11.2	19.4	290695	11.3	21.1
34238	10.9	20.1	109316	10.9	20.0	295314	11.1	20.0	65006	11.1	19.4	457706	11.2	20.6	320933	11.3	20.1
330122	10.9	21.3	125767	10.9	19.4	367883	11.1	19.3	284327	11.1	21.5	501460	11.2	20.7	369367	11.3	21.7
273729	10.9	20.6	87491	10.9	18.8	327348	11.1	20.7	61884	11.1	20.0	155217	11.2	20.3	334802	11.3	20.2
81095	10.9	18.8	171026	10.9	19.7	81246	11.1	18.2	39053	11.1	19.2	462021	11.2	20.6	53584	11.3	18.0
120895	10.9	20.2	430743	10.9	20.0	266301	11.1	19.2	67036	11.1	18.4	170297	11.2	20.0	286180	11.3	21.4
69114	10.9	18.3	297769	10.9	19.1	379903	11.1	20.6	504171	11.1	22.2	503053	11.2	20.6	182380	11.3	20.0
378	10.9	14.2	417000	11.0	21.9	323685	11.1	19.8	187380	11.1	20.2	228330	11.2	20.8	200094	11.3	20.6
492423	10.9	22.3	395732	11.0	21.0	272885	11.1	20.5	158042	11.1	20.2	27721	11.2	17.8	86940	11.3	19.4
297792	10.9	21.0	310456	11.0	18.6	25334	11.1	18.5	92444	11.1	19.9	342916	11.2	20.6	462033	11.3	19.3
417531	10.9	22.0	85744	11.0	19.3	502262	11.1	20.9	7522	11.1	16.6	522310	11.2	20.5	498707	11.3	21.9
458789	10.9	22.1	386204	11.0	20.6	474052	11.1	20.1	245178	11.1	20.7	188731	11.2	19.7	154571	11.3	19.2
323454	10.9	20.0	240737	11.0	20.4	322716	11.1	20.7	386956	11.1	21.2	1756	11.2	16.2	277866	11.3	20.4
129816	10.9	20.4	328706	11.0	20.5	64713	11.1	18.8	65176	11.1	19.4	32812	11.2	18.8	146341	11.3	19.3
40611	10.9	18.8	94502	11.0	19.0	472726	11.1	21.3	19428	11.1	18.5	386145	11.2	20.5	240552	11.3	21.0
275690	10.9	20.9	423459	11.0	22.1	416116	11.1	21.2	184343	11.1	20.4	141136	11.2	20.4	511856	11.3	21.5
131776	10.9	18.5	361617	11.0	20.9	200575	11.1	20.4	2498	11.1	16.3	520995	11.2	21.1	297440	11.3	19.9
272802	10.9	19.6	59743	11.0	19.6	127119	11.1	19.3	19836	11.1	19.0	279951	11.2	20.5	231936	11.3	20.2
241226	10.9	20.8	395762	11.0	20.9	310890	11.1	21.6	166816	11.1	19.7	495650	11.2	21.2	166960	11.3	20.0
198974	10.9	20.2	261033	11.0	21.4	491199	11.1	21.7	160848	11.1	21.1	309799	11.2	20.6	219390	11.3	20.2
417680	10.9	20.9	433214	11.0	21.0	353467	11.1	21.1	38110	11.1	18.6	202603	11.2	20.0	15242	11.3	17.6
254062	10.9	19.4	496409	11.0	22.1	52696	11.1	18.7	68027	11.1	19.6	370725	11.2	21.1	351992	11.3	21.9
468293	10.9	20.0	13201	11.0	18.3	287437	11.1	20.1	428751	11.1	21.7	501010	11.2	22.3	169352	11.3	20.8
293431	10.9	20.3	28662	11.0	17.3	260212	11.1	21.4	337027	11.1	21.2	491047	11.2	21.8	369615	11.3	20.6
304656	10.9	20.5	317475	11.0	18.1	146444	11.1	19.7	346724	11.1	20.4	199472	11.2	19.9	494821	11.3	22.1
206222	10.9	18.6	334348	11.0	17.3	467200	11.1	20.7	308044	11.1	21.3	292002	11.2	20.7	169863	11.3	18.7
353438	10.9	21.4	227869	11.0	20.5	404811	11.1	20.9	245981	11.1	20.5	273019	11.2	19.6	263609	11.3	19.8
458775	10.9	21.6	372388	11.0	22.1	52319	11.1	18.4	372563	11.1	21.0	134875	11.2	20.2	497628	11.3	21.4
101458	10.9	20.1	436378	11.0	20.6	188970	11.1	19.8	282804	11.1	20.1	505988	11.2	20.6	519633	11.3	20.1
505158	10.9	21.5	274950	11.0	21.2	147805											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
19482	11.3	18.4	64885	11.4	19.1	172023	11.4	20.1	160114	11.5	19.6	141182	11.6	18.7	52308	11.6	18.4
241677	11.3	20.7	405313	11.4	21.3	459622	11.4	21.5	342630	11.5	20.0	13509	11.6	17.9	306606	11.6	19.8
388838	11.3	19.1	308316	11.4	20.9	444618	11.4	22.2	77194	11.5	19.3	412110	11.6	20.6	428000	11.6	20.6
274151	11.3	21.1	310418	11.4	20.9	287850	11.4	20.3	245463	11.5	21.8	382830	11.6	19.5	138571	11.6	19.3
358110	11.3	20.5	389647	11.4	20.9	362151	11.4	20.7	317068	11.5	19.7	396244	11.6	20.4	318492	11.6	19.6
341664	11.3	19.7	501026	11.4	21.5	393521	11.4	21.6	102062	11.5	19.4	419719	11.6	21.1	268021	11.6	20.3
116965	11.3	19.7	367597	11.4	21.8	306208	11.4	21.9	201768	11.5	19.9	321253	11.6	20.0	464968	11.6	20.8
127089	11.3	19.0	21609	11.4	16.9	144116	11.4	20.1	460342	11.5	21.1	48804	11.6	20.2	491046	11.6	20.7
225511	11.3	21.2	337452	11.4	20.7	370817	11.4	21.4	107519	11.5	19.0	12177	11.6	17.7	402101	11.6	21.7
118077	11.3	20.0	368976	11.4	19.1	18972	11.4	18.8	269256	11.5	20.0	52701	11.6	18.3	425090	11.6	22.1
272892	11.3	20.3	196576	11.4	20.5	428385	11.4	21.6	187146	11.5	20.6	222246	11.6	20.8	85468	11.6	18.8
42292	11.3	19.4	44625	11.4	20.0	400256	11.4	20.8	235939	11.5	19.8	434992	11.6	21.6	322854	11.6	21.5
456814	11.3	21.1	6656	11.4	16.1	307923	11.4	21.1	339001	11.5	19.4	381510	11.6	21.5	227873	11.6	20.5
423196	11.3	21.7	64622	11.4	19.7	456904	11.4	20.8	510040	11.5	20.7	51827	11.6	18.0	364613	11.6	21.1
158300	11.3	20.0	242810	11.4	20.6	313762	11.5	19.8	318060	11.5	19.2	207343	11.6	20.3	135244	11.6	18.9
307050	11.3	21.1	14735	11.4	16.8	108974	11.5	19.5	66209	11.5	18.9	46870	11.6	18.3	428821	11.6	21.1
382917	11.3	21.1	320843	11.4	20.3	395847	11.5	21.1	389909	11.5	20.1	110093	11.6	17.7	33151	11.6	18.1
191243	11.3	20.0	285604	11.4	20.9	246277	11.5	21.1	18145	11.5	19.3	468836	11.6	21.5	464826	11.6	21.4
36831	11.3	18.1	178190	11.4	21.5	42288	11.5	19.8	235744	11.5	20.0	51418	11.6	18.6	369647	11.6	20.3
503231	11.3	20.7	493775	11.4	20.8	61476	11.5	18.9	167372	11.5	20.2	498196	11.6	21.0	175463	11.6	20.2
500311	11.3	21.5	312859	11.4	21.0	125542	11.5	18.8	65071	11.5	18.5	288567	11.6	20.1	268616	11.6	20.4
505024	11.3	22.1	1246	11.4	16.1	200788	11.5	19.3	465671	11.5	22.0	369376	11.6	22.1	413889	11.6	21.5
208420	11.3	19.9	90542	11.4	18.8	366970	11.5	21.3	189025	11.5	20.8	168266	11.6	19.1	153162	11.6	20.0
2900	11.3	16.7	166556	11.4	18.9	298787	11.5	21.2	322992	11.5	20.9	378844	11.6	21.4	385873	11.6	21.0
229985	11.3	19.3	240574	11.4	21.0	162575	11.5	20.5	412265	11.5	21.0	203458	11.6	20.5	215815	11.6	20.2
322226	11.3	20.1	377376	11.4	21.1	87127	11.5	19.1	379685	11.5	20.3	224358	11.6	21.2	456640	11.6	21.3
110311	11.3	20.5	99793	11.4	19.1	12619	11.5	17.3	418245	11.5	19.5	87963	11.6	19.3	372592	11.6	20.9
286118	11.3	21.0	39242	11.4	18.2	453335	11.5	21.4	295318	11.5	21.1	234860	11.6	20.3	521106	11.6	21.4
433600	11.3	20.1	82962	11.4	19.1	456752	11.5	21.9	208215	11.5	20.4	16075	11.6	18.5	90701	11.6	20.0
1857	11.3	15.4	109148	11.4	20.0	105399	11.5	20.1	305949	11.5	19.7	133114	11.6	20.2	405833	11.6	19.9
430614	11.3	21.1	466829	11.4	21.2	426637	11.5	20.5	370944	11.5	20.9	461721	11.6	19.6	142213	11.6	19.1
20540	11.3	18.5	469806	11.4	21.9	27896	11.5	19.0	23230	11.5	18.7	326707	11.6	19.1	303231	11.6	21.6
85999	11.3	18.2	382789	11.4	22.8	1240	11.5	15.0	52426	11.5	19.2	306058	11.6	19.8	246962	11.6	21.0
353791	11.3	21.0	108864	11.4	19.4	286145	11.5	21.6	96383	11.5	19.2	71099	11.6	19.4	249112	11.7	20.7
294352	11.3	19.8	274691	11.4	20.9	243778	11.5	19.3	167011	11.5	19.6	500244	11.6	21.8	171538	11.7	20.0
232274	11.3	20.2	459124	11.4	20.8	221313	11.5	21.4	113505	11.5	18.7	219826	11.6	19.6	153049	11.7	20.6
59074	11.3	18.9	234993	11.4	19.3	64402	11.5	18.1	382874	11.5	19.5	5862	11.6	16.1	202466	11.7	19.6
424772	11.3	21.4	372686	11.4	21.2	236984	11.5	20.4	133034	11.5	18.6	321585	11.6	20.6	500738	11.7	22.1
453772	11.3	21.3	239892	11.4	20.8	136920	11.5	18.9	354822	11.5	19.7	167637	11.6	19.5	188959	11.7	20.0
291033	11.3	20.2	298754	11.4	20.4	522656	11.5	21.6	373609	11.5	19.9	391391	11.6	21.3	495367	11.7	22.5
73666	11.3	19.1	27070	11.4	16.9	171927	11.5	20.4	498984	11.5	20.8	228343	11.6	20.4	149430	11.7	18.9
448449	11.3	20.7	132486	11.4	19.1	466815	11.5	20.4	465145	11.5	20.4	312157	11.6	19.9	381687	11.7	19.0
137105	11.3	19.3	108695	11.4	19.9	450563	11.5	19.0	11522	11.5	17.1	298814	11.6	20.9	253072	11.7	20.2
139084	11.3	19.2	67845	11.4	19.8	37992	11.5	18.2	500683	11.5	21.2	189260	11.6	20.3	426318	11.7	21.4
202655	11.3	20.4	328987	11.4	20.5	69404	11.5	18.2	8772	11.5	18.2	337691	11.6	20.7	125580	11.7	18.6
45092	11.3	20.3	196557	11.4	19.8	157001	11.5	20.1	186737	11.5	19.7	133449	11.6	19.6	326393	11.7	20.1
502577	11.3	21.2	350318	11.4	22.1	217949	11.5	21.2	320265	11.5	21.0	492391	11.6	22.0	405035	11.7	21.2
432554	11.3	21.1	188289	11.4	19.5	497825	11.5	22.0	111005	11.5	19.9	497127	11.6	22.5	386249	11.7	19.5
495004	11.3	21.1	298810	11.4	20.6	153399	11.5	20.1	6358	11.5	16.6	236099	11.6	21.0	399354	11.7	21.4
584	11.3	13.0	468675	11.4	21.1	464371	11.5	19.5	172510	11.5	20.3	126151	11.6	19.5	112259	11.7	20.3
214431	11.3	21.4	285570	11.4	20.8	130598	11.5	19.3	336022	11.5	20.2	241249	11.6	20.1	236618	11.7	20.0
162901	11.3	18.9	385140	11.4	20.2	495920	11.5	22.5	296996	11.5	20.2	209592	11.6	20.7	94402	11.7	17.6
189317	11.3	18.9	3204	11.4	17.1	146879	11.5	19.7	98093	11.5	19.5	306469	11.6	20.3	77729	11.7	19.3
424624	11.3	19.9	63986	11.4	19.1	407434	11.5	21.8	491058	11.5	21.8	269814	11.6	20.3	371654	11.7	21.5
344329	11.3	20.6	118201	11.4	19.7	100262	11.5	19.4	497669	11.5	21.4	135554	11.6	19.3	5070	11.7	15.8
263881	11.3	19.7	120907	11.4	20.0	252022	11.5	19.6	415757	11.5	21.1	347115	11.6	20.6	383358	11.7	17.7
505783	11.3	20.3	55095	11.4	19.7	402876	11.5	21.8	182524	11.6	20.8	258343	11.6	19.6	332533	11.7	20.8
358671	11.3	20.4	70154	11.4	18.9	496015	11.5	21.7	95525	11.6	19.1	413832	11.6	21.5	86726	11.7	19.1
61079	11.3	18.5	277697	11.4	20.5	205253	11.5	19.8	99332	11.6	19.3	157847	11.6	20.3	135481	11.7	19.0
202265	11.3	20.3	236712	11.4	20.2	268971	11.5	19.8	421164	11.6	20.8	405354	11.6	20.3	277780	11.7	20.6
333435	11.3	22.1	49157	11.4	19.0	224379	1										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
43560	11.7	18.0	200633	11.8	21.6	297481	11.8	21.3	214748	11.9	19.9	376740	11.9	21.7	136943	12.0	19.9
317914	11.7	21.6	468524	11.8	20.2	82060	11.8	17.8	51125	11.9	18.4	171578	11.9	20.7	436028	12.0	19.5
167882	11.7	19.9	21781	11.8	18.2	272775	11.8	20.3	251599	11.9	20.4	262621	11.9	20.6	377185	12.0	20.8
466352	11.7	22.1	384149	11.8	19.5	469255	11.8	19.9	426583	11.9	20.4	242992	11.9	20.7	436024	12.0	20.0
424190	11.7	19.9	4762	11.8	15.9	234161	11.8	20.0	313001	11.9	21.0	74610	11.9	20.3	126393	12.0	18.6
262773	11.7	19.3	248485	11.8	20.3	286362	11.8	20.1	125411	11.9	18.9	134203	11.9	19.4	190304	12.0	20.1
199737	11.7	19.8	399393	11.8	22.3	150892	11.8	20.0	240071	11.9	20.6	238724	11.9	20.0	88534	12.0	19.2
229034	11.7	19.8	38370	11.8	18.3	126060	11.8	19.8	360544	11.9	21.7	219618	11.9	20.8	132212	12.0	19.2
375744	11.7	20.3	236747	11.8	19.9	422754	11.8	22.4	207485	11.9	19.6	243554	11.9	19.4	469734	12.0	20.4
141317	11.7	19.1	390641	11.8	21.4	180061	11.8	18.7	190052	11.9	20.2	15988	11.9	17.0	427073	12.0	20.3
281711	11.7	20.8	277792	11.8	19.9	461569	11.8	19.9	104604	11.9	19.6	379274	11.9	22.2	458967	12.0	22.0
423761	11.7	20.5	206179	11.8	19.9	337753	11.8	21.0	190065	11.9	20.4	295674	11.9	21.4	161839	12.0	18.7
380245	11.7	19.8	465105	11.8	21.4	456899	11.8	20.7	502839	11.9	20.0	496991	11.9	21.1	157237	12.0	18.5
270587	11.7	20.6	464496	11.8	20.9	46375	11.8	18.6	45261	11.9	18.6	420790	11.9	20.3	212627	12.0	20.6
413818	11.7	21.8	500438	11.8	20.9	84842	11.8	18.8	77342	11.9	19.2	664609	11.9	21.2	314227	12.0	18.8
462282	11.7	20.6	232731	11.8	19.4	358054	11.8	21.3	184944	11.9	20.7	184991	11.9	20.6	417771	12.0	19.6
457702	11.7	20.2	332904	11.8	19.9	379741	11.8	19.7	133872	11.9	20.4	25605	11.9	18.4	169144	12.0	19.9
96468	11.7	18.4	155511	11.8	20.4	378985	11.8	21.0	274359	11.9	21.2	277944	11.9	20.0	406542	12.0	21.7
72847	11.7	18.2	337025	11.8	21.4	53335	11.8	18.0	49713	11.9	18.3	22767	11.9	19.3	243143	12.0	21.1
503599	11.7	21.9	375963	11.8	20.8	146888	11.8	19.8	104142	11.9	19.4	345751	11.9	19.5	247939	12.0	20.3
321727	11.7	21.4	172062	11.8	20.4	469239	11.8	20.8	108051	11.9	18.8	346953	11.9	21.0	339541	12.0	20.9
31818	11.7	16.6	429876	11.8	20.6	63586	11.8	19.6	252551	11.9	20.4	460053	11.9	21.4	463838	12.0	20.3
194456	11.7	19.6	469729	11.8	21.1	299289	11.8	20.1	417639	11.9	20.7	385062	11.9	21.3	413873	12.0	20.7
238843	11.7	19.7	41727	11.8	18.3	73021	11.8	19.5	234028	11.9	20.6	385892	11.9	21.3	368730	12.0	22.1
345977	11.7	21.4	403880	11.8	21.6	346537	11.8	21.1	265764	11.9	20.8	306358	11.9	21.9	269102	12.0	20.3
185528	11.7	19.8	123331	11.8	20.5	370707	11.8	21.7	502407	11.9	20.8	19960	11.9	16.4	313602	12.0	21.4
258098	11.7	21.8	135686	11.8	20.0	291157	11.8	21.1	216967	11.9	19.5	293785	11.9	21.0	183514	12.0	18.8
245787	11.7	21.0	356953	11.8	20.3	424806	11.8	21.0	502637	11.9	20.4	26025	11.9	18.8	297085	12.0	20.0
43314	11.7	18.9	321029	11.8	20.7	502032	11.8	20.4	83829	11.9	18.6	412778	11.9	21.0	58599	12.0	19.6
132030	11.7	19.9	435900	11.8	20.7	56935	11.8	18.8	471315	11.9	21.3	142691	11.9	18.9	282218	12.0	21.0
87935	11.7	18.1	437653	11.8	20.0	88774	11.8	19.9	508595	11.9	21.4	455573	11.9	22.3	58236	12.0	18.6
285601	11.7	19.9	406819	11.8	18.7	247619	11.8	20.8	361156	11.9	21.1	36696	11.9	18.2	10926	12.0	17.7
158332	11.7	20.3	341637	11.8	20.6	331915	11.8	20.4	345658	11.9	22.4	123077	11.9	20.1	17950	12.0	18.1
170266	11.7	20.0	285635	11.8	20.8	111735	11.8	19.4	474064	11.9	20.4	306260	11.9	21.5	445291	12.0	20.1
499892	11.7	20.0	99252	11.8	19.1	460803	11.8	20.8	326973	11.9	20.2	117865	11.9	20.7	66834	12.0	17.5
49493	11.7	17.9	490339	11.8	21.0	217912	11.8	20.9	159064	11.9	19.7	23083	11.9	17.5	213079	12.0	20.5
210410	11.7	19.5	272889	11.8	20.7	296943	11.8	20.4	143753	11.9	18.1	498262	11.9	21.7	222340	12.0	19.7
200335	11.7	19.6	276953	11.8	20.4	161817	11.8	20.7	292404	11.9	20.3	76782	11.9	18.8	4065	12.0	16.3
227517	11.7	21.1	288016	11.8	20.9	68183	11.8	19.9	431499	11.9	21.2	296152	11.9	20.2	68454	12.0	19.2
281554	11.7	20.1	328320	11.8	19.9	28991	11.9	17.5	215574	11.9	19.2	249767	11.9	21.2	520021	12.0	21.0
40543	11.7	19.0	289321	11.8	19.1	239905	11.9	21.2	338212	11.9	19.8	371694	11.9	19.3	397924	12.0	21.2
518870	11.7	20.9	429143	11.8	21.5	497258	11.9	20.7	112802	11.9	19.6	411235	11.9	21.7	81460	12.0	18.7
366236	11.7	21.0	152859	11.8	19.3	148472	11.9	19.4	489488	11.9	21.7	358067	11.9	20.3	378883	12.0	20.9
185669	11.7	20.4	314318	11.8	19.1	207316	11.9	21.1	81765	11.9	18.1	140320	11.9	19.6	412976	12.0	21.3
183964	11.7	22.6	434854	11.8	21.1	112211	11.9	19.3	522167	11.9	21.4	315491	11.9	20.0	406379	12.0	20.7
216313	11.7	20.3	423497	11.8	22.0	96447	11.9	18.7	519590	11.9	20.9	211975	11.9	19.2	386466	12.0	21.6
200566	11.7	20.5	133766	11.8	20.1	226338	11.9	20.4	515010	11.9	22.0	95055	11.9	20.6	213110	12.1	19.3
458534	11.7	20.7	28077	11.8	17.8	412097	11.9	20.6	193859	11.9	19.8	89830	11.9	18.2	324554	12.1	20.9
144672	11.7	19.7	32246	11.8	17.9	340673	11.9	20.6	59711	11.9	18.9	254899	11.9	20.6	271300	12.1	21.0
501141	11.7	22.5	37235	11.8	19.3	384585	11.9	20.1	456718	11.9	21.7	204528	11.9	20.7	253243	12.1	20.4
296587	11.7	19.6	3640	11.8	15.2	362141	11.9	21.0	196599	11.9	21.0	104980	11.9	20.1	387174	12.1	20.6
37274	11.7	17.5	381588	11.8	21.0	47199	11.9	19.2	152390	11.9	19.9	459362	11.9	20.3	360184	12.1	19.8
162235	11.7	18.5	210944	11.8	20.0	285982	11.9	22.0	245129	11.9	20.7	33305	11.9	18.4	351553	12.1	21.0
333654	11.7	20.7	269063	11.8	20.8	363037	11.9	20.7	253487	11.9	20.9	3370	11.9	15.9	1726	12.1	16.1
343998	11.7	19.8	155707	11.8	20.9	185379	11.9	21.1	128852	11.9	19.8	118200	11.9	18.3	59781	12.1	18.4
213764	11.7	19.2	124481	11.8	18.9	326113	11.9	21.2	345649	11.9	21.0	176513	11.9	20.1	173959	12.1	19.1
300254	11.7	21.5	379669	11.8	20.2	83652	11.9	18.9	136510	11.9	19.9	259239	11.9	19.8	86556	12.1	18.8
279586	11.7	19.8	20878	11.8	19.1	171318	11.9	20.7	218576	11.9	20.4	121527	11.9	19.8	462346	12.1	20.2
447431	11.7	20.4	246936	11.8	20.2	90270	11.9	19.0	393327	11.9	20.7	208251	11.9	19.5	327746	12.1	20.6
207462	11.7	19.6	11276	11.8	17.9	245674	11.9	20.1	168105	11.9	19.7	172429	11.9	20.9	459503	12.1	21.0
420609	11.7	19.5	46384	11.8	18.3												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V												
274913	12.1	19.9	6730	12.1	16.0	466161	12.2	20.3	346807	12.2	21.4	437109	12.3	21.1	231042	12.4	19.9
227497	12.1	20.3	199063	12.1	19.9	87716	12.2	19.7	46583	12.2	19.1	471107	12.3	21.6	179027	12.4	19.0
413251	12.1	22.0	18331	12.1	16.4	241499	12.2	19.7	62567	12.3	19.5	128405	12.3	19.8	431574	12.4	21.0
207383	12.1	19.2	239067	12.1	19.6	298859	12.2	20.7	428168	12.3	20.2	227470	12.3	21.3	215105	12.4	19.2
83729	12.1	18.7	165834	12.1	18.4	182573	12.2	20.9	514316	12.3	20.6	39646	12.3	18.9	499016	12.4	20.3
402903	12.1	20.8	259264	12.1	20.2	458823	12.2	21.4	128840	12.3	19.9	170730	12.3	19.2	181212	12.4	19.8
221984	12.1	20.0	435226	12.1	20.5	407368	12.2	21.0	341425	12.3	20.5	501152	12.3	21.7	44889	12.4	17.8
378849	12.1	20.8	378896	12.1	20.8	367496	12.2	20.5	403794	12.3	21.0	522097	12.3	20.2	3244472	12.4	20.6
231156	12.1	19.9	28597	12.1	16.6	236176	12.2	19.9	319649	12.3	19.7	186870	12.3	19.8	323434	12.4	19.7
231685	12.1	19.5	492912	12.1	22.0	439898	12.2	20.9	414921	12.3	19.8	36406	12.3	18.9	225964	12.4	19.5
453304	12.1	19.9	379506	12.1	19.5	19539	12.2	17.9	345071	12.3	20.8	498258	12.3	21.5	383997	12.4	21.2
452393	12.1	21.1	66836	12.1	19.9	20052	12.2	17.9	368212	12.3	21.2	46209	12.3	17.8	248381	12.4	20.7
73352	12.1	19.8	407672	12.1	18.8	31577	12.2	17.5	48668	12.3	18.4	350552	12.3	21.6	426913	12.4	20.7
240007	12.1	20.1	519353	12.1	21.4	206329	12.2	20.1	76770	12.3	19.0	439777	12.3	20.7	155192	12.4	20.9
83350	12.1	18.8	204173	12.1	19.7	451240	12.2	20.1	459088	12.3	21.0	431522	12.3	21.1	345075	12.4	20.7
461454	12.1	21.0	387358	12.1	20.7	498109	12.2	21.8	298887	12.3	20.9	31922	12.3	18.1	458870	12.4	20.7
285891	12.1	19.7	430692	12.1	20.9	232020	12.2	19.5	159859	12.3	20.3	192060	12.3	20.2	81863	12.4	19.0
159086	12.1	19.7	30876	12.1	18.1	99945	12.2	19.0	173860	12.3	20.6	101261	12.3	20.5	372007	12.4	20.8
376861	12.1	22.4	502223	12.1	20.7	292441	12.2	20.9	87806	12.3	19.4	387410	12.3	21.1	209622	12.4	19.0
130737	12.1	19.6	355260	12.1	20.4	203474	12.2	19.5	332355	12.3	19.1	48145	12.3	19.2	287880	12.4	21.7
508302	12.1	20.8	30813	12.1	17.8	427382	12.2	20.3	109600	12.3	20.8	211595	12.3	20.6	458931	12.4	21.5
207401	12.1	19.7	497950	12.1	22.3	93212	12.2	18.0	384950	12.3	19.8	38072	12.3	19.1	370812	12.4	21.0
274364	12.1	19.9	471676	12.1	21.3	517968	12.2	20.2	382161	12.3	20.9	65899	12.3	19.7	197528	12.4	19.7
81280	12.1	19.1	451027	12.1	20.6	244624	12.2	20.0	501193	12.3	21.0	470035	12.3	22.1	425260	12.4	21.2
69853	12.1	18.5	10505	12.1	16.7	480128	12.2	20.8	459508	12.3	20.3	217102	12.3	20.4	122549	12.4	19.5
266420	12.1	19.5	502272	12.1	20.9	242441	12.2	19.5	502406	12.3	20.4	515688	12.3	20.5	160834	12.4	19.5
477666	12.1	21.2	2431	12.1	16.8	42293	12.2	19.0	509256	12.3	21.3	41576	12.3	19.7	160113	12.4	20.6
214275	12.1	19.1	423514	12.2	21.6	433949	12.2	21.2	200587	12.3	20.8	361682	12.3	20.2	99353	12.4	19.5
298900	12.1	19.3	367541	12.2	21.6	313822	12.2	19.5	374167	12.3	20.8	467646	12.3	21.2	212989	12.4	19.5
245188	12.1	19.4	185225	12.2	20.6	66855	12.2	17.7	519924	12.3	21.9	249827	12.3	18.7	244096	12.4	20.4
283170	12.1	19.1	138775	12.2	19.1	165499	12.2	18.6	375893	12.3	20.5	329825	12.3	20.4	162604	12.4	19.9
28021	12.1	17.8	360155	12.2	19.6	302066	12.2	20.4	178983	12.3	19.3	238530	12.3	20.5	28058	12.4	17.1
425080	12.1	21.0	114251	12.2	19.5	383808	12.2	20.3	150182	12.3	18.6	110540	12.3	20.2	124905	12.4	19.3
262984	12.1	19.0	462427	12.2	21.0	465191	12.2	20.5	64421	12.3	18.4	283566	12.3	21.2	21760	12.4	18.2
47814	12.1	18.0	271657	12.2	20.8	215318	12.2	19.2	427839	12.3	20.9	255703	12.3	20.6	513080	12.4	21.9
232935	12.1	20.5	423415	12.2	22.1	320253	12.2	19.6	382337	12.3	20.9	79725	12.3	17.8	299910	12.4	20.0
196273	12.1	18.8	38314	12.2	17.5	242571	12.2	19.8	87251	12.3	19.0	464649	12.3	21.5	212996	12.4	20.7
25891	12.1	17.2	56256	12.2	17.3	269028	12.2	21.2	424556	12.3	19.5	453340	12.3	21.0	281024	12.4	20.4
13734	12.1	17.2	401563	12.2	20.1	297659	12.2	20.1	342643	12.3	20.0	152889	12.3	20.5	369019	12.4	20.0
497869	12.1	22.2	246102	12.2	19.3	102138	12.2	19.8	463307	12.3	19.7	385607	12.3	23.6	99697	12.4	18.4
425179	12.1	20.6	72506	12.2	17.8	380407	12.2	20.7	294128	12.3	20.0	27013	12.3	17.0	503202	12.4	20.2
361162	12.1	20.2	62668	12.2	19.3	152346	12.2	19.6	297620	12.3	20.9	256326	12.3	20.7	495208	12.4	20.7
124623	12.1	19.0	133269	12.2	19.8	22954	12.2	18.7	158361	12.3	20.0	378749	12.3	20.4	302330	12.4	19.0
154089	12.1	19.2	86553	12.2	18.6	382368	12.2	20.8	337644	12.3	20.5	112756	12.3	19.7	435964	12.4	20.5
42025	12.1	19.0	104105	12.2	19.3	374531	12.2	20.4	63724	12.3	18.7	113151	12.3	19.1	369600	12.4	19.6
15550	12.1	18.1	400254	12.2	21.4	271098	12.2	20.3	358012	12.3	19.9	403817	12.3	20.2	199631	12.4	19.7
24814	12.1	16.9	57183	12.2	19.6	343486	12.2	20.3	190363	12.3	19.9	146377	12.3	20.0	468238	12.4	21.0
244075	12.1	20.0	21396	12.2	18.3	345735	12.2	19.1	506191	12.3	21.3	60084	12.3	18.8	133894	12.4	19.7
266320	12.1	19.6	176779	12.2	19.4	289563	12.2	19.6	368121	12.3	20.1	496066	12.3	21.3	68662	12.4	19.3
397822	12.1	21.3	121886	12.2	18.5	332338	12.2	19.4	256224	12.3	19.7	460902	12.4	19.7	381207	12.4	21.1
506008	12.1	21.1	205450	12.2	20.4	323383	12.2	18.3	495092	12.3	21.3	101962	12.4	19.1	187341	12.4	20.5
280149	12.1	20.3	499146	12.2	21.9	405366	12.2	21.3	96725	12.3	18.9	93113	12.4	19.1	499425	12.4	21.0
333886	12.1	20.8	45183	12.2	19.0	262851	12.2	18.8	376276	12.3	19.9	248151	12.4	20.0	128128	12.4	20.0
497028	12.1	22.4	9045	12.2	18.6	354818	12.2	19.8	146511	12.3	19.4	62430	12.4	19.1	299338	12.4	21.1
62815	12.1	18.8	473250	12.2	20.9	374085	12.2	21.2	97497	12.3	18.1	346091	12.4	20.8	380915	12.4	20.8
26287	12.1	18.0	301811	12.2	20.9	502483	12.2	20.7	130833	12.3	19.8	186151	12.4	20.4	305423	12.4	20.9
187526	12.1	20.0	224255	12.2	20.7	501009	12.2	20.7	355786	12.3	20.9	285178	12.4	21.1	385071	12.4	20.7
103168	12.1	20.0	491305	12.2	21.6	410272	12.2	21.0	465673	12.3	22.1	384916	12.4	20.9	288693	12.4	21.0
256715	12.1	19.2	104944	12.2	19.2	374546	12.2	20.5	100880	12.3	19.0	166880	12.4	19.0	413906	12.4	20.5
502561	12.1	20.8	434303	12.2	21.0	49503	12.2	17.5	435313	12.3	20.8	15229	12.4	17.0	424197	12.4	20.2
242948	12.1	20.7	58530	12.2	18.4												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
500989	12.4	23.0	309040	12.5	19.6	457763	12.6	20.1	154568	12.7	19.7	170210	12.7	19.0	321605	12.8	20.0
46133	12.4	18.7	198808	12.5	19.2	377231	12.6	20.0	145725	12.7	18.8	156351	12.7	19.6	422130	12.8	22.4
338952	12.4	19.9	522399	12.5	21.0	232915	12.6	20.1	232295	12.7	20.2	493503	12.7	20.5	388390	12.8	20.8
833535	12.5	19.3	29317	12.5	17.7	385864	12.6	21.1	327294	12.7	20.1	432146	12.7	21.2	304555	12.8	17.7
522642	12.5	21.5	56825	12.5	19.1	458998	12.6	22.0	217443	12.7	20.4	443660	12.7	19.8	348878	12.8	20.4
16872	12.5	17.6	350326	12.5	21.2	424997	12.6	21.0	337446	12.7	20.8	119607	12.7	19.0	499756	12.8	20.7
433795	12.5	20.7	236101	12.5	20.5	412210	12.6	19.6	242648	12.7	19.9	240786	12.7	19.8	46752	12.8	17.9
302011	12.5	21.1	437807	12.5	20.4	73498	12.6	17.8	126085	12.7	20.4	87071	12.7	19.0	267202	12.8	19.9
263711	12.5	18.8	350539	12.5	20.3	523588	12.6	22.3	506717	12.7	21.7	401099	12.7	22.3	245987	12.8	20.5
147755	12.5	19.8	249396	12.5	19.8	84447	12.6	19.0	156198	12.7	20.5	305705	12.7	20.0	60032	12.8	19.1
503529	12.5	21.5	60002	12.5	17.9	340773	12.6	20.3	379395	12.7	21.0	38884	12.7	18.9	282839	12.8	20.6
495962	12.5	21.1	141404	12.5	19.1	216975	12.6	19.3	1839	12.7	16.4	100008	12.7	20.1	516379	12.8	21.1
505045	12.5	21.1	205653	12.5	20.1	369314	12.6	21.3	402182	12.7	21.6	226017	12.7	19.6	386738	12.8	18.9
15171	12.5	18.2	511606	12.5	20.0	14042	12.6	18.5	424638	12.7	21.7	432922	12.7	22.2	147290	12.8	19.6
110831	12.5	19.7	362065	12.5	18.7	364280	12.6	21.7	430490	12.7	20.4	497969	12.7	19.9	202895	12.8	20.2
38743	12.5	19.9	417996	12.5	19.7	11066	12.6	16.6	520942	12.7	21.3	211458	12.7	19.8	59920	12.8	17.9
491702	12.5	21.4	94819	12.5	18.5	84903	12.6	19.1	118732	12.7	19.7	3068	12.7	14.9	492619	12.8	20.8
214761	12.5	20.6	313594	12.5	21.3	381628	12.6	21.0	71130	12.7	19.4	434487	12.7	20.3	463750	12.8	22.0
317167	12.5	20.1	482813	12.5	19.7	197326	12.6	19.5	329781	12.7	20.0	118094	12.7	19.1	241943	12.8	19.7
495100	12.5	21.4	3862	12.5	16.8	299406	12.6	19.7	385923	12.7	20.6	147627	12.7	18.8	28159	12.8	17.5
269574	12.5	19.9	478294	12.5	21.6	495386	12.6	20.9	244191	12.7	21.6	90963	12.7	18.4	377834	12.8	21.3
366453	12.5	21.0	436902	12.5	20.4	304551	12.6	21.1	430473	12.7	21.0	210390	12.7	20.4	181081	12.8	20.6
183389	12.5	20.1	30762	12.5	18.0	147084	12.6	20.6	317372	12.7	20.7	421948	12.7	20.5	468542	12.8	21.3
324515	12.5	20.0	268516	12.6	20.7	276454	12.6	19.3	405172	12.7	20.3	34275	12.7	18.6	236880	12.8	20.6
74502	12.5	17.8	142957	12.6	19.6	417621	12.6	21.5	222583	12.7	19.5	188745	12.7	21.0	430374	12.8	20.8
519848	12.5	21.1	502347	12.6	20.5	170298	12.6	19.6	181683	12.7	20.9	285619	12.7	21.2	247789	12.8	20.1
262211	12.5	18.0	70700	12.6	18.2	247934	12.6	19.9	375127	12.7	21.4	172516	12.7	20.5	2529	12.8	16.6
332519	12.5	20.1	411685	12.6	19.0	210002	12.6	20.3	244063	12.7	19.8	294360	12.7	19.3	117052	12.8	19.2
151950	12.5	18.3	522448	12.6	20.2	458843	12.6	21.1	491041	12.7	20.6	351841	12.7	21.1	396626	12.8	22.3
226832	12.5	19.8	403029	12.6	20.7	489667	12.6	22.3	364654	12.7	19.8	423638	12.7	22.4	434996	12.8	20.1
104855	12.5	19.1	168328	12.6	20.6	497331	12.6	20.2	321331	12.7	19.6	169604	12.7	19.4	295870	12.8	21.3
254509	12.5	19.6	425265	12.6	20.2	285068	12.6	20.5	158464	12.7	19.5	331180	12.7	19.7	346889	12.8	23.0
522235	12.5	20.7	216170	12.6	20.1	317166	12.6	20.8	358529	12.7	20.4	100328	12.7	19.3	111315	12.8	19.0
95021	12.5	17.9	124517	12.6	19.7	46581	12.6	19.1	53576	12.7	17.8	22966	12.7	18.2	460215	12.8	20.8
504688	12.5	20.7	16774	12.6	18.4	373840	12.6	19.1	364200	12.7	20.9	143567	12.7	18.5	465098	12.8	23.0
259645	12.5	20.8	184134	12.6	19.0	345544	12.6	20.6	192973	12.7	19.4	302514	12.7	18.8	14439	12.8	17.6
155936	12.5	20.3	51003	12.6	18.1	251581	12.6	19.3	129177	12.7	19.5	68782	12.7	18.3	466150	12.8	20.5
274840	12.5	21.5	408423	12.6	20.9	82454	12.6	19.1	426882	12.7	20.3	57506	12.8	18.4	203392	12.8	20.2
402034	12.5	20.7	293972	12.6	21.0	386218	12.6	20.1	380445	12.7	20.4	384261	12.8	19.7	160657	12.8	19.7
217927	12.5	20.5	10026	12.6	17.7	157155	12.6	19.6	322830	12.7	18.9	167149	12.8	20.0	278503	12.8	20.3
300041	12.5	21.0	433197	12.6	21.2	89576	12.6	19.0	152381	12.7	18.8	368687	12.8	21.0	283535	12.8	20.4
309925	12.5	20.2	368240	12.6	20.1	472529	12.6	20.8	418235	12.7	20.2	268067	12.8	19.5	151287	12.8	18.0
457599	12.5	21.0	503102	12.6	20.6	17533	12.6	18.6	147207	12.7	20.5	130532	12.8	20.1	371986	12.8	20.1
196202	12.5	19.0	465425	12.6	21.4	519855	12.6	20.6	171919	12.7	21.6	215088	12.8	21.0	75028	12.8	19.5
339044	12.5	19.8	122998	12.6	19.8	219605	12.6	21.0	294648	12.7	20.0	217053	12.8	20.8	147588	12.8	19.3
370705	12.5	19.9	386206	12.6	20.9	497795	12.6	20.5	94608	12.7	18.3	277765	12.8	19.4	301297	12.8	20.1
423566	12.5	21.8	24294	12.6	18.4	26218	12.6	18.2	253265	12.7	20.0	57275	12.8	18.9	499774	12.8	20.3
296244	12.5	19.9	240580	12.6	20.6	321036	12.6	19.8	387659	12.7	20.8	461724	12.8	21.3	322803	12.8	19.8
40501	12.5	18.7	166284	12.6	19.9	165224	12.6	19.4	143593	12.7	19.5	326420	12.8	20.5	4657	12.8	17.4
160169	12.5	21.0	83818	12.6	18.6	194682	12.6	19.1	108231	12.7	20.0	22596	12.8	18.4	14217	12.8	19.6
264662	12.5	20.7	145416	12.6	20.4	453841	12.6	20.7	317446	12.7	21.0	378769	12.8	19.9	74724	12.8	20.0
425712	12.5	19.9	508602	12.6	20.9	17506	12.6	17.2	459184	12.7	20.4	238771	12.8	19.9	350107	12.8	21.0
163131	12.5	18.1	341780	12.6	21.1	102595	12.6	19.4	378346	12.7	21.1	201503	12.8	20.2	24765	12.8	18.6
203448	12.5	18.3	396628	12.6	22.0	253990	12.6	19.6	205612	12.7	20.6	1755	12.8	14.8	435418	12.8	20.7
48323	12.5	18.7	183728	12.6	20.3	270551	12.6	20.4	120461	12.7	20.3	77714	12.8	18.6	207361	12.8	19.8
463298	12.5	20.5	19159	12.6	17.3	126966	12.6	19.4	61321	12.7	19.5	167573	12.8	19.6	519574	12.8	21.7
239881	12.5	20.8	375313	12.6	20.5	207001	12.6	20.4	294423	12.7	20.2	243464	12.8	20.1	41470	12.8	19.3
390487	12.5	20.6	106898	12.6	19.6	455435	12.6	21.5	162794	12.7	20.1	522533	12.8	20.7	283537	12.8	21.2
10716	12.5	17.4	288554	12.6	21.1	60964	12.6	18.6	273074	12.7	20.6	473777	12.8	20.0	283101	12.8	20.3
498177	12.5	21.0	192769	12.6	19.5	136509	12.6	19.8	309232	12.7	20.8	222320	12.8	19.8	55395	12.8	19.0
388285	12.5	21.3	294660	12.6	19.7												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
82863	12.9	19.4	132027	12.9	20.0	293667	12.9	20.4	468520	13.0	21.0	488571	13.1	21.5	292086	13.2	20.8
140447	12.9	20.1	360514	12.9	20.3	15356	12.9	17.5	112010	13.0	19.3	176468	13.1	20.7	436866	13.2	21.1
196550	12.9	20.3	41873	12.9	19.2	429228	12.9	20.5	316059	13.0	20.8	289575	13.1	20.1	402902	13.2	21.8
294889	12.9	20.4	333282	12.9	20.9	498115	12.9	22.3	373473	13.0	20.5	462789	13.1	21.2	488943	13.2	21.4
50886	12.9	19.2	327471	12.9	21.7	168913	12.9	20.2	152180	13.0	20.2	496722	13.1	19.4	89266	13.2	19.3
375944	12.9	20.3	88548	12.9	19.6	80041	12.9	18.7	267196	13.0	20.3	229628	13.1	20.2	361695	13.2	19.7
298741	12.9	19.8	200838	12.9	20.3	466993	12.9	20.5	434909	13.0	21.7	292655	13.1	20.5	499895	13.2	20.4
194349	12.9	18.8	178719	12.9	20.9	301288	12.9	19.8	352767	13.0	20.7	174839	13.1	20.1	431461	13.2	21.0
488830	12.9	19.2	10484	12.9	16.7	380131	12.9	21.7	459577	13.0	20.3	466700	13.1	19.2	429092	13.2	21.3
404047	12.9	20.1	341756	12.9	20.4	426558	12.9	20.4	429381	13.0	20.0	66104	13.1	20.3	135352	13.2	20.3
2782	12.9	18.0	193605	12.9	18.7	497142	12.9	20.5	43935	13.0	18.9	226781	13.1	20.5	505222	13.2	21.4
208373	12.9	20.7	385848	12.9	20.3	414263	12.9	21.0	432067	13.0	20.6	230454	13.1	20.6	211591	13.2	19.7
375725	12.9	20.5	377156	12.9	21.2	166267	12.9	18.5	235688	13.0	20.4	496022	13.1	21.4	196257	13.2	19.3
406471	12.9	21.5	409192	12.9	20.6	295659	12.9	20.8	28027	13.0	18.3	100833	13.1	19.7	435388	13.2	20.8
384791	12.9	21.0	466897	12.9	20.8	168014	12.9	19.1	448442	13.0	20.2	318776	13.1	19.3	31335	13.2	17.9
361613	12.9	19.8	472228	12.9	20.1	345702	12.9	20.3	409380	13.0	19.8	80072	13.1	18.6	431866	13.2	21.2
264634	12.9	20.6	198279	12.9	20.1	466771	12.9	20.7	227499	13.1	20.4	171913	13.1	20.1	87344	13.2	18.8
119405	12.9	20.1	429017	12.9	21.0	31443	12.9	18.9	434839	13.1	21.5	438410	13.1	20.9	73358	13.2	19.4
169194	12.9	20.3	78845	12.9	19.7	387037	12.9	20.6	152010	13.1	19.8	334772	13.1	19.7	128633	13.2	19.5
95297	12.9	19.0	357500	12.9	21.0	397126	12.9	21.1	49419	13.1	17.9	422983	13.1	20.6	261999	13.2	21.6
159337	12.9	19.9	387040	12.9	21.4	370799	12.9	20.5	84676	13.1	18.6	208048	13.1	20.2	295868	13.2	20.7
262528	12.9	20.9	264548	12.9	21.0	386199	12.9	21.0	246016	13.1	21.1	114074	13.1	19.9	102376	13.2	17.4
303318	12.9	20.7	160706	12.9	20.3	147997	12.9	19.8	118382	13.1	18.9	258575	13.1	18.6	365189	13.2	20.0
105191	12.9	19.8	148762	12.9	20.2	120718	12.9	19.0	502829	13.1	20.6	337818	13.1	20.5	130678	13.2	19.4
160800	12.9	20.6	9528	12.9	18.7	52234	12.9	18.5	175440	13.1	19.7	93910	13.1	18.5	241051	13.2	20.6
146395	12.9	19.0	182578	12.9	19.8	96042	12.9	20.3	495388	13.1	21.0	24065	13.1	19.0	160885	13.2	19.3
116831	12.9	18.6	62999	12.9	19.6	272506	13.0	20.6	89133	13.1	19.9	125367	13.1	19.0	298306	13.2	19.1
380572	12.9	21.9	362160	12.9	20.3	51970	13.0	18.1	225578	13.1	19.7	180612	13.1	19.5	149567	13.2	18.1
522576	12.9	20.4	210485	12.9	20.8	498265	13.0	21.3	108734	13.1	19.6	491609	13.1	21.1	89148	13.2	19.5
351586	12.9	20.8	520960	12.9	21.0	459004	13.0	20.8	456893	13.1	21.8	210345	13.1	19.7	102203	13.2	19.5
268296	12.9	20.9	322212	12.9	19.8	68473	13.0	19.8	291540	13.1	20.2	240575	13.1	20.8	386836	13.2	20.3
277954	12.9	21.5	116393	12.9	19.4	498700	13.0	22.0	221791	13.1	19.9	473049	13.1	20.2	204687	13.2	19.3
303400	12.9	20.2	83664	12.9	17.3	8229	13.0	18.2	264416	13.1	20.8	494827	13.1	22.2	111656	13.2	19.6
458740	12.9	21.1	209407	12.9	20.5	2642	13.0	16.6	473839	13.1	20.9	375355	13.1	19.8	341283	13.2	20.4
372578	12.9	20.2	182341	12.9	19.3	91856	13.0	19.4	499894	13.1	20.4	991	13.1	16.0	260460	13.2	19.2
205468	12.9	19.5	8613	12.9	19.1	107020	13.0	19.1	70658	13.1	19.3	160742	13.1	19.4	457185	13.2	19.9
60890	12.9	18.9	147959	12.9	20.9	433046	13.0	21.0	312994	13.1	21.4	343463	13.1	20.5	521075	13.2	20.9
330041	12.9	21.1	446861	12.9	20.5	223689	13.0	20.3	199270	13.1	19.4	83965	13.1	18.8	216922	13.2	20.0
252931	12.9	21.3	168745	12.9	20.1	377961	13.0	20.8	409015	13.1	20.4	426431	13.1	21.9	403933	13.2	20.6
226730	12.9	20.9	409208	12.9	20.9	126595	13.0	19.8	132264	13.1	19.8	483736	13.1	20.1	361581	13.2	20.9
423474	12.9	20.2	234430	12.9	18.8	37841	13.0	17.4	17861	13.1	17.7	521264	13.1	21.4	435976	13.2	21.0
159890	12.9	20.3	238488	12.9	20.9	114045	13.0	19.9	141145	13.1	20.7	377452	13.1	20.5	425207	13.2	21.1
391269	12.9	20.9	171985	12.9	19.7	284740	13.0	20.5	146152	13.1	19.7	6132	13.2	16.8	447036	13.2	20.7
400585	12.9	20.5	361573	12.9	20.5	233686	13.0	20.3	308734	13.1	20.1	12598	13.2	17.4	75131	13.2	19.1
518142	12.9	21.5	197567	12.9	19.9	522512	13.0	21.0	427008	13.1	21.5	260960	13.2	20.1	414106	13.2	21.5
117247	12.9	19.7	107737	12.9	18.9	400310	13.0	20.2	341635	13.1	20.0	383766	13.2	20.0	375973	13.2	21.3
84716	12.9	18.8	328867	12.9	21.2	28303	13.0	17.2	21430	13.1	18.6	49845	13.2	19.2	497453	13.2	21.3
113464	12.9	19.8	465117	12.9	21.0	297567	13.0	21.1	139135	13.1	18.7	377290	13.2	19.7	57190	13.2	18.7
459295	12.9	19.9	427422	12.9	21.2	50569	13.0	18.2	35327	13.1	19.3	78838	13.2	19.6	98951	13.2	18.2
87927	12.9	20.2	137161	12.9	18.6	410039	13.0	20.9	456041	13.1	19.8	254672	13.2	20.1	360550	13.2	21.1
377339	12.9	20.4	230684	12.9	19.8	245459	13.0	20.3	19212	13.1	18.0	250617	13.2	19.0	195330	13.2	19.4
210276	12.9	20.2	315073	12.9	19.8	503039	13.0	21.4	348909	13.1	21.6	502940	13.2	20.9	63722	13.2	19.5
418356	12.9	20.2	133137	12.9	19.7	238455	13.0	19.8	209482	13.1	19.2	332791	13.2	20.6	373933	13.2	21.0
105630	12.9	18.9	501436	12.9	20.1	83184	13.0	18.9	210471	13.1	19.7	327405	13.2	20.3	77698	13.2	18.6
396967	12.9	22.0	330452	12.9	19.3	424879	13.0	20.9	410026	13.1	20.8	269390	13.2	21.6	272848	13.2	20.1
402900	12.9	21.3	286135	12.9	20.0	69779	13.0	19.5	390651	13.1	20.3	182262	13.2	19.2	500702	13.2	22.1
373849	12.9	19.9	33134	12.9	17.9	466484	13.0	21.1	165509	13.1	18.1	130579	13.2	19.6	246719	13.2	20.9
374982	12.9	19.2	408726	12.9	20.8	434065	13.0	20.6	431603	13.1	21.0	255691	13.2	20.5	435273	13.2	20.8
434977	12.9	21.2	501137	12.9	21.4	387403	13.0	20.7	299317	13.1	20.9	502375	13.2	20.5	159283	13.2	19.4
497819	12.9	21.2	26546	12.9	18.7	9143	13.0	17.3	151739	13.1	19.1	380873	13.2	20.6	17838	13.2	17.8
170301	12.9	20.5	467668	12.9	20.9	4											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
473101	13.2	21.1	105807	13.3	20.0	199450	13.4	19.7	5960	13.4	16.9	215456	13.5	19.9	100817	13.6	18.7
210489	13.2	19.4	469123	13.3	19.7	250748	13.4	19.9	386207	13.4	20.8	411411	13.5	20.2	123890	13.6	18.2
193797	13.2	19.7	498995	13.3	19.3	237699	13.4	19.7	36369	13.4	18.8	370773	13.5	21.1	159253	13.6	20.1
8170	13.2	16.2	404360	13.3	20.0	150070	13.4	18.2	266395	13.4	20.4	409409	13.5	20.2	501201	13.6	21.0
76709	13.2	19.4	496552	13.3	20.4	489612	13.4	21.9	215867	13.4	20.1	83378	13.5	19.3	238377	13.6	20.0
201290	13.3	19.5	273667	13.3	20.6	81767	13.4	18.7	33426	13.4	17.8	288783	13.5	21.8	172378	13.6	19.4
279353	13.3	20.4	422535	13.3	21.4	289202	13.4	19.8	465947	13.4	20.6	70174	13.5	18.2	386149	13.6	21.0
68437	13.3	19.7	132723	13.3	19.9	364208	13.4	21.4	359115	13.4	20.3	201932	13.5	19.7	77709	13.6	18.8
420770	13.3	19.5	82620	13.3	19.4	157202	13.4	20.7	372602	13.4	22.0	401000	13.5	22.2	339477	13.6	19.8
341598	13.3	20.5	385016	13.3	20.4	477185	13.4	21.0	385623	13.4	20.1	21387	13.5	18.2	383664	13.6	20.2
222760	13.3	20.0	467228	13.3	20.6	421796	13.4	20.9	254512	13.4	21.1	172976	13.5	19.4	296715	13.6	21.1
413933	13.3	20.9	303364	13.3	21.0	239474	13.4	20.8	170294	13.5	20.4	183436	13.5	19.6	17085	13.6	18.2
145814	13.3	20.3	147286	13.3	19.3	277706	13.4	20.0	470530	13.5	20.0	344353	13.5	21.6	51163	13.6	18.5
507346	13.3	21.7	256089	13.3	20.0	329320	13.4	20.4	133073	13.5	19.5	411300	13.5	21.6	386201	13.6	20.6
325147	13.3	20.1	98582	13.3	18.3	99287	13.4	19.1	458883	13.5	20.3	496468	13.5	21.8	458844	13.6	21.6
68028	13.3	20.1	463990	13.3	20.9	54559	13.4	18.6	182426	13.5	20.2	233813	13.5	20.5	468578	13.6	19.8
2986	13.3	17.2	292675	13.3	21.4	324537	13.4	19.4	47733	13.5	18.5	422046	13.5	21.1	341550	13.6	20.1
104933	13.3	18.4	410325	13.3	22.2	437793	13.4	20.5	391772	13.5	20.8	7881	13.5	17.5	128953	13.6	20.0
146074	13.3	18.9	459104	13.3	20.3	90980	13.4	19.3	27844	13.5	17.4	100314	13.5	19.3	42870	13.6	18.6
27946	13.3	19.5	235992	13.3	19.8	371951	13.4	19.9	466901	13.5	20.4	275096	13.5	21.0	254662	13.6	20.0
242326	13.3	19.9	242628	13.3	20.2	392804	13.4	19.7	209504	13.5	18.8	405357	13.5	20.4	50551	13.6	18.5
77106	13.3	18.4	508277	13.3	21.1	23766	13.4	17.7	498298	13.5	21.8	360565	13.5	21.5	3177	13.6	15.5
131463	13.3	20.0	92325	13.3	18.6	322843	13.4	20.0	117708	13.5	19.2	496334	13.5	22.5	274592	13.6	20.1
133156	13.3	19.6	337899	13.3	19.8	8716	13.4	17.4	330064	13.5	21.3	301964	13.5	18.5	422764	13.6	22.3
109715	13.3	19.4	203642	13.3	19.1	489496	13.4	21.9	64670	13.5	19.0	170287	13.5	20.4	212673	13.6	19.9
162815	13.3	19.9	343233	13.3	19.5	472506	13.4	20.8	468907	13.5	20.6	271664	13.5	20.6	406416	13.6	20.9
209017	13.3	19.1	3165	13.3	16.2	348842	13.4	21.3	504274	13.5	21.9	402885	13.5	21.0	111938	13.6	19.5
58627	13.3	19.0	22582	13.3	19.0	164546	13.4	20.0	255666	13.5	20.4	349090	13.5	20.1	40615	13.6	18.8
383900	13.3	21.9	377412	13.3	20.5	341811	13.4	20.7	57311	13.5	18.5	115883	13.5	18.0	57509	13.6	19.2
100604	13.3	19.5	508004	13.3	20.6	32835	13.4	18.1	132949	13.5	19.7	310979	13.5	20.9	205874	13.6	19.5
22980	13.3	18.5	346320	13.3	19.9	437565	13.4	20.2	377884	13.5	20.2	222519	13.5	20.7	193983	13.6	20.4
266245	13.3	19.3	264556	13.3	21.1	374041	13.4	19.9	36878	13.5	18.9	460740	13.5	20.8	135094	13.6	19.6
243303	13.3	21.0	217080	13.3	20.5	172031	13.4	20.6	316868	13.5	19.1	404161	13.5	20.6	226740	13.6	19.8
431441	13.3	20.8	235551	13.3	19.2	327271	13.4	20.5	346841	13.5	20.4	113324	13.5	19.7	129598	13.6	18.6
328965	13.3	19.4	210973	13.3	19.7	466830	13.4	20.9	62587	13.5	18.6	138809	13.5	19.5	21563	13.6	18.1
213565	13.3	20.0	264995	13.3	19.3	304124	13.4	19.8	122380	13.5	19.8	125741	13.5	18.9	124283	13.6	20.6
196552	13.3	19.9	125014	13.3	19.8	379024	13.4	21.3	204192	13.5	20.1	372613	13.5	21.6	221289	13.6	20.4
165326	13.3	20.1	10087	13.4	17.5	21838	13.4	18.9	168021	13.5	20.0	205519	13.5	19.2	134659	13.6	19.7
306462	13.3	18.6	148840	13.4	19.9	130924	13.4	19.8	265341	13.5	20.1	499807	13.5	20.2	163198	13.6	18.8
372617	13.3	20.9	270284	13.4	20.9	20268	13.4	18.1	282186	13.5	19.9	34380	13.5	19.0	505393	13.6	22.2
140789	13.3	19.7	40780	13.4	18.9	172813	13.4	20.2	38187	13.5	18.4	184008	13.5	19.5	191766	13.6	20.4
456890	13.3	20.9	380897	13.4	20.7	266322	13.4	21.3	122728	13.5	20.0	141968	13.5	19.2	509207	13.6	21.1
122684	13.3	19.4	213582	13.4	20.3	377855	13.4	20.5	516396	13.5	21.7	22161	13.5	18.7	504974	13.6	20.2
87029	13.3	18.8	351506	13.4	20.6	80546	13.4	19.2	106374	13.5	19.0	129805	13.5	19.8	364648	13.6	20.1
250604	13.3	19.1	50950	13.4	19.0	230685	13.4	19.6	222322	13.5	20.0	78800	13.5	18.0	24048	13.6	17.8
284127	13.3	21.2	203298	13.4	20.1	211864	13.4	20.4	448163	13.5	21.2	205731	13.5	18.7	221083	13.6	19.9
203267	13.3	19.8	33680	13.4	18.6	455255	13.4	21.9	468158	13.5	19.5	146654	13.5	18.7	455414	13.6	19.6
468947	13.3	20.5	411250	13.4	21.1	96019	13.4	20.0	413941	13.5	20.6	166841	13.5	19.5	90055	13.6	18.9
416025	13.3	19.7	141229	13.4	19.6	39553	13.4	18.4	243989	13.5	20.1	147366	13.5	19.6	71263	13.6	17.8
357115	13.3	21.5	245377	13.4	20.6	75081	13.4	18.7	322534	13.5	19.5	344550	13.5	20.7	380552	13.6	21.9
433650	13.3	20.1	412267	13.4	21.3	30266	13.4	18.9	304048	13.5	20.5	200731	13.5	19.5	332194	13.6	19.8
133285	13.3	19.6	132911	13.4	20.0	73394	13.4	18.1	275180	13.5	20.2	499005	13.5	20.1	381139	13.6	21.0
301294	13.3	19.8	251556	13.4	19.7	47922	13.4	17.6	520846	13.5	20.6	255922	13.5	20.4	148694	13.6	20.0
417169	13.3	20.2	376734	13.4	20.7	173445	13.4	20.2	33980	13.5	19.6	306248	13.5	21.2	148692	13.6	19.9
292031	13.3	20.3	208640	13.4	19.1	68786	13.4	19.0	300105	13.5	20.8	16674	13.5	18.0	29470	13.6	16.6
502319	13.3	20.9	426488	13.4	20.8	462150	13.4	20.9	30295	13.5	18.8	249228	13.5	19.4	414265	13.6	19.4
49299	13.3	17.3	90141	13.4	18.2	217899	13.4	21.5	430096	13.5	20.3	119715	13.5	19.3	457398	13.6	21.9
384945	13.3	20.2	321812	13.4	21.0	402089	13.4	20.8	10449	13.5	18.7	283498	13.6	20.7	4367	13.6	16.5
307476	13.3	19.9	429331	13.4	19.8	157287	13.4	20.1	466334	13.5	21.6	59763	13.6	18.8	236349	13.6	19.9
191853	13.3	20.4	511937	13.4	20.4	385301	13.4	21.4	160763	13.5	20.3	80061	13.6	19.3	402262	13.6	20.5
328573	13.3	21.6	329307	13.4	21.6	452391											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
89051	13.6	18.6	155603	13.7	20.2	169133	13.8	20.2	468137	13.9	19.4	289139	13.9	19.8	468997	13.9	19.9
185684	13.6	19.9	402913	13.7	21.4	146550	13.8	19.5	462302	13.9	20.1	522616	13.9	21.9	95774	13.9	19.5
213936	13.6	20.1	23999	13.7	18.7	358100	13.8	21.1	136047	13.9	18.7	405406	13.9	21.1	403892	13.9	21.3
469783	13.6	21.0	359059	13.7	19.7	463218	13.8	20.8	328586	13.9	20.3	165379	13.9	18.6	322296	13.9	20.7
381643	13.6	20.8	250377	13.7	20.0	82647	13.8	18.7	304865	13.9	19.9	463147	13.9	21.0	505227	13.9	21.9
54233	13.7	19.0	20288	13.7	18.3	311571	13.8	20.5	386855	13.9	20.5	396204	13.9	19.6	295366	13.9	21.3
174048	13.7	19.6	28806	13.7	17.4	372460	13.8	21.4	426820	13.9	20.0	152698	13.9	19.9	316838	13.9	20.8
216340	13.7	20.1	506598	13.7	21.4	342792	13.8	20.1	105171	13.9	20.2	368699	13.9	20.7	144150	13.9	19.4
442603	13.7	20.5	497212	13.7	21.7	308169	13.8	19.1	128500	13.9	20.1	492617	13.9	21.8	463468	14.0	20.7
212322	13.7	19.7	275671	13.7	21.4	153970	13.8	20.0	189415	13.9	20.8	295311	13.9	20.0	360511	14.0	20.6
397833	13.7	21.3	16420	13.7	18.2	195026	13.8	19.8	282238	13.9	20.3	258176	13.9	20.6	79507	14.0	19.2
353511	13.7	21.1	85432	13.7	19.7	452340	13.8	21.0	271732	13.9	19.1	124588	13.9	20.1	138617	14.0	20.1
370766	13.7	21.2	341817	13.7	20.5	174534	13.8	19.2	415339	13.9	21.7	369804	13.9	20.1	90950	14.0	18.7
277401	13.7	21.8	360401	13.7	19.7	173936	13.8	19.3	309821	13.9	19.7	202826	13.9	18.9	374112	14.0	20.9
326367	13.7	20.6	146942	13.7	18.5	29176	13.8	18.7	126263	13.9	18.4	434912	13.9	21.1	31168	14.0	18.2
403891	13.7	21.2	348944	13.7	20.7	172003	13.8	20.0	233962	13.9	19.9	127802	13.9	19.4	210133	14.0	19.4
351952	13.7	21.0	94612	13.7	19.5	452505	13.8	20.5	375275	13.9	21.7	434841	13.9	21.1	366394	14.0	21.5
474033	13.7	21.1	90730	13.7	18.5	409403	13.8	19.6	397588	13.9	21.4	272950	13.9	20.4	321116	14.0	19.3
279423	13.7	20.2	153612	13.7	20.5	99417	13.8	19.3	410718	13.9	21.0	351948	13.9	20.2	194096	14.0	19.9
383726	13.7	20.9	51037	13.7	18.5	252984	13.8	19.9	186193	13.9	20.4	126212	13.9	19.3	493562	14.0	20.3
322993	13.7	19.6	78480	13.7	19.2	426748	13.8	20.1	403347	13.9	19.5	109477	13.9	19.5	66767	14.0	17.9
242401	13.7	20.1	194782	13.7	19.9	153626	13.8	18.7	231604	13.9	20.3	501103	13.9	20.3	469897	14.0	20.1
236729	13.7	19.8	210505	13.7	19.1	423241	13.8	21.4	146713	13.9	19.0	379432	13.9	20.5	370058	14.0	20.7
255653	13.7	20.2	373845	13.7	19.1	406508	13.8	21.4	423728	13.9	20.7	501094	13.9	21.9	448144	14.0	20.6
455584	13.7	21.6	235758	13.8	19.4	269519	13.8	20.0	191165	13.9	19.7	224302	13.9	19.9	298770	14.0	20.4
23138	13.7	17.8	387830	13.8	20.3	60818	13.8	19.7	444307	13.9	19.7	247099	13.9	21.4	522455	14.0	20.3
204180	13.7	19.7	182336	13.8	19.7	424691	13.8	20.6	390450	13.9	21.2	192567	13.9	20.4	422395	14.0	20.2
330077	13.7	20.5	497848	13.8	21.4	328714	13.8	20.4	201179	13.9	20.4	489621	13.9	21.3	106318	14.0	18.8
166993	13.7	19.7	204908	13.8	20.2	421478	13.8	21.1	371057	13.9	21.9	498378	13.9	21.4	122568	14.0	18.4
507979	13.7	21.2	468562	13.8	21.3	86690	13.8	18.5	351640	13.9	20.7	426890	13.9	21.0	463515	14.0	20.7
211846	13.7	19.5	375766	13.8	21.6	224450	13.8	20.7	65313	13.9	19.3	87904	13.9	19.2	498951	14.0	21.0
522258	13.7	20.3	296766	13.8	20.2	273710	13.8	20.1	11625	13.9	18.4	62845	13.9	19.4	60756	14.0	18.4
190095	13.7	19.8	51341	13.8	19.4	338377	13.8	20.1	219529	13.9	20.8	3308	13.9	15.5	457147	14.0	20.1
121111	13.7	18.7	386196	13.8	21.3	425512	13.8	20.7	72820	13.9	18.4	21075	13.9	19.0	284130	14.0	20.1
268066	13.7	20.1	214151	13.8	18.7	201424	13.8	19.2	417432	13.9	21.4	341514	13.9	20.4	242651	14.0	21.2
505041	13.7	21.9	281439	13.8	20.3	8423	13.8	18.7	381601	13.9	20.6	335877	13.9	21.1	93341	14.0	19.3
119109	13.7	18.8	503108	13.8	20.9	351550	13.8	21.0	16449	13.9	17.6	469601	13.9	19.7	169467	14.0	19.6
399721	13.7	21.0	139208	13.8	20.0	427734	13.8	22.3	270280	13.9	21.6	111059	13.9	19.6	503007	14.0	20.5
394000	13.7	21.7	166061	13.8	18.6	78112	13.8	18.8	413224	13.9	21.3	176008	13.9	19.8	29393	14.0	17.1
118133	13.7	20.5	382293	13.8	20.3	323467	13.8	20.2	382327	13.9	20.9	260808	13.9	20.3	43434	14.0	17.6
263385	13.7	19.3	397879	13.8	21.6	421987	13.8	21.2	44490	13.9	18.0	338595	13.9	21.1	260396	14.0	20.1
460494	13.7	21.3	77816	13.8	18.3	285681	13.8	21.5	414773	13.9	22.6	473034	13.9	21.4	413104	14.0	20.2
274470	13.7	20.0	158985	13.8	20.7	508140	13.8	21.4	424071	13.9	19.6	173085	13.9	20.1	455764	14.0	21.1
226845	13.7	20.1	61494	13.8	19.2	68232	13.8	18.2	170246	13.9	20.1	273959	13.9	21.2	211647	14.0	20.1
382873	13.7	19.3	299271	13.8	19.6	74669	13.8	19.4	302021	13.9	20.8	318684	13.9	20.6	287291	14.0	20.4
89804	13.7	18.9	489265	13.8	20.7	385891	13.8	20.5	490310	13.9	21.2	360510	13.9	20.6	519452	14.0	21.4
256245	13.7	20.0	169472	13.8	18.6	85390	13.8	19.7	209446	13.9	19.4	522541	13.9	20.6	134677	14.0	19.8
139919	13.7	19.2	489746	13.8	20.7	287847	13.8	20.1	50598	13.9	18.1	144158	13.9	19.6	111987	14.0	19.3
344338	13.7	21.0	368235	13.8	20.0	276909	13.8	20.9	228171	13.9	20.8	203558	13.9	19.4	198315	14.0	20.4
111455	13.7	19.1	31038	13.8	17.4	327416	13.8	20.8	456936	13.9	20.3	173339	13.9	20.6	345101	14.0	20.8
153314	13.7	19.2	274315	13.8	20.6	235044	13.8	18.9	73887	13.9	19.1	80079	13.9	19.4	310435	14.0	20.9
272981	13.7	19.9	399667	13.8	21.0	417446	13.9	20.0	410352	13.9	21.7	264307	13.9	19.6	372405	14.0	21.8
22612	13.7	18.1	63905	13.8	18.0	133229	13.9	19.6	427409	13.9	20.9	489328	13.9	22.0	459482	14.0	21.0
410799	13.7	19.7	176011	13.8	20.1	370830	13.9	20.9	207643	13.9	19.4	410228	13.9	20.8	421544	14.1	20.2
15455	13.7	18.2	470420	13.8	20.5	410245	13.9	21.1	4685	13.9	16.7	170295	13.9	20.3	337657	14.1	20.2
243726	13.7	19.4	279877	13.8	20.1	465738	13.9	21.9	488781	13.9	20.4	369850	13.9	21.0	32747	14.1	19.8
231582	13.7	19.9	60538	13.8	19.3	502045	13.9	20.8	189181	13.9	18.4	333096	13.9	19.7	478165	14.1	21.6
385868	13.7	21.3	140110	13.8	19.2	419927	13.9	20.6	61774	13.9	19.3	498870	13.9	20.9	293698	14.1	21.0
95877	13.7	18.7	459183	13.8	20.5	206215	13.9	19.7	282587	13.9	19.8	412810	13.9	20.8	182586	14.1	20.8
350314	13.7	20.6	507479	13.8	21.5	183240	13.9	19.3	375793	13.9	20.4	208490	13.9	19.4	420652	14.1	19.6
73548	13.7	19.9	467318	13													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
242631	14.1	20.7	276591	14.2	21.1	174636	14.2	20.7	14257	14.3	15.5	318047	14.3	19.5	397831	14.4	21.5
59723	14.1	17.6	415187	14.2	20.3	143033	14.2	19.6	433722	14.3	19.9	66207	14.3	18.7	243712	14.4	19.4
500551	14.1	21.5	229163	14.2	20.9	444204	14.2	20.6	192646	14.3	20.9	382761	14.3	22.1	270544	14.4	19.5
306155	14.1	21.1	468243	14.2	20.6	126331	14.2	19.1	118718	14.3	19.5	361766	14.3	20.1	462195	14.4	21.6
432037	14.1	21.4	17004	14.2	18.0	415474	14.2	20.6	208464	14.3	20.9	271670	14.3	19.9	210985	14.4	19.9
409988	14.1	21.0	285283	14.2	21.2	326396	14.2	20.8	326451	14.3	21.3	173765	14.3	20.1	423202	14.4	21.4
153627	14.1	20.2	298860	14.2	20.9	84010	14.2	19.7	372427	14.3	20.3	466571	14.4	21.6	318361	14.4	20.1
128507	14.1	19.7	41812	14.2	19.0	53980	14.2	16.6	302173	14.3	21.3	226838	14.4	19.9	204625	14.4	20.1
60688	14.1	19.0	336867	14.2	20.1	15936	14.2	17.8	318733	14.3	21.1	313735	14.4	21.2	465170	14.4	20.5
73169	14.1	19.6	58012	14.2	18.2	203810	14.2	19.6	42681	14.3	18.3	434068	14.4	20.3	364457	14.4	20.8
286896	14.1	19.6	371087	14.2	20.2	466145	14.2	20.6	311812	14.3	20.7	496087	14.4	21.3	426726	14.4	19.8
501011	14.1	21.0	168208	14.2	20.3	16456	14.2	17.9	210861	14.3	20.1	204206	14.4	19.5	201480	14.4	19.8
185627	14.1	19.5	33624	14.2	17.2	269263	14.2	19.9	368748	14.3	21.1	422732	14.4	21.6	468226	14.4	21.1
506187	14.1	21.4	213075	14.2	20.0	81314	14.2	19.3	283590	14.3	20.8	372573	14.4	20.1	163418	14.4	19.9
308571	14.1	19.7	273092	14.2	19.7	497789	14.2	20.8	125821	14.3	19.9	343121	14.4	19.6	200842	14.4	18.9
461927	14.1	19.9	208718	14.2	19.9	362055	14.2	20.1	215497	14.3	20.2	361616	14.4	21.2	22260	14.4	18.4
278706	14.1	20.4	106509	14.2	19.4	72119	14.2	17.2	65204	14.3	19.1	72378	14.4	18.9	357560	14.4	20.1
73224	14.1	19.3	503219	14.2	19.7	408630	14.2	21.1	29322	14.3	19.9	372404	14.4	20.6	267501	14.4	19.7
193945	14.1	20.1	507602	14.2	21.1	518144	14.2	20.0	261925	14.3	19.7	473520	14.4	20.4	300642	14.4	19.6
458833	14.1	21.2	62171	14.2	19.0	500545	14.2	21.1	272962	14.3	19.5	508361	14.4	20.4	497548	14.4	19.7
181856	14.1	19.8	386148	14.2	20.3	205949	14.2	18.9	464511	14.3	21.2	316566	14.4	20.1	375018	14.4	20.1
38467	14.1	19.0	380350	14.2	20.7	192801	14.2	20.0	299805	14.3	20.4	336277	14.4	19.9	164091	14.4	20.0
321152	14.1	20.9	438639	14.2	20.5	408390	14.2	20.5	10591	14.3	17.8	372498	14.4	20.4	189611	14.4	19.6
269033	14.1	20.1	502014	14.2	20.1	122427	14.2	19.4	222823	14.3	20.2	241701	14.4	20.3	41439	14.4	17.8
330895	14.1	19.7	297039	14.2	19.0	464185	14.2	19.9	413171	14.3	22.1	253188	14.4	19.8	54651	14.4	19.2
195485	14.1	19.2	455342	14.2	20.5	236139	14.2	20.3	470550	14.3	21.0	105643	14.4	19.5	90092	14.4	18.7
500399	14.1	21.7	157183	14.2	20.6	363504	14.2	20.8	225810	14.3	21.3	50878	14.4	18.6	44100	14.4	17.7
108909	14.1	19.6	409790	14.2	20.1	83064	14.2	18.9	409940	14.3	21.5	39615	14.4	18.4	38344	14.4	18.7
462268	14.1	20.2	468557	14.2	20.7	193645	14.2	18.9	109976	14.3	20.2	224577	14.4	20.6	231448	14.4	19.5
321260	14.1	20.2	321239	14.2	20.6	35471	14.2	18.2	441833	14.3	21.2	6751	14.4	17.4	177207	14.4	20.1
334987	14.1	19.8	408130	14.2	20.2	34046	14.2	18.6	29090	14.3	17.8	229975	14.4	20.9	292293	14.4	19.6
244195	14.1	20.4	245136	14.2	20.7	297542	14.2	21.3	106366	14.3	18.9	429184	14.4	21.4	135168	14.4	19.5
286349	14.1	20.0	345263	14.2	20.7	203476	14.2	19.4	6025	14.3	15.9	53380	14.4	18.3	316854	14.4	19.7
84600	14.1	19.2	425898	14.2	20.5	43505	14.2	17.8	94434	14.3	18.4	209122	14.4	20.8	464433	14.4	20.4
244507	14.1	19.7	8473	14.2	18.5	394837	14.2	21.3	155229	14.3	19.8	431299	14.4	21.0	360548	14.4	21.0
380413	14.1	19.4	144075	14.2	20.2	467156	14.2	20.8	297780	14.3	21.1	225537	14.4	20.6	57368	14.4	19.1
333596	14.1	19.2	412649	14.2	21.5	122127	14.2	20.1	129780	14.3	19.8	202832	14.4	20.5	258261	14.4	20.3
229977	14.1	20.3	388290	14.2	20.4	34904	14.2	18.0	361591	14.3	20.7	510746	14.4	21.2	303409	14.4	20.2
73073	14.1	19.3	502278	14.2	21.3	209793	14.2	19.9	165820	14.3	20.0	16239	14.4	19.2	196787	14.4	19.1
164580	14.1	20.8	421906	14.2	21.1	150851	14.2	19.9	175484	14.3	20.4	437328	14.4	20.2	498903	14.4	22.0
452780	14.1	20.2	434448	14.2	17.8	424645	14.3	19.8	244619	14.3	20.5	132411	14.4	19.4	290679	14.4	19.7
237249	14.1	20.6	519344	14.2	20.3	504370	14.3	21.8	248654	14.3	20.7	163655	14.4	19.7	501403	14.4	21.8
384063	14.1	20.3	48475	14.2	17.0	252227	14.3	20.5	11661	14.3	17.3	88989	14.4	19.4	230832	14.4	20.1
35059	14.1	19.1	429163	14.2	20.9	369404	14.3	21.5	24993	14.3	17.9	227475	14.4	19.9	350222	14.4	20.1
508210	14.1	21.1	498174	14.2	20.7	495274	14.3	22.0	410377	14.3	21.7	308749	14.4	19.9	94388	14.4	18.4
336496	14.1	20.6	93462	14.2	18.6	174198	14.3	20.1	464936	14.3	21.3	385417	14.4	20.0	173654	14.4	18.5
302862	14.1	19.6	235985	14.2	20.9	242363	14.3	19.6	499008	14.3	20.9	264605	14.4	21.6	251606	14.4	19.9
55648	14.1	18.1	258471	14.2	19.9	152347	14.3	19.6	523528	14.3	20.7	231529	14.4	20.3	70987	14.4	19.4
200858	14.1	19.4	98700	14.2	18.6	511511	14.3	21.3	390415	14.3	20.1	302504	14.4	19.8	242647	14.4	21.5
213596	14.1	19.8	347130	14.2	21.7	62995	14.3	18.9	187870	14.3	20.4	100946	14.4	19.4	265010	14.4	18.9
127827	14.1	18.4	100938	14.2	20.3	256260	14.3	20.6	87063	14.3	18.7	34220	14.4	18.0	458893	14.4	20.3
134082	14.1	19.6	123997	14.2	17.9	52153	14.3	18.4	389959	14.3	20.6	286085	14.4	20.3	415516	14.5	21.4
344315	14.1	20.2	423228	14.2	21.4	500685	14.3	21.9	188010	14.3	18.5	428528	14.4	20.6	27552	14.5	17.5
227566	14.1	20.4	44376	14.2	19.3	152431	14.3	18.9	371066	14.3	21.0	370494	14.4	20.8	459976	14.5	21.7
161254	14.1	19.9	95444	14.2	19.5	284617	14.3	20.7	482128	14.3	20.8	421845	14.4	21.0	225562	14.5	20.6
225971	14.1	20.0	291847	14.2	20.9	516712	14.3	21.2	261212	14.3	20.6	437152	14.4	20.8	150822	14.5	19.3
374036	14.1	19.7	255700	14.2	21.2	31132	14.3	17.2	224922	14.3	19.5	339003	14.4	20.1	237393	14.5	20.4
42675	14.1	17.3	465443	14.2	20.8	151705	14.3	18.8	40784	14.3	19.1	212357	14.4	19.7	193464	14.5	17.9
16686	14.1	17.6	171963	14.2	19.2	432083	14.3	21.3	419058	14.3	20.1	419165	14.4	21.2	38325	14.5	19.1
123893	14.1	19.2	292707	14.2	21.0	281526	14.3	19.9	377128	14.3	19.9	16390	14.4	19.3	403543	14.5	21.0
501055	14.1	21.5	123864	14.2	17.9												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
4295	14.5	18.0	651113	14.5	18.1	219703	14.6	20.1	334305	14.7	20.6	312845	14.7	21.4	66820	14.8	19.9
491635	14.5	21.5	337560	14.5	20.9	29033	14.6	18.0	292633	14.7	21.3	53363	14.7	17.7	245444	14.8	20.2
224376	14.5	20.0	495404	14.5	22.8	340680	14.6	19.8	296261	14.7	20.5	65494	14.7	19.1	328673	14.8	21.2
504820	14.5	20.7	259604	14.5	20.8	455849	14.6	19.9	505947	14.7	20.1	336836	14.7	20.6	388795	14.8	21.3
189064	14.5	20.0	301564	14.5	19.9	413947	14.6	20.0	157890	14.7	20.1	500367	14.7	20.8	493857	14.8	20.7
521166	14.5	19.6	340766	14.6	20.7	312016	14.6	21.0	350412	14.7	20.8	474029	14.7	19.7	292775	14.8	21.9
377877	14.5	20.7	306798	14.6	21.1	77024	14.6	18.4	256243	14.7	19.8	496343	14.7	21.4	273067	14.8	19.5
311847	14.5	20.4	87798	14.6	19.4	425951	14.6	20.1	222647	14.7	19.3	500627	14.7	20.6	341401	14.8	20.0
260796	14.5	20.9	430611	14.6	21.1	340420	14.6	20.8	344396	14.7	21.0	170289	14.7	19.9	464628	14.8	19.7
417561	14.5	21.0	6446	14.6	18.3	252015	14.6	19.7	501502	14.7	20.9	157810	14.7	20.6	480081	14.8	20.7
37342	14.5	16.9	151702	14.6	18.4	196321	14.6	19.1	228225	14.7	20.1	267465	14.7	20.3	96395	14.8	18.5
495418	14.5	21.7	13434	14.6	18.4	217986	14.6	20.0	208392	14.7	20.7	455619	14.7	21.5	56827	14.8	19.0
74006	14.5	18.7	230973	14.6	20.3	225103	14.6	20.1	36697	14.7	19.2	171978	14.7	19.6	484014	14.8	19.2
166700	14.5	19.8	43018	14.6	18.5	399576	14.6	21.0	147969	14.7	20.2	462153	14.7	21.8	371141	14.8	21.6
408346	14.5	19.8	432031	14.6	21.1	91007	14.6	18.7	381191	14.7	20.0	414155	14.7	22.3	218662	14.8	20.2
512442	14.5	21.6	503120	14.6	20.3	400014	14.6	20.7	22067	14.7	18.0	299310	14.7	21.0	160457	14.8	19.9
17843	14.5	17.4	331504	14.6	21.2	371755	14.6	20.0	155909	14.7	18.5	87888	14.7	18.8	151048	14.8	20.4
493488	14.5	21.5	157806	14.6	20.2	382141	14.6	19.6	1134	14.7	19.6	268117	14.7	20.3	299249	14.8	20.6
61679	14.5	19.2	264619	14.6	19.8	463161	14.6	19.7	32316	14.7	18.7	435993	14.7	19.7	461391	14.8	21.1
500219	14.5	21.4	411212	14.6	20.1	206377	14.6	20.2	273053	14.7	20.3	207916	14.8	20.2	300005	14.8	20.2
77155	14.5	18.7	307420	14.6	20.5	238384	14.6	20.3	434876	14.7	21.4	90927	14.8	19.3	140442	14.8	19.6
206299	14.5	19.6	337487	14.6	20.5	207603	14.6	19.8	281091	14.7	19.7	13195	14.8	15.7	38944	14.8	17.2
500196	14.5	20.7	208874	14.6	19.2	341456	14.6	21.1	338999	14.7	19.8	160718	14.8	18.8	191992	14.8	20.2
78	14.5	10.6	316813	14.6	21.2	293471	14.6	20.7	31242	14.7	17.9	154828	14.8	19.9	90744	14.8	19.2
276553	14.5	20.6	331793	14.6	20.7	327503	14.6	20.6	40895	14.7	19.3	415123	14.8	20.1	229556	14.8	20.0
202351	14.5	19.5	327025	14.6	21.1	417498	14.6	20.5	494218	14.7	20.4	468296	14.8	21.0	387161	14.8	20.9
472147	14.5	21.0	204417	14.6	20.3	37192	14.6	17.4	253268	14.7	19.9	182744	14.8	20.6	674	14.8	11.2
178927	14.5	20.8	107421	14.6	19.3	300210	14.6	20.6	195659	14.7	20.1	425906	14.8	20.2	336370	14.8	21.4
265876	14.5	19.3	109722	14.6	20.1	233502	14.6	20.3	315245	14.7	21.1	269319	14.8	19.9	340608	14.8	20.1
337648	14.5	21.5	473113	14.6	20.8	271745	14.6	20.6	415465	14.7	21.3	40839	14.8	18.5	225981	14.8	19.9
277740	14.5	20.9	83179	14.6	19.7	287554	14.6	19.2	365159	14.7	19.8	433755	14.8	20.5	187734	14.8	19.8
422818	14.5	19.2	122859	14.6	20.0	236184	14.6	20.5	308736	14.7	19.3	371041	14.8	21.7	269659	14.8	20.2
498113	14.5	22.0	500243	14.6	20.4	316306	14.6	21.0	347108	14.7	20.1	226057	14.8	19.2	306298	14.8	20.2
85024	14.5	19.1	334326	14.6	20.3	49586	14.6	17.7	431549	14.7	20.1	212333	14.8	19.6	463799	14.8	21.7
433203	14.5	21.0	496904	14.6	22.3	495866	14.6	22.2	403289	14.7	20.3	290704	14.8	20.5	389271	14.8	19.7
89629	14.5	19.2	240686	14.6	20.1	411651	14.6	20.4	882	14.7	16.2	293532	14.8	20.7	185503	14.8	20.9
16704	14.5	15.1	140636	14.6	19.4	234152	14.6	18.6	496414	14.7	20.9	264621	14.8	21.1	334815	14.8	20.7
95229	14.5	18.8	425258	14.6	21.1	246803	14.6	19.8	424694	14.7	21.3	164530	14.8	19.6	200119	14.8	20.8
75365	14.5	17.4	506384	14.6	21.5	163088	14.6	19.1	348621	14.7	20.1	332196	14.8	20.8	20621	14.8	16.3
186890	14.5	18.8	190506	14.6	20.1	337916	14.6	19.9	230956	14.7	20.4	83078	14.8	19.3	334351	14.8	21.7
205223	14.5	19.7	300171	14.6	20.6	106057	14.6	19.6	16299	14.7	19.2	26966	14.8	18.3	127017	14.8	18.5
205500	14.5	20.0	285347	14.6	21.3	403798	14.6	21.0	464077	14.7	19.7	133757	14.8	19.4	212954	14.8	19.6
323769	14.5	21.3	39387	14.6	19.1	432315	14.6	20.6	95559	14.7	18.9	496683	14.8	20.6	337731	14.8	21.2
521152	14.5	21.3	497126	14.6	22.1	96760	14.6	19.0	148809	14.7	19.0	12720	14.8	17.6	141088	14.8	19.9
383767	14.5	21.0	336037	14.6	21.2	222251	14.6	19.9	464642	14.7	21.3	15400	14.8	17.7	95866	14.8	18.9
374490	14.5	21.4	67882	14.6	19.1	124697	14.6	20.8	373074	14.7	20.8	402490	14.8	21.1	89896	14.8	16.9
384155	14.5	20.5	498619	14.6	21.3	178981	14.6	19.3	202459	14.7	19.1	500451	14.8	22.0	99390	14.8	18.5
165266	14.5	18.5	504981	14.6	19.9	68039	14.6	18.6	502557	14.7	21.1	420608	14.8	19.8	495113	14.8	22.1
465695	14.5	21.6	218741	14.6	19.4	163726	14.6	19.6	391669	14.7	20.9	213771	14.8	19.4	215082	14.8	19.7
2412	14.5	15.6	182562	14.6	20.0	506342	14.6	21.8	315429	14.7	21.2	20322	14.8	18.7	350536	14.8	20.4
90787	14.5	20.1	229560	14.6	19.9	315156	14.6	18.8	353881	14.7	20.8	68558	14.8	17.6	246959	14.8	21.1
2129	14.5	17.7	401057	14.6	21.2	299771	14.6	20.8	321832	14.7	20.9	496159	14.8	21.8	345692	14.8	20.5
425076	14.5	22.4	292673	14.6	20.4	58315	14.6	19.5	84148	14.7	19.4	169159	14.8	19.6	402039	14.8	21.0
403797	14.5	20.8	262630	14.6	20.2	304961	14.7	20.0	11345	14.7	18.4	178191	14.8	20.0	327269	14.8	20.3
78258	14.5	19.4	323090	14.6	20.1	288799	14.7	19.4	129262	14.7	20.5	332135	14.8	20.1	64246	14.8	18.8
327244	14.5	21.3	493578	14.6	20.7	193926	14.7	20.0	392609	14.7	21.4	118097	14.8	18.6	374090	14.8	20.6
369892	14.5	20.6	501117	14.6	22.0	292425	14.7	20.4	402059	14.7	20.8	207671	14.8	20.2	144129	14.8	20.1
427567	14.5	19.7	168546	14.6	19.7	78812	14.7	19.9	454964	14.7	21.0	39258	14.8	18.9	310974	14.8	20.9
297895	14.5	19.6	237483	14.6	19.9	316288	14.7	20.9	371149	14.7	21.4	60272	14.8	19.7	269270	14.8	20.1
328636	14.5	19.1	496338	14.6	21.4	63450	14.7	18.4	464925	14.7	21.8	303471	14.8	19.8	430320	14.8	20.2
164321	14.5	20.1	311597	14.6	20.7	211359											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
163435	14.9	18.4	458897	14.9	20.3	434873	14.9	21.4	135272	15.1	19.3	238045	15.1	20.1	54293	15.2	17.9
50089	14.9	19.6	22245	14.9	19.3	243004	14.9	20.7	99623	15.1	19.2	362180	15.1	19.6	46859	15.2	18.5
43470	14.9	18.4	141866	14.9	19.7	81966	14.9	19.1	317376	15.1	20.4	9622	15.1	17.2	138694	15.2	19.6
488518	14.9	21.2	276492	14.9	20.7	359915	14.9	20.6	68769	15.1	18.7	345568	15.1	20.0	13676	15.2	17.9
146170	14.9	20.7	83233	14.9	18.4	284465	14.9	20.2	120603	15.1	21.1	15221	15.1	17.5	182480	15.2	20.6
510400	14.9	21.8	136269	14.9	19.0	2056	14.9	15.5	88393	15.1	18.0	211195	15.1	19.0	425081	15.2	20.1
315534	14.9	19.8	370957	14.9	22.2	391546	14.9	21.5	100858	15.1	18.9	126042	15.1	18.8	14375	15.2	17.9
431606	14.9	20.6	206236	14.9	20.6	92385	15.0	18.9	462135	15.1	20.9	453385	15.1	19.9	270443	15.2	21.3
299530	14.9	18.6	299255	14.9	21.1	309809	15.0	20.4	375974	15.1	21.4	436718	15.1	21.2	41211	15.2	17.7
411754	14.9	21.0	278850	14.9	21.0	79883	15.0	18.3	272829	15.1	19.7	161940	15.1	19.5	301232	15.2	19.7
159669	14.9	19.2	332864	14.9	18.7	429313	15.0	20.6	363353	15.1	21.2	310970	15.1	20.1	506259	15.2	21.3
166615	14.9	20.6	460068	14.9	21.2	96110	15.0	20.6	124460	15.1	19.1	500267	15.1	21.4	433747	15.2	20.0
355832	14.9	21.2	207457	14.9	20.2	294511	15.0	21.1	246622	15.1	19.7	81971	15.1	20.0	405842	15.2	19.5
393841	14.9	20.8	338340	14.9	20.5	135335	15.0	21.1	182547	15.1	19.9	286942	15.1	21.0	244198	15.2	20.1
127704	14.9	19.0	175618	14.9	20.6	202778	15.0	19.9	294203	15.1	20.3	101636	15.1	17.6	212319	15.2	20.5
246350	14.9	20.9	292965	14.9	21.0	333430	15.0	20.9	373427	15.1	21.4	4036	15.1	16.0	308726	15.2	19.6
36423	14.9	18.5	134640	14.9	20.0	497806	15.0	22.1	29715	15.1	18.1	99948	15.1	20.5	112061	15.2	19.1
208255	14.9	20.3	116885	14.9	19.2	357334	15.0	20.6	264617	15.1	21.3	333255	15.1	20.7	426190	15.2	19.5
334649	14.9	20.7	275697	14.9	21.2	146336	15.0	20.7	204645	15.1	19.9	244917	15.1	19.5	381812	15.2	19.7
114928	14.9	19.7	327399	14.9	20.7	333233	15.0	20.1	340699	15.1	20.7	469075	15.1	20.3	324539	15.2	20.6
206613	14.9	19.4	54497	14.9	18.9	62901	15.0	18.4	389272	15.1	20.5	45360	15.1	17.8	117073	15.2	19.7
66902	14.9	19.1	494661	14.9	21.8	231798	15.0	19.2	401128	15.1	20.2	270565	15.1	19.5	126792	15.2	19.1
428704	14.9	21.5	236955	14.9	19.6	363309	15.0	21.1	202349	15.1	19.1	79625	15.1	18.4	214231	15.2	19.3
161997	14.9	20.2	69060	14.9	19.2	4760	15.0	17.1	392183	15.1	20.0	303725	15.1	20.4	288583	15.2	21.5
190088	14.9	19.8	28922	14.9	16.6	81627	15.0	19.3	520989	15.1	21.2	498990	15.1	21.3	465416	15.2	20.6
152708	14.9	19.8	498122	14.9	21.5	173819	15.0	20.7	304011	15.1	19.1	225534	15.1	20.2	328338	15.2	20.8
425888	14.9	20.6	503723	14.9	20.6	428402	15.0	21.0	470376	15.1	21.3	428677	15.1	21.0	138399	15.2	18.9
401125	14.9	20.9	112150	14.9	18.8	387376	15.0	20.2	69183	15.1	19.8	15363	15.2	17.8	8947	15.2	18.1
204372	14.9	20.5	241896	14.9	19.3	142163	15.0	20.0	522554	15.1	21.2	167835	15.2	19.9	70363	15.2	18.9
67007	14.9	19.7	316281	14.9	19.9	28278	15.0	17.9	371074	15.1	20.9	414910	15.2	20.7	330964	15.2	21.5
199265	14.9	20.6	23978	14.9	17.8	502875	15.0	20.8	1666634	15.1	20.6	414109	15.2	21.3	210441	15.2	21.0
406893	14.9	20.1	147306	14.9	19.9	429364	15.0	20.6	272946	15.1	20.0	422959	15.2	20.8	87773	15.2	19.8
414462	14.9	19.4	236246	14.9	20.3	87098	15.0	19.8	141898	15.1	20.6	468670	15.2	21.4	279107	15.2	21.0
366875	14.9	21.3	208704	14.9	19.3	53231	15.0	18.5	494894	15.1	20.5	81054	15.2	18.9	501477	15.2	21.2
49752	14.9	18.3	205845	14.9	18.9	309318	15.0	20.4	372436	15.1	21.3	261952	15.2	20.6	359097	15.2	20.4
381239	14.9	20.2	469356	14.9	22.5	43763	15.0	17.6	501127	15.1	21.1	41587	15.2	18.1	271711	15.2	20.0
167475	14.9	19.1	9072	14.9	16.8	434896	15.0	20.7	193669	15.1	19.3	41071	15.2	18.8	149431	15.2	19.0
330407	14.9	20.0	237982	14.9	20.8	461601	15.0	21.6	298841	15.1	20.4	135293	15.2	19.4	330881	15.2	21.4
102118	14.9	19.2	237751	14.9	20.0	371184	15.0	20.2	104439	15.1	19.1	112172	15.2	19.2	253271	15.2	19.2
123144	14.9	20.1	68390	14.9	20.0	411231	15.0	20.3	17443	15.1	17.7	114887	15.1	19.6	245175	15.2	20.1
212146	14.9	19.3	427752	14.9	21.6	422787	15.0	22.1	502040	15.1	21.1	80056	15.2	19.3	82486	15.2	19.0
13705	14.9	17.7	361114	14.9	20.1	425161	15.0	21.1	472553	15.1	20.6	167019	15.2	20.4	208172	15.2	21.0
452702	14.9	20.5	171961	14.9	19.8	373500	15.0	19.8	151858	15.1	19.2	213653	15.2	21.0	309316	15.2	20.7
56757	14.9	18.3	468886	14.9	21.2	405196	15.0	18.2	305816	15.1	20.1	206844	15.2	19.6	215996	15.2	20.6
3624	14.9	17.0	16565	14.9	16.3	317326	15.0	19.3	492410	15.1	21.5	425153	15.2	21.4	255850	15.2	21.2
277423	14.9	21.4	265704	14.9	20.0	216738	15.0	20.5	184104	15.1	19.6	303693	15.2	21.0	40423	15.2	18.9
327280	14.9	21.0	459045	14.9	19.7	430848	15.0	20.5	291272	15.1	19.8	376807	15.2	21.1	62730	15.2	18.9
404381	14.9	19.9	118170	14.9	18.7	22134	15.0	19.5	141044	15.1	20.7	364240	15.2	19.0	21020	15.2	18.1
496706	14.9	21.4	424765	14.9	21.1	359006	15.0	20.6	310044	15.1	21.2	364769	15.2	21.6	57258	15.2	19.4
243247	14.9	19.8	239461	14.9	20.9	39435	15.0	17.3	31685	15.1	16.9	378359	15.2	19.7	41000	15.2	18.4
471365	14.9	20.9	192274	14.9	20.6	53126	15.0	18.2	310527	15.1	20.6	162724	15.2	19.6	96224	15.2	19.2
65426	14.9	19.4	472301	14.9	20.4	377369	15.0	21.3	130722	15.1	18.6	170322	15.2	19.9	419180	15.2	20.2
376743	14.9	20.5	107296	14.9	18.0	191713	15.0	19.8	107002	15.1	18.7	434987	15.2	21.1	522500	15.2	21.2
490318	14.9	20.4	136384	14.9	19.7	411687	15.0	20.8	148608	15.1	19.1	8591	15.2	18.2	126669	15.2	19.5
92681	14.9	18.8	346098	14.9	20.7	171310	15.0	20.3	233930	15.1	19.4	134183	15.2	19.9	114030	15.2	19.5
119569	14.9	18.7	136451	14.9	20.3	128181	15.0	19.5	216219	15.1	20.1	4337	15.2	16.5	387359	15.2	20.3
212293	14.9	19.8	246908	14.9	20.6	505049	15.0	21.2	149450	15.1	19.9	468214	15.2	20.4	503671	15.2	19.6
201577	14.9	20.5	27040	14.9	16.7	403876	15.0	21.6	127026	15.1	19.0	429664	15.2	20.2	96824	15.2	18.8
361634	14.9	20.5	463323	14.9	20.6	235394	15.0	20.3	293518	15.1	20.1	57646	15.2	18.6	87303	15.2	19.6
411807	14.9	19.8	200579	14.9	20.2	86999	15.0	19.4	212507	15.1	20.1	500714	15.2	22.0	170746	15.2	19.2
407369	14.9	19.8	304043	14.9	19.7	62764	15										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
462798	15.3	20.6	319715	15.3	21.1	415809	15.4	20.7	148310	15.5	19.4	456858	15.5	21.4	366275	15.6	20.2
132451	15.3	18.8	16382	15.3	18.0	332094	15.4	21.1	110371	15.5	19.2	244079	15.5	20.1	379269	15.6	20.6
335598	15.3	19.6	492700	15.3	22.0	218674	15.4	20.1	348865	15.5	21.5	125414	15.5	19.3	328293	15.6	21.3
242452	15.3	20.1	32072	15.3	18.9	351922	15.4	21.4	341363	15.5	20.8	64857	15.5	19.1	118204	15.6	19.8
165300	15.3	19.7	32391	15.3	17.8	471369	15.4	21.7	370826	15.5	20.1	410244	15.5	21.9	363340	15.6	21.8
339126	15.3	20.3	167107	15.3	20.2	275591	15.4	20.8	518908	15.5	21.0	190490	15.5	19.8	1628	15.6	14.0
286033	15.3	20.8	432208	15.3	20.1	519611	15.4	21.0	224374	15.5	20.7	450730	15.5	19.9	428777	15.6	20.6
360582	15.3	20.7	131535	15.3	19.3	3202	15.4	16.2	474704	15.5	19.8	434869	15.5	20.5	119073	15.6	19.3
201257	15.3	19.4	58043	15.3	19.8	148531	15.4	19.6	240172	15.5	20.8	152673	15.5	19.4	4049	15.6	17.3
378348	15.3	19.8	437472	15.3	20.3	82046	15.4	19.1	354883	15.5	19.3	246437	15.5	19.9	328236	15.6	19.0
393803	15.3	21.1	25317	15.3	17.0	308228	15.4	19.7	123602	15.5	19.4	146498	15.5	18.8	125913	15.6	19.3
31907	15.3	17.9	130411	15.3	19.3	209654	15.4	19.7	457639	15.5	19.8	251790	15.5	21.5	334485	15.6	20.8
167631	15.3	19.7	422672	15.3	21.1	500304	15.4	20.8	209859	15.5	19.9	352696	15.5	20.9	215875	15.6	20.7
288559	15.3	20.1	375325	15.3	20.4	12346	15.4	18.0	120045	15.5	18.7	337944	15.5	20.0	179888	15.6	19.5
61693	15.3	18.8	375850	15.3	21.4	68583	15.4	18.1	384891	15.5	20.6	285942	15.5	21.5	349405	15.6	20.1
489578	15.3	20.9	228261	15.3	20.6	33243	15.4	17.3	368739	15.5	21.2	400266	15.5	20.7	347633	15.6	20.8
185009	15.3	20.2	109769	15.3	19.6	79898	15.4	18.7	154978	15.5	20.5	210564	15.5	20.6	340646	15.6	20.9
468134	15.3	20.4	264724	15.3	19.1	245461	15.4	20.0	437156	15.5	21.1	188985	15.5	20.3	407549	15.6	20.8
377341	15.3	21.5	200084	15.3	19.2	176686	15.4	19.8	286115	15.5	20.1	504046	15.5	21.5	384249	15.6	20.9
118044	15.3	19.0	87226	15.3	19.6	29076	15.4	17.9	341396	15.5	20.0	7413	15.5	18.5	149880	15.6	20.2
230073	15.3	20.6	460425	15.3	20.4	348933	15.4	20.7	286182	15.5	20.8	310893	15.5	21.4	463923	15.6	21.6
496386	15.3	22.0	326353	15.3	20.3	407662	15.4	20.2	374126	15.5	20.4	177923	15.5	20.6	51657	15.6	18.4
183392	15.3	20.1	379416	15.3	20.0	152704	15.4	19.2	341777	15.5	20.7	190655	15.5	19.7	428057	15.6	19.7
173997	15.3	20.1	369778	15.3	20.1	145464	15.4	19.1	433739	15.5	20.9	320591	15.5	21.0	160089	15.6	19.6
501015	15.3	21.2	422998	15.3	20.8	184629	15.4	20.2	92566	15.5	17.4	136256	15.5	20.1	102488	15.6	18.6
145015	15.3	19.1	495439	15.3	21.5	357971	15.4	20.0	500948	15.5	21.4	258947	15.5	20.2	292237	15.6	21.3
2737	15.3	15.3	298877	15.3	21.8	437782	15.4	21.0	332643	15.5	20.6	423565	15.5	22.5	135100	15.6	19.7
245205	15.3	20.5	121929	15.3	19.4	394352	15.4	19.4	161929	15.5	19.6	228887	15.5	20.2	11479	15.6	17.3
68917	15.3	18.8	202917	15.3	19.5	1248	15.4	13.7	374550	15.5	20.7	27314	15.5	17.7	57641	15.6	19.5
390359	15.3	19.4	325616	15.3	20.7	353176	15.4	19.6	20779	15.5	18.5	275360	15.5	21.1	443559	15.6	20.8
382340	15.3	21.1	169960	15.3	19.5	284982	15.4	20.3	42120	15.5	18.5	464669	15.5	21.2	174120	15.6	20.0
390384	15.3	20.4	373331	15.3	20.3	289935	15.4	21.8	383379	15.5	20.9	43038	15.5	18.7	124263	15.6	18.9
496550	15.3	21.2	324018	15.3	20.4	87005	15.4	19.5	35110	15.5	17.5	35564	15.5	17.6	173357	15.6	19.4
336341	15.3	20.3	298964	15.3	20.8	194954	15.4	20.2	301219	15.5	19.6	174514	15.6	19.4	438623	15.6	20.1
209013	15.3	20.2	216445	15.4	19.5	217918	15.4	19.9	490348	15.5	20.4	195507	15.6	20.1	341783	15.6	20.8
86394	15.3	18.3	168294	15.4	20.7	351468	15.4	21.3	248734	15.5	20.4	498634	15.6	22.2	411222	15.6	20.2
91466	15.3	19.4	177623	15.4	18.1	497001	15.4	21.9	35792	15.5	18.2	313724	15.6	20.4	343100	15.6	19.7
309140	15.3	20.1	163183	15.4	19.0	504618	15.4	22.1	61284	15.5	19.2	389223	15.6	20.5	190115	15.6	20.3
450178	15.3	21.4	260520	15.4	19.3	384108	15.4	20.5	242495	15.5	20.3	429710	15.6	20.8	217926	15.6	20.9
236216	15.3	20.7	466310	15.4	21.0	208709	15.4	19.6	501495	15.5	20.5	467506	15.6	20.4	150983	15.6	20.1
223492	15.3	19.6	124183	15.4	19.7	297657	15.4	21.4	372539	15.5	21.0	129555	15.6	20.0	281770	15.6	19.4
2414	15.3	16.4	429171	15.4	22.3	11317	15.4	18.6	98937	15.5	18.0	306888	15.6	21.6	312855	15.6	20.4
190040	15.3	19.6	492419	15.4	21.5	286249	15.4	21.6	119739	15.5	18.8	503821	15.6	20.8	93674	15.6	19.7
203749	15.3	19.6	388722	15.4	21.2	115567	15.4	20.0	456755	15.5	21.6	264510	15.6	19.9	105388	15.6	18.5
229922	15.3	20.7	374347	15.4	20.4	141388	15.4	19.3	462279	15.5	20.9	336438	15.6	21.1	238580	15.6	20.5
124801	15.3	18.9	352667	15.4	20.8	212060	15.4	19.6	202269	15.5	20.7	199827	15.6	20.4	230954	15.6	20.6
401810	15.3	21.0	34366	15.4	18.0	504921	15.4	20.6	194838	15.5	19.5	36146	15.6	18.9	502394	15.6	20.8
437669	15.3	21.0	93885	15.4	18.7	467860	15.4	19.8	502245	15.5	21.1	204362	15.6	20.0	245858	15.6	20.3
31947	15.3	18.8	190110	15.4	20.4	32466	15.4	16.5	200718	15.5	20.0	334084	15.6	20.4	225513	15.6	20.4
31720	15.3	18.6	245196	15.4	20.6	387823	15.4	20.1	100645	15.5	20.0	94518	15.6	19.7	134155	15.6	19.9
37250	15.3	18.9	426033	15.4	20.6	43129	15.4	18.8	473272	15.5	20.1	351209	15.6	20.5	15836	15.6	23.2
461748	15.3	21.1	387015	15.4	21.1	100616	15.4	20.4	86434	15.5	18.8	45223	15.6	18.5	456714	15.6	20.9
366806	15.3	19.7	380919	15.4	20.4	286212	15.4	20.1	189066	15.5	20.3	85332	15.6	20.5	467600	15.6	21.4
39897	15.3	17.7	2020	15.4	15.3	65163	15.4	19.3	217030	15.5	21.6	33035	15.6	18.8	223728	15.6	20.2
257523	15.3	20.8	517558	15.4	21.5	376358	15.4	20.0	420001	15.5	20.7	415333	15.6	21.0	472667	15.6	19.6
177885	15.3	19.5	241173	15.4	20.4	297316	15.4	20.2	211203	15.5	20.4	5965	15.6	16.8	186581	15.6	18.6
357112	15.3	21.0	171239	15.4	19.8	342973	15.4	20.2	181467	15.5	20.0	502268	15.6	20.9	313082	15.6	20.6
57121	15.3	19.4	192745	15.4	19.8	497	15.4	15.1	29792	15.5	17.8	299305	15.6	21.3	239224	15.6	20.3
386135	15.3	21.3	1303	15.4	14.0	369599	15.4	19.9	341833	15.5	20.9	372538	15.6	21.7	131665	15.6	19.6
156472	15.3	19.6	503763	15.4	20.7	89915	15.4	19.6	263744	15.5	19.0	283548	15.6	21.1	368697	15.6	20.1
383850	15.3	21.2	457266	15.4	21.9	5028											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V									
289201	15.6	20.5	138545	15.7	19.8	168341	15.8	20.6	301064	15.8	19.5	408340	15.9	19.8	423230	15.9	21.4
294580	15.6	20.6	200608	15.7	20.5	341749	15.8	20.4	405980	15.8	19.7	369798	15.9	19.7	130807	15.9	19.2
249535	15.6	20.4	153867	15.7	20.2	292300	15.8	20.7	523540	15.8	20.9	500450	15.9	20.8	403889	15.9	20.8
326431	15.6	19.6	455673	15.7	21.1	346760	15.8	20.9	219829	15.8	19.6	392556	15.9	20.6	148653	15.9	20.3
258284	15.6	20.7	457196	15.7	18.7	5970	15.8	16.5	501006	15.8	22.1	37390	15.9	17.8	102298	15.9	20.7
219387	15.6	20.8	368710	15.7	22.0	36623	15.8	18.7	16740	15.8	17.0	33709	15.9	17.4	430740	15.9	19.8
10963	15.6	18.4	469914	15.7	20.8	499792	15.8	20.8	43992	15.8	18.0	473489	15.9	19.6	248793	15.9	21.1
135489	15.6	19.9	240707	15.7	19.7	272430	15.8	19.5	457236	15.8	20.9	283462	15.9	21.0	50820	15.9	18.2
57954	15.6	19.0	393925	15.7	21.8	389971	15.8	20.3	248614	15.8	20.9	55875	15.9	19.3	293786	15.9	20.9
63080	15.6	18.3	370000	15.7	21.3	456002	15.8	20.4	199199	15.8	18.8	261591	15.9	19.6	195626	15.9	19.2
90040	15.6	18.1	297560	15.7	20.8	183219	15.8	20.2	90096	15.8	18.4	160137	15.9	19.6	345581	15.9	19.8
103222	15.7	19.4	191363	15.7	20.4	110418	15.8	18.3	369969	15.8	20.5	209471	15.9	19.7	345689	15.9	20.7
224324	15.7	20.8	434559	15.7	20.7	416164	15.8	22.4	98364	15.8	18.8	327829	15.9	20.1	291666	15.9	20.1
43902	15.7	18.6	260462	15.7	19.3	15446	15.8	17.1	217947	15.8	21.0	200744	15.9	20.4	98031	15.9	19.2
357123	15.7	20.2	12860	15.7	17.7	12058	15.8	17.3	402531	15.8	20.4	7623	15.9	16.8	106006	15.9	18.9
417140	15.7	20.7	27	15.7	9.4	142079	15.8	19.8	306932	15.8	20.5	146542	15.9	20.0	122281	15.9	19.7
384085	15.7	20.8	105515	15.7	19.9	144629	15.8	20.1	233514	15.8	19.8	282031	15.9	21.1	292946	15.9	19.7
498947	15.7	20.5	338885	15.7	20.6	435348	15.8	20.8	198976	15.8	19.9	161146	15.9	20.0	488760	15.9	21.5
208680	15.7	19.3	108243	15.7	19.2	11835	15.8	17.5	153703	15.8	20.8	297815	15.9	19.4	385872	15.9	20.2
489773	15.7	21.3	501980	15.7	21.1	377384	15.8	20.5	83579	15.8	19.2	44746	15.9	18.3	256209	15.9	19.9
458283	15.7	19.7	245502	15.7	19.2	84254	15.8	18.1	459331	15.8	19.8	70352	15.9	17.6	77091	15.9	18.5
241216	15.7	19.9	234437	15.7	19.6	70961	15.8	18.7	242901	15.8	19.4	464810	15.9	21.2	502566	15.9	20.7
404522	15.7	21.1	136926	15.7	20.0	503158	15.8	21.4	415826	15.9	21.1	413847	15.9	20.1	343152	15.9	19.1
150758	15.7	20.9	477918	15.7	20.4	434848	15.8	21.3	359374	15.9	20.8	376830	15.9	21.2	300938	15.9	21.5
340803	15.7	21.1	246463	15.7	20.2	130535	15.8	20.0	521199	15.9	20.3	105544	15.9	19.4	336141	15.9	19.6
140596	15.7	18.8	498792	15.7	20.5	156213	15.8	20.3	164638	15.9	19.6	436641	15.9	21.3	87433	15.9	19.9
277879	15.7	20.6	123823	15.7	20.1	341293	15.8	21.0	63743	15.9	18.8	109043	15.9	19.4	54641	15.9	17.3
96686	15.7	18.3	1667	15.7	14.4	273073	15.8	19.3	306934	15.9	21.3	496487	15.9	21.2	345445	15.9	20.8
185464	15.7	19.4	427989	15.7	20.9	457596	15.8	21.3	463835	15.9	20.4	241121	15.9	20.4	94343	15.9	19.1
406511	15.7	19.2	137071	15.7	19.2	379042	15.8	20.3	500495	15.9	20.6	1070990	15.9	18.9	489519	15.9	21.6
181239	15.7	20.0	210305	15.7	20.6	450514	15.8	21.3	411236	15.9	21.3	116963	15.9	19.0	124936	15.9	20.3
1439	15.7	15.5	96896	15.7	19.5	412647	15.8	20.6	360516	15.9	20.5	241558	15.9	19.9	502037	15.9	21.9
232531	15.7	20.4	508705	15.7	20.9	495584	15.8	21.4	229444	15.9	20.2	184452	15.9	20.0	170035	15.9	19.9
189305	15.7	19.7	496273	15.7	21.5	279006	15.8	20.5	386187	15.9	21.3	116239	15.9	19.0	106194	15.9	19.9
126092	15.7	20.0	52898	15.7	18.9	41885	15.8	18.6	93612	15.9	18.8	389213	15.9	19.2	68572	15.9	18.1
173096	15.7	19.6	138797	15.7	19.6	433531	15.8	21.5	312828	15.9	21.4	173754	15.9	19.1	25924	15.9	18.4
123471	15.7	18.9	489665	15.7	21.1	414755	15.8	20.8	499257	15.9	22.2	213801	15.9	19.3	163856	15.9	19.5
324023	15.7	20.7	418013	15.7	21.2	387982	15.8	21.1	109956	15.9	19.4	88454	15.9	18.6	226716	15.9	20.0
500428	15.7	21.7	103391	15.7	19.4	63631	15.8	19.1	1713	15.9	16.5	495351	15.9	21.5	83526	15.9	18.5
121667	15.7	20.3	161076	15.7	19.9	436745	15.8	21.1	404229	15.9	20.0	45646	15.9	18.7	73586	15.9	18.5
461367	15.7	21.8	149984	15.7	19.6	245030	15.8	19.8	174197	15.9	20.3	421661	15.9	21.7	185424	15.9	19.8
435033	15.7	20.8	18444	15.7	19.1	323419	15.8	19.2	489236	15.9	22.4	417636	15.9	21.2	76585	15.9	18.5
25289	15.7	17.0	182439	15.7	19.5	322708	15.8	20.2	172027	15.9	20.5	322782	15.9	19.9	28031	15.9	18.0
284717	15.7	21.8	500739	15.7	20.8	203489	15.8	20.1	249647	15.9	19.9	502170	15.9	20.5	110346	15.9	19.8
105632	15.7	19.8	11745	15.7	17.2	296863	15.8	20.5	234854	15.9	19.7	95637	15.9	19.1	423111	15.9	20.9
461412	15.7	20.9	518792	15.7	20.1	130785	15.8	19.1	296273	15.9	19.7	354853	15.9	21.1	492638	15.9	21.1
165162	15.7	19.5	33273	15.7	18.4	419190	15.8	20.6	110293	15.9	18.9	301119	15.9	22.0	256189	15.9	20.2
419644	15.7	21.9	169545	15.7	18.6	495948	15.8	21.6	66302	15.9	18.2	303742	15.9	20.6	179854	15.9	19.1
90852	15.7	19.8	355867	15.7	19.8	4751	15.8	16.6	458767	15.9	21.5	427738	15.9	21.0	19118	15.9	17.1
64643	15.7	16.3	455277	15.7	20.7	370816	15.8	20.5	287480	15.9	19.1	256682	15.9	19.5	167373	15.9	19.3
206243	15.7	20.0	405907	15.7	19.9	360406	15.8	19.6	366427	15.9	21.1	196526	15.9	19.6	362013	15.9	20.4
175225	15.7	19.8	257445	15.7	21.0	286410	15.8	20.4	82639	15.9	19.5	408784	15.9	21.4	500623	15.9	20.9
383695	15.7	21.5	459933	15.7	21.6	295622	15.8	20.7	405208	15.9	21.9	217116	15.9	20.1	366440	15.9	20.5
502863	15.7	21.1	486699	15.7	19.6	245920	15.8	20.2	117822	15.9	19.6	357997	15.9	19.7	118649	15.9	20.0
455953	15.7	19.7	69155	15.7	19.2	83325	15.8	18.8	89260	15.9	18.7	338183	15.9	20.9	333840	15.9	20.5
341345	15.7	20.0	293803	15.7	20.3	40635	15.8	19.1	121932	15.9	19.7	286287	15.9	20.6	310924	15.9	20.3
455608	15.7	20.8	383632	15.7	21.0	324502	15.8	19.0	337467	15.9	20.5	55319	15.9	18.8	419174	15.9	21.1
3395	15.7	15.4	118994	15.7	18.9	504596	15.8	21.0	74638	15.9	20.2	522588	15.9	21.4	472777	15.9	21.2
337778	15.7	20.4	469324	15.7	21.1	76215	15.8	18.7	137017	15.9	18.8	133108	15.9	19.5	97513	15.9	19.5
64438	15.7	18.2	370806	15.7	21.0	93590	15.8	19.4	121352	15.9	19.3	502158	15.9	20.9	255687	15.9	20.6
436907	15.7	21.1	430029	15.8	20.7	497491											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
111682	16.0	19.2	224487	16.1	20.9	244764	16.1	20.1	500593	16.2	21.0	415272	16.3	21.1	297488	16.3	20.6
118323	16.0	17.6	329355	16.1	20.6	158247	16.1	20.3	406394	16.2	21.2	297862	16.3	20.2	185506	16.3	20.3
239801	16.0	18.4	522122	16.1	20.2	75747	16.1	17.7	38106	16.2	19.1	368180	16.3	21.5	371145	16.3	21.8
370746	16.0	21.3	196543	16.1	20.9	286012	16.1	20.3	275689	16.2	20.9	296229	16.3	19.4	180007	16.3	20.1
292164	16.0	20.3	4227	16.1	15.4	367130	16.1	19.8	336420	16.2	19.8	213875	16.3	19.4	56391	16.3	17.8
144755	16.0	18.8	30553	16.1	18.0	452349	16.1	20.7	242855	16.2	19.9	486652	16.3	20.3	28939	16.3	18.1
466731	16.0	20.3	372968	16.1	20.4	286436	16.1	19.7	192051	16.2	19.7	230418	16.3	20.6	188276	16.3	20.4
496288	16.0	21.0	195172	16.1	19.1	347469	16.1	19.5	455405	16.2	19.1	193021	16.3	19.0	32119	16.3	18.0
40445	16.0	18.8	88134	16.1	19.7	85600	16.2	18.6	206933	16.2	19.2	9986	16.3	16.1	2061	16.3	21.4
503179	16.0	20.6	373960	16.1	20.2	472286	16.2	20.1	452629	16.2	21.5	187503	16.3	17.8	411639	16.3	20.6
142995	16.0	18.9	507310	16.1	21.3	292409	16.2	20.7	452555	16.2	20.7	296369	16.3	20.6	192516	16.3	20.1
5352	16.0	16.3	412717	16.1	20.8	7230	16.2	17.6	251474	16.2	21.3	169652	16.3	18.1	56772	16.3	19.6
27774	16.0	18.0	319873	16.1	20.5	194673	16.2	19.7	73888	16.2	19.3	42801	16.3	17.8	115498	16.3	19.2
222249	16.0	21.0	423440	16.1	22.5	249823	16.2	19.1	466669	16.2	19.4	424842	16.3	20.6	4817	16.3	16.8
502975	16.0	20.8	234539	16.1	19.8	427305	16.2	20.2	289936	16.2	19.5	487576	16.3	20.5	284374	16.3	20.4
173954	16.0	19.6	465939	16.1	19.8	503361	16.2	20.2	123458	16.2	19.5	59286	16.3	17.7	416177	16.3	21.8
297636	16.0	19.7	522308	16.1	20.2	10293	16.2	16.7	183848	16.2	20.7	464138	16.3	20.6	313699	16.3	21.1
505829	16.0	21.5	499786	16.1	21.0	73366	16.2	19.5	46371	16.2	18.2	374362	16.3	21.6	109321	16.3	18.2
279238	16.0	21.0	218966	16.1	19.6	264696	16.2	20.0	439781	16.2	21.0	76147	16.3	17.8	234485	16.3	20.8
417139	16.0	21.4	382702	16.1	21.5	236178	16.2	20.7	18445	16.2	18.5	108279	16.3	19.6	381320	16.3	19.6
432038	16.0	21.6	470861	16.1	20.0	96367	16.2	18.7	212704	16.2	20.8	413103	16.3	19.9	38526	16.3	18.2
501498	16.0	20.9	62556	16.1	19.5	469785	16.2	21.3	86982	16.2	18.8	36599	16.3	17.9	387723	16.3	19.4
403841	16.0	20.8	453261	16.1	21.5	413162	16.2	20.3	46474	16.2	18.6	172999	16.3	20.4	46272	16.3	18.5
125807	16.0	19.2	424657	16.1	20.8	455807	16.2	20.8	202668	16.2	19.8	27944	16.3	18.1	90498	16.3	18.0
170223	16.0	20.6	198295	16.1	20.1	500651	16.2	21.2	32946	16.2	19.3	458769	16.3	21.9	260746	16.3	20.5
125538	16.0	18.2	90117	16.1	18.9	522595	16.2	20.6	466384	16.2	20.5	467647	16.3	21.4	288667	16.3	20.8
210695	16.0	20.6	224446	16.1	20.9	18722	16.2	18.7	145570	16.2	20.3	269450	16.3	20.1	272963	16.4	20.7
93388	16.0	18.9	187906	16.1	19.6	334528	16.2	19.9	310221	16.2	21.8	473199	16.3	20.3	375983	16.4	21.0
78378	16.0	19.2	325152	16.1	20.6	133195	16.2	19.6	295232	16.2	20.4	32416	16.3	18.3	70188	16.4	19.7
235469	16.0	19.7	335840	16.1	19.7	158208	16.2	20.1	147634	16.2	20.1	422751	16.3	21.7	166617	16.4	20.0
111905	16.0	19.6	289417	16.1	20.0	2266	16.2	15.9	492496	16.2	20.9	52001	16.3	17.6	285539	16.4	20.9
208329	16.0	20.5	82548	16.1	19.6	161470	16.2	19.6	164100	16.2	20.0	372702	16.3	20.8	377775	16.4	20.5
147688	16.0	18.6	132826	16.1	20.0	210743	16.2	19.5	417188	16.2	21.0	331124	16.3	19.8	110303	16.4	19.1
337923	16.0	20.6	467019	16.1	20.6	370081	16.2	21.2	172722	16.2	21.0	251767	16.3	18.5	123363	16.4	18.8
55777	16.0	18.4	351738	16.1	19.6	208903	16.2	20.4	410209	16.2	21.5	173829	16.3	19.8	56733	16.4	19.0
382152	16.0	20.2	430674	16.1	21.2	299514	16.2	21.5	42867	16.2	17.6	136726	16.3	20.0	431192	16.4	20.9
87738	16.0	19.2	385908	16.1	20.2	30960	16.2	18.4	405506	16.2	19.8	134660	16.3	20.5	329811	16.4	21.8
317521	16.0	20.4	432215	16.1	20.3	100337	16.2	19.4	81569	16.2	19.2	491021	16.3	20.3	491057	16.4	20.7
114784	16.0	20.1	382290	16.1	20.5	377415	16.2	20.7	341474	16.2	20.5	6582	16.3	17.1	435421	16.4	20.5
48294	16.0	19.1	22919	16.1	18.0	71	16.2	10.5	466530	16.2	19.9	363906	16.3	21.6	162778	16.4	19.2
192909	16.0	20.0	366969	16.1	20.8	343503	16.2	19.2	67907	16.2	18.6	379043	16.3	21.0	419585	16.4	20.4
68001	16.0	18.4	469166	16.1	20.9	373583	16.2	19.7	77031	16.2	19.2	105656	16.3	19.4	114413	16.4	20.1
280761	16.0	20.3	416137	16.1	21.3	512405	16.2	21.5	95406	16.2	20.3	470202	16.3	21.5	325385	16.4	20.1
251572	16.1	19.7	59174	16.1	17.4	149464	16.2	19.3	376309	16.2	20.6	466720	16.3	19.9	37442	16.4	17.8
270446	16.1	19.0	317177	16.1	20.1	318870	16.2	19.2	129993	16.2	19.2	452548	16.3	21.3	369339	16.4	21.2
199514	16.1	19.8	384215	16.1	20.4	402382	16.2	19.8	362094	16.2	19.9	215453	16.3	20.6	305720	16.4	21.1
417559	16.1	22.4	503116	16.1	21.0	430196	16.2	20.9	409949	16.2	20.7	374600	16.3	19.6	15943	16.4	17.3
496156	16.1	20.6	177296	16.1	20.3	503181	16.2	21.2	416911	16.2	21.9	157812	16.3	19.4	310487	16.4	21.0
284641	16.1	20.8	29418	16.1	19.0	326421	16.2	20.9	242226	16.2	19.8	301546	16.3	20.2	105767	16.4	19.5
19304	16.1	18.9	271899	16.1	20.3	402107	16.2	21.0	114115	16.2	19.2	94506	16.3	18.9	148783	16.4	19.5
457151	16.1	19.8	341708	16.1	20.4	382359	16.2	20.7	105707	16.2	20.0	293909	16.3	20.1	245961	16.4	20.8
310475	16.1	20.2	137020	16.1	19.9	247506	16.2	20.7	313611	16.3	21.0	284413	16.3	21.0	217900	16.4	22.1
12377	16.1	18.6	228363	16.1	20.1	409505	16.2	20.9	87473	16.3	19.6	18194	16.3	18.2	100693	16.4	19.1
67324	16.1	19.0	500680	16.1	20.9	313016	16.2	20.3	127760	16.3	19.7	382856	16.3	19.8	74111	16.4	20.4
518899	16.1	20.4	298991	16.1	19.7	323833	16.2	20.6	156417	16.3	20.7	395155	16.3	20.8	422424	16.4	19.8
259241	16.1	19.0	209060	16.1	18.8	420085	16.2	20.3	406409	16.3	21.1	399640	16.3	22.2	205003	16.4	19.5
160716	16.1	20.4	47362	16.1	19.2	338405	16.2	19.7	268157	16.3	19.7	287541	16.3	18.5	88546	16.4	18.5
192732	16.1	20.7	154483	16.1	18.7	142621	16.2	19.7	37975	16.3	18.9	508733	16.3	21.3	458910	16.4	21.0
208613	16.1	19.7	134629	16.1	19.1	21052	16.2	19.4	406552	16.3	20.6	182492	16.3	19.9	142500	16.4	18.5
386238	16.1	19.9	331959	16.1	20.7	200709	16.2	20.2	82584	16.3	18.9	281949	16.3	20.5	8609	16.4	17.4
253038	16.1	20.4	31565	16.1	17.2	410104	16.2</										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
228412	16.4	19.5	266312	16.4	20.2	1224	16.5	15.1	161753	16.6	20.4	517573	16.6	21.3	425069	16.7	21.9
184659	16.4	20.7	207763	16.4	20.4	466479	16.5	21.7	519020	16.6	20.8	122449	16.6	20.0	311588	16.7	20.6
299784	16.4	21.8	261245	16.4	20.0	191966	16.5	20.4	376696	16.6	20.7	400531	16.6	21.8	221669	16.7	18.6
141128	16.4	20.0	295650	16.4	19.5	470015	16.5	22.3	431635	16.6	20.3	133140	16.6	20.7	340830	16.7	20.9
180759	16.4	20.0	122674	16.4	20.0	109411	16.5	18.4	124749	16.6	20.0	375308	16.6	20.9	432422	16.7	20.8
480058	16.4	19.6	374606	16.5	20.2	208986	16.5	19.9	221658	16.6	20.0	329987	16.6	20.2	140312	16.7	19.7
523678	16.4	21.9	425109	16.5	21.8	243255	16.5	20.4	337035	16.6	20.7	135637	16.6	20.6	8906	16.7	17.7
202931	16.4	21.1	348914	16.5	20.6	284819	16.5	20.8	48395	16.6	18.5	306057	16.6	20.0	107544	16.7	19.2
112853	16.4	19.9	476466	16.5	20.8	164525	16.5	19.9	172511	16.6	19.4	521151	16.6	20.9	454993	16.7	20.4
81936	16.4	18.9	111952	16.5	20.1	347308	16.5	20.1	145775	16.6	18.7	136272	16.6	19.2	291967	16.7	19.7
336225	16.4	20.6	67512	16.5	16.2	497717	16.5	21.9	471407	16.6	21.7	37594	16.6	18.5	341410	16.7	21.0
390421	16.4	19.9	423209	16.5	20.9	453908	16.5	21.0	45925	16.6	18.0	397024	16.6	20.9	420775	16.7	20.1
18082	16.4	18.1	477167	16.5	21.0	70151	16.5	17.5	58723	16.6	20.1	214767	16.6	20.3	502685	16.7	20.2
193896	16.4	19.2	195276	16.5	19.0	412068	16.5	19.6	213776	16.6	19.8	362734	16.6	20.9	470464	16.7	21.2
499306	16.4	21.6	64904	16.5	19.3	167791	16.5	19.5	330953	16.6	21.4	196675	16.6	19.5	150119	16.7	21.0
249147	16.4	20.6	206257	16.5	20.5	176640	16.5	21.1	399345	16.6	21.1	93698	16.6	19.6	120854	16.7	18.8
354860	16.4	20.9	464518	16.5	20.1	61800	16.5	18.5	55344	16.6	18.6	373435	16.6	20.9	474612	16.7	20.7
152777	16.4	20.1	267711	16.5	19.3	372632	16.5	20.4	89321	16.6	18.9	41771	16.6	19.2	366419	16.7	22.1
109869	16.4	19.1	483563	16.5	22.2	65760	16.5	19.6	141822	16.6	20.6	200680	16.7	19.0	330413	16.7	19.1
182711	16.4	19.1	322345	16.5	20.2	518640	16.5	23.5	285584	16.6	21.3	442721	16.7	21.2	402562	16.7	21.6
500966	16.4	20.0	81703	16.5	18.4	505926	16.5	20.3	5742	16.6	16.1	328721	16.7	20.9	502433	16.7	21.0
472137	16.4	19.6	34815	16.5	18.4	357142	16.5	20.8	432132	16.6	20.2	429651	16.7	21.2	233485	16.7	20.8
142746	16.4	18.0	429712	16.5	18.8	413839	16.5	22.6	300000	16.6	21.9	201586	16.7	19.5	175469	16.7	19.5
171475	16.4	19.9	221159	16.5	21.3	96507	16.5	19.7	140909	16.6	19.7	27770	16.7	17.8	223753	16.7	20.4
410356	16.4	21.4	510758	16.5	22.0	212484	16.5	20.1	186134	16.6	20.7	430377	16.7	20.2	37278	16.7	19.0
209563	16.4	19.4	290086	16.5	20.3	4515	16.5	16.6	461906	16.6	21.3	247467	16.7	20.2	36658	16.7	18.6
140056	16.4	19.2	272114	16.5	19.2	341804	16.5	20.8	463196	16.6	19.9	21246	16.7	17.3	467376	16.7	21.5
517652	16.4	20.6	129209	16.5	19.8	290429	16.5	19.3	52477	16.6	19.1	287462	16.7	20.9	209026	16.7	20.1
302350	16.4	21.0	30881	16.5	18.9	90355	16.5	19.5	501115	16.6	22.1	495087	16.7	21.2	104567	16.7	19.4
341772	16.4	20.7	266536	16.5	19.7	367501	16.5	20.2	82982	16.6	18.6	506375	16.7	21.9	429111	16.7	20.9
288946	16.4	21.3	99771	16.5	19.2	350019	16.5	21.3	262628	16.6	19.8	65962	16.7	19.4	309253	16.7	19.9
503710	16.4	20.9	12302	16.5	18.9	88441	16.5	18.5	244722	16.6	20.1	504829	16.7	20.6	44975	16.7	18.7
76929	16.4	17.2	254582	16.5	20.2	412209	16.6	19.7	426011	16.6	20.1	160907	16.7	18.8	140420	16.7	19.4
34903	16.4	17.6	6681	16.5	17.0	322403	16.6	20.7	242062	16.6	20.0	399306	16.7	21.8	133209	16.7	20.2
466322	16.4	21.0	156161	16.5	19.5	297276	16.6	20.9	28184	16.6	18.5	383350	16.7	20.7	454112	16.7	19.7
62512	16.4	19.0	37728	16.5	18.9	108182	16.6	19.7	470816	16.6	21.0	423697	16.7	20.1	274780	16.7	20.4
125626	16.4	19.8	141120	16.5	19.3	306609	16.6	20.4	374979	16.6	20.4	126949	16.7	19.6	313432	16.7	20.9
351865	16.4	21.9	296089	16.5	19.8	337839	16.6	21.8	54202	16.6	18.4	367892	16.7	19.6	431165	16.7	21.3
498944	16.4	20.3	360551	16.5	21.0	501019	16.6	20.8	368592	16.6	20.8	238874	16.7	19.1	308548	16.7	21.4
135072	16.4	20.1	130761	16.5	19.0	249132	16.6	21.0	374520	16.6	21.2	39535	16.7	18.3	235714	16.7	19.9
85856	16.4	19.3	370819	16.5	21.3	501070	16.6	22.5	146258	16.6	20.5	158175	16.7	19.4	22751	16.7	16.0
60268	16.4	18.4	500524	16.5	21.3	386775	16.6	20.9	159435	16.6	19.9	142195	16.7	20.2	272503	16.7	20.6
421598	16.4	21.0	362071	16.5	19.8	65286	16.6	18.6	173956	16.6	20.0	211150	16.7	19.9	187125	16.7	19.6
115748	16.4	19.7	170060	16.5	18.8	439172	16.6	21.0	23292	16.6	18.9	109698	16.7	18.8	450488	16.7	20.4
4570	16.4	15.1	273047	16.5	19.8	372425	16.6	21.8	57054	16.6	18.8	498412	16.7	20.8	63576	16.7	19.0
204720	16.4	19.3	497879	16.5	21.3	205256	16.6	20.1	330393	16.6	20.3	258172	16.7	20.1	366855	16.7	21.2
459970	16.4	22.1	5987	16.5	17.1	1971	16.6	16.9	385937	16.6	21.1	306970	16.7	20.3	210371	16.7	20.2
340644	16.4	20.7	348792	16.5	21.1	170907	16.6	18.8	61306	16.6	19.3	173703	16.7	20.2	181752	16.7	20.0
119048	16.4	18.6	379455	16.5	19.8	329999	16.6	21.0	210694	16.6	19.8	30336	16.7	18.9	72141	16.7	18.0
139582	16.4	19.2	199954	16.5	20.6	163285	16.6	19.4	304437	16.6	19.9	389713	16.7	20.5	361329	16.7	20.9
79034	16.4	20.2	98868	16.5	19.1	53204	16.6	18.1	348417	16.6	20.8	34098	16.7	18.3	270582	16.7	19.0
306369	16.4	20.6	157963	16.5	18.9	376706	16.6	21.2	498395	16.6	21.9	221682	16.7	20.7	330859	16.7	21.3
43068	16.4	19.4	93920	16.5	19.6	192697	16.6	20.9	230247	16.6	18.9	303416	16.7	21.1	495202	16.7	20.1
235404	16.4	21.3	504154	16.5	21.1	203352	16.6	20.2	228866	16.6	20.2	38236	16.7	17.9	469122	16.7	19.9
502321	16.4	21.1	208378	16.5	19.9	343065	16.6	20.0	211234	16.6	20.5	122272	16.7	20.5	497766	16.7	21.1
356487	16.4	20.5	413175	16.5	22.2	157092	16.6	19.6	344364	16.6	20.3	437564	16.7	20.6	165380	16.7	20.2
423229	16.4	21.7	245464	16.5	20.1	505885	16.6	19.9	402915	16.6	22.1	195780	16.7	19.8	259203	16.8	19.6
497595	16.4	20.4	190419	16.5	20.8	126130	16.6	19.4	251627	16.6	20.5	140399	16.7	19.1	379470	16.8	20.8
399913	16.4	20.2	281937	16.5	19.3	486680	16.6	20.1	504393	16.6	22.1	477	16.7	14.1	501471	16.8	21.0
436767	16.4	20.2	120775	16.5	19.2	138171	16.6	19.3	9538	16.6	17.2	376058	16.7	20.3	145234	16.8	20.4
376289	16.4	20.8	508044	16.5	21.1	5236											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
172107	16.8	19.6	108927	16.8	19.3	246306	16.9	20.9	498679	16.9	21.5	472277	17.0	20.3	499906	17.1	20.4
2865	16.8	14.9	430620	16.8	19.9	67691	16.9	17.6	177047	16.9	18.6	182460	17.0	20.0	160296	17.1	19.2
229105	16.8	21.0	58672	16.8	19.0	351596	16.9	21.6	42284	16.9	17.5	112378	17.0	20.2	294095	17.1	20.9
130769	16.8	19.1	78310	16.8	19.7	97992	16.9	19.1	66698	16.9	19.7	20617	17.0	17.0	141929	17.1	21.1
315366	16.8	21.1	240048	16.9	20.0	248948	16.9	20.0	253244	16.9	20.1	497651	17.0	21.0	423645	17.1	21.2
8965	16.8	17.5	231875	16.9	21.0	90224	16.9	18.6	114697	16.9	19.9	507750	17.0	21.3	71977	17.1	18.6
507455	16.8	21.1	8633	16.9	16.8	382733	16.9	20.3	189846	16.9	18.9	298726	17.0	19.3	25898	17.1	17.7
135434	16.8	19.1	415107	16.9	20.8	366903	16.9	22.4	305638	16.9	21.2	456747	17.0	21.3	168337	17.1	18.5
152849	16.8	20.5	64418	16.9	18.9	228046	16.9	20.4	225518	16.9	20.4	466474	17.0	21.4	76466	17.1	18.8
355604	16.8	20.1	30976	16.9	16.8	463236	16.9	20.0	458737	16.9	21.6	2257	17.0	17.7	499054	17.1	21.0
206316	16.8	20.6	370974	16.9	21.3	217075	16.9	20.6	523690	16.9	22.0	22941	17.0	18.7	2447	17.1	17.4
213786	16.8	19.2	155182	16.9	20.5	173500	16.9	19.8	506210	16.9	20.9	118386	17.0	18.7	494825	17.1	22.2
212308	16.8	20.2	111576	16.9	19.1	341315	16.9	20.5	435889	16.9	20.8	175389	17.0	20.3	187113	17.1	19.4
497885	16.8	21.7	181705	16.9	20.3	55202	16.9	19.0	143223	16.9	18.7	129940	17.0	19.9	435921	17.1	21.0
222300	16.8	19.9	384991	16.9	19.7	87644	16.9	19.9	371959	16.9	21.1	1470	17.0	15.8	272436	17.1	20.6
522424	16.8	20.5	313768	16.9	20.1	424696	16.9	20.3	198301	16.9	20.1	384113	17.0	20.6	347627	17.1	20.6
18581	16.8	16.5	325656	16.9	20.3	226856	16.9	19.7	231368	16.9	19.9	233641	17.0	20.4	159636	17.1	18.7
422257	16.8	20.6	500727	16.9	21.7	229167	16.9	20.2	296112	16.9	20.8	62902	17.0	19.3	174103	17.1	19.8
151785	16.8	18.6	90078	16.9	18.3	282813	16.9	20.9	241512	16.9	19.7	377848	17.0	20.4	245484	17.1	20.1
374527	16.8	21.3	7401	16.9	18.3	107663	16.9	18.3	345688	16.9	21.3	1706	17.0	15.1	247634	17.1	20.0
371174	16.8	21.1	472142	16.9	19.3	497312	16.9	22.7	353237	16.9	20.2	210881	17.0	20.4	201450	17.1	19.4
184715	16.8	21.1	204969	16.9	20.4	485181	16.9	19.9	140523	16.9	19.9	312066	17.0	20.3	159189	17.1	20.0
246027	16.8	19.7	428845	16.9	20.9	117667	16.9	19.9	500017	16.9	21.5	61000	17.0	19.0	281940	17.1	19.5
498827	16.8	21.5	225565	16.9	20.9	460244	16.9	21.3	299800	16.9	19.7	402453	17.0	20.0	229630	17.1	19.5
383346	16.8	21.2	318055	16.9	20.0	238436	16.9	20.7	198548	16.9	20.8	236997	17.0	19.6	110763	17.1	18.7
94991	16.8	17.3	121224	16.9	18.9	375353	16.9	20.6	107677	16.9	18.8	468623	17.0	21.4	209391	17.1	19.8
309136	16.8	20.1	10991	16.9	17.9	153709	16.9	19.8	123009	16.9	19.7	92547	17.0	19.5	229164	17.1	20.1
389777	16.8	20.8	467428	16.9	20.8	150698	16.9	19.6	75012	16.9	18.9	28720	17.0	17.4	182419	17.1	21.0
496058	16.8	20.6	166667	16.9	20.3	388682	16.9	21.3	290208	16.9	20.7	424774	17.0	21.0	429628	17.1	20.7
72402	16.8	19.3	498608	16.9	21.6	136514	16.9	19.8	458643	16.9	19.9	269803	17.0	20.7	358516	17.1	20.0
56215	16.8	18.2	213403	16.9	19.7	415889	16.9	21.4	460349	16.9	20.9	141058	17.0	19.0	501955	17.1	20.9
157798	16.8	19.0	93409	16.9	18.9	110885	16.9	21.3	235909	16.9	19.6	344209	17.0	21.1	200831	17.1	19.2
322294	16.8	20.1	307714	16.9	20.2	416113	16.9	22.2	417224	16.9	20.1	252897	17.0	20.5	27881	17.1	17.8
387283	16.8	20.5	82208	16.9	19.3	322223	16.9	20.0	200651	16.9	20.6	86457	17.1	19.3	6307	17.1	16.0
39271	16.8	18.9	272394	16.9	21.2	426864	16.9	21.2	369326	16.9	21.8	498278	17.1	21.4	381260	17.1	20.6
473852	16.8	21.4	138691	16.9	19.1	280582	16.9	19.0	242425	17.0	19.6	300236	17.1	21.3	122339	17.1	20.7
269596	16.8	20.1	458966	16.9	21.2	430919	16.9	21.2	365176	17.0	19.7	185163	17.1	20.2	378708	17.1	21.1
269010	16.8	19.0	413020	16.9	20.8	219518	16.9	20.3	409915	17.0	21.5	459610	17.1	21.5	520026	17.1	21.4
348967	16.8	20.3	462009	16.9	21.2	170059	16.9	18.4	209089	17.0	19.7	296070	17.1	20.1	80175	17.1	20.0
105378	16.8	18.5	313443	16.9	20.3	213656	16.9	20.6	496727	17.0	21.2	271799	17.1	20.5	41662	17.1	18.7
337837	16.8	20.0	388272	16.9	21.4	473946	16.9	20.9	184998	17.0	20.8	115123	17.1	18.3	326394	17.1	21.1
340684	16.8	20.2	192820	16.9	20.2	460900	16.9	20.1	496160	17.0	21.2	11947	17.1	18.9	66319	17.1	17.6
158212	16.8	20.1	405390	16.9	20.0	177859	16.9	21.1	166518	17.0	20.4	24771	17.1	18.6	406423	17.1	21.6
47091	16.8	17.9	466470	16.9	20.7	253800	16.9	19.3	84871	17.0	19.1	150545	17.1	19.1	407809	17.1	21.0
498127	16.8	22.7	503309	16.9	20.5	141267	16.9	19.0	18516	17.0	18.1	121519	17.1	20.0	358552	17.1	21.0
109341	16.8	18.8	468925	16.9	20.1	80671	16.9	19.1	151909	17.0	19.3	9059	17.1	16.8	271210	17.1	20.0
319484	16.8	20.9	310901	16.9	21.3	326453	16.9	20.9	79265	17.0	18.8	306610	17.1	20.6	177170	17.1	20.1
138591	16.8	20.0	191917	16.9	20.6	299564	16.9	19.1	14540	17.0	17.3	127180	17.1	19.4	228368	17.1	19.2
35811	16.8	17.0	78031	16.9	18.7	214471	16.9	20.3	248196	17.0	20.6	272803	17.1	19.6	48589	17.1	18.8
170372	16.8	19.5	421223	16.9	20.7	459615	16.9	21.7	229255	17.0	20.3	151093	17.1	19.1	193661	17.1	20.1
497846	16.8	21.8	429208	16.9	21.3	191957	16.9	20.0	337871	17.0	21.1	240561	17.1	20.3	222349	17.1	20.1
469273	16.8	19.9	82047	16.9	18.2	454581	16.9	19.7	384239	17.0	19.9	136764	17.1	18.2	15647	17.1	18.4
82667	16.8	18.6	224313	16.9	20.5	89751	16.9	19.1	8187	17.0	17.8	29632	17.1	18.9	330051	17.1	20.6
213233	16.8	19.4	326419	16.9	20.5	112663	16.9	19.9	329367	17.0	21.1	217066	17.1	21.0	109370	17.1	19.3
159860	16.8	20.2	503588	16.9	21.5	429373	16.9	21.2	263107	17.0	20.3	215111	17.1	20.3	495498	17.1	21.2
34010	16.8	18.7	469711	16.9	20.1	498131	16.9	21.5	153773	17.0	20.9	129932	17.1	19.5	269210	17.1	21.1
243792	16.8	20.2	377420	16.9	20.6	44222	16.9	17.7	356478	17.0	20.8	387305	17.1	21.2	6642	17.1	16.4
377440	16.8	21.3	10700	16.9	18.9	56691	16.9	18.6	93635	17.0	19.4	217921	17.1	21.0	491738	17.1	20.9
245061	16.8	19.9	406057	16.9	22.0	185453	16.9	20.2	392662	17.0	21.1	330009	17.1	20.6	461515	17.1	21.6
131267	16.8	18.9	59473	16.9	18.5	170401	16.9	19.0	327296	17.0	20.4	172059	17.1	20.1	302142	17.1	20.7
101716	16.8	18.1	325769	16.9	21.3	256957											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
241574	17.1	19.6	253047	17.2	20.0	222259	17.3	20.6	32949	17.4	19.3	153829	17.5	19.5	506016	17.5	21.3
140962	17.1	19.4	171914	17.2	19.4	394394	17.3	21.4	84454	17.4	19.4	89163	17.5	19.3	42966	17.5	18.4
374171	17.1	20.5	424078	17.2	20.5	81846	17.3	19.1	278362	17.4	20.0	64591	17.5	18.9	110982	17.5	19.3
270272	17.1	20.9	143523	17.2	19.5	215899	17.3	20.3	309260	17.4	20.8	264631	17.5	21.8	337882	17.5	20.9
469757	17.1	21.3	181130	17.2	20.8	386511	17.3	20.2	296237	17.4	20.3	272930	17.5	19.6	258103	17.5	21.0
58508	17.1	19.0	240757	17.2	20.0	65033	17.3	19.3	322528	17.4	20.5	265779	17.5	20.0	505308	17.5	22.1
105714	17.2	20.5	497382	17.2	22.1	456919	17.3	21.4	309719	17.4	19.8	496082	17.5	21.8	238707	17.5	19.5
33046	17.2	18.9	211580	17.2	19.8	388289	17.3	21.0	140597	17.4	18.7	39757	17.5	19.4	298834	17.5	20.6
452543	17.2	20.9	521220	17.2	21.4	154359	17.3	19.8	277736	17.4	20.4	125013	17.5	19.2	469004	17.5	20.5
434520	17.2	21.3	221363	17.2	20.0	519145	17.3	20.4	424617	17.4	20.8	203903	17.5	18.7	489369	17.5	20.9
347415	17.2	20.4	204829	17.2	19.8	489267	17.3	20.6	318610	17.4	20.8	493501	17.5	21.3	142667	17.5	19.4
1373	17.2	18.3	507640	17.2	20.4	310969	17.3	21.3	460260	17.4	21.1	397836	17.5	21.1	248660	17.5	20.2
182605	17.2	20.8	159598	17.2	18.6	498843	17.3	21.6	401059	17.4	21.0	356651	17.5	20.6	422755	17.5	20.5
327259	17.2	18.9	380077	17.2	21.3	72137	17.3	19.9	134638	17.4	19.3	110000	17.5	19.5	87031	17.5	18.6
392851	17.2	20.6	415731	17.2	21.0	466173	17.3	21.5	131751	17.4	19.7	291016	17.5	20.3	122223	17.5	19.7
506671	17.2	21.2	386213	17.2	20.0	237309	17.3	20.8	230398	17.4	19.1	236180	17.5	19.2	246064	17.5	21.1
283161	17.2	20.4	224238	17.2	19.7	286104	17.3	21.7	315199	17.4	20.5	420202	17.5	19.9	503888	17.5	22.8
415286	17.2	20.6	239910	17.2	20.1	462040	17.3	20.2	287882	17.4	21.3	176376	17.5	20.6	90900	17.5	19.1
421010	17.2	20.5	258316	17.2	19.6	406431	17.3	20.9	204145	17.4	21.0	283492	17.5	20.8	299803	17.5	20.0
405915	17.2	21.2	180606	17.2	19.8	48633	17.3	19.9	184088	17.4	20.9	306091	17.5	20.8	372588	17.5	21.1
60093	17.2	19.2	68732	17.2	18.6	343106	17.3	20.2	280521	17.4	19.9	259135	17.5	19.3	126337	17.5	18.8
276242	17.2	20.6	503680	17.2	20.8	489368	17.3	21.5	519199	17.4	20.7	419556	17.5	21.9	415897	17.5	21.5
500492	17.2	21.4	406936	17.2	20.0	495116	17.3	21.7	222602	17.4	19.8	82534	17.5	19.0	150966	17.5	20.1
171894	17.2	19.9	281261	17.2	21.0	89873	17.3	19.6	360557	17.4	20.5	350128	17.5	21.1	521229	17.5	20.5
81277	17.2	19.1	356305	17.2	20.8	94156	17.3	20.1	300850	17.4	20.2	120138	17.5	19.1	61509	17.5	17.9
349952	17.2	20.1	332407	17.2	20.6	241160	17.3	19.7	16783	17.4	18.6	126767	17.5	18.8	28265	17.5	17.2
143294	17.2	18.5	313747	17.2	21.4	82092	17.3	20.0	250306	17.4	20.6	420678	17.5	20.7	31449	17.5	17.0
222535	17.2	20.7	238779	17.2	20.1	31125	17.3	17.7	140402	17.4	20.2	140968	17.5	20.1	248477	17.5	19.6
187246	17.2	20.2	374413	17.2	21.9	30734	17.3	18.4	334835	17.4	20.3	227426	17.5	20.0	518967	17.5	21.0
104638	17.2	19.3	298863	17.2	20.3	158086	17.3	19.8	432119	17.4	20.5	430128	17.5	21.2	214045	17.5	19.6
68072	17.2	19.5	286408	17.2	20.1	411265	17.3	21.7	376596	17.4	21.8	277460	17.5	20.7	57851	17.5	18.7
374556	17.2	20.2	93815	17.2	19.2	431239	17.3	20.9	286285	17.4	20.3	401116	17.5	21.3	310964	17.5	19.8
467514	17.2	21.1	341671	17.2	20.6	149944	17.3	20.5	359071	17.4	19.9	379298	17.5	21.1	288215	17.5	19.8
225546	17.2	20.5	184561	17.2	20.9	233931	17.3	20.6	362438	17.4	21.6	39859	17.5	17.4	95015	17.5	18.3
72149	17.2	19.0	323438	17.2	19.2	423476	17.3	22.2	278593	17.4	20.4	117299	17.5	19.9	177132	17.5	19.7
348802	17.2	20.9	502458	17.3	20.6	359843	17.3	19.8	114970	17.4	19.7	78906	17.5	20.5	102492	17.5	18.4
213664	17.2	20.8	377453	17.3	20.8	239202	17.3	20.1	272998	17.4	21.0	303754	17.5	21.7	372396	17.5	22.5
285122	17.2	21.5	145732	17.3	19.5	377880	17.3	20.6	315247	17.4	20.4	340658	17.5	20.6	424680	17.5	20.7
416941	17.2	20.9	461011	17.3	20.3	502320	17.3	21.1	65901	17.4	19.6	171592	17.5	18.1	261575	17.5	20.2
162683	17.2	19.6	8942	17.3	18.2	116569	17.3	18.6	409953	17.4	21.2	118664	17.5	19.9	430144	17.5	20.4
284402	17.2	20.4	124870	17.3	18.4	134046	17.3	19.6	466759	17.4	21.1	252962	17.5	21.4	503758	17.5	21.1
31057	17.2	17.1	313673	17.3	20.4	31083	17.3	17.7	129794	17.4	19.4	370945	17.5	21.2	406420	17.5	21.7
496372	17.2	22.1	518476	17.3	20.3	172362	17.3	18.7	382357	17.4	20.4	206711	17.5	19.6	508015	17.5	20.4
497053	17.2	21.4	428830	17.3	21.1	358558	17.3	20.2	210685	17.4	20.9	249356	17.5	18.6	79071	17.5	19.1
305751	17.2	20.2	388265	17.3	21.4	415818	17.3	21.5	150968	17.4	19.2	504190	17.5	22.3	299007	17.5	21.3
427378	17.2	19.8	112948	17.3	19.8	366899	17.3	21.8	64271	17.4	18.4	422099	17.5	20.9	504176	17.5	21.9
376862	17.2	22.5	428059	17.3	20.2	240577	17.3	20.7	127478	17.4	19.3	265011	17.5	18.9	297781	17.5	20.6
291936	17.2	20.5	387082	17.3	21.2	175110	17.3	19.4	472179	17.4	21.1	271183	17.5	21.8	389678	17.5	20.9
84385	17.2	18.4	498388	17.3	22.0	30259	17.3	18.7	521011	17.4	21.2	391892	17.5	21.3	110074	17.5	20.4
498668	17.2	21.5	502959	17.3	20.8	372486	17.3	20.8	369320	17.4	22.0	384209	17.5	19.7	80170	17.5	19.7
148109	17.2	19.9	374170	17.3	21.1	495923	17.3	20.3	292756	17.4	20.5	414107	17.5	21.3	429073	17.5	22.2
48531	17.2	18.1	179812	17.3	20.7	456792	17.3	21.1	219449	17.4	19.6	189485	17.5	19.2	415904	17.5	21.6
345590	17.2	20.3	243365	17.3	20.2	202636	17.3	20.3	239739	17.4	19.0	398212	17.5	21.2	3225	17.5	15.2
149238	17.2	18.9	262312	17.3	20.1	268142	17.4	20.5	253862	17.4	19.9	380370	17.5	19.6	167622	17.5	20.4
122918	17.2	19.6	384952	17.3	20.7	374113	17.4	21.2	386515	17.4	20.5	57388	17.5	17.6	508678	17.5	20.6
109483	17.2	19.5	343185	17.3	19.8	435938	17.4	20.7	360521	17.4	21.7	117140	17.5	19.6	134379	17.5	20.0
5705	17.2	17.4	500338	17.3	21.3	14467	17.4	17.5	445891	17.4	21.9	471367	17.5	21.4	354681	17.6	21.6
456560	17.2	20.4	423596	17.3	20.7	83796	17.4	19.9	473731	17.4	18.5	241068	17.5	20.7	208000	17.6	18.7
405170	17.2	20.7	76220	17.3	18.8	496578	17.4	20.8	54187	17.4	19.5	275519	17.5	20.2	433111	17.6	20.8
279722	17.2	20.5	70516	17.3	17.9	147543	17.4	19.1	371111	17.4	20.6	375501	17.5	19.6	5428	17.6	16.8
396618	17.2	22.0	169419	17.3</													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
37713	17.6	19.4	468174	17.6	19.6	296306	17.7	20.4	63958	17.8	18.9	415835	17.8	20.0	426156	17.9	19.9
376741	17.6	20.5	379414	17.6	20.5	64086	17.7	18.0	437558	17.8	20.8	37598	17.8	18.4	413911	17.9	20.8
77996	17.6	19.3	9774	17.6	17.6	491048	17.7	21.5	15040	17.8	17.1	209397	17.8	19.3	151727	17.9	18.5
494007	17.6	20.8	437078	17.6	20.8	144975	17.7	20.0	268459	17.8	19.5	282137	17.8	21.2	410025	17.9	20.9
500559	17.6	22.6	115220	17.6	18.8	208451	17.7	20.3	176947	17.8	19.2	377966	17.8	20.8	64988	17.9	19.7
160827	17.6	19.4	113189	17.6	19.0	149803	17.7	20.8	197024	17.8	19.8	394013	17.8	21.6	451124	17.9	23.0
347326	17.6	19.6	389795	17.6	20.9	209491	17.7	19.2	20047	17.8	19.0	144475	17.8	18.7	303405	17.9	20.0
185877	17.6	19.9	218696	17.6	20.0	94651	17.7	19.1	125992	17.8	17.8	169437	17.8	18.3	386601	17.9	20.3
503842	17.6	21.3	337391	17.6	21.0	500953	17.7	21.5	286296	17.8	20.9	213241	17.8	19.2	497391	17.9	21.7
313603	17.6	21.4	299978	17.6	19.9	292461	17.7	20.6	287662	17.8	21.3	156577	17.8	19.8	362104	17.9	20.2
63866	17.6	19.2	248415	17.6	19.7	343138	17.7	20.4	110587	17.8	19.7	87128	17.8	19.2	210834	17.9	19.7
341673	17.6	20.1	240556	17.6	19.9	505202	17.7	22.1	306049	17.8	20.0	272777	17.8	20.3	422850	17.9	20.4
518848	17.6	21.0	452502	17.6	20.8	125833	17.7	19.6	401089	17.8	21.1	106889	17.8	18.3	117745	17.9	18.8
128881	17.6	20.1	313756	17.7	20.7	240121	17.7	19.2	256309	17.8	20.3	172118	17.8	19.1	251865	17.9	19.7
229929	17.6	20.5	147364	17.7	19.1	231226	17.7	19.4	73226	17.8	18.7	194112	17.8	19.1	410031	17.9	21.4
213098	17.6	20.6	283921	17.7	20.0	306591	17.7	19.6	501302	17.8	21.6	49798	17.8	17.3	187756	17.9	20.8
323782	17.6	19.1	380856	17.7	20.3	414914	17.7	20.4	498950	17.8	20.5	215502	17.8	20.0	269260	17.9	19.3
215929	17.6	19.4	159985	17.7	19.8	159133	17.7	20.0	140443	17.8	19.1	298845	17.8	20.2	254612	17.9	19.1
421873	17.6	20.2	159306	17.7	20.2	158258	17.7	19.3	378771	17.8	21.0	229589	17.8	19.8	231642	17.9	20.7
384136	17.6	20.0	456417	17.7	20.7	141049	17.7	20.3	364191	17.8	21.8	371220	17.8	20.3	504135	17.9	22.4
480759	17.6	20.3	299343	17.7	20.7	425726	17.7	21.2	146620	17.8	19.4	188691	17.8	20.1	501143	17.9	22.2
143381	17.6	20.2	109031	17.7	19.8	12481	17.7	17.0	152382	17.8	19.1	222556	17.8	20.0	173887	17.9	19.8
494733	17.6	20.5	244861	17.7	20.3	114003	17.7	19.3	214898	17.8	19.9	192104	17.8	20.6	500434	17.9	21.6
159871	17.6	19.9	199057	17.7	20.5	29492	17.7	16.3	226719	17.8	20.9	18162	17.8	18.8	505035	17.9	21.4
492394	17.6	22.1	337785	17.7	20.1	279678	17.7	20.3	104121	17.8	20.0	212327	17.8	20.7	502949	17.9	19.9
79986	17.6	18.6	279715	17.7	20.1	406367	17.7	21.5	79067	17.8	19.4	93389	17.8	18.7	456808	17.9	21.7
40838	17.6	19.4	413849	17.7	21.2	120379	17.7	19.8	291992	17.8	20.9	456746	17.8	21.2	508079	17.9	20.7
24622	17.6	19.1	109602	17.7	18.5	69138	17.7	17.9	34174	17.8	18.3	298978	17.8	20.3	57818	17.9	18.3
512336	17.6	21.8	20658	17.7	18.0	327862	17.7	19.8	192520	17.8	20.4	107436	17.8	18.8	501490	17.9	20.9
470368	17.6	21.6	236124	17.7	20.2	344405	17.7	19.3	322788	17.8	21.3	459628	17.8	20.1	409077	17.9	21.0
407779	17.6	21.2	62017	17.7	19.3	462324	17.7	20.7	216332	17.8	19.9	274943	17.9	20.6	494276	17.9	20.2
348595	17.6	21.1	56267	17.7	19.5	387399	17.7	20.6	466307	17.8	21.3	409381	17.9	20.0	313670	17.9	20.9
358109	17.6	20.6	231333	17.7	20.1	121108	17.7	17.5	173021	17.8	20.5	54605	17.9	16.8	223278	17.9	19.9
206219	17.6	19.7	214064	17.7	19.6	379373	17.7	22.2	153160	17.8	19.3	466309	17.9	21.6	46283	17.9	18.6
467637	17.6	21.1	64279	17.7	18.6	498738	17.7	21.6	520015	17.8	21.4	112350	17.9	19.6	153938	17.9	19.4
332540	17.6	20.1	151547	17.7	20.3	212924	17.7	19.9	425053	17.8	22.6	500669	17.9	21.1	1333659	17.9	20.0
246724	17.6	20.2	450976	17.7	20.6	306074	17.7	21.2	519244	17.8	21.0	403242	17.9	21.3	122652	17.9	19.1
232955	17.6	19.4	399054	17.7	21.4	131991	17.7	20.2	26045	17.8	18.2	349427	17.9	20.4	3620	17.9	17.2
253211	17.6	20.8	276109	17.7	19.3	87685	17.7	19.3	94824	17.8	19.7	133384	17.9	20.4	212036	17.9	19.4
90591	17.6	20.0	62481	17.7	19.2	62658	17.7	18.9	415037	17.8	20.5	502585	17.9	20.7	425722	17.9	20.2
426943	17.6	19.5	249255	17.7	20.0	234938	17.7	19.9	14427	17.8	18.2	218661	17.9	21.6	410439	17.9	20.2
47687	17.6	18.1	343113	17.7	20.5	315471	17.7	19.6	217879	17.8	20.7	502151	17.9	21.0	204344	17.9	19.0
217967	17.6	21.1	487640	17.7	20.2	275587	17.7	20.6	945457	17.8	18.0	202491	17.9	20.3	245406	17.9	19.4
26640	17.6	18.3	347712	17.7	21.1	61273	17.7	19.3	159168	17.8	19.4	348872	17.9	20.7	499769	17.9	21.1
330959	17.6	21.2	471295	17.7	20.6	11159	17.7	18.9	98407	17.8	19.3	362839	17.9	20.3	430862	17.9	21.1
250119	17.6	18.9	148948	17.7	20.0	426211	17.7	20.7	345625	17.8	21.4	434462	17.9	21.3	202472	17.9	20.7
230946	17.6	20.9	255646	17.7	20.5	430467	17.7	21.3	53773	17.8	18.1	473112	17.9	19.8	316216	17.9	20.6
505033	17.6	22.3	308333	17.7	20.8	69013	17.7	18.9	390483	17.8	20.4	7056	17.9	16.7	408230	17.9	20.2
320315	17.6	20.8	327087	17.7	21.7	348978	17.7	19.9	30524	17.8	19.0	312949	17.9	20.2	203575	17.9	19.5
258715	17.6	19.4	426482	17.7	21.7	95404	17.7	19.5	420010	17.8	20.5	83458	17.9	19.4	464741	17.9	21.2
287493	17.6	19.7	284085	17.7	19.9	467101	17.7	19.3	93503	17.8	19.1	363773	17.9	20.1	245407	17.9	20.2
466375	17.6	20.7	225057	17.7	19.1	434629	17.7	21.9	283740	17.8	18.8	362719	17.9	19.6	403238	17.9	20.0
18310	17.6	18.4	106970	17.7	19.9	466181	17.7	20.3	428769	17.8	20.1	104492	17.9	19.1	520893	17.9	20.4
110111	17.6	20.2	35859	17.7	18.6	276194	17.7	20.4	310472	17.8	20.5	90606	17.9	19.7	228338	17.9	20.6
374573	17.6	21.3	282480	17.7	19.5	138263	17.7	18.9	275348	17.8	19.9	316182	17.9	21.7	246645	17.9	20.3
189127	17.6	20.4	250247	17.7	19.5	53326	17.7	18.1	7183	17.8	16.1	87453	17.9	19.2	209655	17.9	18.9
428842	17.6	20.8	133620	17.7	20.4	171552	17.7	19.8	73820	17.8	19.8	385289	17.9	20.8	264231	17.9	20.4
439800	17.6	20.5	156954	17.7	19.5	348509	17.7	20.9	341667	17.8	20.3	372422	17.9	21.3	23407	17.9	18.3
239	17.6	15.3	313072	17.7	20.1	306209	17.7	20.6	60037	17.8	20.0	67914	17.9	19.3	279451	17.9	20.1
425779	17.6	21.8	207720	17.7	20.0	140828	17.7	20.4	54474	17.8	18.3	160790	17.9	20.3	459029	17.9	20.5
349020	17.6	20.8	322839	17.7	19.8</												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
240746	17.9	20.8	117950	18.0	19.6	324010	18.1	19.9	82665	18.2	19.6	107424	18.2	19.5	60888	18.3	18.1
87920	17.9	19.3	206209	18.0	19.8	123669	18.1	19.5	333137	18.2	20.2	51318	18.2	18.4	466748	18.3	20.4
290139	17.9	19.9	205567	18.0	20.1	289007	18.1	19.7	317046	18.2	20.7	384495	18.2	20.6	230212	18.3	20.5
56946	17.9	18.5	102767	18.0	19.5	425197	18.1	20.9	85316	18.2	19.4	154322	18.2	19.8	469379	18.3	22.2
31375	17.9	17.9	102123	18.0	19.3	495423	18.1	21.5	296366	18.2	20.6	23726	18.2	18.6	321909	18.3	20.4
386566	17.9	19.7	101748	18.0	19.3	464558	18.1	21.5	150433	18.2	18.3	495504	18.2	21.6	467581	18.3	20.2
21848	17.9	18.8	503246	18.0	20.5	264502	18.1	20.3	309791	18.2	20.4	244138	18.2	20.0	163733	18.3	20.3
343062	17.9	19.9	285968	18.0	21.1	402988	18.1	21.5	365490	18.2	21.1	122455	18.2	20.6	437154	18.3	21.5
244766	17.9	19.5	174520	18.0	20.1	284363	18.1	21.2	511923	18.2	21.4	417521	18.2	21.2	437023	18.3	21.4
145386	17.9	20.6	225998	18.0	18.9	105133	18.1	19.5	156539	18.2	19.6	396226	18.2	19.9	455690	18.3	20.8
276937	17.9	20.4	286286	18.0	20.7	345683	18.1	19.9	134707	18.2	20.0	205508	18.2	21.0	391687	18.3	20.6
415929	17.9	20.3	203771	18.0	19.7	111125	18.1	20.1	293	18.2	13.7	296084	18.2	20.3	173944	18.3	21.3
208338	17.9	20.0	309776	18.0	19.6	177352	18.1	20.3	79465	18.2	19.1	11937	18.2	18.4	150902	18.3	20.8
108789	17.9	19.6	141913	18.0	21.0	374993	18.1	20.5	169420	18.2	18.9	100856	18.2	18.4	352682	18.3	20.9
351986	17.9	21.3	203247	18.0	19.6	167619	18.1	20.0	432944	18.2	19.2	338623	18.2	20.9	522893	18.3	20.7
49473	17.9	19.5	119482	18.0	20.0	467788	18.1	20.5	142625	18.2	19.1	23509	18.2	18.7	39398	18.3	19.2
206881	17.9	19.9	109783	18.0	19.2	65093	18.1	18.8	54098	18.2	19.2	30383	18.2	17.1	17347	18.3	18.5
437430	17.9	20.8	194103	18.0	20.5	379519	18.1	21.3	165248	18.2	20.8	426377	18.2	21.9	372678	18.3	21.4
44537	17.9	18.1	229559	18.0	21.5	462857	18.1	19.5	230087	18.2	21.6	374996	18.2	21.0	377790	18.3	20.2
370989	17.9	21.0	184020	18.0	18.9	133312	18.1	19.8	62606	18.2	19.2	311595	18.2	20.7	425977	18.3	20.7
501145	17.9	21.6	174132	18.0	19.8	377833	18.1	19.9	196669	18.2	19.4	64918	18.2	19.1	227378	18.3	20.8
55453	17.9	18.5	452360	18.0	20.5	88987	18.1	19.4	55443	18.2	19.1	26648	18.2	19.3	152451	18.3	19.2
236141	17.9	21.0	265605	18.0	18.7	117179	18.1	18.8	501159	18.2	21.1	351473	18.2	21.3	419806	18.3	22.0
74990	17.9	18.8	161723	18.0	20.1	219557	18.1	20.9	34627	18.2	19.0	162733	18.2	20.1	367532	18.3	22.5
379730	17.9	20.2	196568	18.0	20.0	430769	18.1	22.0	391023	18.2	21.0	349536	18.2	20.5	304506	18.3	21.5
12454	17.9	17.2	58357	18.0	19.1	178143	18.1	20.3	186900	18.2	20.5	313763	18.2	20.2	205615	18.3	18.5
388266	17.9	20.7	147604	18.0	19.6	285923	18.1	21.3	8670	18.2	16.5	103948	18.2	19.1	375285	18.3	20.2
455152	17.9	22.2	128040	18.0	18.5	301408	18.1	19.6	197074	18.2	20.6	424443	18.2	20.4	292458	18.3	20.7
303201	17.9	20.8	281090	18.0	20.6	304938	18.1	20.9	177901	18.2	19.9	133880	18.2	19.8	208376	18.3	19.8
299791	17.9	21.2	500516	18.0	20.8	110542	18.1	18.2	204572	18.2	19.7	376722	18.2	19.8	283245	18.3	18.9
167609	17.9	19.1	386772	18.0	20.4	83921	18.1	19.6	507127	18.2	22.2	77762	18.2	18.8	350755	18.3	21.7
127003	17.9	19.0	245112	18.0	19.9	362359	18.1	20.4	82852	18.2	18.7	107853	18.2	18.8	239909	18.3	20.7
130825	17.9	19.5	59897	18.0	19.2	60552	18.1	19.1	519460	18.2	20.1	508418	18.2	20.6	296453	18.3	20.4
330462	17.9	20.5	250439	18.0	20.1	157232	18.1	19.5	222894	18.2	19.1	496553	18.2	22.0	500258	18.3	19.8
415971	17.9	21.3	21737	18.0	17.9	376502	18.1	21.4	266394	18.2	19.5	83891	18.2	19.6	178666	18.3	20.8
72395	17.9	18.1	497855	18.0	21.6	500228	18.1	20.2	182564	18.2	21.0	419597	18.2	21.5	271906	18.3	20.6
171198	17.9	19.6	225600	18.0	18.7	502343	18.1	21.4	67298	18.2	18.6	141035	18.2	19.5	198924	18.3	19.8
153437	17.9	21.4	175556	18.0	19.4	322855	18.1	20.8	274396	18.2	20.8	356753	18.2	20.7	351657	18.3	20.5
176568	17.9	19.8	399581	18.0	22.0	32411	18.1	18.5	143313	18.2	18.9	79675	18.2	18.8	322715	18.3	19.4
371147	17.9	20.0	298772	18.0	21.4	43449	18.1	17.8	6537	18.2	17.1	237601	18.2	20.9	500677	18.3	21.3
504877	17.9	21.6	95771	18.0	18.8	245301	18.1	20.6	8073	18.2	17.1	426398	18.2	21.8	474024	18.3	19.8
462834	17.9	21.7	231305	18.1	20.9	341702	18.1	20.7	458834	18.2	21.4	430748	18.2	19.7	326703	18.3	20.0
91453	17.9	19.6	376457	18.1	19.6	61060	18.1	18.4	399671	18.2	20.8	69036	18.2	17.9	453915	18.3	20.1
231900	17.9	21.1	151843	18.1	19.1	46125	18.1	18.0	237294	18.2	20.5	364699	18.2	19.5	416873	18.3	20.3
344610	17.9	19.2	504010	18.1	21.4	32917	18.1	17.1	171298	18.2	20.1	465721	18.2	21.3	246299	18.3	19.9
240489	17.9	19.5	500207	18.1	20.2	42643	18.1	17.7	345587	18.2	21.2	55940	18.2	18.3	305344	18.3	20.4
246034	17.9	20.7	491035	18.1	21.1	318008	18.1	19.7	430800	18.2	20.3	98268	18.2	18.3	157533	18.3	20.4
111417	17.9	18.9	386929	18.1	20.2	55514	18.1	17.7	496833	18.2	20.9	151171	18.2	19.9	25273	18.3	18.0
158600	17.9	19.4	170209	18.1	20.9	60924	18.1	18.9	211953	18.2	19.7	354838	18.2	21.4	46357	18.3	18.9
429060	17.9	20.8	170826	18.1	19.6	500015	18.1	21.3	209567	18.2	20.3	289729	18.2	20.9	382356	18.3	20.6
201722	17.9	20.7	425163	18.1	21.4	408882	18.1	21.3	430968	18.2	21.3	320952	18.2	19.6	432905	18.3	21.6
100012	17.9	18.8	428719	18.1	21.7	68965	18.1	19.3	33348	18.2	16.9	33956	18.2	17.8	303304	18.3	20.3
32739	17.9	19.5	89253	18.1	19.5	90751	18.1	19.0	350372	18.2	20.9	419890	18.2	20.1	90285	18.3	19.3
467806	17.9	21.1	499730	18.1	20.1	522467	18.1	20.3	91429	18.2	19.6	203937	18.2	20.7	506233	18.3	21.1
289730	17.9	19.7	503245	18.1	18.9	139069	18.1	18.8	237738	18.2	19.6	183466	18.2	18.7	7504	18.3	17.0
184161	17.9	18.6	160741	18.1	20.2	206916	18.1	19.7	436685	18.2	21.7	494165	18.2	21.2	406414	18.3	20.5
288864	17.9	20.3	832223	18.1	19.4	57702	18.1	17.9	472699	18.2	21.2	393377	18.2	20.5	140396	18.3	19.3
464938	17.9	21.9	251499	18.1	21.0	378306	18.1	19.5	10034	18.2	16.9	240268	18.2	19.9	419346	18.3	20.0
387398	17.9	19.9	847	18.1	14.5	342313	18.1	20.6	406374	18.2	21.4	414461	18.2	19.9	314184	18.3	20.6
341332	17.9	20.3	117180	18.1	19.4	494831	18.1	22.4	341718	18.2	21.1	520	18.2	15.1	458996	18.3	21.4
381961	17.9	20.2	89405	18.1	18.0	437090											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
395119	18.3	20.3	87792	18.4	20.2	152181	18.5	20.4	222639	18.6	19.6	140276	18.6	18.8	6077	18.7	16.9
149622	18.3	19.7	206764	18.4	19.4	95783	18.5	19.3	423778	18.6	20.0	57172	18.6	18.7	35997	18.7	19.5
282447	18.3	20.5	32320	18.4	18.5	202608	18.5	20.4	40074	18.6	18.5	247871	18.6	20.9	317159	18.7	20.2
410713	18.3	20.5	346688	18.4	20.2	259180	18.5	20.4	63550	18.6	19.2	185285	18.6	20.3	203439	18.7	20.6
417712	18.3	20.0	384247	18.4	19.9	228600	18.5	20.6	170176	18.6	19.5	506278	18.6	21.0	287225	18.7	21.6
382879	18.4	21.1	463146	18.4	21.1	419852	18.5	21.1	506822	18.6	20.9	286232	18.6	20.5	386559	18.7	20.1
402537	18.4	19.4	153130	18.4	19.9	238812	18.5	20.3	124285	18.6	20.6	430970	18.6	20.7	301326	18.7	20.9
385629	18.4	19.6	264640	18.4	21.2	311897	18.5	20.5	507299	18.6	21.0	276629	18.6	20.6	186860	18.7	19.9
389156	18.4	20.3	67012	18.4	18.6	160501	18.5	19.5	113687	18.6	18.9	390144	18.6	21.4	3534	18.7	16.2
227020	18.4	19.1	461396	18.4	21.5	110348	18.5	18.7	306681	18.6	21.4	361132	18.6	20.2	246993	18.7	21.0
419786	18.4	21.1	135383	18.4	20.3	34772	18.5	19.3	65674	18.6	19.9	241851	18.6	19.5	409974	18.7	21.6
138558	18.4	20.2	457720	18.4	20.5	35875	18.5	18.0	288434	18.6	19.4	90367	18.6	18.1	423615	18.7	21.8
278748	18.4	20.4	157688	18.4	19.5	82540	18.5	19.0	382208	18.6	20.0	113994	18.6	19.5	410070	18.7	21.3
146428	18.4	20.1	105997	18.4	19.7	62503	18.5	17.8	381451	18.6	20.7	365450	18.6	20.8	366466	18.7	19.5
495006	18.4	21.8	498971	18.4	21.1	416974	18.5	21.6	205448	18.6	19.6	31136	18.6	16.7	308172	18.7	19.0
3065	18.4	15.7	280237	18.4	21.3	178433	18.5	19.9	420585	18.6	20.2	61744	18.6	19.1	205453	18.7	20.3
436951	18.4	21.3	326362	18.4	20.2	472962	18.5	20.7	104650	18.6	18.9	463751	18.6	21.6	433937	18.7	21.1
186041	18.4	20.3	313153	18.4	21.5	306653	18.5	21.1	285621	18.6	21.0	420228	18.6	20.4	33853	18.7	19.2
126884	18.4	19.4	318066	18.4	19.6	143479	18.5	19.5	105899	18.6	19.8	119800	18.6	19.5	319776	18.7	21.0
164648	18.4	19.9	222334	18.4	20.7	31226	18.5	18.1	87590	18.6	19.9	55699	18.6	19.4	462101	18.7	21.7
328578	18.4	21.0	55962	18.4	17.9	240072	18.5	19.4	346233	18.6	21.7	433734	18.6	20.6	235727	18.7	19.5
500281	18.4	21.2	192538	18.4	20.5	334508	18.5	20.8	410401	18.6	20.5	330920	18.6	19.9	208959	18.7	19.5
316032	18.4	21.0	501483	18.4	19.7	65849	18.5	19.0	284122	18.6	20.9	208700	18.6	19.2	488749	18.7	22.4
500020	18.4	21.7	336838	18.4	20.5	159849	18.5	20.1	26031	18.6	19.2	4526	18.6	15.6	425844	18.7	20.3
434328	18.4	19.5	198921	18.5	20.0	370811	18.5	20.4	110179	18.6	19.1	423210	18.7	21.0	122430	18.7	18.1
168601	18.4	19.2	429199	18.5	21.2	505162	18.5	22.0	464674	18.6	21.8	216164	18.7	20.0	107189	18.7	18.4
462294	18.4	20.6	64714	18.5	18.9	285731	18.5	19.7	466757	18.6	21.2	19147	18.7	17.8	290140	18.7	19.0
269403	18.4	21.1	240004	18.5	20.6	333100	18.5	20.8	271839	18.6	20.9	364213	18.7	19.5	469224	18.7	21.2
28043	18.4	17.6	39796	18.5	19.9	127815	18.5	18.5	249554	18.6	19.5	130732	18.7	20.0	431259	18.7	20.7
470212	18.4	21.1	119312	18.5	19.3	419158	18.5	20.7	171082	18.6	19.8	153596	18.7	19.6	348207	18.7	21.2
374488	18.4	20.3	369752	18.5	20.5	461422	18.5	21.2	175656	18.6	20.4	372520	18.7	21.4	167478	18.7	19.6
8487	18.4	17.4	125941	18.5	19.2	47999	18.5	17.8	381141	18.6	21.0	284675	18.7	20.3	1993	18.7	17.4
456742	18.4	20.6	349948	18.5	19.5	170805	18.5	19.5	377344	18.6	20.4	370719	18.7	20.4	311580	18.7	19.8
16349	18.4	18.4	504199	18.5	21.7	122667	18.5	19.2	17884	18.6	17.5	365184	18.7	19.1	435974	18.7	20.0
386599	18.4	20.1	91035	18.5	18.1	384227	18.5	19.8	380171	18.6	21.1	57211	18.7	18.6	214126	18.7	18.8
503236	18.4	20.5	123102	18.5	19.9	22583	18.5	18.9	321704	18.6	20.5	374560	18.7	20.6	10729	18.7	18.0
428990	18.4	21.0	102094	18.5	19.6	241056	18.5	20.6	276205	18.6	20.7	423777	18.7	20.4	191936	18.7	20.5
254518	18.4	19.5	267374	18.5	21.2	387286	18.5	20.8	284466	18.6	20.9	507337	18.7	22.0	229599	18.7	21.1
44479	18.4	19.0	239835	18.5	19.5	391293	18.5	21.5	287626	18.6	19.0	30785	18.7	20.3	334533	18.7	21.0
152077	18.4	19.5	287122	18.5	19.6	85381	18.5	19.7	50218	18.6	17.1	467363	18.7	22.6	432081	18.7	21.0
222782	18.4	19.7	22240	18.5	17.4	502976	18.5	21.1	27217	18.6	17.5	335566	18.7	20.1	208624	18.7	19.7
267737	18.4	19.4	299857	18.5	20.7	419224	18.5	21.6	398678	18.6	19.9	118231	18.7	19.6	386608	18.7	20.0
177092	18.4	18.9	30490	18.5	17.7	134468	18.5	19.5	238005	18.6	20.3	294726	18.7	20.4	390978	18.7	20.7
76611	18.4	19.0	331176	18.5	20.4	66481	18.5	17.8	422455	18.6	22.1	341551	18.7	21.8	173462	18.7	20.3
465692	18.4	21.3	157702	18.5	19.8	317601	18.5	21.0	55052	18.6	19.2	313609	18.7	21.1	422767	18.7	22.0
455566	18.4	21.2	363055	18.5	21.1	26268	18.5	19.1	466510	18.6	21.1	431892	18.7	21.5	497645	18.7	21.5
385426	18.4	19.4	192546	18.5	19.4	502498	18.5	21.1	100660	18.6	19.1	464406	18.7	20.2	157497	18.7	20.2
74310	18.4	19.5	123756	18.5	19.5	87734	18.5	20.7	377859	18.6	20.5	119611	18.7	19.9	137058	18.7	20.3
110267	18.4	18.8	219681	18.5	20.9	332757	18.5	21.0	150291	18.6	19.9	138770	18.7	19.9	247075	18.7	20.5
264601	18.4	19.9	350946	18.5	21.5	407869	18.5	21.2	26207	18.6	19.4	94062	18.7	18.3	99423	18.7	19.2
362422	18.4	21.0	141091	18.5	20.5	155025	18.5	19.1	491758	18.6	21.0	432574	18.7	21.1	369336	18.7	20.7
348429	18.4	20.5	458831	18.5	21.8	65294	18.5	18.0	344592	18.6	19.9	386134	18.7	20.7	307958	18.7	19.8
123764	18.4	19.2	86844	18.5	19.5	427115	18.5	21.6	350351	18.6	20.4	464949	18.7	21.1	401173	18.7	22.0
107667	18.4	19.3	157480	18.5	20.3	17388	18.5	17.6	72022	18.6	19.1	429731	18.7	20.4	296848	18.7	21.0
386185	18.4	21.3	247754	18.5	19.5	162541	18.5	20.4	402045	18.6	21.8	457731	18.7	20.3	468263	18.7	20.6
467857	18.4	20.2	326985	18.5	20.7	505217	18.5	20.7	191814	18.6	20.4	274705	18.7	20.1	106792	18.8	20.5
328356	18.4	20.2	455265	18.5	21.2	497670	18.5	20.9	459111	18.6	20.2	31333	18.7	18.1	147595	18.8	19.2
368585	18.4	21.4	54925	18.5	18.5	188810	18.5	19.3	272957	18.6	19.5	209486	18.7	19.0	243298	18.8	19.7
231528	18.4	20.2	245169	18.5	20.1	109276	18.5	20.7	413945	18.6	20.0	100042	18.7	19.7	374124	18.8	19.7
362455	18.4	20.3	49864	18.5	16.8	386954	18.5	20.2	74647	18.6	20.1	362389	18.7	20.7	63453	18.8	18.9
511900	18.4	21.3	83269	18.5	18.1												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V															
326455	18.8	20.7	326415	18.8	20.2	413176	18.9	21.8	201089	18.9	19.9	84894	19.0	19.4	430234	19.1	21.2
520134	18.8	20.9	208436	18.8	20.5	399714	18.9	20.3	437616	18.9	20.5	451100	19.0	20.7	480803	19.1	21.3
12792	18.8	18.9	130577	18.8	18.5	22305	18.9	18.3	92940	18.9	18.2	502782	19.0	21.0	229898	19.1	20.8
464199	18.8	21.3	285349	18.8	21.5	374134	18.9	20.6	383642	18.9	21.8	419666	19.0	21.3	54213	19.1	18.6
171369	18.8	20.0	166820	18.8	20.3	219391	18.9	18.9	341600	18.9	20.6	433251	19.1	20.6	205739	19.1	20.4
381395	18.8	20.9	505854	18.8	20.8	497400	18.9	22.6	500733	18.9	21.4	229189	19.1	20.6	148725	19.1	20.2
148396	18.8	20.4	432117	18.8	21.3	522694	18.9	22.2	463684	18.9	21.6	289168	19.1	19.9	153559	19.1	21.3
122610	18.8	20.0	181670	18.8	19.6	415329	18.9	21.5	409801	18.9	21.6	120873	19.1	19.6	272308	19.1	21.2
469742	18.8	22.0	408708	18.8	19.9	39720	18.9	18.9	10453	18.9	17.7	296034	19.1	20.5	247710	19.1	19.4
325180	18.8	20.0	401440	18.9	20.2	313600	18.9	21.0	448738	18.9	20.7	383745	19.1	20.4	217038	19.1	20.9
74644	18.8	20.6	377448	18.9	20.2	253328	18.9	18.4	241353	18.9	20.0	28838	19.1	17.6	300121	19.1	21.2
3223	18.8	14.4	229251	18.9	20.2	100669	18.9	20.6	271287	18.9	20.7	253223	19.1	18.8	468126	19.1	19.9
175701	18.8	21.2	463550	18.9	20.2	61118	18.9	18.5	498690	18.9	21.7	285904	19.1	21.8	246279	19.1	20.7
359380	18.8	20.2	181863	18.9	19.4	115219	18.9	20.0	365195	18.9	20.4	60904	19.1	18.3	337397	19.1	20.5
142628	18.8	18.9	90226	18.9	18.4	145654	18.9	21.0	500247	18.9	20.7	432810	19.1	20.1	173139	19.1	20.9
331809	18.8	21.7	455361	18.9	22.0	138146	18.9	18.8	260867	18.9	19.7	398884	19.1	20.5	74743	19.1	19.1
422762	18.8	22.5	503573	18.9	21.0	374508	18.9	21.0	453312	18.9	20.8	204964	19.1	19.4	109914	19.1	18.6
67008	18.8	19.9	269787	18.9	20.5	19224	18.9	20.3	128920	18.9	19.4	92342	19.1	18.3	498146	19.1	21.9
338359	18.8	20.2	394392	18.9	19.1	124834	18.9	19.4	166752	18.9	19.9	79712	19.1	19.1	168349	19.1	19.6
162961	18.8	20.5	384949	18.9	21.0	89674	18.9	19.8	151062	18.9	20.2	404954	19.1	21.4	36388	19.1	19.1
292533	18.8	21.1	248631	18.9	19.7	488594	18.9	22.0	434816	18.9	21.5	158739	19.1	20.1	500417	19.1	21.3
522680	18.8	21.1	497360	18.9	22.3	426477	18.9	21.5	208501	18.9	21.0	467366	19.1	21.7	249544	19.1	20.8
503751	18.8	19.2	366393	18.9	22.0	365136	18.9	19.3	65573	18.9	18.8	98314	19.1	18.7	128886	19.1	19.5
316773	18.8	21.6	423544	18.9	21.7	165865	18.9	19.3	169237	18.9	21.2	141896	19.1	20.0	273968	19.1	19.8
13406	18.8	17.3	349896	18.9	20.3	192032	18.9	20.0	148787	18.9	20.0	221206	19.1	20.5	497802	19.1	21.0
358103	18.8	20.0	343656	18.9	21.1	522681	18.9	21.7	88717	18.9	18.9	499728	19.1	20.0	176335	19.1	20.7
29268	18.8	18.2	391327	18.9	20.3	341710	18.9	20.6	418284	19.0	20.8	269272	19.1	19.9	55417	19.1	16.5
407925	18.8	20.7	263784	18.9	20.5	464133	18.9	21.1	326708	19.0	19.3	18170	19.1	18.7	364198	19.1	20.9
325195	18.8	19.5	143201	18.9	18.8	91140	18.9	19.0	249128	19.0	20.1	149492	19.1	18.2	2208	19.1	16.0
420144	18.8	20.3	297814	18.9	20.2	81847	18.9	18.3	410269	19.0	20.9	107751	19.1	18.8	500997	19.1	21.5
229126	18.8	19.9	115522	18.9	18.9	64503	18.9	18.7	166577	19.0	19.5	407890	19.1	20.9	341602	19.1	20.7
241684	18.8	20.5	102558	18.9	19.5	331923	18.9	20.7	224395	19.0	20.5	219760	19.1	19.9	415365	19.1	20.4
85579	18.8	20.1	328716	18.9	21.3	389896	18.9	21.2	409772	19.0	20.6	426133	19.1	19.9	356319	19.1	19.9
316091	18.8	19.9	135001	18.9	19.3	422313	18.9	20.6	280041	19.0	20.8	150997	19.1	20.0	195575	19.1	19.9
121013	18.8	17.9	33657	18.9	18.9	245929	18.9	21.1	95341	19.0	19.1	41507	19.1	19.3	344934	19.1	20.0
430154	18.8	20.4	470434	18.9	22.0	301328	18.9	20.2	267203	19.0	20.0	166708	19.1	20.0	428819	19.1	20.9
369573	18.8	21.6	477646	18.9	20.9	447702	18.9	20.6	535	19.0	14.7	241572	19.1	19.6	385309	19.2	20.0
396595	18.8	21.1	85777	18.9	19.5	213791	18.9	20.2	505144	19.0	21.8	115083	19.1	19.6	198496	19.2	18.7
78217	18.8	18.5	286325	18.9	21.1	127945	18.9	19.9	338211	19.0	20.6	433498	19.1	20.8	17536	19.2	19.3
89459	18.8	19.2	419686	18.9	21.6	467508	18.9	20.4	436361	19.0	21.0	408763	19.1	20.5	198561	19.2	20.0
169183	18.8	20.7	165271	18.9	19.2	303194	18.9	20.0	503757	19.0	20.7	293857	19.1	20.9	86779	19.2	18.4
357104	18.8	21.5	17437	18.9	17.2	139874	18.9	20.3	436298	19.0	20.5	455235	19.1	21.6	142948	19.2	19.4
115067	18.8	18.5	217916	18.9	20.8	348832	18.9	20.7	283390	19.0	20.9	129566	19.1	19.8	454431	19.2	20.4
7446	18.8	16.5	211829	18.9	19.2	110632	18.9	20.0	214771	19.0	20.6	11963	19.1	17.7	204849	19.2	20.8
433589	18.8	20.5	68119	18.9	19.5	521187	18.9	20.8	28408	19.0	18.3	125772	19.1	19.7	341680	19.2	21.1
456845	18.8	21.7	355753	18.9	21.6	139948	18.9	20.6	522469	19.0	20.2	70240	19.1	19.0	433744	19.2	19.5
151178	18.8	20.5	128342	18.9	20.2	365501	18.9	21.2	300037	19.0	20.6	100077	19.1	20.0	386584	19.2	20.5
503918	18.8	21.8	501362	18.9	20.3	4135	18.9	17.3	69139	19.0	19.2	2161	19.1	16.7	523772	19.2	21.6
204713	18.8	19.4	252942	18.9	19.8	210233	18.9	20.6	337846	19.0	20.3	53934	19.1	19.2	186532	19.2	19.1
377439	18.8	20.3	60080	18.9	19.0	344409	18.9	19.9	381532	19.0	21.2	132095	19.1	20.6	323125	19.2	19.0
501078	18.8	20.4	425134	18.9	21.8	99703	18.9	19.4	27158	19.0	17.0	73670	19.1	18.1	506219	19.2	20.7
519386	18.8	20.6	374074	18.9	20.6	310028	18.9	21.0	94288	19.0	20.0	127093	19.1	19.0	79419	19.2	18.9
170842	18.8	19.6	323417	18.9	20.0	138601	18.9	19.9	506022	19.0	21.2	126097	19.1	18.4	87861	19.2	19.5
219780	18.8	20.7	299494	18.9	20.1	218815	18.9	20.1	214724	19.0	21.1	150846	19.1	20.9	471811	19.2	20.8
262958	18.8	18.6	506743	18.9	21.4	173349	18.9	19.9	4174	19.0	16.8	350479	19.1	20.6	292725	19.2	21.1
18038	18.8	18.0	210388	18.9	20.8	501255	18.9	22.2	287484	19.0	19.5	124248	19.1	19.5	68369	19.2	18.8
219766	18.8	21.6	75135	18.9	19.2	41612	18.9	18.7	306465	19.0	19.9	569	19.1	13.6	385197	19.2	20.6
166683	18.8	19.1	165908	18.9	20.4	150109	18.9	19.1	143246	19.0	19.0	281217	19.1	20.2	207142	19.2	20.0
413279	18.8	22.0	103950	18.9	19.1	403863	18.9	19.8	249091	19.0	20.7	435856	19.1	20.3	390088	19.2	20.5
349945	18.8	20.6	246651	18.9	20.3	177702	18.9	20.6	257003	19.0	19.5	360577	19.1	21.2	512301	19.2	20.5
303252	18.8	21.5	268532	18.9	20.2	37											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
293445	19.2	20.3	396795	19.3	20.9	225154	19.3	20.7	168056	19.4	19.3	497437	19.5	21.1	83827	19.5	19.1
471236	19.2	20.1	1589	19.3	15.4	499290	19.3	21.4	165263	19.4	20.4	133868	19.5	19.3	512299	19.5	20.8
55635	19.2	18.1	419012	19.3	21.9	224310	19.3	20.3	118780	19.4	19.7	29727	19.5	19.3	266887	19.5	20.3
410548	19.2	20.2	298817	19.3	21.5	247840	19.3	20.2	480450	19.4	21.1	465754	19.5	20.2	142496	19.5	19.2
407791	19.2	20.6	463698	19.3	21.8	385887	19.3	20.2	343497	19.4	20.1	200598	19.5	19.4	344810	19.5	21.1
38124	19.2	17.9	183157	19.3	20.4	189304	19.3	19.4	198891	19.4	19.6	3147	19.5	16.8	164496	19.5	18.6
503853	19.2	22.3	519512	19.3	20.6	303708	19.3	21.6	473747	19.4	20.3	90043	19.5	19.5	207692	19.5	20.0
405013	19.2	20.6	500295	19.3	21.5	426624	19.3	21.7	8363	19.4	16.6	372654	19.5	19.8	135655	19.5	18.6
28484	19.2	17.9	517648	19.3	20.2	278461	19.3	20.2	171526	19.4	19.9	427432	19.5	21.9	129425	19.5	19.4
152199	19.2	19.7	245634	19.3	19.9	491628	19.3	21.7	13408	19.4	18.7	231332	19.5	21.0	163344	19.5	19.1
508676	19.2	21.1	88571	19.3	19.3	20744	19.3	17.9	104756	19.4	19.1	83830	19.5	18.5	251021	19.5	20.8
988	19.2	17.0	193786	19.3	19.8	294667	19.3	20.8	136466	19.4	20.1	417245	19.5	21.5	10362	19.5	18.3
342970	19.2	20.2	203408	19.3	19.8	211525	19.3	20.6	114754	19.4	19.3	422436	19.5	21.2	175965	19.5	19.8
145424	19.2	20.7	248427	19.3	20.4	351676	19.3	21.2	511770	19.4	21.3	231809	19.5	18.6	72837	19.5	19.1
415285	19.2	20.4	310344	19.3	21.3	110743	19.3	19.2	96976	19.4	18.8	89993	19.5	18.1	171967	19.5	20.0
166785	19.2	19.9	327328	19.3	20.0	124609	19.3	18.5	100895	19.4	19.2	85319	19.5	19.8	272563	19.5	21.7
459498	19.2	20.8	56942	19.3	18.7	303383	19.3	20.5	425172	19.4	20.8	389235	19.5	20.6	363221	19.5	18.4
83803	19.2	19.4	202281	19.3	19.7	359020	19.3	21.7	68263	19.4	19.8	83486	19.5	18.5	413459	19.5	19.6
35747	19.2	19.0	437067	19.3	20.8	365491	19.3	21.5	422505	19.4	21.6	293500	19.5	19.6	389253	19.5	19.9
413198	19.2	21.0	403293	19.3	21.1	248975	19.3	19.3	165432	19.4	19.5	32223	19.5	17.5	143480	19.5	19.5
213802	19.2	19.3	283077	19.3	21.2	90712	19.4	20.1	487587	19.4	20.0	45754	19.5	19.1	196518	19.5	19.9
137083	19.2	20.1	519660	19.3	21.9	506185	19.4	21.7	22658	19.4	17.8	82858	19.5	19.6	272712	19.5	20.5
57052	19.2	19.7	29921	19.3	17.7	288940	19.4	20.2	103178	19.4	20.7	105902	19.5	18.4	477600	19.5	21.0
59864	19.2	18.8	270858	19.3	20.7	523780	19.4	21.6	421226	19.4	20.9	24809	19.5	17.4	87002	19.5	19.5
86382	19.2	19.2	94486	19.3	19.7	126741	19.4	20.3	299563	19.4	20.2	352681	19.5	20.1	465185	19.6	20.8
498129	19.2	21.7	363237	19.3	22.0	378334	19.4	20.9	106621	19.4	19.6	231783	19.5	18.9	60928	19.6	18.7
342890	19.2	20.5	363736	19.3	20.7	317865	19.4	20.8	423488	19.4	21.6	153144	19.5	20.1	17127	19.6	18.0
291885	19.2	21.3	59575	19.3	18.7	332558	19.4	21.1	365220	19.4	20.2	112183	19.5	19.3	340093	19.6	20.8
227705	19.2	20.6	328826	19.3	20.2	153747	19.4	19.9	120417	19.4	20.7	501488	19.5	20.9	144741	19.6	19.2
168307	19.2	20.6	208990	19.3	19.1	505260	19.4	22.3	179270	19.4	19.9	69303	19.5	18.0	49267	19.6	18.3
412863	19.2	21.2	505302	19.3	20.9	522652	19.4	21.1	383631	19.4	21.4	126145	19.5	19.4	240500	19.6	19.8
419259	19.2	21.5	293435	19.3	21.2	498180	19.4	21.6	32767	19.4	19.3	21893	19.5	18.5	224330	19.6	19.7
402192	19.2	21.0	240578	19.3	20.4	522398	19.4	20.9	429631	19.4	19.8	386989	19.5	22.0	76965	19.6	18.5
221322	19.2	20.9	10151	19.3	17.9	415353	19.4	20.4	174018	19.4	20.3	50898	19.5	18.7	166907	19.6	19.1
380458	19.2	21.1	194672	19.3	19.9	425302	19.4	20.8	308076	19.4	21.4	2607	19.5	17.6	262032	19.6	19.7
323823	19.2	21.4	425145	19.3	21.3	376795	19.4	21.2	62583	19.4	19.2	292557	19.5	20.1	134245	19.6	18.2
372471	19.2	20.6	72611	19.3	18.5	429994	19.4	22.0	191207	19.4	19.9	371040	19.5	22.1	437272	19.6	20.8
346799	19.2	20.7	232783	19.3	21.3	198241	19.4	21.0	315254	19.4	20.5	295814	19.5	20.6	268038	19.6	20.4
158732	19.2	20.1	278360	19.3	19.9	325297	19.4	20.5	332529	19.4	20.8	421639	19.5	20.6	374133	19.6	20.5
75576	19.2	17.0	490551	19.3	20.9	122348	19.4	19.0	178208	19.4	19.6	402010	19.5	19.7	409186	19.6	22.3
207081	19.2	19.5	90316	19.3	18.8	501422	19.4	21.9	234996	19.4	19.5	33100	19.5	17.9	122620	19.6	19.8
469746	19.2	21.3	89733	19.3	19.6	297810	19.4	20.6	472833	19.4	20.5	414243	19.5	20.1	399852	19.6	20.0
273319	19.2	21.2	274214	19.3	20.9	69735	19.4	17.8	94601	19.4	19.4	339444	19.5	20.4	121011	19.6	20.5
522568	19.2	20.6	372552	19.3	21.3	360285	19.4	20.6	123514	19.4	20.0	310931	19.5	20.5	321357	19.6	20.0
310915	19.2	20.9	508617	19.3	20.2	482299	19.4	21.7	347960	19.4	21.4	235945	19.5	20.3	437542	19.6	20.4
371043	19.2	20.5	30891	19.3	18.3	184057	19.4	19.3	502338	19.4	20.9	5699	19.5	17.6	182095	19.6	19.9
129194	19.2	19.0	344608	19.3	19.8	471168	19.4	21.0	103126	19.4	19.2	284307	19.5	19.9	223624	19.6	20.2
467266	19.2	21.1	236004	19.3	19.4	414038	19.4	22.0	434540	19.4	20.2	378790	19.5	21.0	225559	19.6	20.6
255835	19.2	19.8	217298	19.3	20.1	393821	19.4	21.1	315382	19.4	21.1	61377	19.5	19.0	466194	19.6	21.6
379628	19.2	21.0	84158	19.3	18.1	428808	19.4	21.4	102357	19.5	20.6	383704	19.5	21.1	417509	19.6	21.6
500930	19.2	22.3	100631	19.3	20.4	431805	19.4	21.4	309313	19.5	19.4	60390	19.5	19.3	8050	19.6	18.5
466101	19.2	20.9	435941	19.3	20.4	38840	19.4	18.7	88579	19.5	18.6	227877	19.5	18.9	108990	19.6	19.7
206244	19.2	19.5	54629	19.3	18.0	464945	19.4	21.5	55512	19.5	19.1	83581	19.5	19.3	426574	19.6	20.9
311239	19.2	19.6	464525	19.3	20.2	222646	19.4	20.1	30824	19.5	17.8	163463	19.5	19.8	384078	19.6	19.9
224511	19.2	20.7	458930	19.3	22.1	426871	19.4	20.0	374969	19.5	20.0	127577	19.5	20.3	18320	19.6	17.1
241311	19.2	18.8	200135	19.3	20.3	171596	19.4	20.8	155514	19.5	20.2	303315	19.5	20.6	36307	19.6	18.2
368791	19.2	21.5	496359	19.3	21.0	506311	19.4	20.2	489313	19.5	21.7	46518	19.5	18.8	433791	19.6	21.0
8593	19.2	16.1	42572	19.3	18.2	305547	19.4	20.4	187787	19.5	19.8	12964	19.5	18.0	125041	19.6	19.9
282159	19.2	20.2	169400	19.3	19.9	69704	19.4	18.1	303844	19.5	20.7	229965	19.5	20.7	496467	19.6	21.8
489479	19.2	21.5	10945	19.3	17.1	109448	19.4	18.5	169210	19.5	19.1	457261	19.5	19.4	392708	19.6	21.8
128043	19.2	19.0	94662	19.3	19.9	207073	19										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
102447	19.6	19.3	544476	19.7	18.8	500599	19.7	21.7	266248	19.8	20.2	32799	19.9	17.6	158160	19.9	20.4
5062	19.6	17.1	321278	19.7	20.3	351909	19.7	21.9	350143	19.8	19.8	277810	19.9	20.9	341592	19.9	20.9
320304	19.6	19.9	97837	19.7	20.3	483341	19.7	21.6	43013	19.8	19.5	83852	19.9	19.4	498754	19.9	21.8
200890	19.6	19.7	109437	19.7	19.8	184989	19.7	20.7	212665	19.8	19.5	119504	19.9	19.3	12962	19.9	17.7
294867	19.6	20.5	140877	19.7	20.0	209487	19.7	19.1	88940	19.8	19.6	225066	19.9	19.5	109302	19.9	18.6
67797	19.6	18.5	242252	19.7	20.9	477580	19.7	21.8	38727	19.8	20.3	327883	19.9	20.0	497566	19.9	20.7
424644	19.6	20.4	132740	19.7	19.8	160729	19.7	20.5	83620	19.8	19.0	21992	19.9	16.9	430114	19.9	20.9
368970	19.6	20.7	26383	19.7	17.0	176301	19.7	20.7	200796	19.8	19.4	243188	19.9	20.4	302057	19.9	19.8
470004	19.6	22.7	317531	19.7	20.8	426974	19.8	20.3	502832	19.8	20.2	216597	19.9	21.2	42942	19.9	19.4
522317	19.6	20.6	371160	19.7	21.0	115283	19.8	18.9	460064	19.8	21.4	169224	19.9	19.7	415968	19.9	21.4
303740	19.6	20.4	44057	19.7	18.5	259331	19.8	18.5	411237	19.8	22.0	143369	19.9	19.3	284632	19.9	19.8
413830	19.6	22.6	473863	19.7	20.8	337712	19.8	20.3	58183	19.8	19.7	430833	19.9	20.2	99989	19.9	19.4
432220	19.6	20.4	199491	19.7	20.3	436252	19.8	20.6	185377	19.8	20.8	13103	19.9	17.2	379697	19.9	20.5
170965	19.6	19.4	504915	19.7	20.7	377406	19.8	21.2	294711	19.8	20.5	375026	19.9	20.4	207788	19.9	20.3
127694	19.6	19.0	507017	19.7	21.4	373113	19.8	20.0	205396	19.8	18.7	231399	19.9	20.6	337015	19.9	20.6
238462	19.6	20.7	123588	19.7	19.3	328226	19.8	20.5	224933	19.8	18.9	225514	19.9	20.4	424009	19.9	20.8
434804	19.6	20.3	452770	19.7	21.3	33292	19.8	17.7	462200	19.8	22.2	368584	19.9	21.6	211994	19.9	20.6
501489	19.6	20.7	496913	19.7	22.3	349378	19.8	20.9	268486	19.8	20.5	45654	19.9	20.1	248545	19.9	19.6
148331	19.6	19.4	116443	19.7	19.6	172559	19.8	19.3	170329	19.8	19.3	417205	19.9	21.8	488769	19.9	20.7
277671	19.6	19.3	387242	19.7	21.0	5874	19.8	16.6	37647	19.8	17.3	352729	19.9	20.4	424794	19.9	20.0
153910	19.6	18.6	291739	19.7	21.0	396684	19.8	21.5	60873	19.8	18.8	242208	19.9	20.6	377171	19.9	20.5
246974	19.6	20.3	128763	19.7	19.8	459982	19.8	22.0	435902	19.8	19.5	155835	19.9	20.1	173336	19.9	20.7
59249	19.6	16.7	405403	19.7	21.7	239476	19.8	20.5	364231	19.8	22.2	276976	19.9	21.2	98501	19.9	19.4
135388	19.6	18.7	462142	19.7	21.8	232581	19.8	20.3	505171	19.8	21.2	199227	19.9	20.4	192727	19.9	20.8
53152	19.6	17.6	217852	19.7	20.8	212121	19.8	21.0	522834	19.8	21.3	351548	19.9	20.6	357991	19.9	20.9
334687	19.6	19.5	428728	19.7	21.2	463189	19.8	20.4	317385	19.8	20.9	495447	19.9	22.0	265292	19.9	19.5
501504	19.6	20.9	358037	19.7	20.0	243293	19.8	19.9	91299	19.8	18.3	196659	19.9	19.8	333741	19.9	20.2
345754	19.6	19.7	500641	19.7	20.9	324545	19.8	19.6	432934	19.8	20.9	136701	19.9	20.0	271204	19.9	20.8
144803	19.6	19.3	300200	19.7	20.6	153721	19.8	19.5	39100	19.8	19.7	240041	19.9	20.0	363035	19.9	21.3
77942	19.6	19.7	166803	19.7	19.2	347003	19.8	20.7	151772	19.8	19.2	312172	19.9	20.0	159560	19.9	21.1
138405	19.6	18.6	149929	19.7	20.0	105174	19.8	17.7	362039	19.8	20.3	501039	19.9	23.0	175158	19.9	19.5
88898	19.6	18.3	469181	19.7	19.1	325136	19.8	19.7	147813	19.8	19.4	189790	19.9	20.1	522553	19.9	21.4
231495	19.6	20.8	161774	19.7	19.3	342978	19.8	20.1	345612	19.8	21.1	36481	19.9	18.5	202830	19.9	21.2
381692	19.6	20.5	363468	19.7	21.5	143551	19.8	19.6	5544	19.8	16.4	320413	19.9	20.6	258514	19.9	19.6
264280	19.6	21.7	9214	19.7	16.5	386259	19.8	19.7	62053	19.8	18.9	175546	19.9	19.6	437632	19.9	20.6
135484	19.6	19.2	264684	19.7	20.0	454163	19.8	20.6	308306	19.8	22.9	228388	19.9	18.7	477762	19.9	20.9
231352	19.6	20.1	148843	19.7	19.7	250983	19.8	20.4	246923	19.8	20.6	89636	19.9	20.0	170240	19.9	20.9
472864	19.6	19.9	497752	19.7	21.2	114295	19.8	19.7	75628	19.8	19.2	420052	19.9	20.3	472988	19.9	20.1
498370	19.6	21.4	292028	19.7	21.5	124199	19.8	20.2	12115	19.8	16.2	18140	19.9	18.8	262763	19.9	19.2
1763	19.6	16.3	5190	19.7	16.4	519538	19.8	20.4	307429	19.8	20.9	278970	19.9	20.4	18023	19.9	18.5
432110	19.6	20.1	373880	19.7	20.3	439552	19.8	19.9	187454	19.8	19.2	523624	19.9	21.3	171773	19.9	18.8
413952	19.6	20.7	447453	19.7	19.5	401201	19.8	20.4	372468	19.8	20.2	278179	19.9	20.3	369308	19.9	21.4
50619	19.6	18.1	497293	19.7	22.1	195205	19.8	19.9	246159	19.8	20.4	506710	19.9	21.7	317098	19.9	20.0
470917	19.6	20.9	460200	19.7	21.3	66024	19.8	18.1	288571	19.8	20.7	50871	19.9	18.8	95277	19.9	19.4
70385	19.6	20.1	247848	19.7	20.6	337943	19.8	21.3	29309	19.8	20.6	102135	19.9	19.9	378783	19.9	21.1
87710	19.6	18.9	93562	19.7	19.6	464678	19.8	21.3	201534	19.8	20.1	214750	19.9	19.6	83023	19.9	18.4
308484	19.6	21.2	456769	19.7	21.4	458857	19.8	20.5	348052	19.8	21.0	161671	19.9	19.8	244628	19.9	20.3
523803	19.6	23.7	264554	19.7	21.4	192716	19.8	19.7	150735	19.8	21.2	243444	19.9	20.0	357141	19.9	20.0
386231	19.6	20.0	380102	19.7	20.8	433190	19.8	20.6	69091	19.8	19.0	247775	19.9	18.8	426391	19.9	21.5
382902	19.6	22.3	46232	19.7	18.7	242198	19.8	20.0	2275	19.8	16.2	38902	19.9	18.7	329358	19.9	20.9
348985	19.6	20.9	257218	19.7	19.4	493485	19.8	20.6	389278	19.8	20.7	410685	19.9	21.3	160566	19.9	19.8
329790	19.6	21.5	211897	19.7	20.2	117072	19.8	19.3	388085	19.8	20.7	208981	19.9	19.6	284620	19.9	20.9
388770	19.6	20.7	346856	19.7	20.7	167003	19.8	20.0	497805	19.8	22.3	93824	19.9	20.6	198540	19.9	20.3
246421	19.6	20.0	508788	19.7	23.6	378840	19.8	20.3	34824	19.8	18.4	508522	19.9	20.6	298966	19.9	20.1
174561	19.6	19.1	14852	19.7	19.0	8005	19.8	17.0	173487	19.8	20.2	152666	19.9	20.5	432050	19.9	21.5
362729	19.7	20.7	113228	19.7	19.1	156054	19.8	20.0	216630	19.8	19.7	471863	19.9	21.3	100380	19.9	19.9
350932	19.7	21.2	67938	19.7	18.7	433226	19.8	20.4	520279	19.8	21.1	244121	19.9	20.2	105881	19.9	20.0
140922	19.7	19.5	495842	19.7	21.8	18582	19.8	19.2	411329	19.9	20.4	40357	19.9	19.6	20244	19.9	17.3
175454	19.7	20.0	5308	19.7	17.9	61138	19.8	18.4	177363	19.9	20.2	269800	19.9	19.3	237637	19.9	20.4
412590	19.7	21.2	456835	19.7	21.6	165305	19.8	20.7	16931	19.9	18.1	100258	19.9	20.5	8866	19.9	17.0
332368	19.7	20.1	6058	19.7	16.9	338976</											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
266483	20.0	20.5	503069	20.1	20.6	52632	20.1	18.4	94652	20.2	19.1	329319	20.3	20.5	114739	20.4	18.9
243578	20.0	20.1	419763	20.1	20.8	53976	20.1	18.2	325633	20.2	20.4	92673	20.3	19.5	210832	20.4	20.3
81061	20.0	19.1	166983	20.1	18.7	497567	20.1	21.1	125788	20.2	20.1	460546	20.3	19.3	59171	20.4	17.9
498885	20.0	21.3	205815	20.1	19.8	404181	20.1	20.6	110314	20.2	18.9	170779	20.3	19.2	160502	20.4	20.0
140403	20.0	19.3	465176	20.1	20.8	210164	20.1	20.0	346209	20.2	21.6	326995	20.3	20.6	250208	20.4	20.5
31300	20.0	17.6	60312	20.1	19.7	62193	20.1	17.8	187408	20.2	20.3	523784	20.3	21.7	413138	20.4	21.3
328793	20.0	21.4	426816	20.1	20.4	304391	20.1	20.1	145616	20.2	20.3	227221	20.3	20.5	463173	20.4	20.1
172101	20.0	19.4	245684	20.1	19.3	276497	20.1	20.6	111136	20.2	19.7	408119	20.3	19.9	99688	20.4	19.2
377444	20.0	20.4	287103	20.1	22.0	410047	20.1	21.7	172499	20.2	20.3	313732	20.3	20.7	64971	20.4	20.3
426658	20.0	20.6	429964	20.1	20.5	286273	20.1	20.9	502307	20.2	20.9	293042	20.3	21.0	37501	20.4	18.6
145679	20.0	20.3	229127	20.1	20.0	497746	20.1	20.8	480463	20.2	20.5	149420	20.3	20.0	367505	20.4	20.8
278966	20.0	20.8	493486	20.1	20.1	455616	20.1	21.8	7378	20.2	17.1	147779	20.3	19.7	505029	20.4	21.3
174454	20.0	19.0	59325	20.1	18.2	155799	20.1	20.2	114991	20.2	20.1	437326	20.3	20.0	78639	20.4	21.1
344349	20.0	19.8	351995	20.1	19.8	344600	20.2	19.5	460055	20.2	21.3	433192	20.3	20.9	28266	20.4	18.2
163792	20.0	20.1	463778	20.1	20.2	229728	20.2	20.3	279386	20.2	20.5	381219	20.3	20.5	520195	20.4	21.3
173783	20.0	20.4	56594	20.1	18.1	377242	20.2	20.2	227493	20.2	20.7	426824	20.3	21.0	2905	20.4	15.5
207375	20.0	19.9	59198	20.1	18.0	288975	20.2	21.0	497923	20.2	21.6	207497	20.3	20.0	343086	20.4	19.7
203522	20.0	20.7	410171	20.1	20.3	199389	20.2	21.2	246391	20.2	20.5	356940	20.3	20.5	122023	20.4	19.3
420164	20.0	20.3	237686	20.1	20.1	162562	20.2	21.3	299983	20.2	21.5	140706	20.3	19.7	408656	20.4	21.4
111908	20.0	19.5	213021	20.1	21.3	18019	20.2	18.7	316875	20.2	20.4	317832	20.3	20.7	373402	20.4	21.2
365193	20.0	19.8	178263	20.1	20.4	277402	20.2	20.3	179602	20.2	20.6	209942	20.3	19.7	49092	20.4	17.7
66736	20.0	18.5	311351	20.1	21.2	167542	20.2	20.4	489372	20.2	22.1	190727	20.3	19.8	109432	20.4	19.8
114576	20.0	19.2	197382	20.1	20.8	135136	20.2	20.1	186907	20.2	19.2	498181	20.3	21.8	41253	20.4	18.8
384460	20.0	17.9	313607	20.1	21.3	13415	20.2	18.7	192403	20.2	19.9	341153	20.3	20.5	129472	20.4	20.3
92517	20.0	19.3	491805	20.1	21.3	413273	20.2	21.2	341351	20.2	20.1	297565	20.3	21.0	458981	20.4	21.7
64412	20.0	18.8	198364	20.1	19.7	116668	20.2	19.1	495398	20.2	22.7	300062	20.3	20.3	330909	20.4	21.7
192681	20.0	20.4	361627	20.1	20.5	90801	20.2	18.6	299286	20.2	21.1	505550	20.3	20.7	129607	20.4	20.6
506267	20.0	21.4	496392	20.1	23.2	320399	20.2	19.2	341479	20.2	20.5	504675	20.3	20.3	370028	20.4	21.4
86782	20.0	18.3	210504	20.1	19.4	301534	20.2	19.9	175234	20.2	20.2	162650	20.3	18.9	407293	20.4	19.9
369304	20.0	21.0	185550	20.1	20.1	20285	20.2	18.2	358604	20.2	20.5	438383	20.3	20.1	389901	20.4	21.1
273098	20.0	19.5	523587	20.1	23.2	939	20.2	15.6	331545	20.2	21.5	431874	20.3	20.9	354767	20.4	21.3
458801	20.0	22.1	279564	20.1	20.5	480749	20.2	20.4	29784	20.2	17.2	42075	20.3	18.2	275077	20.4	20.6
498405	20.0	20.9	410262	20.1	21.5	431634	20.2	21.3	102254	20.2	20.2	338420	20.3	19.4	497767	20.4	21.3
522637	20.0	20.4	125011	20.1	19.2	124686	20.2	19.9	499742	20.2	21.7	502852	20.2	21.2	163219	20.4	19.9
67675	20.0	19.1	304625	20.1	20.4	12744	20.2	18.0	351481	20.2	21.4	30885	20.3	17.8	272747	20.4	19.0
372880	20.0	20.0	210567	20.1	20.6	162654	20.2	19.5	172947	20.2	19.7	32879	20.3	18.0	272961	20.4	19.8
138298	20.0	19.3	290910	20.1	20.7	332748	20.2	20.0	76252	20.2	18.0	349397	20.3	20.8	258125	20.4	20.4
2178	20.0	17.0	20119	20.1	18.7	166772	20.2	20.0	398471	20.2	21.0	167993	20.3	19.8	425800	20.4	20.8
91294	20.0	17.9	57548	20.1	18.2	345242	20.2	20.0	240046	20.2	19.6	330899	20.3	21.3	500365	20.4	22.2
42665	20.0	19.2	462005	20.1	21.8	352008	20.2	20.4	56678	20.3	19.3	57255	20.3	19.3	290130	20.4	20.7
437605	20.0	20.5	378730	20.1	20.7	434049	20.2	21.0	369995	20.3	21.2	169615	20.3	19.7	96364	20.4	18.9
182101	20.0	19.7	471190	20.1	20.8	499165	20.2	21.3	503347	20.3	20.2	203421	20.3	19.7	337859	20.4	20.4
337902	20.0	19.7	466553	20.1	21.2	489451	20.2	20.3	422324	20.3	21.3	337606	20.3	20.1	73017	20.4	19.5
341058	20.0	21.2	283626	20.1	20.4	133960	20.2	19.6	391246	20.3	21.0	7273	20.3	18.4	58482	20.4	19.4
63634	20.0	18.9	429107	20.1	21.4	195100	20.2	19.7	37650	20.3	17.2	6008	20.3	16.4	54695	20.4	18.0
271252	20.0	20.6	56199	20.1	18.5	456803	20.2	22.0	432338	20.3	21.5	185075	20.3	19.1	39923	20.4	18.4
437547	20.0	20.0	246012	20.1	20.8	461413	20.2	21.8	133220	20.3	19.7	410416	20.3	20.3	365428	20.4	18.0
43503	20.0	17.6	218275	20.1	19.4	259545	20.2	20.0	341461	20.3	20.7	248532	20.3	21.4	399307	20.4	22.7
286405	20.0	20.3	423651	20.1	20.4	402486	20.2	20.1	63225	20.3	18.2	332552	20.3	21.0	237190	20.4	20.2
459150	20.0	21.2	100166	20.1	20.0	329369	20.2	20.5	73651	20.3	19.3	431171	20.3	21.8	29128	20.4	18.9
489259	20.0	20.9	397828	20.1	21.5	329102	20.2	20.7	35825	20.3	19.0	52281	20.3	19.7	139984	20.4	19.6
335976	20.0	19.8	2172	20.1	16.5	131306	20.2	19.1	140075	20.3	19.9	117795	20.3	19.0	412354	20.4	19.8
274586	20.0	20.3	96953	20.1	19.9	72529	20.2	19.3	192861	20.3	19.7	86518	20.3	19.1	224408	20.4	20.2
246416	20.0	20.1	207776	20.1	20.5	345577	20.2	20.2	147664	20.3	20.1	291887	20.3	20.7	284934	20.4	21.3
500426	20.0	21.4	60824	20.1	19.1	191799	20.2	20.2	173617	20.3	19.4	262259	20.3	21.5	341277	20.4	20.9
461070	20.1	19.8	113905	20.1	19.0	155564	20.2	19.3	63799	20.3	20.1	506201	20.3	20.6	507450	20.4	21.6
506017	20.1	21.1	79561	20.1	19.8	376576	20.2	20.6	502494	20.3	21.0	259368	20.3	18.6	62006	20.4	18.5
431212	20.1	20.6	387448	20.1	19.4	221896	20.2	20.2	199043	20.3	20.0	413511	20.3	20.1	513039	20.4	21.7
437303	20.1	21.3	154013	20.1	19.0	100905	20.2	20.8	92222	20.3	19.6	461772	20.3	20.8	390241	20.4	20.9
285983	20.1	20.7	371624	20.1	21.1	276025	20.2	20.4	219374	20.3	19.9	269076	20.3	19.9	21716	20.4	18.5
203390	20.1	19.9	275177	20.1	20.2	435038											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V									
388749	20.4	21.0	466330	20.5	21.5	416898	20.6	22.0	369284	20.6	21.9	311573	20.7	20.6	293414	20.8	20.5
284154	20.4	21.4	500505	20.5	21.2	296317	20.6	20.9	82640	20.6	19.2	238770	20.7	19.7	264618	20.8	21.9
383787	20.4	20.9	88857	20.5	18.5	452713	20.6	22.0	34346	20.6	18.9	268018	20.7	20.3	380023	20.8	21.3
83446	20.4	20.0	333670	20.5	20.3	417454	20.6	21.6	246397	20.6	19.9	509253	20.7	22.6	75082	20.8	20.0
210684	20.4	20.2	62353	20.5	19.0	52398	20.6	18.5	111906	20.6	19.0	133533	20.7	19.7	439721	20.8	20.3
469399	20.4	20.9	327257	20.5	21.2	231461	20.6	20.2	196589	20.6	19.9	508699	20.7	20.8	171975	20.8	19.2
157590	20.4	18.5	369090	20.5	20.6	455829	20.6	21.9	503469	20.6	20.6	3638185	20.7	21.7	508232	20.8	20.7
518069	20.4	20.3	423277	20.5	21.6	425065	20.6	21.8	324	20.6	12.1	499443	20.7	21.2	402529	20.8	20.0
391294	20.4	20.0	299998	20.5	20.8	147300	20.6	18.4	354763	20.6	20.5	468209	20.7	20.8	419604	20.8	20.9
460096	20.4	20.9	234971	20.5	19.5	498732	20.6	21.8	165753	20.6	19.7	505984	20.7	20.4	365198	20.8	20.0
210669	20.4	19.1	326360	20.5	21.3	138475	20.6	18.4	406378	20.6	21.4	338243	20.7	20.6	206745	20.8	21.0
135660	20.4	19.0	309014	20.5	21.0	199527	20.6	19.7	111527	20.7	18.6	415691	20.7	22.0	147859	20.8	19.7
15544	20.4	18.3	338165	20.5	21.5	502197	20.6	21.9	156501	20.7	19.6	140028	20.7	20.0	28269	20.8	16.7
209069	20.4	21.0	101024	20.5	19.9	333699	20.6	21.0	306619	20.7	21.1	338274	20.7	21.7	56450	20.8	18.7
365446	20.4	21.0	90169	20.5	19.3	379716	20.6	20.9	224353	20.7	19.7	73545	20.7	19.1	468153	20.8	20.6
495381	20.4	21.5	113204	20.5	19.8	337640	20.6	20.4	386850	20.7	20.2	386740	20.7	19.9	520152	20.8	21.0
424659	20.5	21.2	374104	20.5	22.1	19499	20.6	17.3	518965	20.7	21.6	101923	20.7	19.8	296946	20.8	19.1
156702	20.5	19.7	118481	20.5	19.3	459584	20.6	20.6	366946	20.7	20.8	358078	20.7	20.2	200806	20.8	19.9
313416	20.5	20.5	280135	20.5	20.5	146095	20.6	19.4	114700	20.7	18.5	240551	20.7	20.5	118181	20.8	19.0
149736	20.5	19.3	426339	20.5	21.0	79902	20.6	19.6	521055	20.7	21.3	165857	20.7	18.7	409732	20.8	20.3
249673	20.5	21.1	238684	20.5	20.4	196677	20.6	19.3	218008	20.7	20.7	323815	20.7	20.0	196600	20.8	20.7
501045	20.5	20.3	193064	20.5	19.1	463726	20.6	21.0	341724	20.7	20.4	229976	20.7	21.0	183454	20.8	19.8
21266	20.5	17.8	381438	20.5	20.8	498717	20.6	21.3	128485	20.7	20.8	407372	20.7	22.3	439782	20.8	21.1
228027	20.5	21.7	201545	20.5	20.2	234238	20.6	20.7	57308	20.7	17.5	498309	20.7	20.2	357120	20.8	20.7
68892	20.5	19.4	432030	20.5	21.3	416977	20.6	20.8	272931	20.7	20.7	206110	20.7	21.1	206867	20.8	19.9
498716	20.5	21.3	421919	20.5	20.0	110696	20.6	18.0	133013	20.7	19.6	326410	20.7	21.0	33262	20.8	17.5
296401	20.5	20.3	120067	20.5	19.7	210320	20.6	20.0	73154	20.7	19.5	24857	20.7	17.6	122747	20.8	19.7
257374	20.5	20.6	48604	20.5	19.5	238322	20.6	19.3	154500	20.7	19.6	520008	20.7	21.2	501155	20.8	22.5
292792	20.5	21.1	192671	20.5	19.4	267188	20.6	20.6	466189	20.7	21.2	337965	20.7	21.0	20330	20.8	18.7
33793	20.5	18.5	241480	20.5	20.0	376629	20.6	20.9	6777	20.7	18.3	433112	20.7	20.9	54686	20.8	17.8
173694	20.5	20.6	217956	20.5	21.2	38062	20.6	19.4	328583	20.7	21.3	242042	20.7	20.0	169638	20.8	18.9
173991	20.5	20.7	34611	20.5	18.4	416076	20.6	20.8	457670	20.7	19.3	388786	20.7	21.5	284394	20.8	21.2
489305	20.5	22.2	264735	20.5	19.8	318984	20.6	21.0	37725	20.7	18.8	83401	20.7	20.1	127002	20.8	18.9
124980	20.5	19.7	155766	20.5	20.9	469609	20.6	21.2	37148	20.7	19.2	339375	20.7	20.1	381619	20.8	20.1
296529	20.5	19.8	2586	20.5	16.4	170333	20.6	19.6	102412	20.7	19.5	112131	20.7	19.4	248597	20.8	20.6
140926	20.5	18.3	35404	20.5	16.6	96149	20.6	20.3	139618	20.7	18.2	208210	20.7	21.1	9476	20.8	17.5
274919	20.5	21.1	245207	20.5	20.9	329981	20.6	19.4	167075	20.7	20.5	217950	20.7	20.6	337348	20.8	20.4
211881	20.5	20.8	271940	20.5	21.1	242400	20.6	19.8	149202	20.7	19.0	136421	20.7	18.9	171373	20.8	19.9
36987	20.5	19.3	498237	20.5	22.0	63549	20.6	19.7	299668	20.7	20.9	327923	20.7	21.3	433520	20.8	22.2
191943	20.5	20.4	2377	20.5	16.2	326976	20.6	21.8	197544	20.7	19.2	213076	20.7	20.4	90788	20.8	20.4
387266	20.5	21.0	388419	20.5	20.4	368805	20.6	20.4	407677	20.7	20.7	69373	20.7	19.3	54800	20.8	19.4
264628	20.5	20.7	318642	20.5	20.6	480761	20.6	20.2	498037	20.7	20.7	93481	20.7	19.6	366402	20.8	21.1
61795	20.5	19.6	336323	20.5	20.2	374616	20.6	19.8	503693	20.7	20.1	159063	20.7	19.7	208386	20.8	19.6
209408	20.5	20.6	377908	20.5	21.1	522563	20.6	21.0	458885	20.7	20.9	362743	20.7	21.0	135319	20.8	19.8
33532	20.5	17.7	55621	20.6	18.6	518855	20.6	21.6	69428	20.7	18.6	327390	20.7	20.6	439154	20.8	20.4
118383	20.5	18.4	166881	20.6	20.0	267756	20.6	20.2	54432	20.7	17.7	19043	20.7	18.2	141760	20.8	21.0
495950	20.5	21.7	6101	20.6	16.1	497531	20.6	20.4	8779	20.7	18.7	209500	20.7	20.0	46882	20.8	18.9
366021	20.5	20.5	462867	20.6	20.4	177935	20.6	20.1	129966	20.7	19.9	54769	20.7	18.3	40092	20.8	18.4
174174	20.5	20.1	351764	20.6	19.3	30634	20.6	19.8	222338	20.7	20.5	310324	20.7	20.2	119744	20.8	20.0
80683	20.5	19.3	434993	20.6	21.2	62084	20.6	19.1	211033	20.7	20.3	497793	20.7	22.4	388146	20.8	21.5
157487	20.5	20.2	466649	20.6	20.4	391359	20.6	20.8	131505	20.7	19.1	80008	20.7	18.7	289422	20.8	20.4
125428	20.5	18.8	29711	20.6	18.5	495167	20.6	20.4	143566	20.7	19.1	464677	20.7	21.9	285380	20.8	20.9
326387	20.5	20.3	632128	20.6	18.9	304288	20.6	20.2	155227	20.7	19.5	419838	20.7	21.1	295172	20.8	20.4
127361	20.5	19.7	385230	20.6	20.6	271087	20.6	21.0	236869	20.7	20.1	117253	20.7	19.8	464326	20.8	19.9
492312	20.5	21.4	264552	20.6	21.5	519606	20.6	21.1	110676	20.7	19.3	69483	20.7	19.2	506405	20.8	21.0
246708	20.5	19.6	5269	20.6	17.7	341290	20.6	21.4	47430	20.7	17.7	262748	20.7	20.0	320649	20.8	20.4
93878	20.5	19.0	27169	20.6	17.2	488762	20.6	21.4	489164	20.7	19.9	520267	20.8	20.6	375759	20.8	21.5
190278	20.5	20.9	422263	20.6	21.5	343329	20.6	20.5	424137	20.7	21.0	61245	20.8	19.7	3116	20.8	16.1
150944	20.5	18.8	337673	20.6	20.8	174771	20.6	19.5	275071	20.7	21.0	499055	20.8	20.7	34389	20.8	19.2
28756	20.5	19.0	338972	20.6	19.6	269087	20.6	20.7	369549	20.7	20.6	408124	20.8	19.8	349932	20.8	20.3
95079	20.5	20.0	90321	20.6	19.1	115058											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
137047	20.9	19.5	500275	20.9	19.5	162605	21.0	21.2	383866	21.1	20.8	286282	21.1	21.4	372581	21.2	20.2
370032	20.9	21.1	440202	20.9	20.0	248070	21.0	19.8	364315	21.1	22.0	297723	21.1	20.7	462306	21.2	20.8
275273	20.9	20.2	46727	20.9	18.1	349026	21.0	20.6	464448	21.1	20.1	462249	21.2	21.3	48992	21.2	19.1
419562	20.9	20.9	296894	20.9	20.0	140475	21.0	19.5	341713	21.1	19.9	318818	21.2	19.0	361071	21.2	21.6
333831	20.9	20.4	286243	20.9	19.7	160313	21.0	19.3	128380	21.1	19.6	459681	21.2	20.3	495192	21.2	20.4
2596	20.9	17.7	432096	20.9	19.8	423492	21.0	20.5	58650	21.1	19.4	264609	21.2	20.7	139795	21.2	18.5
45037	20.9	18.9	117551	20.9	19.2	518931	21.0	20.5	470183	21.1	21.5	23925	21.2	17.5	390434	21.2	20.2
55761	20.9	18.7	401108	20.9	21.1	265602	21.0	20.6	345679	21.1	21.4	409822	21.2	21.7	205486	21.2	20.0
223482	20.9	18.6	225542	20.9	20.5	371712	21.0	20.0	341556	21.1	20.4	490609	21.2	21.6	266413	21.2	20.3
158203	20.9	19.3	373049	20.9	20.8	368724	21.0	21.5	243840	21.1	20.6	32221	21.2	17.5	472732	21.2	20.1
399635	20.9	21.1	127885	20.9	19.0	34224	21.0	18.3	157556	21.1	20.2	28592	21.2	18.5	151015	21.2	20.3
341538	20.9	20.4	502238	20.9	21.0	502600	21.0	21.9	78422	21.1	19.1	9064	21.2	16.5	167041	21.2	20.1
314757	20.9	18.5	500529	20.9	21.2	522716	21.0	21.2	143472	21.1	19.0	498682	21.2	21.6	117511	21.2	19.8
172020	20.9	19.3	266357	20.9	19.0	174550	21.0	19.5	202173	21.1	20.4	148427	21.2	20.0	346073	21.2	21.4
364684	20.9	20.5	380470	20.9	21.1	354875	21.0	19.8	427434	21.1	21.5	348833	21.2	21.4	307644	21.2	21.0
170996	20.9	18.8	8301	20.9	17.2	178869	21.0	20.2	372531	21.1	21.5	123524	21.2	19.7	106354	21.2	20.0
190026	20.9	20.5	272954	20.9	19.4	464953	21.0	21.4	216125	21.1	20.5	415978	21.2	20.0	273141	21.2	18.9
520115	20.9	20.7	334790	20.9	20.1	124796	21.0	21.0	346138	21.1	21.6	386534	21.2	21.1	393343	21.2	20.7
503668	20.9	21.4	498543	20.9	20.4	140522	21.0	19.6	294074	21.1	20.1	496933	21.2	22.7	106309	21.2	19.5
489695	20.9	22.3	127332	20.9	19.3	286261	21.0	21.7	140485	21.1	18.4	61141	21.2	18.1	217256	21.2	19.8
281479	20.9	20.1	72371	20.9	17.8	284748	21.0	21.7	288645	21.1	20.3	190408	21.2	20.5	117633	21.2	19.9
103231	20.9	19.7	299945	20.9	21.2	162540	21.0	18.7	157784	21.1	19.9	405358	21.2	20.8	221323	21.2	19.4
497250	20.9	21.8	209043	20.9	20.3	292185	21.0	21.1	294049	21.1	20.8	428051	21.2	20.6	333669	21.2	20.5
12681	20.9	19.5	366403	20.9	22.6	203596	21.0	19.3	310513	21.1	20.6	522325	21.2	21.7	416965	21.2	21.5
163473	20.9	20.5	30701	20.9	19.6	109709	21.0	19.6	445893	21.1	21.8	429110	21.2	21.7	66786	21.2	19.3
264646	20.9	19.6	227547	20.9	20.2	371732	21.0	20.4	286136	21.1	20.1	207536	21.2	19.1	301986	21.2	21.0
426046	20.9	19.7	368265	20.9	20.2	30224	21.0	18.0	435930	21.1	20.5	221154	21.2	20.2	82674	21.2	19.5
498970	20.9	20.9	187439	20.9	20.3	7432	21.0	18.1	85387	21.1	20.0	458743	21.2	21.5	226012	21.2	19.0
199809	20.9	18.6	241052	20.9	20.1	397044	21.0	21.4	249097	21.1	20.5	54829	21.2	19.8	239468	21.2	20.0
467423	20.9	21.0	264749	20.9	18.8	502957	21.0	20.7	503235	21.1	20.6	170148	21.2	20.3	48389	21.2	19.2
316843	20.9	19.6	185876	20.9	20.4	109375	21.0	18.6	428159	21.1	20.5	408108	21.2	20.4	504509	21.2	21.5
429851	20.9	20.8	498212	20.9	21.3	264098	21.0	20.3	374952	21.1	19.5	372383	21.2	19.6	273272	21.2	21.2
247298	20.9	20.2	247677	20.9	20.0	113187	21.0	19.1	337722	21.1	20.4	335791	21.2	20.1	205709	21.2	20.0
416301	20.9	20.7	388839	20.9	19.6	84264	21.0	18.9	410011	21.1	20.7	140737	21.2	21.2	506533	21.2	22.5
430095	20.9	20.1	118083	20.9	19.7	444289	21.0	21.0	457177	21.1	20.7	124347	21.2	18.5	85178	21.2	19.7
303799	20.9	19.3	90501	20.9	18.6	43851	21.0	19.3	431283	21.1	21.5	245613	21.2	19.8	439780	21.2	20.9
241274	20.9	20.0	227267	20.9	21.5	423733	21.0	19.9	94809	21.1	19.5	138534	21.2	19.7	296202	21.2	20.6
157717	20.9	19.8	319612	20.9	20.5	363075	21.0	23.6	198592	21.1	19.7	379822	21.2	20.4	414128	21.2	21.3
205603	20.9	20.3	164517	20.9	20.5	32134	21.0	17.6	140540	21.1	19.5	375934	21.2	21.2	521221	21.2	20.3
97267	20.9	19.4	21684	20.9	18.1	109222	21.0	19.0	151126	21.1	19.8	435969	21.2	20.1	365764	21.3	21.3
85122	20.9	19.7	52919	20.9	19.7	117942	21.0	20.9	272976	21.1	20.4	64272	21.2	18.9	305366	21.3	20.9
287125	20.9	20.2	505273	20.9	20.7	125078	21.0	19.5	209531	21.1	19.8	164372	21.2	19.8	419633	21.3	21.5
303699	20.9	20.7	417637	20.9	20.7	499298	21.0	21.7	161974	21.1	18.9	489551	21.2	21.4	401515	21.3	20.5
431976	20.9	21.3	473913	20.9	20.8	384268	21.0	19.6	468753	21.1	19.7	279793	21.2	21.3	372547	21.3	21.2
210070	20.9	21.1	423755	20.9	20.4	185250	21.0	20.2	267208	21.1	20.8	54216	21.2	17.0	284136	21.3	20.6
33116	20.9	16.4	333700	20.9	20.9	355313	21.0	20.8	122214	21.1	19.9	315113	21.2	18.8	9205	21.3	17.0
312074	20.9	20.3	494834	20.9	21.4	371663	21.0	20.2	346167	21.1	21.6	102018	21.2	19.5	183614	21.3	19.5
52095	20.9	18.9	270208	20.9	21.8	188294	21.0	19.2	237664	21.1	19.6	221983	21.2	20.4	431609	21.3	21.0
300225	20.9	20.6	33013	20.9	18.4	30540	21.0	18.8	339508	21.1	20.9	412765	21.2	19.6	271662	21.3	20.5
90884	20.9	19.5	243295	20.9	19.8	30602	21.0	19.1	478054	21.1	20.7	230949	21.2	20.9	30938	21.3	17.6
272990	20.9	20.4	187640	20.9	20.5	106843	21.0	19.0	437148	21.1	20.8	402975	21.2	21.4	374150	21.3	21.5
195584	20.9	18.6	35306	20.9	19.5	303962	21.0	20.0	417598	21.1	20.9	372437	21.2	21.4	422698	21.3	21.4
17395	20.9	18.9	457509	20.9	21.3	229131	21.0	21.2	457675	21.1	19.9	284304	21.2	21.2	183158	21.3	19.0
71970	20.9	19.4	270055	20.9	21.3	39932	21.0	19.0	202254	21.1	19.8	356972	21.2	21.7	388400	21.3	20.4
149817	20.9	19.8	474789	20.9	21.3	214812	21.0	20.5	176675	21.1	21.3	419835	21.2	20.0	257986	21.3	19.9
307660	20.9	20.6	244089	20.9	19.9	182423	21.0	20.4	344376	21.1	20.1	473859	21.2	20.8	248331	21.3	20.2
498622	20.9	21.6	372925	20.9	20.7	14213	21.0	16.7	439096	21.1	21.2	316660	21.2	20.5	230895	21.3	20.3
27919	20.9	19.2	336909	20.9	20.1	428815	21.1	21.3	135677	21.1	19.2	80026	21.2	17.2	471341	21.3	21.7
341326	20.9	21.1	23662	20.9	17.7	180188	21.1	20.7	55339	21.1	18.1	66423	21.2	17.7	437634	21.3	19.9
210238	20.9	19.6	111775	20.9	19.4	6556	21.1	16.6	42991	21.1	18.9	343668	21.2	21.2	120118	21.3	18.6
456972	20.9	20.3	466802	20.9													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
66694	21.3	19.9	255758	21.3	20.6	37923	21.4	18.3	7728	21.5	17.1	170335	21.5	19.2	246056	21.6	21.1
291829	21.3	20.6	173188	21.3	19.3	502371	21.4	20.6	409200	21.5	21.1	353986	21.5	19.8	384222	21.6	20.2
358500	21.3	19.6	279720	21.3	21.1	951	21.4	15.0	195520	21.5	19.9	303843	21.5	20.8	434997	21.6	21.7
420598	21.3	20.1	108912	21.3	18.9	329829	21.4	21.1	21349	21.5	18.7	37632	21.5	18.8	387099	21.6	20.5
312108	21.3	20.9	519576	21.3	21.5	173742	21.4	20.6	285581	21.5	20.5	145621	21.5	20.1	151812	21.6	19.0
138597	21.3	20.0	214581	21.3	21.0	412262	21.4	22.2	310220	21.5	21.7	460069	21.5	22.0	159931	21.6	19.7
229990	21.3	20.4	127925	21.3	19.5	483004	21.4	20.9	87123	21.5	19.3	348834	21.6	21.5	242021	21.6	20.7
261394	21.3	21.5	264736	21.3	19.0	73359	21.4	19.8	237635	21.5	21.3	55229	21.6	19.3	46247	21.6	18.7
140977	21.3	19.5	93310	21.3	18.8	10978	21.4	18.8	396984	21.5	22.3	362125	21.6	20.4	115060	21.6	20.0
212188	21.3	20.7	19009	21.3	18.5	59172	21.4	19.5	459988	21.5	21.2	32110	21.6	18.3	175435	21.6	20.0
364169	21.3	20.8	109112	21.3	19.0	258291	21.4	20.2	265645	21.5	21.3	43386	21.6	18.1	1890	21.6	16.4
4929	21.3	16.1	226926	21.4	20.4	462109	21.4	22.1	185002	21.5	20.7	363313	21.6	22.0	188367	21.6	19.5
224639	21.3	20.3	329126	21.4	20.4	352423	21.4	20.3	277709	21.5	19.1	403013	21.6	21.0	8205	21.6	16.8
104051	21.3	19.5	170034	21.4	19.7	140372	21.4	19.7	505574	21.5	21.1	518614	21.6	21.9	186092	21.6	20.3
459206	21.3	19.6	132811	21.4	19.8	389755	21.4	21.3	238484	21.5	19.8	503184	21.6	20.8	492158	21.6	21.0
269767	21.3	20.6	276845	21.4	20.7	425654	21.4	21.8	51515	21.5	17.9	293105	21.6	20.2	38889	21.6	19.0
346169	21.3	20.7	5980	21.4	17.3	306622	21.4	21.6	292632	21.5	20.3	243236	21.6	20.1	409433	21.6	21.2
403857	21.3	21.8	415845	21.4	21.0	203340	21.4	20.3	29413	21.5	18.6	504120	21.6	21.4	245191	21.6	20.5
109677	21.3	20.4	106801	21.4	19.5	353777	21.4	19.8	327872	21.5	20.4	188119	21.6	19.5	433196	21.6	20.6
37374	21.3	18.2	403323	21.4	21.0	32445	21.4	17.0	370659	21.5	18.7	28878	21.6	19.1	30770	21.6	18.6
102134	21.3	20.0	41096	21.4	19.4	180993	21.4	19.7	185570	21.5	20.2	506449	21.6	22.0	34551	21.6	18.5
195363	21.3	19.1	174876	21.4	19.9	388300	21.4	21.0	389779	21.5	20.3	217057	21.6	21.3	508297	21.6	20.7
94577	21.3	18.9	104098	21.4	18.5	422735	21.4	21.6	292966	21.5	19.9	464014	21.6	20.4	310891	21.6	20.1
301985	21.3	21.0	30231	21.4	18.7	415843	21.4	20.6	212536	21.5	20.0	370728	21.6	20.4	502379	21.6	20.9
35118	21.3	17.3	470495	21.4	20.8	86821	21.4	19.6	496709	21.5	21.0	172602	21.6	18.9	522796	21.6	21.1
174590	21.3	20.6	399414	21.4	21.7	386526	21.4	20.2	434946	21.5	20.4	104678	21.6	19.4	323006	21.6	20.9
351578	21.3	20.7	334882	21.4	20.3	172733	21.4	20.2	88879	21.5	19.8	436005	21.6	21.0	11833	21.6	17.6
497512	21.3	21.2	435869	21.4	21.3	399637	21.4	21.8	18345	21.5	18.7	110451	21.6	19.1	488475	21.6	21.6
208499	21.3	19.9	56984	21.4	19.1	232976	21.4	20.1	522747	21.5	21.4	308020	21.6	18.8	130055	21.6	19.7
284355	21.3	21.1	15390	21.4	18.7	1311	21.4	15.4	116500	21.5	19.9	313466	21.6	19.7	261951	21.6	21.7
205718	21.3	20.3	117839	21.4	20.0	159430	21.4	20.5	505193	21.5	20.9	16092	21.6	17.7	123017	21.6	19.2
323935	21.3	21.3	200814	21.4	20.6	53308	21.4	16.8	31759	21.5	18.3	285640	21.6	21.2	240053	21.6	20.2
177342	21.3	19.9	138714	21.4	19.9	502979	21.4	21.5	173825	21.5	20.1	182751	21.6	20.8	67981	21.6	18.8
126372	21.3	19.3	420504	21.4	20.9	410076	21.4	19.4	4279	21.5	17.8	147940	21.6	20.0	166626	21.6	19.4
172661	21.3	20.0	321821	21.4	19.8	139981	21.4	20.2	177952	21.5	20.2	263431	21.6	19.9	157500	21.6	20.4
61522	21.3	19.3	421974	21.4	22.1	171879	21.4	19.4	505280	21.5	21.2	11353	21.6	18.0	200877	21.6	19.9
201064	21.3	19.1	80193	21.4	20.1	10077	21.4	17.1	424787	21.5	21.2	41314	21.6	17.4	186146	21.6	21.2
434541	21.3	21.4	208342	21.4	20.7	313831	21.4	20.4	34929	21.5	18.6	92522	21.6	19.4	63770	21.6	19.5
181065	21.3	20.5	11619	21.4	16.8	489286	21.4	21.3	459011	21.5	21.0	189610	21.6	19.5	426348	21.6	20.9
173874	21.3	20.0	94446	21.4	18.4	508502	21.4	20.6	180889	21.5	21.1	38248	21.6	18.4	85176	21.6	19.6
60955	21.3	18.3	217994	21.4	20.9	369007	21.4	21.1	151199	21.5	20.8	502970	21.6	20.2	363034	21.6	21.1
338879	21.3	19.6	161008	21.4	19.1	196711	21.4	20.6	303687	21.5	21.3	38678	21.6	18.9	145415	21.6	20.1
375414	21.3	21.5	143263	21.4	18.9	37953	21.4	19.0	162573	21.5	20.8	238556	21.6	20.0	275132	21.6	19.6
59815	21.3	18.2	508373	21.4	20.8	389687	21.4	21.1	273031	21.5	20.3	175429	21.6	20.5	455629	21.6	21.0
290904	21.3	20.1	419486	21.4	20.0	116794	21.4	19.6	402986	21.5	22.2	29044	21.6	18.4	182181	21.6	20.7
417811	21.3	21.1	199457	21.4	18.7	122868	21.4	20.0	102255	21.5	19.7	464913	21.6	21.4	433481	21.6	20.9
505181	21.3	21.0	424177	21.4	20.5	247009	21.4	20.6	28288	21.5	18.1	501091	21.6	21.2	240051	21.6	20.3
406362	21.3	21.7	283544	21.4	20.4	225503	21.4	20.4	215896	21.5	19.1	79983	21.6	21.9	91670	21.6	19.3
5791	21.3	16.8	96221	21.4	19.1	58237	21.4	19.3	245200	21.5	20.6	343087	21.6	19.7	275878	21.6	19.9
513026	21.3	20.7	375946	21.4	20.8	258042	21.4	19.4	206146	21.5	21.2	507502	21.6	21.1	502511	21.6	21.1
106368	21.3	19.0	501880	21.4	20.0	291691	21.4	19.3	176004	21.5	20.1	437590	21.6	20.7	119854	21.6	19.7
520982	21.3	20.2	85111	21.4	18.2	60907	21.4	18.5	27867	21.5	17.0	188888	21.6	18.5	60196	21.6	19.2
468772	21.3	21.2	31528	21.4	18.7	105960	21.4	19.8	90097	21.5	18.7	267443	21.6	20.1	175400	21.6	21.1
52981	21.3	18.2	362670	21.4	20.3	36266	21.4	17.8	57922	21.5	18.5	259631	21.6	19.2	51457	21.6	19.2
121428	21.3	19.8	209104	21.4	20.3	329306	21.5	20.5	313643	21.5	21.6	159870	21.6	19.5	7640	21.6	17.3
383776	21.3	20.3	210874	21.4	20.0	32015	21.5	19.5	403781	21.5	20.8	504506	21.6	21.3	370980	21.6	21.3
199679	21.3	20.1	208188	21.4	20.1	277621	21.5	19.3	11492	21.5	18.2	129511	21.6	19.9	2702	21.6	16.2
313449	21.3	20.8	330699	21.4	19.5	178115	21.5	19.8	457096	21.5	20.1	472871	21.6	20.5	216720	21.6	19.9
173866	21.3	20.0	307973	21.4	21.1	9209	21.5	17.6	100018	21.5	19.5	94628	21.6	19.6	171885	21.6	19.9
300936	21.3	20.4	503060	21.4	20.3	271323	21.5	20.3	45740	21.5	18.9	68581	21.6	19.1	230883	21.6	20.4
499852	21.3	20.2	433662	21.4	20.2	424780	21.5	20.8</td									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
522313	21.7	20.2	358480	21.7	19.6	14222	21.8	19.1	387265	21.9	20.2	6803	21.9	18.3	241695	22.0	20.8
257449	21.7	20.7	139513	21.7	19.7	214770	21.8	19.8	359745	21.9	20.1	94535	21.9	20.7	498617	22.0	20.9
506740	21.7	21.3	286584	21.7	21.4	251647	21.8	19.9	518393	21.9	21.2	248940	21.9	20.8	170319	22.0	19.2
404141	21.7	20.8	500567	21.7	21.0	52847	21.8	19.2	55540	21.9	18.2	298766	21.9	20.9	381587	22.0	21.1
150705	21.7	20.0	254645	21.7	21.1	379223	21.8	21.7	151100	21.9	20.2	333411	21.9	21.9	492502	22.0	21.4
113093	21.7	19.5	464666	21.7	22.0	412981	21.8	22.0	489275	21.9	21.6	94382	21.9	19.2	427268	22.0	21.7
12504	21.7	18.0	421392	21.7	20.6	170861	21.8	19.1	297269	21.9	19.9	138685	21.9	19.8	175951	22.0	18.5
108940	21.7	20.2	145609	21.7	20.4	291542	21.8	21.3	211155	21.9	20.0	29515	21.9	16.2	25197	22.0	17.5
382183	21.7	21.4	323453	21.7	19.8	212732	21.8	20.7	333284	21.9	21.8	500604	21.9	21.1	51424	22.0	17.8
166738	21.7	19.5	272979	21.8	20.2	415939	21.8	22.3	379173	21.9	20.9	96907	21.9	19.2	183679	22.0	20.7
186145	21.7	19.9	75658	21.8	19.0	358700	21.8	20.8	287562	21.9	19.4	93558	21.9	19.8	110755	22.0	19.0
157301	21.7	20.5	375375	21.8	21.9	139995	21.8	19.7	224317	21.9	20.7	360023	21.9	20.7	38757	22.0	18.9
268450	21.7	20.3	106864	21.8	19.8	114444	21.8	17.9	114482	21.9	19.0	184160	21.9	20.0	243252	22.0	19.4
263921	21.7	19.1	272964	21.8	20.4	291968	21.8	20.7	506015	21.9	21.9	391371	21.9	21.1	362031	22.0	19.6
202402	21.7	20.0	77446	21.8	18.7	383335	21.8	20.8	24575	21.9	21.3	263791	21.9	19.8	82316	22.0	18.8
214833	21.7	19.7	522581	21.8	21.1	224514	21.8	20.6	435922	21.9	20.9	324060	21.9	20.6	1728	22.0	15.0
167767	21.7	20.5	206284	21.8	19.5	265759	21.8	19.3	402846	21.9	20.8	138937	21.9	23.0	290968	22.0	20.4
505053	21.7	21.9	507339	21.8	22.2	40018	21.8	17.8	416045	21.9	18.9	279522	21.9	20.9	414980	22.0	19.6
299302	21.7	21.2	417311	21.8	19.9	140387	21.8	21.1	379852	21.9	20.1	135444	21.9	20.2	500900	22.0	21.0
421409	21.7	21.0	209458	21.8	19.6	10138	21.8	17.5	56775	21.9	18.9	109324	21.9	18.4	416174	22.0	21.6
206217	21.7	20.1	383865	21.8	21.8	96689	21.8	17.8	272778	21.9	20.8	241680	21.9	21.4	506437	22.0	25.1
181099	21.7	21.0	423766	21.8	20.6	400541	21.8	21.2	176344	21.9	19.6	37735	21.9	18.6	223283	22.0	20.5
359068	21.7	20.3	280952	21.8	21.2	196649	21.8	19.9	153100	21.9	18.8	379788	21.9	20.4	2232	22.0	15.9
211564	21.7	20.8	426547	21.8	21.7	319779	21.8	20.4	398000	21.9	20.4	101071	21.9	19.6	457498	22.0	21.9
63067	21.7	18.9	235221	21.8	20.8	201605	21.8	19.9	29631	21.9	18.3	322884	21.9	19.8	202876	22.0	20.9
428558	21.7	20.6	63680	21.8	19.7	82141	21.8	18.6	95129	21.9	19.5	216306	21.9	21.0	508748	22.0	20.9
330835	21.7	20.0	248553	21.8	19.6	435335	21.8	21.2	163436	21.9	20.3	473167	21.9	20.7	8744	22.0	17.9
84761	21.7	19.2	473129	21.8	20.8	419134	21.8	20.1	378285	21.9	20.7	338787	21.9	19.8	200161	22.0	20.3
313453	21.7	20.6	29218	21.8	17.2	233853	21.8	20.8	426860	21.9	20.9	464644	21.9	21.5	501008	22.0	21.3
139856	21.7	19.3	111242	21.8	18.8	337264	21.8	20.8	373442	21.9	20.6	125909	21.9	19.5	306760	22.0	19.3
462647	21.7	19.5	498720	21.8	21.7	159238	21.8	19.2	119580	21.9	18.6	362018	21.9	19.5	158168	22.0	20.9
196618	21.7	20.4	499220	21.8	22.3	310904	21.8	19.0	114893	21.9	19.1	129476	21.9	19.9	436733	22.0	21.3
154486	21.7	19.5	255710	21.8	21.0	119650	21.8	18.9	315472	21.9	20.1	467626	21.9	21.5	11701	22.0	17.4
41389	21.7	18.9	305878	21.8	20.4	432493	21.8	20.4	76142	21.9	18.6	12167	21.9	17.9	346836	22.0	19.5
43445	21.7	18.3	222254	21.8	20.4	20168	21.8	18.5	222492	21.9	21.9	508258	21.9	20.0	364203	22.0	21.1
450160	21.7	19.3	14641	21.8	18.2	68178	21.8	18.4	57847	21.9	18.1	70483	21.9	18.6	338249	22.0	21.7
40938	21.7	18.8	352465	21.8	21.2	130076	21.8	20.0	48600	21.9	21.2	231491	21.9	21.2	230359	22.0	19.1
436010	21.7	20.4	306185	21.8	19.0	305979	21.8	19.9	354824	21.9	21.0	497141	21.9	22.4	147673	22.0	19.8
205802	21.7	19.9	26766	21.8	18.4	413846	21.8	20.4	53496	21.9	18.1	255567	21.9	20.0	337000	22.0	20.5
174137	21.7	20.1	48608	21.8	18.3	498905	21.8	20.6	338172	21.9	21.4	7891	21.9	17.2	168851	22.0	19.1
291850	21.7	21.6	146387	21.8	19.6	278670	21.8	20.6	1820	21.9	16.4	27059	21.9	18.9	306034	22.0	19.8
353864	21.7	20.4	384139	21.8	20.7	238963	21.9	20.1	134613	21.9	20.2	283476	21.9	21.3	330759	22.0	23.7
519248	21.7	20.7	385391	21.8	20.8	425115	21.9	22.4	117049	21.9	19.7	30980	21.9	19.6	302420	22.0	21.1
427235	21.7	20.4	239994	21.8	20.9	461570	21.9	20.4	331931	21.9	21.2	63913	21.9	19.3	88825	22.0	19.4
59189	21.7	18.4	16309	21.8	17.6	190277	21.9	21.5	314689	21.9	20.3	415910	21.9	21.8	122292	22.0	19.7
261170	21.7	20.9	468185	21.8	21.1	52602	21.9	18.2	167009	21.9	20.9	446799	21.9	21.4	429126	22.0	20.4
174037	21.7	19.1	353564	21.8	21.6	374327	21.9	20.8	271134	21.9	21.4	403324	21.9	20.9	400229	22.0	20.5
434982	21.7	21.6	15464	21.8	17.9	498978	21.9	21.3	201114	21.9	19.9	123474	21.9	19.2	187430	22.0	19.5
218034	21.7	20.5	210746	21.8	20.4	34648	21.9	18.2	18026	21.9	17.1	382930	21.9	20.4	54601	22.0	17.7
155927	21.7	19.8	98202	21.8	18.8	247812	21.9	20.6	360281	21.9	20.1	422286	21.9	21.3	37747	22.0	19.6
53287	21.7	18.3	253124	21.8	19.6	278670	21.8	20.6	1820	21.9	16.4	27059	21.9	18.9	306034	22.0	19.8
33128	21.7	22.4	167104	21.8	20.1	59776	21.9	18.2	79197	21.9	17.9	125280	21.9	19.9	435363	22.0	19.7
437183	21.7	20.5	469438	21.8	22.4	231595	21.9	19.9	280133	21.9	20.8	376514	21.9	21.3	368577	22.0	21.8
274320	21.7	21.2	409820	21.8	21.8	327236	21.9	21.1	338444	21.9	19.3	408240	21.9	20.5	357128	22.1	20.4
470118	21.7	21.2	522550	21.8	20.3	238509	21.9	20.1	491663	21.9	21.1	122242	21.9	19.2	119314	22.1	18.1
230361	21.7	19.5	196619	21.8	19.8	82927	21.9	19.1	456793	21.9	18.8	98540	21.9	19.1	327446	22.1	21.7
326404	21.7	21.5	68910	21.8	19.7	495952	21.9	21.7	96659	21.9	19.6	435971	21.9	20.9	371970	22.1	20.7
435387	21.7	20.8	122468	21.8	19.6	501131	21.9	21.7	132143	21.9	20.3	479619	21.9	20.6	127212	22.1	18.8
138638	21.7	19.8	337819	21.8	20.3	433568	21.9	20.0	372594	21.9	20.8	521155	21.9	20.7	289873	22.1	20.3
500712	21.7	21.6	414250	21.8	20.1	80225	21.9	19.2	68681	21.9	18.9	399972	21.9	20.6	120068	22.1	19.3
17624	21.7	17.4	225582	21.8	20.3	297867											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
378767	22.1	20.8	243751	22.1	19.4	116369	22.2	19.1	356388	22.3	20.5	371047	22.4	21.5	204263	22.4	18.7
88586	22.1	18.6	373502	22.1	20.0	37854	22.2	17.5	68373	22.3	19.3	292885	22.4	21.1	90576	22.4	19.5
330405	22.1	20.5	300875	22.1	20.1	364697	22.2	20.6	458943	22.3	21.9	301284	22.4	20.1	113234	22.4	19.5
177109	22.1	19.3	161691	22.1	19.5	285963	22.2	20.2	346201	22.3	20.9	327336	22.4	21.4	432471	22.4	20.5
425167	22.1	20.9	90654	22.1	18.9	381444	22.2	20.7	14940	22.3	16.8	321995	22.4	20.5	124931	22.4	20.2
285530	22.1	19.2	282308	22.1	20.7	330361	22.2	20.2	407875	22.3	20.5	308189	22.4	20.1	344613	22.4	19.3
245671	22.1	19.5	449595	22.1	20.2	97071	22.2	18.4	163532	22.3	19.1	430422	22.4	21.4	166582	22.4	20.4
408167	22.1	20.7	172466	22.1	19.8	499123	22.2	19.4	380540	22.3	20.2	467656	22.4	21.0	435986	22.4	19.9
345551	22.1	21.0	60932	22.1	18.5	305921	22.2	20.4	35838	22.3	18.3	15282	22.4	18.0	204197	22.4	19.6
265692	22.1	20.3	381511	22.1	20.9	34431	22.2	20.0	247370	22.3	20.1	77124	22.4	19.2	130079	22.4	19.5
312013	22.1	21.2	295775	22.1	21.1	52539	22.2	19.2	346043	22.3	19.9	463733	22.4	19.9	289830	22.4	19.8
462876	22.1	20.8	154944	22.1	20.1	404079	22.2	20.0	500457	22.3	21.2	365452	22.4	19.1	153888	22.4	18.6
350234	22.1	19.8	369830	22.1	19.3	89730	22.2	19.4	274560	22.3	21.2	208208	22.4	20.0	133924	22.4	18.7
79428	22.1	18.7	427628	22.1	21.3	310907	22.2	20.6	128955	22.3	19.1	57871	22.4	19.3	61958	22.4	17.7
262775	22.1	20.0	62760	22.1	18.1	274782	22.2	21.5	508922	22.3	21.0	226745	22.4	19.9	249556	22.4	19.7
177924	22.1	19.7	248045	22.2	20.0	257235	22.2	20.4	166611	22.3	20.9	274572	22.4	19.9	432168	22.4	21.3
1723	22.1	14.1	205365	22.2	19.8	283618	22.2	21.2	19389	22.3	18.5	10320	22.4	17.1	204735	22.4	20.3
114055	22.1	19.9	102214	22.2	19.1	385904	22.2	20.0	348610	22.3	20.5	209436	22.4	20.3	50806	22.4	18.0
181235	22.1	20.3	302486	22.2	19.4	171825	22.2	19.5	209699	22.3	18.9	109157	22.4	18.9	227458	22.4	20.4
219554	22.1	20.1	120088	22.2	19.5	80043	22.2	18.4	291799	22.3	19.5	200318	22.4	19.4	244564	22.4	19.3
155085	22.1	19.8	136089	22.2	19.2	463821	22.2	21.1	208602	22.3	20.3	128328	22.4	18.8	500001	22.4	21.0
64617	22.1	19.3	382302	22.2	21.0	126142	22.2	19.4	491240	22.3	21.7	350049	22.4	20.9	209437	22.4	19.7
374548	22.1	20.1	191924	22.2	19.9	156546	22.2	19.7	154320	22.3	19.7	505072	22.4	21.7	465410	22.4	20.4
59675	22.1	18.5	221676	22.2	19.1	67629	22.2	18.9	262325	22.3	20.6	464676	22.4	20.3	131270	22.4	19.3
377970	22.1	20.3	194039	22.2	18.4	115016	22.2	19.0	87420	22.3	18.6	189471	22.4	19.6	207472	22.4	18.8
244761	22.1	20.1	283521	22.2	20.7	329324	22.2	20.4	428033	22.3	19.9	412226	22.4	20.0	301072	22.4	19.6
330391	22.1	19.5	186906	22.2	20.2	403016	22.2	21.8	463133	22.3	19.4	217028	22.4	20.8	226000	22.4	19.6
286165	22.1	19.1	389980	22.2	20.5	435134	22.2	19.6	139794	22.3	20.0	292268	22.4	20.9	120248	22.4	19.0
18322	22.1	18.5	350435	22.2	21.1	182098	22.2	19.0	52007	22.3	20.0	507489	22.4	20.4	155546	22.4	20.6
211940	22.1	18.7	189046	22.2	20.3	163502	22.2	20.6	113851	22.3	19.1	380433	22.4	20.0	148690	22.4	19.8
468825	22.1	21.3	54061	22.2	18.2	195514	22.2	19.1	282635	22.3	19.6	350971	22.4	19.4	435009	22.4	20.9
297637	22.1	21.1	120325	22.2	20.2	363087	22.2	20.5	153169	22.3	19.5	212325	22.4	20.5	505900	22.4	21.0
209099	22.1	20.3	96076	22.2	19.8	316290	22.2	20.7	377882	22.3	19.6	168472	22.4	19.9	195660	22.4	20.5
114355	22.1	19.5	382619	22.2	20.3	306288	22.2	20.5	237647	22.3	20.4	244055	22.4	20.7	74202	22.5	18.3
508228	22.1	21.1	521030	22.2	20.3	289795	22.2	21.3	231474	22.3	19.6	218027	22.4	20.4	82350	22.5	19.0
3438	22.1	16.8	20868	22.2	19.0	302000	22.2	20.7	51305	22.3	18.7	225610	22.4	19.6	379360	22.5	21.2
196510	22.1	19.8	130689	22.2	18.9	96905	22.2	19.3	469137	22.3	20.9	109262	22.4	19.5	354773	22.5	21.8
14801	22.1	17.4	106147	22.2	19.8	74613	22.2	19.6	419859	22.3	20.5	236052	22.4	20.4	243308	22.5	20.9
310938	22.1	21.1	85688	22.2	19.2	287190	22.2	20.2	379988	22.3	19.8	208460	22.4	20.0	204893	22.5	19.9
366690	22.1	19.8	268073	22.2	20.7	403828	22.2	21.2	231796	22.3	18.8	110959	22.4	18.6	190828	22.5	20.0
500905	22.1	20.2	118892	22.2	18.0	58547	22.2	18.2	424993	22.3	20.5	320602	22.4	20.7	211500	22.5	20.5
496320	22.1	21.5	285780	22.2	21.0	32092	22.2	18.5	11776	22.3	18.8	327314	22.4	20.4	350736	22.5	23.0
290633	22.1	20.4	488561	22.2	22.2	494819	22.3	21.8	500362	22.3	20.0	491111	22.4	22.1	83171	22.5	18.9
307521	22.1	20.0	48920	22.2	19.7	8994	22.2	17.9	296950	22.3	20.9	357355	22.4	20.2	196984	22.5	19.5
65295	22.1	18.9	267698	22.2	20.3	124672	22.2	19.6	123807	22.3	18.1	123668	22.4	19.2	166260	22.5	18.9
425280	22.1	21.3	380918	22.2	20.3	102090	22.3	20.1	167016	22.3	19.9	227537	22.4	20.8	293705	22.5	19.7
264935	22.1	19.9	289714	22.2	19.4	229233	22.3	20.1	25868	22.3	17.8	341721	22.4	20.1	335593	22.5	19.3
133027	22.1	19.7	310308	22.2	20.3	62784	22.2	19.5	206856	22.3	19.1	87423	22.4	20.7	519654	22.5	20.9
69098	22.1	19.2	32364	22.2	18.0	83724	22.2	19.1	230677	22.3	20.4	5475	22.4	17.9	159541	22.5	20.3
332371	22.1	19.6	197016	22.2	19.3	96250	22.3	19.4	343126	22.3	19.9	376042	22.4	20.6	420139	22.5	20.0
386555	22.1	20.5	151799	22.2	19.3	203413	22.3	20.1	463700	22.3	22.0	327839	22.4	19.6	317745	22.5	21.0
376155	22.1	20.1	493157	22.2	20.3	458250	22.2	20.9	262004	22.3	20.7	409005	22.4	21.3	361144	22.5	21.3
33728	22.1	18.3	217069	22.2	20.0	54028	22.2	18.0	96860	22.3	17.1	115717	22.4	18.8	167101	22.5	19.8
238519	22.1	20.4	506368	22.2	20.4	396959	22.3	21.3	388799	22.3	21.0	70744	22.4	18.7	232500	22.5	20.4
329237	22.1	19.7	106979	22.2	19.6	197023	22.3	19.9	213184	22.3	20.7	426576	22.4	20.9	341822	22.5	21.4
292841	22.1	19.1	141094	22.2	19.6	269449	22.3	20.3	214492	22.3	20.5	168778	22.4	19.5	472713	22.5	20.3
21084	22.1	17.6	202743	22.2	20.2	52295	22.3	18.9	148788	22.3	18.8	309238	22.4	21.0	178076	22.5	20.2
264396	22.1	20.9	106190	22.2	20.1	18174	22.3	17.9	30031	22.3	21.5	11730	22.4	17.0	117823	22.5	19.0
423670	22.1	19.4	437736	22.2	20.1	431537	22.3	21.1	344287	22.3	21.2	1222	22.4	15.7	422778	22.5	23.2
197215	22.1	19.4	85116	22.2	19.1	32768	22.3	18.8	461955	22.3	21.1	60221	22.4	19.2	208209	22.5	19.3
173929	22.1	21.0	46000	22.2	18.9	37											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V															
399632	22.5	22.9	318604	22.6	20.5	181687	22.6	20.1	185165	22.7	19.2	410204	22.7	19.9	301068	22.8	21.0
330032	22.5	21.1	369287	22.6	21.1	46039	22.6	18.4	369353	22.7	22.1	246841	22.8	20.4	129169	22.8	19.7
458939	22.5	20.9	222783	22.6	19.5	336970	22.6	20.7	422522	22.7	21.5	37477	22.8	18.4	174723	22.8	19.2
207391	22.5	19.8	308273	22.6	20.3	436893	22.6	21.2	136980	22.7	19.3	430000	22.8	21.3	358540	22.8	20.6
417736	22.5	21.3	176824	22.6	20.0	12897	22.6	16.2	40468	22.7	17.2	502936	22.8	20.0	216822	22.8	20.6
328306	22.5	20.6	435985	22.6	20.5	428041	22.6	21.1	153777	22.7	19.6	384255	22.8	20.5	262785	22.8	21.1
471416	22.5	20.5	24207	22.6	17.1	154676	22.6	17.9	241385	22.7	19.9	32435	22.8	18.2	269036	22.8	20.8
93268	22.5	18.9	16432	22.6	16.4	322704	22.6	20.9	54560	22.7	17.7	172159	22.8	18.5	425940	22.8	20.3
338079	22.5	21.7	435377	22.6	20.6	229187	22.6	20.6	261184	22.7	20.9	119461	22.8	19.8	23018	22.8	18.2
135323	22.5	18.7	52151	22.6	18.0	363483	22.6	20.3	48614	22.7	19.0	346208	22.8	20.2	376413	22.8	20.8
456279	22.5	20.4	377763	22.6	20.1	99636	22.6	19.0	262827	22.7	20.9	399351	22.8	21.1	40384	22.8	18.7
156972	22.5	18.8	8300	22.6	18.4	183083	22.6	20.8	194261	22.7	19.4	203909	22.8	19.0	340817	22.8	20.2
296497	22.5	21.3	174008	22.6	19.7	368954	22.6	19.4	465718	22.7	22.1	285675	22.8	20.1	346231	22.8	20.2
116777	22.5	18.3	499246	22.6	22.3	217281	22.6	19.5	154683	22.7	18.7	433613	22.8	20.4	106088	22.8	19.3
388377	22.5	21.3	381424	22.6	20.8	495104	22.6	21.3	413874	22.7	20.2	96847	22.8	19.7	105758	22.8	18.5
317149	22.5	20.8	384192	22.6	20.7	341814	22.6	20.0	129395	22.7	20.6	58248	22.8	19.6	187578	22.8	19.8
211429	22.5	19.0	128844	22.6	19.5	100414	22.6	20.1	34086	22.7	17.3	64235	22.8	18.8	373444	22.8	20.0
391049	22.5	20.5	172837	22.6	19.0	346234	22.6	20.2	497155	22.7	22.0	245503	22.8	20.7	257680	22.8	20.5
415346	22.5	20.6	212549	22.6	20.2	240047	22.6	20.0	378789	22.7	20.7	80015	22.8	18.1	289276	22.8	20.1
52538	22.5	19.2	372032	22.6	20.4	287976	22.6	20.8	213870	22.7	19.9	283013	22.8	20.6	336168	22.8	20.3
44726	22.5	17.2	268561	22.6	20.6	163754	22.6	20.3	381149	22.7	20.4	17445	22.8	18.4	99437	22.8	18.5
443695	22.5	20.1	41498	22.6	18.3	146226	22.6	19.2	320646	22.7	20.1	207952	22.8	20.1	203377	22.8	19.8
12834	22.5	17.3	54065	22.6	19.4	241487	22.6	20.0	430421	22.7	19.8	151154	22.8	19.1	257952	22.8	19.1
340812	22.5	20.5	271880	22.6	20.3	159788	22.6	20.1	473926	22.7	20.3	163415	22.8	20.5	128637	22.8	20.2
241041	22.5	20.3	16566	22.6	17.0	459058	22.6	19.6	273566	22.7	20.6	154014	22.8	18.6	173169	22.8	19.0
340584	22.5	21.0	382677	22.6	21.3	293788	22.6	20.9	452781	22.7	21.1	341260	22.8	19.8	382380	22.8	21.3
247809	22.5	19.4	502823	22.6	20.9	118984	22.6	20.4	505201	22.7	21.8	119379	22.8	19.4	222282	22.8	20.1
239490	22.5	20.1	460028	22.6	21.3	350721	22.6	20.8	281062	22.7	20.2	45900	22.8	17.7	106918	22.8	19.2
19028	22.5	16.9	118505	22.6	19.1	469644	22.6	21.5	353423	22.7	22.5	436747	22.8	20.6	500691	22.8	21.4
166766	22.5	19.9	179799	22.6	20.1	135306	22.6	19.9	437236	22.7	20.4	479524	22.8	20.5	468217	22.8	20.6
133043	22.5	19.7	316755	22.6	20.7	164102	22.6	20.1	104402	22.7	18.8	423513	22.8	21.9	163392	22.8	19.9
88553	22.5	18.5	508516	22.6	21.2	160525	22.6	19.0	405167	22.7	21.2	211989	22.8	19.7	497605	22.8	21.5
199596	22.5	20.5	3161	22.6	15.2	203349	22.6	19.5	344866	22.7	20.0	336269	22.8	20.4	208173	22.8	20.0
412221	22.5	20.0	4175	22.6	15.3	388814	22.6	20.7	266313	22.7	20.7	147654	22.8	17.6	184468	22.8	19.9
245215	22.5	20.7	27143	22.6	18.9	37050	22.6	19.2	134679	22.7	19.9	414795	22.8	21.2	81322	22.8	18.7
70290	22.5	19.0	22517	22.6	17.4	405187	22.6	20.5	415062	22.7	19.0	72363	22.8	19.4	467662	22.8	22.1
139533	22.5	19.6	170994	22.6	18.7	265780	22.6	20.7	321137	22.7	20.4	173693	22.8	20.6	519999	22.8	21.3
19635	22.5	18.1	202652	22.6	19.4	118227	22.6	18.3	276714	22.7	20.2	330673	22.8	20.7	472572	22.8	21.1
427265	22.5	20.5	207238	22.6	20.5	133182	22.6	19.9	459776	22.7	20.1	4522	22.8	16.9	422801	22.8	21.9
422138	22.5	21.0	77669	22.6	19.5	92456	22.6	19.0	83728	22.7	18.7	375956	22.8	20.7	141648	22.8	19.6
123404	22.5	18.5	121002	22.6	18.7	291232	22.7	20.4	82641	22.7	18.7	297860	22.8	19.0	136578	22.8	18.7
453336	22.5	20.8	386169	22.6	20.5	216063	22.7	21.1	455692	22.7	19.9	214175	22.8	19.7	341391	22.8	20.2
124474	22.5	18.8	250601	22.6	19.4	366433	22.7	22.4	253324	22.7	19.7	269097	22.8	19.6	33373	22.8	18.8
472934	22.5	20.6	498960	22.6	20.9	511575	22.7	19.5	500526	22.7	21.1	25416	22.8	17.9	271895	22.8	20.6
204771	22.5	19.2	384250	22.6	20.5	275987	22.7	20.1	148321	22.7	19.2	57665	22.8	19.2	337721	22.8	20.3
316024	22.5	19.5	341524	22.6	20.1	368680	22.7	20.8	132173	22.7	18.7	332360	22.8	19.6	341657	22.8	21.0
289553	22.5	18.9	945	22.6	14.2	506707	22.7	22.2	243739	22.7	20.5	174011	22.8	20.6	130765	22.8	18.0
426433	22.5	20.9	349402	22.6	19.9	144414	22.7	18.7	68710	22.7	18.0	83610	22.8	20.0	110713	22.9	19.7
99890	22.5	19.2	502479	22.6	20.8	307258	22.7	21.8	352707	22.7	19.8	408989	22.8	21.8	357060	22.9	20.6
359660	22.5	20.2	369362	22.6	22.5	32250	22.7	18.9	298990	22.7	20.8	244013	22.8	20.2	311304	22.9	19.5
64810	22.5	18.7	177099	22.6	19.6	505991	22.7	21.3	244964	22.7	19.5	372953	22.8	20.5	135089	22.9	20.4
291399	22.5	20.3	385287	22.6	20.2	202235	22.7	18.7	295700	22.7	20.1	186184	22.8	20.7	379320	22.9	20.4
123041	22.5	19.8	327871	22.6	19.1	264615	22.7	21.3	78040	22.7	19.7	219754	22.8	21.2	24961	22.9	19.6
464911	22.5	21.3	124286	22.6	20.0	470463	22.7	21.0	102712	22.7	18.6	345543	22.8	21.5	495093	22.9	21.3
264973	22.5	20.8	170798	22.6	17.7	348804	22.7	21.4	409256	22.7	22.3	145643	22.8	20.2	248449	22.9	20.7
159376	22.5	19.1	305777	22.6	20.0	81833	22.7	18.2	419205	22.7	20.1	274252	22.8	20.3	16539	22.9	17.4
14356	22.5	18.8	467209	22.6	20.0	110872	22.7	18.9	331521	22.7	21.7	196826	22.8	20.3	206210	22.9	19.3
174586	22.5	21.2	92779	22.6	19.4	263206	22.7	19.9	96087	22.7	18.3	38320	22.8	19.5	9531	22.9	17.2
431825	22.5	20.9	314196	22.6	19.8	318134	22.7	20.5	121340	22.7	18.4	459420	22.8	20.0	50052	22.9	18.2
335839	22.5	20.2	162762	22.6	19.6	367111	22.7	21.2	138702	22.7	18.8	381591	22.8	20.8	271723	22.9	20.3
98432	22.5	17.9	112208	22.6	19.6												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
243984	22.9	19.5	110500	22.9	19.1	254054	23.0	19.4	138769	23.1	19.7	223239	23.1	19.0	129451	23.2	17.5
472482	22.9	20.5	192372	22.9	20.0	385093	23.0	21.0	89693	23.1	19.1	210942	23.1	19.9	426809	23.2	20.1
352552	22.9	20.0	135672	22.9	20.0	74634	23.0	19.7	37610	23.1	18.5	177090	23.1	19.1	211456	23.2	19.6
234802	22.9	20.9	217924	22.9	21.0	227446	23.0	20.5	508187	23.1	21.1	519917	23.1	21.1	27655	23.2	18.6
241332	22.9	20.7	203255	22.9	20.4	341280	23.0	20.3	105477	23.1	19.5	7717	23.1	15.4	454403	23.2	19.9
10262	22.9	16.7	500602	22.9	21.2	53056	23.0	17.1	414894	23.1	20.0	58825	23.1	19.4	29154	23.2	18.2
500576	22.9	22.5	285341	22.9	19.0	462339	23.0	19.7	242411	23.1	19.2	329779	23.1	19.6	327245	23.2	20.8
31740	22.9	17.9	234657	22.9	19.6	506333	23.0	19.9	199279	23.1	19.6	498854	23.1	22.0	176536	23.2	20.5
125826	22.9	19.9	14671	22.9	18.1	283126	23.0	20.2	205276	23.1	20.5	330494	23.1	20.0	386133	23.2	21.4
88694	22.9	18.6	409776	22.9	20.8	337666	23.0	20.8	300083	23.1	19.9	162598	23.1	20.5	461684	23.2	20.5
270594	22.9	20.0	452669	22.9	21.7	277483	23.0	20.8	289148	23.1	20.6	114280	23.1	18.9	190103	23.2	19.8
409117	22.9	21.1	140812	22.9	19.7	292197	23.0	19.9	100907	23.1	17.9	383747	23.1	20.4	467691	23.2	21.4
120585	22.9	19.1	37922	22.9	18.5	125805	23.0	20.6	437443	23.1	20.2	214531	23.1	19.9	397124	23.2	21.3
487496	22.9	23.1	229769	22.9	19.8	344382	23.0	21.2	18476	23.1	18.5	47692	23.1	17.4	424146	23.2	19.8
374097	22.9	21.1	397813	22.9	20.9	434919	23.0	21.1	132491	23.1	19.8	422892	23.1	20.6	309813	23.2	20.3
110402	22.9	19.9	66829	22.9	18.7	372618	23.0	21.2	109211	23.1	19.6	299417	23.1	21.1	82433	23.2	19.1
137054	22.9	18.3	338430	22.9	19.8	180009	23.0	19.2	41056	23.1	18.8	147479	23.1	19.3	339406	23.2	20.4
24115	22.9	17.7	170765	22.9	19.8	333765	23.0	18.9	196110	23.1	20.3	376489	23.1	20.1	240287	23.2	19.1
317811	22.9	21.3	52640	22.9	18.6	507305	23.0	21.8	307456	23.1	20.9	294225	23.1	20.8	125837	23.2	19.9
459587	22.9	20.4	508625	22.9	21.0	346383	23.0	21.1	513044	23.1	20.8	68243	23.1	19.4	498675	23.2	20.2
290580	22.9	20.8	158469	22.9	19.1	197803	23.0	19.4	60163	23.1	18.8	216606	23.1	20.6	195791	23.2	20.1
305739	22.9	20.3	202816	22.9	20.2	11889	23.0	17.3	108821	23.1	20.3	213254	23.1	19.4	467521	23.2	20.0
467649	22.9	21.2	175990	22.9	20.2	282296	23.0	20.6	298927	23.1	20.3	497380	23.1	23.2	60132	23.2	18.8
88690	22.9	19.2	406524	22.9	20.1	373099	23.0	19.9	135295	23.1	20.0	55945	23.1	18.7	159428	23.2	19.8
374928	22.9	19.6	322330	22.9	19.9	122867	23.0	19.7	125501	23.1	18.4	326418	23.1	21.3	457320	23.2	20.5
327895	22.9	20.4	165922	22.9	18.8	81745	23.0	18.6	135070	23.1	19.7	447211	23.1	20.1	229146	23.2	20.0
375964	22.9	20.2	456864	22.9	21.1	87765	23.0	19.7	166971	23.1	20.5	505655	23.1	21.2	147425	23.2	18.5
517539	22.9	20.7	355759	22.9	21.0	96838	23.0	19.6	214699	23.1	20.0	413932	23.1	21.1	49674	23.2	17.8
366399	22.9	21.7	372902	22.9	20.5	401490	23.0	20.7	225397	23.1	20.0	489250	23.1	21.8	456800	23.2	20.7
280165	22.9	20.6	230643	22.9	20.3	246799	23.0	20.3	461701	23.1	21.3	41486	23.1	18.5	512968	23.2	21.4
465899	22.9	20.6	123977	22.9	18.6	134104	23.0	19.3	284149	23.1	19.9	101791	23.1	18.2	410744	23.2	19.3
281413	22.9	20.5	333434	22.9	19.9	182074	23.0	19.8	500040	23.1	20.6	94119	23.1	19.1	422539	23.2	21.7
100898	22.9	18.5	80361	22.9	19.2	462020	23.0	20.7	520022	23.1	21.2	311605	23.2	20.6	429134	23.2	22.1
90017	22.9	19.7	472651	22.9	20.1	490308	23.0	20.7	466182	23.1	21.0	399700	23.2	20.6	283541	23.2	20.5
368944	22.9	20.9	370203	22.9	20.8	400335	23.0	20.4	209178	23.1	20.8	340793	23.2	20.4	8112	23.2	17.5
466169	22.9	19.5	332972	22.9	19.9	29610	23.0	18.1	169381	23.1	19.5	216158	23.2	20.2	384253	23.2	20.0
433094	22.9	20.2	428790	22.9	20.9	379725	23.0	20.4	406415	23.1	21.6	106467	23.2	19.7	377367	23.2	20.9
267482	22.9	19.5	186178	22.9	21.2	137013	23.0	19.5	259222	23.1	19.2	417659	23.2	19.9	215071	23.2	18.5
504188	22.9	22.1	473192	22.9	20.0	59576	23.0	18.8	108774	23.1	19.6	418107	23.2	20.0	247633	23.2	20.4
353685	22.9	19.8	437100	22.9	21.0	456902	23.0	21.6	505166	23.1	20.6	143594	23.2	18.8	417478	23.2	22.6
20159	22.9	17.9	31330	22.9	17.7	346784	23.0	20.4	242162	23.1	18.9	287894	23.2	20.9	458165	23.2	20.9
465712	22.9	21.6	480534	22.9	20.9	433849	23.0	20.2	198027	23.1	19.4	163109	23.2	18.9	502411	23.2	20.1
178439	22.9	20.0	511656	22.9	20.5	167618	23.0	19.5	462950	23.1	19.7	457640	23.2	21.5	411301	23.2	21.8
258219	22.9	19.8	230839	22.9	20.8	98491	23.0	19.3	57198	23.1	17.8	248058	23.2	20.4	456931	23.2	21.4
375786	22.9	20.7	116033	22.9	18.6	110443	23.0	20.0	177725	23.1	20.2	329649	23.2	21.0	157508	23.2	19.7
436719	22.9	21.1	451775	22.9	19.4	148533	23.0	21.2	175597	23.1	19.7	331197	23.2	19.9	502366	23.2	20.3
273285	22.9	20.9	310497	22.9	20.3	280147	23.0	20.5	469127	23.1	20.8	427009	23.2	20.5	3124	23.2	17.4
224334	22.9	20.1	49558	22.9	18.2	88110	23.0	18.4	500943	23.1	21.6	307725	23.2	20.1	70436	23.2	18.7
102615	22.9	19.6	207362	22.9	20.3	59664	23.0	19.0	377951	23.1	19.7	15711	23.2	18.0	459093	23.2	19.9
252919	22.9	20.1	129158	22.9	19.2	212592	23.0	20.1	235320	23.1	20.5	278547	23.2	19.0	458999	23.2	20.6
119359	22.9	19.7	239874	22.9	19.0	270171	23.0	20.0	160584	23.1	19.1	241977	23.2	19.5	316179	23.2	21.5
292018	22.9	20.1	39951	22.9	18.2	54981	23.0	19.2	148355	23.1	19.7	57043	23.2	18.8	170870	23.2	19.1
310271	22.9	20.7	126062	22.9	18.7	23733	23.0	18.0	172048	23.1	19.9	214446	23.2	19.9	14886	23.2	18.6
74745	22.9	19.2	139683	22.9	19.3	425267	23.0	20.8	213913	23.1	19.7	81769	23.2	20.0	97260	23.2	19.7
192527	22.9	20.3	50946	22.9	18.9	239245	23.0	19.6	178353	23.1	19.7	498157	23.2	21.3	373328	23.2	18.4
358039	22.9	20.5	192823	22.9	20.1	227438	23.0	20.1	431916	23.1	20.5	277474	23.2	21.1	79792	23.2	18.7
389499	22.9	20.4	82169	22.9	18.4	231776	23.0	20.0	140025	23.1	19.8	291148	23.2	21.1	158607	23.2	18.6
209136	22.9	20.0	172472	22.9	20.2	68096	23.0	19.5	83751	23.1	19.4	310518	23.2	21.0	140595	23.2	19.9
354852	22.9	20.6	184992	22.9	19.8	167046	23.0	19.9	470922	23.1	21.0	496645	23.2	19.6	473195	23.2	21.2
51948	22.9	17.0	303432	22.9	20.1	178918	23.0	19.5	230913	23.1	20.3	196422	23.2	20.4	465935	23.2	21.3
472130	22.9	20.9	162553	22.9</td													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
169299	23.3	19.8	410118	23.3	20.0	517657	23.4	21.2	382289	23.5	20.6	215917	23.5	20.0	221292	23.6	20.1
107508	23.3	18.9	79846	23.3	18.3	115242	23.4	20.0	466715	23.5	21.3	117820	23.5	19.0	40002	23.6	19.0
96320	23.3	19.6	412190	23.3	19.7	264577	23.4	20.8	406028	23.5	20.8	209990	23.5	20.6	284356	23.6	21.3
42163	23.3	18.0	209423	23.3	20.0	471454	23.4	21.3	115206	23.5	18.8	343020	23.5	20.3	233384	23.6	20.5
487548	23.3	20.7	297393	23.3	21.3	109808	23.4	19.9	90867	23.5	19.6	86907	23.5	18.9	426566	23.6	21.3
439331	23.3	20.5	148594	23.3	20.5	181400	23.4	19.8	235712	23.5	20.7	378329	23.5	20.8	388027	23.6	20.6
210569	23.3	19.3	314189	23.3	19.7	146096	23.4	21.2	420088	23.5	19.9	156300	23.5	20.2	458144	23.6	21.7
4452	23.3	15.8	202426	23.3	20.4	341476	23.4	20.4	181691	23.5	20.3	502607	23.5	20.5	32996	23.6	17.9
119077	23.3	19.1	156467	23.3	19.4	348898	23.4	20.2	370074	23.5	22.0	434973	23.5	21.6	217930	23.6	20.7
275363	23.3	20.2	147242	23.3	19.6	386210	23.4	21.2	386240	23.5	19.5	312104	23.5	19.8	192441	23.6	19.8
347932	23.3	19.9	456909	23.3	20.9	378760	23.4	21.1	27977	23.5	18.8	9867	23.5	17.8	275434	23.6	20.2
506639	23.3	21.1	55325	23.3	18.4	316362	23.4	20.6	311783	23.5	20.7	50926	23.5	17.5	277271	23.6	21.6
346101	23.3	20.6	379853	23.3	20.2	87737	23.4	20.1	268041	23.5	20.1	437648	23.5	20.7	169937	23.6	20.3
423657	23.3	20.7	23658	23.3	18.3	197558	23.4	19.6	348166	23.5	20.2	85876	23.5	18.3	361158	23.6	20.4
469954	23.3	20.4	59927	23.3	17.7	191122	23.4	20.2	151993	23.5	20.1	315243	23.5	21.4	232360	23.6	19.7
135676	23.3	20.7	105927	23.3	19.1	463665	23.4	21.6	289784	23.5	20.4	435236	23.5	21.4	263968	23.6	20.2
112547	23.3	18.5	239257	23.3	20.4	166552	23.4	19.5	141206	23.5	19.6	82583	23.5	19.6	402892	23.6	20.7
242271	23.3	20.0	272473	23.3	21.1	191922	23.4	19.6	421468	23.5	20.9	426622	23.5	20.8	196559	23.6	19.7
303420	23.3	20.0	243796	23.3	20.1	365116	23.4	19.5	347053	23.5	20.3	455622	23.5	22.0	310885	23.6	20.5
214302	23.3	19.6	15269	23.3	14.6	41463	23.4	18.8	399644	23.5	20.9	115745	23.5	19.6	473878	23.6	20.3
386585	23.3	20.4	496983	23.3	22.3	14880	23.4	17.9	901	23.5	14.8	382377	23.5	20.8	417551	23.6	20.9
170097	23.3	19.0	178946	23.3	19.5	56416	23.4	18.9	67883	23.5	19.1	63043	23.5	18.5	278820	23.6	20.2
44731	23.3	19.0	416630	23.3	20.6	198117	23.4	19.4	163777	23.5	19.4	350838	23.5	20.1	499989	23.6	22.1
227899	23.3	20.6	276918	23.3	21.0	521128	23.4	20.6	210700	23.5	20.6	34793	23.5	18.1	74977	23.6	18.5
313633	23.3	20.7	420640	23.3	19.6	144843	23.4	18.4	213906	23.5	19.6	420099	23.5	19.8	189464	23.6	19.8
203527	23.3	19.6	126072	23.3	20.1	117017	23.4	19.7	425066	23.5	22.6	377789	23.5	22.0	377383	23.6	20.5
313702	23.3	21.1	435119	23.3	19.0	155080	23.4	19.8	183558	23.5	18.8	96672	23.5	18.7	168452	23.6	18.4
45412	23.3	19.5	360808	23.3	19.7	162964	23.4	19.6	170269	23.5	19.6	497791	23.5	22.0	124325	23.6	19.5
28918	23.3	17.3	339436	23.3	20.2	60526	23.4	18.4	466568	23.5	21.3	377425	23.5	21.1	341340	23.6	20.3
248123	23.3	20.5	190394	23.3	20.2	36885	23.4	19.4	303665	23.5	20.3	131014	23.5	20.4	113141	23.6	19.5
3555	23.3	17.6	247696	23.3	20.1	2780	23.4	15.6	317099	23.5	19.2	204220	23.5	19.5	436291	23.6	19.7
261898	23.3	19.2	399704	23.3	21.2	499245	23.4	21.6	369087	23.5	20.7	160796	23.5	19.2	173818	23.6	19.0
173467	23.3	20.5	362642	23.3	20.4	30993	23.4	18.9	473131	23.5	21.2	274243	23.5	20.0	124328	23.6	20.7
129448	23.3	20.2	507171	23.3	21.4	157882	23.4	20.0	154904	23.5	20.9	109281	23.5	17.8	161865	23.6	19.1
411730	23.3	21.3	463370	23.3	20.4	501049	23.4	21.1	172427	23.5	20.5	81452	23.5	17.9	370075	23.6	21.2
242145	23.3	20.0	183706	23.3	20.1	95818	23.4	18.8	215870	23.5	19.6	297624	23.5	20.7	345629	23.6	20.4
107950	23.3	20.0	79270	23.4	19.4	62069	23.4	18.6	416902	23.5	22.2	206793	23.5	20.0	114725	23.6	19.2
82033	23.3	19.5	238518	23.4	19.8	410268	23.4	21.2	294070	23.5	21.1	322778	23.5	19.0	173301	23.6	20.0
87500	23.3	19.1	307526	23.4	20.1	174591	23.4	20.6	114901	23.5	19.6	15001	23.5	18.1	501521	23.6	20.2
101576	23.3	19.2	389531	23.4	20.1	412056	23.4	19.6	173019	23.5	20.7	103247	23.5	18.8	428334	23.6	20.3
62823	23.3	19.1	269980	23.4	20.7	345450	23.4	18.5	125434	23.5	20.7	164335	23.5	19.6	142190	23.6	19.6
172436	23.3	18.9	222679	23.4	19.4	373342	23.4	20.2	189462	23.5	20.3	488723	23.5	20.9	326695	23.6	18.7
198931	23.3	20.0	508279	23.4	21.3	402085	23.4	20.8	343659	23.5	20.2	110994	23.6	19.5	9552	23.6	17.3
56460	23.3	17.6	376308	23.4	20.0	435951	23.4	20.4	389735	23.5	21.6	425365	23.6	21.2	159855	23.6	19.7
13274	23.3	18.2	16716	23.4	19.9	229778	23.4	20.5	348591	23.5	20.0	182777	23.6	20.0	140859	23.6	20.0
102905	23.3	19.3	243804	23.4	19.4	211276	23.4	19.9	14920	23.5	16.0	17160	23.6	18.1	217033	23.6	21.0
368630	23.3	20.6	255582	23.4	20.7	204665	23.4	19.0	317108	23.5	20.3	409373	23.6	18.5	217274	23.6	18.7
3995	23.3	16.2	216059	23.4	20.0	480464	23.4	20.0	216839	23.5	20.2	40608	23.6	18.7	506001	23.6	21.4
124251	23.3	18.2	502203	23.4	20.7	114925	23.4	20.2	501915	23.5	20.4	133154	23.6	19.3	455562	23.6	21.8
367667	23.3	19.3	241777	23.4	20.8	353378	23.4	20.4	41894	23.5	17.7	297485	23.6	21.2	285580	23.6	21.7
195570	23.3	19.8	224143	23.4	17.9	466140	23.4	20.9	501526	23.5	19.8	351469	23.6	21.5	155041	23.6	19.8
124968	23.3	18.9	480248	23.4	21.0	363524	23.4	21.3	117303	23.5	19.7	285545	23.6	19.8	370469	23.6	19.4
387361	23.3	21.0	124923	23.4	20.3	195537	23.4	18.4	522923	23.5	21.2	246123	23.6	19.3	468807	23.6	21.0
69562	23.3	17.9	323789	23.4	20.3	64942	23.4	18.9	376326	23.5	20.4	211474	23.6	19.7	7709	23.6	17.7
234012	23.3	20.5	143819	23.4	19.5	171923	23.4	19.6	344724	23.5	20.3	70530	23.6	19.2	430454	23.6	20.6
386200	23.3	20.7	168900	23.4	20.3	56326	23.4	17.1	79484	23.5	19.3	415879	23.6	21.4	140515	23.6	19.6
126841	23.3	19.1	187323	23.4	19.0	505034	23.4	21.9	297837	23.5	21.3	5676	23.6	16.5	299239	23.6	21.2
457176	23.3	19.6	40901	23.4	17.9	381439	23.4	21.0	258864	23.5	21.7	216084	23.6	20.3	369393	23.6	20.8
265687	23.3	21.2	332394	23.4	19.9	369065	23.4	20.2	512502	23.5	21.3	241431	23.6	20.3	305605	23.6	21.4
57623	23.3	17.8	437651	23.4	20.7	496660	23.4	20.0	147325	23.5	19.1	380836	23.6	20.3	249243	23.6	20.0
456832	23.3	22.0	278106	23.4	20.1												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
246994	23.6	20.4	414144	23.7	20.3	127594	23.8	18.9	350122	23.8	21.5	13101	23.9	17.8	278844	23.9	20.8
463788	23.6	21.7	422314	23.7	21.9	132824	23.8	20.6	368616	23.8	21.8	28659	23.9	17.3	456889	23.9	21.2
419672	23.6	21.1	286509	23.7	20.4	371112	23.8	21.0	21000	23.8	17.9	135255	23.9	19.4	184414	23.9	19.6
50839	23.6	18.4	503171	23.7	20.7	468269	23.8	20.2	371748	23.8	18.9	127946	23.9	18.9	192913	23.9	20.0
407823	23.6	20.6	166422	23.7	19.8	109664	23.8	19.3	307385	23.8	20.6	297584	23.9	20.9	35368	23.9	17.9
315302	23.6	21.2	498598	23.7	21.6	100661	23.8	19.9	111129	23.8	20.3	341564	23.9	20.6	404146	23.9	20.0
316287	23.6	21.2	229968	23.7	20.8	31893	23.8	18.6	207105	23.8	19.6	210123	23.9	20.9	8725	23.9	17.3
215087	23.7	18.9	390039	23.7	20.8	458783	23.8	21.1	415891	23.8	21.5	419844	23.9	22.0	338425	23.9	19.0
204600	23.7	20.2	457673	23.7	20.1	297323	23.8	19.1	417554	23.8	20.7	117013	23.9	19.3	354862	23.9	19.8
26913	23.7	18.2	426031	23.7	20.1	138682	23.8	19.6	465423	23.8	20.4	345691	23.9	20.7	66373	23.9	18.1
504225	23.7	21.7	503491	23.7	20.4	396708	23.8	22.1	12465	23.8	18.6	303434	23.9	19.1	380563	23.9	21.4
419028	23.7	21.2	317393	23.7	20.3	377393	23.8	21.6	209936	23.8	19.9	196299	23.9	17.1	173449	23.9	20.2
39627	23.7	19.0	30599	23.7	19.5	274413	23.8	19.4	136101	23.8	19.6	36221	23.9	17.9	416107	23.9	22.1
182813	23.7	20.9	313943	23.7	18.6	505284	23.8	20.2	188101	23.8	20.1	94511	23.9	19.6	178172	23.9	19.0
501142	23.7	22.0	22804	23.7	18.7	297450	23.8	20.7	363732	23.8	19.8	64574	23.9	18.3	426779	23.9	20.3
310469	23.7	21.5	231312	23.7	19.9	127702	23.8	18.5	17755	23.8	17.3	412031	23.9	20.0	133742	23.9	19.9
159831	23.7	19.9	244681	23.7	20.8	485132	23.8	19.9	380581	23.8	21.3	320282	23.9	20.0	250186	23.9	19.6
295762	23.7	20.9	210146	23.7	19.8	239445	23.8	19.0	386137	23.8	21.0	495335	23.9	21.8	65707	23.9	18.5
52111	23.7	18.4	144713	23.7	19.3	190053	23.8	19.6	190068	23.8	19.9	329378	23.9	20.7	503044	23.9	20.1
96233	23.7	19.0	224344	23.7	19.0	149643	23.8	19.7	62303	23.8	18.6	79221	23.9	19.0	361554	23.9	20.7
4969	23.7	16.4	203351	23.7	19.4	429318	23.8	20.7	242461	23.8	20.6	175683	23.9	21.0	455864	23.9	21.9
30442	23.7	18.5	207126	23.7	20.1	505305	23.8	22.2	118087	23.8	19.1	458971	23.9	21.5	176721	23.9	20.4
18188	23.7	19.5	129613	23.7	19.5	1716	23.8	15.2	205074	23.8	19.7	421654	23.9	20.7	336990	23.9	20.1
426712	23.7	20.7	333822	23.7	19.9	384205	23.8	21.2	94129	23.8	19.1	436713	23.9	21.5	492319	23.9	21.0
139774	23.7	19.9	123554	23.7	18.8	501372	23.8	20.6	179015	23.8	20.4	496875	23.9	21.9	29582	23.9	16.9
130712	23.7	19.4	112773	23.7	20.2	321984	23.8	21.1	457570	23.8	20.1	230086	23.9	21.0	74388	23.9	19.9
407287	23.7	20.2	253019	23.7	20.3	199623	23.8	19.2	173661	23.8	19.2	39870	23.9	19.6	375962	23.9	21.1
306663	23.7	19.5	108755	23.7	19.9	499104	23.8	20.9	246491	23.8	19.7	427421	23.9	21.6	162714	23.9	18.8
248475	23.7	20.7	188741	23.7	20.5	361176	23.8	21.1	426320	23.8	20.2	433258	23.9	20.9	121658	23.9	19.7
150835	23.7	19.2	305963	23.7	20.2	504156	23.8	21.9	138219	23.8	19.6	498050	23.9	20.9	34429	23.9	19.5
244270	23.7	19.9	374169	23.7	20.2	212295	23.8	19.3	104035	23.8	19.4	182783	23.9	19.5	468577	23.9	19.7
470109	23.7	21.6	419003	23.7	20.8	472902	23.8	20.1	499187	23.8	21.0	384799	23.9	20.3	436302	23.9	20.7
372025	23.7	19.9	348893	23.7	21.0	92413	23.8	19.4	501047	23.8	22.4	88291	23.9	19.1	221939	23.9	20.9
30238	23.7	18.0	464941	23.7	21.7	157895	23.8	19.4	87552	23.8	20.0	396393	23.9	19.9	186161	23.9	20.9
61874	23.7	19.3	278992	23.7	20.2	386154	23.8	22.0	458920	23.8	21.5	188910	23.9	20.8	506065	23.9	20.9
135305	23.7	20.0	475634	23.7	20.2	471513	23.8	21.5	315447	23.8	21.5	433905	23.9	20.7	165438	23.9	19.1
208448	23.7	20.6	318011	23.7	19.3	124776	23.8	18.2	94029	23.8	18.6	381694	23.9	20.4	100642	23.9	19.7
375327	23.7	20.3	12199	23.7	17.2	464901	23.8	21.7	371080	23.8	21.1	143460	23.9	18.7	92671	23.9	18.4
316805	23.7	21.0	88509	23.7	18.1	226823	23.8	20.1	46345	23.8	18.9	93994	23.9	18.3	293999	23.9	20.7
111422	23.7	18.7	139883	23.7	18.9	90537	23.8	18.2	434304	23.9	19.3	175794	23.9	19.9	215034	23.9	19.4
402102	23.7	20.3	338064	23.7	20.6	305687	23.8	20.8	286680	23.9	19.7	64704	23.9	17.9	349602	23.9	19.5
237965	23.7	20.0	214262	23.7	19.7	232619	23.8	20.7	36856	23.9	19.0	265658	23.9	20.1	121508	23.9	19.1
254676	23.7	19.8	350990	23.7	20.4	463639	23.8	20.9	268544	23.9	20.6	72219	23.9	18.7	374578	23.9	20.1
85438	23.7	18.4	177837	23.7	20.1	278738	23.8	21.0	332148	23.9	20.4	8958	23.9	17.3	364195	23.9	21.7
80365	23.7	18.9	173282	23.7	20.2	192846	23.8	19.6	192041	23.9	19.3	49849	23.9	18.5	39253	23.9	17.7
32167	23.7	17.7	508215	23.7	21.1	59298	23.8	18.1	42656	23.9	17.7	435304	23.9	20.7	68792	23.9	18.5
21078	23.7	17.6	273158	23.7	20.3	17665	23.8	18.1	421504	23.9	21.2	255690	23.9	20.9	375380	23.9	21.4
142157	23.7	19.5	214289	23.7	20.0	225941	23.8	19.6	432984	23.9	21.1	169135	23.9	19.9	309842	23.9	19.9
306616	23.7	20.6	401943	23.7	19.7	113003	23.8	19.2	497379	23.9	22.1	70310	23.9	19.1	215900	23.9	19.8
491790	23.7	21.4	458889	23.7	21.7	470915	23.8	20.7	166809	23.9	19.8	467873	23.9	21.1	310945	23.9	20.1
288657	23.7	20.8	284391	23.7	20.8	465906	23.8	21.3	369785	23.9	20.4	120151	23.9	19.6	140560	23.9	19.9
365549	23.7	21.5	350367	23.7	20.7	3149	23.8	16.5	147790	23.9	19.7	112337	23.9	19.0	88891	23.9	19.3
463097	23.7	21.5	253002	23.7	20.5	326971	23.8	20.0	422776	23.9	20.9	498380	23.9	21.5	33252	23.9	19.3
107045	23.7	19.9	41119	23.7	18.1	502308	23.8	20.9	166073	23.9	19.0	185218	23.9	20.0	502322	23.9	20.6
320450	23.7	19.2	464691	23.7	20.5	498594	23.8	21.1	500606	23.9	20.8	76004	23.9	19.2	170120	24.0	20.0
169407	23.7	20.4	203338	23.7	20.8	341532	23.8	20.0	313736	23.9	21.4	174468	23.9	18.9	274374	24.0	20.4
518847	23.7	24.3	382815	23.7	21.4	81601	23.8	19.3	249104	23.9	19.8	363547	23.9	21.4	105274	24.0	19.6
259915	23.7	19.1	109208	23.7	18.8	85353	23.8	18.7	147852	23.9	19.7	294063	23.9	19.9	170231	24.0	19.4
388346	23.7	21.0	6190	23.7	17.7	36030	23.8	18.5	336173	23.9	19.7	57914	23.9	19.4	503910	24.0	20.4
23020	23.7	17.9	469844	23.7	21.2	374378	23.8	20.3	355890	23.9	19.9	2943	23.9	16.7	272315	24.0	21.1
15378	23.7	19.8	461529	23.7	22.0	457606											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
4095	24.0	16.8	776	24.1	12.6	93493	24.1	16.8	2098	24.2	15.9	466554	24.3	21.1	246390	24.3	19.4
506400	24.0	20.5	258062	24.1	20.9	366932	24.1	21.1	288615	24.2	19.4	262031	24.3	21.0	31187	24.3	18.0
434456	24.0	21.6	189398	24.1	20.2	68064	24.1	17.4	64027	24.2	19.1	502410	24.3	20.9	169952	24.3	21.1
98799	24.0	19.5	5192	24.1	15.9	90061	24.1	18.8	337412	24.2	21.5	346132	24.3	20.5	384922	24.3	21.1
387343	24.0	20.2	27792	24.1	17.8	378343	24.1	20.5	149728	24.2	19.8	27205	24.3	18.2	173150	24.3	21.0
109337	24.0	19.8	206845	24.1	19.2	354356	24.1	19.5	287096	24.2	20.7	168410	24.3	18.3	267412	24.3	19.1
179540	24.0	19.7	305693	24.1	20.1	380912	24.2	20.9	72568	24.2	17.9	257829	24.3	19.8	310674	24.3	19.2
316653	24.0	20.0	210999	24.1	19.8	98679	24.2	20.1	238364	24.2	20.3	391028	24.3	21.4	418029	24.3	21.7
297787	24.0	19.8	495337	24.1	19.8	432800	24.2	19.7	293513	24.2	20.4	78810	24.3	19.6	470502	24.3	20.0
78452	24.0	18.4	30211	24.1	17.4	120767	24.2	19.8	503544	24.2	20.8	56994	24.3	18.3	425111	24.3	21.8
329799	24.0	20.4	239567	24.1	19.7	259301	24.2	19.3	141156	24.2	20.1	138592	24.3	19.3	64962	24.3	18.2
385443	24.0	21.4	110791	24.1	18.8	432456	24.2	20.6	346873	24.2	20.1	82266	24.3	19.3	120221	24.3	18.9
505898	24.0	20.8	500420	24.1	22.0	83366	24.2	18.6	425548	24.2	21.3	371985	24.3	20.8	184407	24.3	19.0
331608	24.0	19.9	379397	24.1	20.5	405920	24.2	20.3	467867	24.2	21.3	286209	24.3	20.8	75006	24.3	19.5
19777	24.0	18.1	38651	24.1	19.6	247136	24.2	19.9	366893	24.2	22.2	208438	24.3	19.5	219755	24.3	21.4
349345	24.0	21.0	276962	24.1	20.5	153789	24.2	19.5	402940	24.2	21.8	333122	24.3	20.7	104063	24.3	19.1
361590	24.0	20.2	277698	24.1	19.8	331811	24.2	20.6	54227	24.2	19.3	303317	24.3	20.6	203364	24.3	19.7
274969	24.0	20.0	349564	24.1	20.5	298995	24.2	20.5	526200	24.2	21.0	425405	24.3	20.6	85105	24.3	19.3
28794	24.0	18.3	242988	24.1	20.2	417246	24.2	20.8	120230	24.2	19.6	495710	24.3	21.1	355823	24.3	20.4
241690	24.0	21.4	407329	24.1	21.7	423260	24.2	21.1	65580	24.2	19.0	430574	24.3	21.6	456957	24.3	21.3
503697	24.0	20.8	163975	24.1	20.1	315241	24.2	21.0	373011	24.2	19.3	96094	24.3	19.7	46011	24.3	18.6
30706	24.0	18.6	237089	24.1	20.7	432919	24.2	21.3	61266	24.2	18.7	17305	24.3	17.2	225585	24.3	20.0
34480	24.0	18.1	397680	24.1	21.3	48795	24.2	19.0	465720	24.2	21.7	360369	24.3	20.3	491587	24.3	21.2
380452	24.0	21.1	57229	24.1	18.6	511045	24.2	21.6	117155	24.2	19.7	406432	24.3	21.0	277604	24.3	20.0
199521	24.0	19.6	429193	24.1	20.6	55131	24.2	18.6	33200	24.2	18.0	129963	24.3	19.7	129767	24.3	18.7
423812	24.0	20.6	501464	24.1	20.6	210765	24.2	19.4	284308	24.2	21.2	22671	24.3	17.9	68415	24.3	18.7
167436	24.0	19.9	100646	24.1	18.9	38069	24.2	18.2	8510	24.2	17.9	415746	24.3	21.5	156448	24.3	18.3
491286	24.0	21.6	399676	24.1	20.6	242440	24.2	19.8	462926	24.2	19.3	193834	24.3	20.9	327845	24.4	20.8
279013	24.0	20.2	159272	24.1	20.0	202864	24.2	20.6	41100	24.2	17.6	341152	24.3	20.5	416319	24.4	21.6
159313	24.0	19.4	244418	24.1	19.9	374597	24.2	19.9	15592	24.2	17.1	219783	24.3	18.8	506064	24.4	21.0
419054	24.0	20.6	417657	24.1	21.3	175578	24.2	19.4	253078	24.2	19.7	109074	24.3	19.8	195545	24.4	19.3
241669	24.0	21.0	210921	24.1	20.2	349374	24.2	20.7	101326	24.2	20.4	149870	24.3	19.2	326446	24.4	21.2
131929	24.0	18.8	282643	24.1	19.7	68099	24.2	18.1	341470	24.2	20.2	439827	24.3	20.0	110085	24.4	18.9
199904	24.0	19.4	192711	24.1	19.9	372648	24.2	20.0	460206	24.2	20.8	5341	24.3	18.4	520053	24.4	20.7
326970	24.0	19.3	278762	24.1	19.6	330162	24.2	20.3	370716	24.2	20.4	341247	24.3	20.3	433145	24.4	19.9
452643	24.1	21.2	177774	24.1	19.6	467789	24.2	21.0	160458	24.2	19.0	98052	24.3	19.1	385042	24.4	20.5
426474	24.1	21.3	150691	24.1	20.3	148678	24.2	20.9	323551	24.2	19.9	209613	24.3	19.2	455607	24.4	21.6
159205	24.1	19.6	501095	24.1	21.9	401860	24.2	21.6	178234	24.2	19.7	209552	24.3	21.3	212022	24.4	19.9
472933	24.1	19.4	358978	24.1	21.2	312176	24.2	20.1	333155	24.2	21.4	384146	24.3	21.1	46604	24.4	19.3
219345	24.1	19.6	384780	24.1	21.5	384240	24.2	19.8	289181	24.2	20.3	295896	24.3	19.9	221258	24.4	19.9
57132	24.1	18.3	6417	24.1	18.1	4275	24.2	18.6	424686	24.2	19.8	88484	24.3	19.4	11307	24.4	16.6
283491	24.1	20.8	149472	24.1	19.4	382242	24.2	20.5	34038	24.2	17.3	399355	24.3	21.4	242809	24.4	19.6
424642	24.1	21.1	30622	24.1	18.7	377457	24.2	21.0	51047	24.2	18.1	345999	24.3	20.6	142124	24.4	19.0
94353	24.1	19.5	357098	24.1	21.0	499127	24.2	20.7	236150	24.2	21.1	278391	24.3	20.5	212579	24.4	20.5
52174	24.1	18.8	413223	24.1	21.0	292150	24.2	20.3	379454	24.2	20.3	51895	24.3	18.1	356803	24.4	20.8
406480	24.1	21.6	518776	24.1	21.6	247184	24.2	19.6	5265	24.2	17.2	346117	24.3	20.8	503230	24.4	21.4
433442	24.1	20.7	98771	24.1	18.2	219774	24.2	19.9	141106	24.2	19.3	281957	24.3	20.5	328321	24.4	20.4
522772	24.1	21.2	285609	24.1	20.9	242180	24.2	18.9	453394	24.2	20.0	495108	24.3	21.0	277795	24.4	20.2
264487	24.1	20.5	238699	24.1	19.9	50857	24.2	19.1	345598	24.2	20.2	242176	24.3	18.8	244193	24.4	20.1
370749	24.1	21.6	292618	24.1	21.2	403266	24.2	20.6	14500	24.2	18.5	369775	24.3	19.1	370736	24.4	21.5
5766	24.1	16.3	341403	24.1	20.5	465059	24.2	20.4	126701	24.2	18.7	495345	24.3	22.1	371038	24.4	20.3
177905	24.1	19.8	428023	24.1	21.0	147628	24.2	19.9	364180	24.2	20.8	84299	24.3	19.0	290937	24.4	20.9
458797	24.1	20.9	129535	24.1	20.0	15970	24.2	18.9	110760	24.2	19.6	428031	24.3	20.5	30292	24.4	19.0
430736	24.1	20.6	432063	24.1	20.7	277443	24.2	20.9	277725	24.2	20.3	329298	24.3	21.9	365569	24.4	20.6
330434	24.1	19.6	140161	24.1	19.1	498499	24.2	20.0	96857	24.2	19.1	206144	24.3	20.7	234223	24.4	19.9
386132	24.1	21.0	178851	24.1	19.3	2183	24.2	17.5	175999	24.2	20.5	197596	24.3	19.3	154267	24.4	19.1
277	24.1	14.2	160452	24.1	19.6	227727	24.2	20.4	436987	24.2	20.1	156458	24.3	19.7	82805	24.4	17.7
192787	24.1	20.7	206787	24.1	19.2	300049	24.2	20.9	231772	24.2	20.8	25155	24.3	18.4	498193	24.4	21.1
123386	24.1	18.7	165412	24.1	18.3	94753	24.2	18.9	437198	24.2	21.2	329804	24.3	21.3	172444	24.4	20.5
258074	24.1	20.8	386588	24.1	20.4	470229	24.2	21.4	339664	24.2	20.7	358019	24.3	20.2	304044	24.4	20.0
415550	24.1	20.8	505695	24.1	20.6	145270	24.2										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
378882	24.4	20.7	276505	24.5	19.5	124740	24.5	18.5	506327	24.6	20.4	189621	24.6	19.3	153498	24.7	19.0
424674	24.4	21.1	235709	24.5	20.1	174023	24.5	20.1	385160	24.6	21.0	497134	24.6	21.2	466973	24.7	20.3
74016	24.4	18.4	499330	24.5	22.2	208190	24.5	20.2	434055	24.6	21.3	285760	24.6	20.9	258537	24.7	20.0
98483	24.4	18.6	467047	24.5	20.3	494641	24.5	20.4	128697	24.6	20.2	443659	24.6	20.7	242734	24.7	20.3
483483	24.4	20.1	241026	24.5	20.4	497180	24.5	21.6	134705	24.6	19.3	302055	24.6	20.8	397067	24.7	20.9
260095	24.4	19.9	435380	24.5	21.0	83947	24.5	19.5	491691	24.6	21.6	264701	24.6	19.6	242665	24.7	20.3
88396	24.4	19.8	406349	24.5	21.1	308678	24.5	19.3	150757	24.6	19.4	502537	24.6	20.8	16296	24.7	18.1
432935	24.4	21.0	376217	24.5	19.0	376323	24.5	20.6	327442	24.6	20.9	135261	24.7	19.5	43304	24.7	18.4
139998	24.4	19.6	414421	24.5	20.2	55847	24.5	18.7	353904	24.6	21.1	77370	24.7	18.4	127376	24.7	18.7
314172	24.4	19.6	433779	24.5	20.7	191827	24.5	20.4	70375	24.6	19.0	273913	24.7	19.8	436017	24.7	20.2
473231	24.4	20.5	368723	24.5	22.4	330834	24.5	19.0	438036	24.6	20.6	242741	24.7	21.2	388804	24.7	20.4
419299	24.4	20.5	204827	24.5	19.7	142439	24.5	19.2	416899	24.6	21.2	193996	24.7	20.0	310386	24.7	21.6
354697	24.4	21.2	215801	24.5	20.0	277459	24.5	21.8	39302	24.6	18.2	16145	24.7	17.8	126709	24.7	19.7
299838	24.4	21.1	241153	24.5	20.5	419606	24.5	21.6	318098	24.6	19.3	121520	24.7	18.9	309911	24.7	20.3
271720	24.4	20.1	517647	24.5	20.9	99731	24.5	18.0	65161	24.6	19.3	30007	24.7	18.3	468378	24.7	20.2
277806	24.4	20.3	34329	24.5	18.6	40914	24.5	19.1	502449	24.6	20.5	98494	24.7	19.4	81965	24.7	19.1
274472	24.4	20.8	249439	24.5	20.2	385294	24.5	20.9	347679	24.6	22.0	317891	24.7	20.6	229750	24.7	19.7
425586	24.4	20.1	390469	24.5	21.4	520194	24.5	20.3	167781	24.6	18.7	420795	24.7	20.4	241020	24.7	19.9
421884	24.4	21.0	244567	24.5	19.3	174574	24.5	19.3	194864	24.6	20.2	195597	24.7	19.6	301481	24.7	20.8
352426	24.4	20.1	131928	24.5	17.7	248399	24.5	20.5	55975	24.6	19.1	253259	24.7	19.4	283570	24.7	20.2
278639	24.4	19.7	9726	24.5	18.2	380542	24.5	21.0	198918	24.6	20.3	467731	24.7	20.9	504193	24.7	21.8
171824	24.4	19.5	19010	24.5	17.9	266931	24.5	20.3	366250	24.6	19.3	320717	24.7	19.3	181450	24.7	19.5
37487	24.4	18.5	286551	24.5	19.4	102332	24.5	19.8	336687	24.6	21.0	247220	24.7	20.9	14502	24.7	18.0
105105	24.4	20.1	298885	24.5	21.1	1335	24.5	16.0	463287	24.6	20.4	504513	24.7	20.1	518151	24.7	21.3
434034	24.4	21.0	56615	24.5	18.8	312106	24.5	20.7	354349	24.6	19.6	138832	24.7	20.4	388401	24.7	21.3
96438	24.4	17.6	74636	24.5	19.5	248946	24.5	21.4	426514	24.6	21.0	59813	24.7	19.8	245131	24.7	20.0
79505	24.4	18.0	136463	24.5	20.2	512938	24.5	20.9	44956	24.6	19.2	125725	24.7	19.3	402834	24.7	20.2
489350	24.4	22.1	433044	24.5	20.8	99509	24.5	18.3	332358	24.6	19.4	110318	24.7	19.6	433394	24.7	22.0
74398	24.4	17.8	285417	24.5	20.5	238798	24.5	19.7	370630	24.6	20.0	306108	24.7	19.7	502148	24.7	20.7
204200	24.4	20.2	406468	24.5	21.8	19964	24.5	16.8	128960	24.6	19.7	495622	24.7	21.7	24071	24.7	18.9
436348	24.4	21.1	508688	24.5	20.9	385686	24.5	19.4	127724	24.6	18.7	259990	24.7	20.3	41187	24.7	19.1
95285	24.4	18.8	166889	24.5	19.2	64494	24.5	19.2	350156	24.6	20.3	362110	24.7	20.7	345652	24.7	20.6
502732	24.4	20.8	283628	24.5	20.6	346078	24.5	20.8	346403	24.6	19.9	205757	24.7	19.4	508496	24.7	20.4
226797	24.4	19.9	196547	24.5	20.2	34887	24.5	16.7	85289	24.6	19.4	289421	24.7	19.8	16048	24.7	17.4
280174	24.4	20.3	144128	24.5	19.7	473331	24.5	20.2	433211	24.6	20.2	306900	24.7	20.3	63676	24.7	18.9
78447	24.4	19.1	464519	24.5	21.2	364738	24.5	19.7	500440	24.6	20.7	183447	24.7	19.5	159372	24.7	19.7
313389	24.4	20.6	438643	24.5	20.6	57011	24.6	18.7	113601	24.6	19.9	412891	24.7	20.1	168111	24.7	19.2
277787	24.4	19.8	376315	24.5	20.5	173560	24.6	19.0	154567	24.6	19.4	85430	24.7	19.1	32334	24.7	17.8
425450	24.4	19.2	219751	24.5	20.0	207961	24.6	20.4	450196	24.6	20.7	13807	24.7	18.1	341544	24.7	21.0
33051	24.4	18.0	126514	24.5	19.6	86199	24.6	18.3	495933	24.6	20.0	211624	24.7	20.0	428028	24.7	20.6
107462	24.4	19.3	148814	24.5	19.5	117871	24.6	18.3	203512	24.6	17.8	406896	24.7	20.3	464503	24.7	21.4
397108	24.4	21.6	371077	24.5	20.7	127506	24.6	19.6	284337	24.6	20.1	454108	24.7	20.3	403102	24.7	21.0
262781	24.4	19.1	143573	24.5	19.8	294056	24.6	20.1	372583	24.6	21.4	264946	24.7	20.8	57594	24.7	18.5
245041	24.4	20.4	423746	24.5	21.3	286884	24.6	21.2	508257	24.6	20.6	35333	24.7	18.8	114790	24.7	19.7
381608	24.4	20.6	435295	24.5	21.2	383004	24.6	21.0	242633	24.6	20.5	59802	24.7	19.4	341540	24.7	19.8
306117	24.4	20.1	469002	24.5	20.7	6093	24.6	16.7	48266	24.6	17.8	35003	24.7	19.3	496096	24.7	21.2
306223	24.4	21.7	224649	24.5	21.1	292528	24.6	21.7	497813	24.6	21.3	374117	24.7	21.6	370036	24.7	20.9
434036	24.4	21.8	29320	24.5	18.4	377161	24.6	20.7	300245	24.6	20.7	498367	24.7	20.8	165259	24.7	19.7
401864	24.4	21.2	25127	24.5	18.7	165488	24.6	19.3	458876	24.6	21.2	162667	24.7	19.4	437145	24.7	20.3
406867	24.4	20.5	73695	24.5	19.1	377691	24.6	21.1	270586	24.6	19.4	55555	24.7	17.6	125520	24.7	18.0
426944	24.4	20.1	124513	24.5	19.3	36450	24.6	18.7	170264	24.6	20.2	217084	24.7	21.0	302459	24.7	20.0
217898	24.4	20.6	473794	24.5	21.0	422150	24.6	22.0	41920	24.6	18.4	385260	24.7	21.6	128837	24.7	19.5
171565	24.4	19.7	431997	24.5	21.3	324471	24.6	19.6	366285	24.6	19.8	29947	24.7	16.6	162776	24.7	19.9
319424	24.4	20.8	422031	24.5	21.6	291488	24.6	19.7	350151	24.6	20.6	375880	24.7	20.0	426500	24.7	21.1
378523	24.4	19.8	519566	24.5	20.8	9649	24.6	18.0	406433	24.6	20.5	299940	24.7	21.6	388008	24.7	21.1
468813	24.4	21.9	387042	24.5	21.0	296242	24.6	19.7	140607	24.6	19.8	44022	24.7	18.5	135162	24.7	19.6
376434	24.4	21.3	502492	24.5	20.8	22812	24.6	18.8	22089	24.6	17.0	109174	24.7	18.8	363546	24.7	20.4
256589	24.4	21.4	289006	24.5	21.2	316194	24.6	20.5	288623	24.6	20.6	504230	24.7	21.9	134869	24.7	19.6
242912	24.4	20.9	299000	24.5	20.7	422795	24.6	21.4	295081	24.6	20.4	240716	24.7	20.5	413833	24.7	21.3
299721	24.4	20.5	306059	24.5	20.4	174713	24.6	19.1	434023	24.6	21.3	166618	24.7	19.5	243855	24.7	20.6
32575	24.4	18.7	211869	24.5	19.8												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
58025	24.8	17.7	304543	24.8	20.1	311264	24.9	19.5	153115	24.9	20.0	370794	25.0	21.2	427185	25.1	20.4
44983	24.8	18.3	299535	24.8	18.1	5703	24.9	17.0	39037	24.9	19.2	413285	25.0	21.3	61412	25.1	19.8
497162	24.8	21.5	359638	24.8	20.5	158498	24.9	19.6	15506	24.9	17.5	505040	25.0	20.8	182100	25.1	19.0
175155	24.8	20.4	501584	24.8	20.5	465996	24.9	20.4	407698	24.9	22.3	271936	25.0	20.2	387226	25.1	19.8
94018	24.8	19.2	99	24.8	12.4	430220	24.9	20.7	494806	24.9	20.8	343102	25.0	19.5	362000	25.1	20.5
442742	24.8	22.0	155404	24.8	20.1	365460	24.9	20.6	432230	24.9	19.6	65106	25.0	19.0	377656	25.1	21.3
374575	24.8	19.3	33082	24.8	19.5	327453	24.9	21.1	430496	24.9	20.7	406532	25.0	22.1	466190	25.1	20.3
218001	24.8	20.6	33214	24.8	16.6	406322	24.9	21.2	163416	24.9	19.3	336028	25.0	20.5	508598	25.1	21.3
36137	24.8	17.9	17038	24.8	17.7	49819	24.9	17.2	195564	24.9	19.0	41739	25.0	17.9	351479	25.1	20.6
56971	24.8	19.2	371889	24.8	19.9	125890	24.9	18.7	352609	24.9	19.7	306005	25.0	19.2	224482	25.1	20.7
278560	24.8	21.5	34647	24.8	17.4	379688	24.9	20.2	426538	24.9	21.5	36579	25.0	18.4	103608	25.1	19.6
503092	24.8	19.9	297689	24.8	21.0	109001	24.9	19.6	413004	24.9	22.1	264587	25.1	20.2	90522	25.1	19.3
184371	24.8	20.4	23414	24.8	18.3	157808	24.9	19.5	306079	24.9	20.9	402699	25.1	20.9	143474	25.1	18.8
110515	24.8	19.2	20452	24.8	17.3	255894	24.9	20.6	502522	24.9	21.0	86988	25.1	18.8	368241	25.1	20.7
302490	24.8	19.1	83883	24.8	19.7	38431	24.9	18.4	165214	24.9	19.8	179390	25.1	20.6	20600	25.1	18.0
25277	24.8	18.5	326368	24.9	20.9	273750	24.9	20.5	39136	24.9	19.2	4467	25.1	15.8	345951	25.1	20.9
163721	24.8	19.6	3991	24.9	15.6	455245	24.9	20.0	316766	24.9	21.4	313092	25.1	20.4	267192	25.1	20.6
364669	24.8	19.5	500299	24.9	21.6	231810	24.9	18.3	43902	24.9	20.2	119572	25.1	18.8	138806	25.1	20.4
65334	24.8	19.3	370084	24.9	20.9	237441	24.9	20.0	33649	24.9	18.8	382540	25.1	20.5	419191	25.1	19.1
185229	24.8	20.5	102425	24.9	19.6	54914	24.9	18.8	500013	24.9	21.1	291183	25.1	20.3	321630	25.1	20.1
502983	24.8	20.8	303367	24.9	20.8	280374	24.9	20.4	160725	24.9	19.2	465907	25.1	19.9	31053	25.1	18.0
470891	24.8	20.7	345536	24.9	20.6	42788	24.9	18.3	172084	24.9	19.4	326692	25.1	21.0	246323	25.1	20.6
107216	24.8	17.6	480481	24.9	20.1	34196	24.9	18.1	498849	24.9	21.1	109588	25.1	20.0	253051	25.1	21.3
73410	24.8	18.7	196903	24.9	20.8	409067	24.9	21.4	130232	24.9	20.0	374512	25.1	20.7	456757	25.1	20.7
487590	24.8	20.5	93236	24.9	19.6	372462	24.9	20.9	420281	24.9	20.2	361718	25.1	21.3	212135	25.1	19.2
423534	24.8	21.5	263889	24.9	19.9	497915	24.9	21.4	275117	24.9	20.4	497089	25.1	21.8	161936	25.1	20.0
371044	24.8	21.4	204962	24.9	20.6	290915	24.9	19.5	241321	24.9	19.7	425754	25.1	19.5	16708	25.1	18.4
182424	24.8	19.6	400574	24.9	20.9	474439	24.9	19.4	460060	24.9	21.0	109058	25.1	20.1	257045	25.1	19.9
146854	24.8	19.6	172096	24.9	19.2	192836	24.9	20.6	96015	24.9	21.0	505039	25.1	21.7	382167	25.1	19.7
473258	24.8	20.8	420822	24.9	22.3	191126	24.9	19.9	69237	24.9	19.4	65402	25.1	20.5	450814	25.1	19.9
91532	24.8	17.9	30492	24.9	18.1	434320	24.9	20.3	424662	24.9	21.4	360433	25.1	22.0	384229	25.1	19.7
5540	24.8	18.9	437215	24.9	20.6	283572	24.9	21.2	91496	25.0	18.5	90839	25.1	19.4	498841	25.1	21.4
91135	24.8	19.1	410365	24.9	20.8	198283	24.9	19.9	502695	25.0	20.0	459957	25.1	21.5	212299	25.1	20.5
347556	24.8	20.9	33278	24.9	18.4	299315	24.9	21.0	64730	25.0	18.8	214539	25.1	20.8	277761	25.1	20.6
433669	24.8	20.8	4943	24.9	17.6	127614	24.9	18.7	91524	25.0	18.7	500514	25.1	21.6	387417	25.1	21.5
405234	24.8	22.0	217061	24.9	20.6	42450	24.9	19.9	370466	25.0	19.8	399343	25.1	21.0	472423	25.1	20.3
109513	24.8	19.1	466523	24.9	20.6	102761	24.9	19.2	128039	25.0	19.5	174503	25.1	20.7	434932	25.1	21.2
141154	24.8	20.2	157383	24.9	18.8	399079	24.9	20.6	285665	25.0	21.5	134411	25.1	19.5	240278	25.1	20.0
437264	24.8	21.3	136633	24.9	19.3	27003	24.9	19.4	79319	25.0	18.2	114684	25.1	19.0	1230	25.1	17.1
89187	24.8	19.3	73558	24.9	18.6	301744	24.9	20.2	295781	25.0	21.0	341303	25.1	21.1	330423	25.1	19.7
316434	24.8	20.1	313728	24.9	20.3	389731	24.9	20.1	418024	25.0	21.4	11071	25.1	18.3	291241	25.1	20.4
360384	24.8	20.1	81043	24.9	19.1	125194	24.9	19.5	277608	25.0	19.7	27856	25.1	18.1	357556	25.1	19.6
155714	24.8	19.9	237626	24.9	20.6	222274	24.9	19.7	462029	25.0	20.5	171233	25.1	20.1	59877	25.1	18.6
150756	24.8	19.8	57066	24.9	19.7	60802	24.9	19.4	341782	25.0	21.1	230637	25.1	20.3	415806	25.1	21.0
401840	24.8	22.3	68730	24.9	18.5	341576	24.9	19.7	65482	25.0	17.5	418313	25.1	19.2	91513	25.1	19.1
272983	24.8	20.3	348856	24.9	21.3	434998	24.9	20.9	303418	25.0	20.1	209079	25.1	18.9	138568	25.1	19.4
127401	24.8	18.6	33505	24.9	18.1	148665	24.9	20.2	330386	25.0	20.0	362908	25.1	20.7	311226	25.2	21.1
384138	24.8	20.7	73172	24.9	19.0	156433	24.9	19.2	2847	25.0	14.8	260553	25.1	20.7	14328	25.2	18.6
32719	24.8	20.2	138748	24.9	18.7	436371	24.9	20.5	240482	25.0	20.0	90257	25.1	18.6	364588	25.2	20.6
464243	24.8	20.9	241670	24.9	20.5	373467	24.9	21.3	211009	25.0	19.3	497522	25.1	20.7	496925	25.2	21.8
410370	24.8	22.3	87736	24.9	19.5	162703	24.9	20.3	31977	25.0	18.2	11985	25.1	16.9	201749	25.2	19.8
210770	24.8	20.2	182309	24.9	20.4	415807	24.9	20.6	80	25.0	11.8	298984	25.1	20.1	303784	25.2	19.9
388667	24.8	20.8	162925	24.9	19.9	24916	24.9	18.4	454252	25.0	19.7	197606	25.1	19.5	155444	25.2	18.4
303853	24.8	21.0	181066	24.9	20.0	211563	24.9	20.9	166018	25.0	19.3	203457	25.1	20.8	278769	25.2	21.1
325113	24.8	20.4	268997	24.9	20.2	167840	24.9	20.5	83130	25.0	18.4	27082	25.1	16.7	426432	25.2	21.4
202709	24.8	19.2	273845	24.9	19.7	294677	24.9	20.6	518694	25.0	20.6	420063	25.1	20.4	67985	25.2	18.4
26056	24.8	17.9	523072	24.9	20.3	19754	24.9	17.4	124942	25.0	20.6	484222	25.1	20.0	267480	25.2	19.5
409185	24.8	21.4	473619	24.9	21.4	421608	24.9	20.5	113217	25.0	19.7	290078	25.1	20.3	341634	25.2	19.9
489752	24.8	21.6	425299	24.9	19.6	232628	24.9	19.3	290477	25.0	20.1	111578	25.1	18.8	363537	25.2	20.7
197991	24.8	19.7	274423	24.9	20.3	249264	24.9	19.9	429185	25.0	19.5	20171	25.1	17.4	62325	25.2	18.5
155443	24.8	19.6	498836	24.9	21.2	210902	24.9	20.0</td									

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
3186	25.2	17.9	200317	25.2	19.7	407276	25.3	20.3	288134	25.4	20.5	292288	25.4	20.1	370743	25.5	20.8
305341	25.2	20.4	159424	25.2	19.8	503742	25.3	21.9	459504	25.4	20.1	33829	25.4	19.3	435029	25.5	21.0
121601	25.2	20.0	412314	25.2	20.2	382673	25.3	21.1	497451	25.4	20.1	368709	25.4	20.5	214577	25.5	20.5
306382	25.2	19.9	368773	25.2	21.7	260868	25.3	18.7	52668	25.4	17.4	427407	25.4	21.5	144417	25.5	19.3
197614	25.2	19.8	370837	25.3	20.6	169207	25.3	19.6	42647	25.4	17.8	461035	25.4	20.3	497018	25.5	19.6
118138	25.2	20.3	468057	25.3	21.2	408116	25.3	20.5	284319	25.4	21.2	436661	25.4	21.8	253180	25.5	20.1
41552	25.2	19.4	409028	25.3	20.5	303198	25.3	19.8	51925	25.4	19.1	21360	25.4	18.0	479581	25.5	20.4
232648	25.2	19.0	456745	25.3	21.6	431610	25.3	20.1	408047	25.4	19.8	213756	25.4	19.7	222670	25.5	20.5
205758	25.2	19.0	341478	25.3	20.7	173007	25.3	21.2	14335	25.4	17.7	118814	25.4	18.4	163403	25.5	20.2
499263	25.2	21.8	68462	25.3	18.7	63244	25.3	19.2	423646	25.4	22.5	329382	25.4	20.4	505318	25.5	20.7
291841	25.2	20.4	328926	25.3	19.9	345569	25.3	21.6	165340	25.4	19.3	113992	25.4	20.1	117063	25.5	19.8
125539	25.2	18.5	497684	25.3	21.2	416257	25.3	19.1	417073	25.4	20.3	499222	25.4	22.0	31856	25.5	19.1
190386	25.2	19.9	133167	25.3	20.5	144884	25.3	20.0	428709	25.4	19.4	196564	25.4	20.3	502802	25.5	21.1
101886	25.2	19.0	447209	25.3	20.6	390093	25.3	21.1	171535	25.4	19.8	293022	25.4	20.1	242473	25.5	21.8
164577	25.2	19.6	92646	25.3	19.1	8574	25.3	18.0	341658	25.4	20.6	388853	25.4	19.8	202698	25.5	20.3
150308	25.2	20.2	166784	25.3	19.0	401005	25.3	20.1	420849	25.4	20.8	95375	25.5	19.5	436340	25.5	20.9
498895	25.2	21.0	167694	25.3	19.8	279583	25.3	20.8	275229	25.4	20.7	23237	25.5	19.4	187428	25.5	20.5
45031	25.2	17.4	215904	25.3	19.6	497679	25.3	21.1	416348	25.4	21.3	33591	25.5	17.7	118977	25.5	19.9
92441	25.2	19.4	390470	25.3	20.0	382841	25.3	20.7	354900	25.4	18.9	522442	25.5	20.8	87463	25.5	19.3
215582	25.2	19.2	389875	25.3	20.2	14925	25.3	18.0	328232	25.4	19.4	346795	25.5	20.7	100933	25.5	20.6
370789	25.2	20.2	290506	25.3	20.9	151069	25.3	20.0	206334	25.4	20.2	144250	25.5	19.6	63200	25.5	18.7
130584	25.2	19.8	12416	25.3	18.7	305558	25.3	20.1	520136	25.4	20.6	310079	25.5	19.5	224518	25.5	20.1
213434	25.2	19.9	499758	25.3	21.5	227538	25.3	20.2	500810	25.4	20.5	3148	25.5	17.2	390257	25.5	21.0
136899	25.2	18.1	61153	25.3	19.0	162056	25.3	19.8	191805	25.4	20.7	407265	25.5	20.4	206818	25.5	19.0
68734	25.2	19.1	451228	25.3	20.0	74459	25.3	17.6	267223	25.4	22.5	423274	25.5	21.1	169165	25.5	19.6
118363	25.2	18.9	119559	25.3	19.2	268538	25.3	20.3	1861	25.4	16.0	246995	25.5	20.7	500478	25.5	21.2
137838	25.2	19.3	89262	25.3	19.9	368893	25.3	20.2	488541	25.4	20.1	315481	25.5	19.5	412998	25.5	20.6
317195	25.2	20.5	137591	25.3	20.6	857556	25.3	19.2	28153	25.4	18.4	299875	25.5	20.8	232278	25.5	20.6
191918	25.2	19.6	285189	25.3	20.1	502520	25.3	21.1	473729	25.4	20.1	15362	25.5	16.4	32828	25.5	18.0
87987	25.2	19.5	272920	25.3	19.7	140710	25.3	19.1	351936	25.4	21.3	155506	25.5	19.8	186202	25.5	19.7
327243	25.2	20.9	65523	25.3	18.1	104651	25.3	17.7	19060	25.4	18.8	27057	25.5	16.6	425847	25.5	19.6
7426	25.2	17.1	138557	25.3	19.9	18449	25.3	18.2	93798	25.4	19.3	283029	25.5	20.5	350447	25.5	20.3
70309	25.2	18.8	361615	25.3	19.4	287742	25.3	21.0	249052	25.4	20.2	217447	25.5	20.8	387337	25.5	20.3
139836	25.2	19.9	157693	25.3	20.0	70958	25.3	19.6	502888	25.4	20.6	226700	25.5	19.7	404517	25.5	21.4
387822	25.2	21.1	158858	25.3	19.6	131164	25.3	18.6	378363	25.4	20.4	58390	25.5	19.5	253247	25.5	19.5
237728	25.2	20.2	290956	25.3	20.6	415896	25.3	22.0	247645	25.4	20.1	367279	25.5	21.2	102587	25.5	20.4
61256	25.2	19.8	472709	25.3	21.0	499867	25.3	20.4	494269	25.4	20.3	78290	25.5	19.6	38817	25.5	19.0
181862	25.2	19.4	159166	25.3	19.9	13157	25.3	16.6	272911	25.4	19.5	434837	25.5	21.6	284871	25.5	20.8
425294	25.2	21.9	47432	25.3	16.9	452370	25.3	21.5	37784	25.4	19.1	468176	25.5	20.6	338491	25.5	20.6
9015	25.2	17.2	119047	25.3	17.3	264624	25.3	20.4	496364	25.4	22.1	279858	25.5	19.7	246684	25.5	20.0
55827	25.2	19.1	376800	25.3	21.5	242970	25.3	20.7	433388	25.4	21.0	254536	25.5	20.2	309998	25.5	19.8
310949	25.2	20.4	355873	25.3	21.0	389770	25.3	20.9	465108	25.4	21.0	315381	25.5	20.8	388815	25.5	20.7
309785	25.2	19.7	15781	25.3	17.4	288910	25.3	20.1	495911	25.4	21.2	467332	25.5	21.8	198312	25.5	20.0
140151	25.2	19.0	377766	25.3	20.7	94427	25.3	18.1	73372	25.4	19.4	215142	25.5	20.3	177137	25.5	20.8
41865	25.2	18.3	262811	25.3	20.8	186877	25.3	20.2	22369	25.4	18.6	210050	25.5	19.3	386186	25.5	21.6
62166	25.2	19.2	88567	25.3	18.5	205619	25.3	20.2	500979	25.4	22.6	81634	25.5	18.8	431320	25.5	20.6
166705	25.2	20.1	337805	25.3	21.3	273062	25.3	20.0	348443	25.4	21.2	190372	25.5	20.8	241111	25.5	20.2
22846	25.2	19.1	368679	25.3	22.6	251026	25.3	20.6	348416	25.4	21.4	317903	25.5	20.9	8690	25.5	18.7
462158	25.2	21.8	377925	25.3	19.8	164775	25.3	18.2	7418	25.4	15.9	72081	25.5	18.9	275667	25.5	21.0
361662	25.2	19.7	29837	25.3	18.5	279769	25.3	20.1	120679	25.4	19.6	426182	25.5	19.7	56388	25.5	18.0
249208	25.2	19.9	141184	25.3	19.0	117291	25.3	19.2	465157	25.4	20.4	423844	25.5	21.5	385174	25.5	20.1
505258	25.2	20.8	191156	25.3	19.5	319166	25.3	20.3	147638	25.4	20.3	458768	25.5	21.9	313015	25.5	20.7
363770	25.2	21.2	121888	25.3	19.9	57656	25.3	17.6	41407	25.4	19.7	498972	25.5	20.6	334837	25.5	21.0
258341	25.2	20.6	54608	25.3	18.0	282299	25.3	20.6	16901	25.4	18.4	465130	25.5	21.2	310902	25.5	20.9
464960	25.2	20.7	127136	25.3	19.2	192880	25.3	19.7	134681	25.4	19.7	434444	25.5	21.1	348884	25.5	20.6
216723	25.2	19.3	302488	25.3	19.4	51258	25.3	17.4	386246	25.4	19.8	437022	25.5	21.0	343149	25.5	19.9
75025	25.2	19.7	409990	25.3	20.3	375008	25.3	19.7	463495	25.4	20.5	335112	25.5	19.7	287444	25.6	21.0
499947	25.2	19.5	186084	25.3	21.1	68568	25.3	19.1	60003	25.4	19.4	291878	25.5	21.3	297211	25.6	20.9
278625	25.2	21.1	300866	25.3	19.7	12364	25.4	17.5	288797	25.4	20.5	164620	25.5	20.5	292748	25.6	19.6
355283	25.2	19.8	378911	25.3	20.4	70428	25.4	19.1	165335	25.4	19.5	277362	25.5	21.7	38394	25.6	19.3
241238	25.2	20.5	186224	25.3	20.3	303443											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
1744443	25.6	19.1	498812	25.6	22.0	302038	25.7	20.4	508680	25.8	20.9	155957	25.8	19.2	522814	25.9	21.7
431133	25.6	20.7	297700	25.6	20.6	183451	25.7	20.1	388020	25.8	21.2	374547	25.8	21.0	251435	25.9	21.1
48066	25.6	18.4	522689	25.6	21.4	385514	25.7	19.7	272776	25.8	18.1	89365	25.8	20.0	141918	25.9	19.5
522606	25.6	20.4	466769	25.6	20.7	26760	25.7	19.0	423937	25.8	20.5	328964	25.8	20.1	237331	25.9	19.0
83776	25.6	19.1	5495	25.6	16.6	338349	25.7	20.8	83804	25.8	18.2	73620	25.8	19.7	302062	25.9	20.0
377899	25.6	20.5	522853	25.6	21.1	58882	25.7	19.1	350345	25.8	19.9	128276	25.8	19.1	112383	25.9	19.9
87808	25.6	19.7	164581	25.7	20.8	193031	25.7	18.5	97991	25.8	19.7	517549	25.8	22.0	57961	25.9	19.0
328720	25.6	20.2	3745	25.7	17.9	236136	25.7	20.1	368754	25.8	21.5	59926	25.8	19.0	341583	25.9	20.0
147214	25.6	20.2	158255	25.7	19.8	264654	25.7	20.7	509268	25.8	21.7	54445	25.8	17.4	329357	25.9	19.6
371162	25.6	21.0	33823	25.7	18.7	170177	25.7	19.6	157956	25.8	19.0	239018	25.9	20.0	38871	25.9	17.7
145873	25.6	19.2	64088	25.7	18.7	107164	25.7	20.0	363045	25.8	21.0	434904	25.9	21.4	184755	25.9	19.9
419669	25.6	19.6	192687	25.7	20.2	238918	25.7	20.6	522682	25.8	21.4	143442	25.9	19.1	225207	25.9	20.2
293156	25.6	19.4	436700	25.7	21.4	340618	25.7	20.4	5042	25.8	15.9	385427	25.9	19.3	80282	25.9	19.3
325715	25.6	20.5	464158	25.7	20.2	16392	25.7	18.4	36224	25.8	18.0	200868	25.9	19.9	346186	25.9	21.2
285156	25.6	19.7	300907	25.7	19.4	212624	25.7	20.0	300101	25.8	20.9	497801	25.9	21.8	36996	25.9	18.6
88256	25.6	18.2	64524	25.7	18.1	383887	25.7	20.4	67637	25.8	18.9	11136	25.9	17.8	285494	25.9	19.8
461585	25.6	20.9	275569	25.7	19.8	651	25.7	14.7	14437	25.8	17.5	387194	25.9	19.8	265555	25.9	21.3
69477	25.6	19.2	70897	25.7	17.8	142719	25.7	18.2	489424	25.8	22.3	37826	25.9	17.5	40942	25.9	19.0
269438	25.6	19.6	163395	25.7	18.9	341144	25.7	19.7	86565	25.8	18.7	384248	25.9	20.2	341170	25.9	21.3
144794	25.6	19.8	286222	25.7	20.3	321136	25.7	20.1	95608	25.8	18.4	241224	25.9	20.2	39973	25.9	16.9
172989	25.6	20.1	125147	25.7	18.9	98962	25.7	18.4	472711	25.8	20.6	402972	25.9	21.2	186211	25.9	21.0
30823	25.6	17.8	163752	25.7	19.3	298924	25.7	19.6	259562	25.8	20.2	43004	25.9	18.9	190409	25.9	20.2
345608	25.6	20.5	8973	25.7	16.2	471184	25.7	21.8	43154	25.8	18.7	458777	25.9	21.5	27894	25.9	18.0
274915	25.6	20.5	205793	25.7	20.1	471444	25.7	21.7	69667	25.8	18.6	360721	25.9	20.8	8397	25.9	17.1
453384	25.6	20.3	121403	25.7	19.5	297634	25.7	19.9	97943	25.8	18.8	73916	25.9	19.4	455601	25.9	21.7
199335	25.6	20.5	33549	25.7	18.0	250462	25.7	18.8	480982	25.8	20.7	206657	25.9	19.7	420166	25.9	20.4
264637	25.6	20.8	303849	25.7	21.5	422240	25.7	20.1	298907	25.8	20.0	223743	25.9	20.6	377887	25.9	20.4
374050	25.6	21.1	358023	25.7	19.7	512273	25.7	19.5	305780	25.8	20.3	437186	25.9	20.7	434510	25.9	21.8
338440	25.6	19.6	145848	25.7	18.3	467738	25.7	21.1	462203	25.8	21.8	460304	25.9	18.6	18346	25.9	18.4
415208	25.6	19.9	522750	25.7	16.3	106548	25.7	19.4	162475	25.8	20.0	416226	25.9	19.9	466656	25.9	20.6
417535	25.6	21.2	262427	25.7	20.8	292503	25.7	20.6	332539	25.8	20.8	109690	25.9	19.6	411646	25.9	20.4
382216	25.6	20.0	500427	25.7	21.5	210180	25.7	20.9	141485	25.8	19.0	310961	25.9	20.8	160238	25.9	19.0
116555	25.6	19.6	252920	25.7	20.7	337757	25.7	21.2	337931	25.8	21.3	422618	25.9	20.2	228063	25.9	21.3
376583	25.6	21.0	302812	25.7	18.5	327956	25.7	20.8	497695	25.8	22.0	301832	25.9	20.6	176829	25.9	19.9
2632	25.6	16.1	17019	25.7	16.5	400327	25.7	21.5	280824	25.8	20.7	498163	25.9	22.0	949	25.9	13.1
266715	25.6	21.2	330075	25.7	21.9	2141	25.7	16.0	153628	25.8	20.3	467650	25.9	21.2	376733	25.9	21.0
176594	25.6	20.1	299297	25.7	21.0	136257	25.7	19.9	309058	25.8	20.7	316285	25.9	21.0	500012	25.9	21.7
343515	25.6	20.1	54917	25.7	19.0	458862	25.7	20.7	268563	25.8	20.5	184081	25.9	19.9	6669	25.9	16.0
60791	25.6	19.4	465158	25.7	20.0	261050	25.7	20.4	162789	25.8	20.3	365437	25.9	19.9	347694	25.9	21.3
117973	25.6	18.7	380415	25.7	18.3	148010	25.7	19.3	171910	25.8	20.2	105196	25.9	19.3	347742	25.9	20.0
81262	25.6	18.1	497313	25.7	23.0	328292	25.7	20.8	502526	25.8	21.0	165930	25.9	19.3	359634	25.9	21.4
160497	25.6	18.9	155539	25.7	20.3	265703	25.7	19.0	221348	25.8	21.2	106201	25.9	18.7	166689	25.9	19.6
473865	25.6	20.6	407332	25.7	21.2	420032	25.7	20.5	98498	25.8	17.9	259519	25.9	20.6	260593	25.9	19.4
229577	25.6	19.1	517667	25.7	20.9	109564	25.7	18.6	297414	25.8	20.8	177642	25.9	19.5	114663	25.9	18.7
41410	25.6	18.9	237759	25.7	19.3	125891	25.7	20.0	372467	25.8	20.2	110319	25.9	20.4	59878	25.9	19.2
472848	25.6	21.1	198289	25.7	19.3	346188	25.7	20.1	277451	25.8	20.3	374155	25.9	21.2	246924	25.9	19.5
263265	25.6	19.5	409951	25.7	20.0	11064	25.7	18.1	78342	25.8	19.5	63648	25.9	19.0	92367	25.9	19.0
363740	25.6	21.5	428840	25.7	20.9	122657	25.7	18.9	21508	25.8	18.8	57763	25.9	18.5	188805	25.9	19.7
388750	25.6	21.0	173755	25.7	20.0	126563	25.7	19.2	47911	25.8	18.1	350327	25.9	20.2	18949	25.9	17.5
146371	25.6	20.2	162690	25.7	20.0	502519	25.7	21.3	492441	25.8	20.5	160540	25.9	21.1	69521	25.9	20.1
376239	25.6	20.4	453346	25.7	20.8	62693	25.7	20.8	502526	25.8	21.0	353803	25.9	20.5	300224	25.9	20.3
231559	25.6	19.4	377606	25.7	20.2	95729	25.7	18.8	396964	25.8	20.3	329322	25.9	21.3	306717	25.9	20.1
380464	25.6	20.9	264695	25.7	19.9	123354	25.7	19.4	229228	25.8	19.6	343602	25.9	20.7	32705	25.9	18.6
387370	25.6	20.4	500952	25.7	21.2	255760	25.7	20.3	181278	25.8	20.3	407683	25.9	21.4	388780	25.9	20.7
459609	25.6	21.3	500987	25.7	22.0	116992	25.7	19.4	257293	25.8	20.7	95071	25.9	20.1	483210	25.9	20.1
442717	25.6	19.7	154930	25.7	19.7	81353	25.8	19.5	278595	25.8	20.4	108048	25.9	18.4	214758	25.9	19.9
519937	25.6	21.0	141246	25.7	19.8	328730	25.8	20.3	78056	25.8	19.2	500891	25.9	21.2	409771	25.9	20.5
328249	25.6	20.7	130704	25.7	19.8	453411	25.8	19.2	410210	25.8	21.2	129401	25.9	19.9	19618	25.9	17.5
371050	25.6	21.2	257263	25.7	19.5	831	25.8	16.0	276132	25.8	20.1	184286	25.9	19.2	434884	25.9	20.8
212905	25.6	20.8	358181	25.7	21.8	164528	25.8	20.2	277370	25.8	21.2	281732	25.9	20.3	362042	25.9	19.8
423226	25.6	21.9	151595	25.7	20.1	156512	25.8</										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
178764	25.9	20.4	178313	26.0	19.0	287140	26.1	20.4	316030	26.2	20.1	27954	26.2	18.5	480333	26.3	19.7
383794	25.9	20.9	404670	26.0	22.1	236158	26.1	19.1	37146	26.2	17.7	211081	26.2	20.2	372505	26.3	22.2
430998	25.9	21.4	108649	26.0	19.4	85351	26.1	19.6	131657	26.2	18.6	364215	26.2	20.9	352096	26.3	20.9
1655229	25.9	19.5	107650	26.0	18.4	59542	26.1	19.3	390970	26.2	21.0	455491	26.2	20.8	238845	26.3	20.9
39630	25.9	18.0	281266	26.0	21.3	273194	26.1	20.2	45539	26.2	18.9	32441	26.2	16.7	10541	26.3	17.6
58995	25.9	19.8	439617	26.1	20.4	114564	26.1	18.5	341788	26.2	19.9	275257	26.2	20.5	61120	26.3	18.2
341466	25.9	20.6	495118	26.1	21.0	277662	26.1	19.4	10599	26.2	18.2	236206	26.2	20.2	70524	26.3	19.9
83053	25.9	19.2	518698	26.1	20.5	300176	26.1	20.4	86738	26.2	18.9	53330	26.2	18.2	501388	26.3	21.2
417467	25.9	20.2	57128	26.1	18.1	10705	26.1	18.5	506224	26.2	19.6	345553	26.2	20.4	88025	26.3	18.8
433720	25.9	20.4	271213	26.1	20.3	82336	26.1	19.6	340771	26.2	20.4	61033	26.2	18.8	90627	26.3	20.1
152274	25.9	18.5	193929	26.1	20.4	379018	26.1	20.6	338173	26.2	21.9	58582	26.2	18.6	327849	26.3	18.5
338620	25.9	20.0	303253	26.1	21.0	328973	26.1	20.9	98569	26.2	18.9	238144	26.2	19.4	361081	26.3	19.9
178726	25.9	20.7	377408	26.1	20.7	249183	26.1	18.9	30397	26.2	18.7	501525	26.2	19.9	413070	26.3	20.4
367134	25.9	19.8	70453	26.1	18.5	335632	26.1	20.4	185199	26.2	20.5	428809	26.2	21.2	384859	26.3	19.0
170925	25.9	20.5	429150	26.1	21.0	48822	26.1	18.9	292973	26.2	20.6	57417	26.2	19.2	370835	26.3	19.9
393079	25.9	20.5	378777	26.1	20.7	160327	26.1	19.3	392973	26.2	19.8	34705	26.2	17.5	212313	26.3	20.4
59080	25.9	19.0	352566	26.1	20.2	259499	26.1	20.6	352046	26.2	21.1	88115	26.2	20.5	364577	26.3	20.7
307535	25.9	20.1	255699	26.1	19.8	234527	26.1	19.7	428348	26.2	20.5	338830	26.2	20.3	400007	26.3	20.5
62991	25.9	19.3	138747	26.1	19.1	182401	26.1	21.1	151518	26.2	20.2	503914	26.2	22.1	296110	26.3	20.6
12477	25.9	16.6	297638	26.1	20.5	149720	26.1	19.7	245144	26.2	19.8	133413	26.3	20.0	472856	26.3	19.9
140554	25.9	19.1	468657	26.1	20.7	3966	26.1	16.8	144885	26.2	19.8	464264	26.3	20.2	273708	26.3	20.4
522764	26.0	21.4	297436	26.1	21.2	371139	26.1	21.2	211447	26.2	20.3	229241	26.3	20.7	53457	26.3	18.5
471178	26.0	21.1	283191	26.1	20.5	269477	26.1	20.8	141975	26.2	20.5	192696	26.3	19.7	38656	26.3	19.5
366839	26.0	22.6	20475	26.1	18.9	482566	26.1	20.5	94443	26.2	19.6	186831	26.3	19.5	133294	26.3	20.4
338373	26.0	20.3	384225	26.1	21.5	239743	26.1	20.1	337879	26.2	20.3	511855	26.3	20.4	497973	26.3	20.3
329858	26.0	20.1	205920	26.1	18.9	397582	26.1	20.9	140911	26.2	19.8	299709	26.3	21.1	299987	26.3	20.8
415761	26.0	21.8	508245	26.1	21.2	330758	26.1	21.0	288613	26.2	20.4	41759	26.3	19.0	374176	26.3	20.2
451694	26.0	20.7	388807	26.1	19.7	362037	26.1	20.5	156398	26.2	19.6	348869	26.3	21.4	501445	26.3	20.2
37722	26.0	20.5	22765	26.1	17.7	260768	26.1	20.9	305699	26.2	20.3	161280	26.3	19.4	40802	26.3	19.5
500345	26.0	21.5	268404	26.1	20.7	203455	26.1	19.1	495251	26.2	21.8	169556	26.3	20.2	243779	26.3	20.5
31534	26.0	18.6	154368	26.1	19.1	146338	26.1	19.7	292627	26.2	20.3	182437	26.3	19.0	153564	26.3	20.0
20524	26.0	17.6	110631	26.1	19.3	386560	26.1	20.6	462010	26.2	21.2	363476	26.3	21.6	2085	26.3	15.6
170464	26.0	20.1	217288	26.1	19.4	248966	26.1	20.1	266942	26.2	20.8	149826	26.3	20.0	373481	26.3	21.4
63617	26.0	19.0	251607	26.1	19.8	165366	26.1	19.3	422963	26.2	20.5	475305	26.3	19.6	299472	26.3	19.3
505770	26.0	19.4	941	26.1	16.1	2450	26.1	15.5	226378	26.2	19.8	75026	26.3	19.7	272801	26.3	19.9
105824	26.0	20.4	56956	26.1	18.4	150078	26.1	19.3	210313	26.2	20.7	163340	26.3	19.4	266262	26.3	19.9
405113	26.0	20.0	432930	26.1	20.9	198900	26.1	20.4	260516	26.2	19.8	150503	26.3	19.8	430370	26.3	19.7
285961	26.0	20.3	61206	26.1	17.6	494826	26.1	21.6	183851	26.2	20.7	431586	26.3	21.6	342237	26.3	21.1
165391	26.0	19.9	458865	26.1	21.5	290717	26.1	21.5	37570	26.2	18.2	58564	26.3	18.2	378733	26.3	20.7
204128	26.0	20.7	98248	26.1	18.2	521224	26.1	21.1	361618	26.2	20.9	470053	26.3	21.3	115718	26.3	19.5
5629	26.0	16.2	73593	26.1	19.8	361574	26.1	21.3	96462	26.2	17.3	80037	26.3	18.9	23108	26.3	17.8
166567	26.0	20.0	265641	26.1	21.3	89467	26.1	18.9	282704	26.2	19.6	461355	26.3	21.8	27245	26.3	19.0
41473	26.0	19.2	502183	26.1	20.6	496362	26.1	22.0	279037	26.2	20.9	368246	26.3	21.6	94930	26.3	19.1
212998	26.0	18.8	63744	26.1	19.4	171090	26.1	19.8	42630	26.2	17.8	504761	26.3	21.8	133342	26.3	19.6
235358	26.0	18.9	344267	26.1	20.9	375225	26.1	20.9	39975	26.2	16.9	306865	26.3	19.7	162387	26.3	20.1
508366	26.0	20.4	185998	26.1	19.8	430788	26.1	21.4	326043	26.2	20.3	426838	26.3	20.7	268032	26.3	20.0
504042	26.0	23.7	68383	26.1	19.1	267715	26.1	20.0	379750	26.2	20.6	182565	26.3	20.3	249625	26.3	20.9
382202	26.0	21.0	368108	26.1	20.0	196571	26.1	19.6	40877	26.2	19.0	432564	26.3	19.9	408276	26.3	20.6
465753	26.0	21.5	8919	26.1	16.0	497918	26.1	21.6	143592	26.2	18.9	201734	26.3	19.0	312187	26.3	21.3
490511	26.0	21.2	502027	26.1	20.9	18305	26.1	19.4	205798	26.2	19.7	427767	26.3	21.6	276514	26.3	20.9
224507	26.0	20.2	113426	26.1	20.3	261978	26.1	19.8	262138	26.2	21.5	2751	26.3	15.9	406898	26.3	20.4
143345	26.0	19.8	29364	26.1	17.2	304053	26.1	18.7	303886	26.2	20.4	206973	26.3	20.0	111179	26.3	20.0
437189	26.0	19.8	36785	26.1	19.2	371075	26.1	21.2	289614	26.2	18.5	184083	26.3	18.7	241917	26.4	20.4
497191	26.0	21.6	488550	26.1	21.6	348803	26.1	21.7	109345	26.2	19.9	323653	26.3	18.3	42011	26.4	18.2
54566	26.0	18.9	205780	26.1	19.6	29200	26.1	17.1	206804	26.2	19.8	258474	26.3	19.1	522350	26.4	20.3
88921	26.0	19.8	430226	26.1	20.4	200657	26.1	19.1	231295	26.2	20.7	417445	26.3	19.8	406391	26.4	20.7
162611	26.0	19.8	488736	26.1	21.7	354830	26.1	20.9	318085	26.2	18.7	363559	26.3	21.0	156445	26.4	18.8
221249	26.0	21.4	321800	26.1	21.0	248605	26.1	20.7	364581	26.2	20.9	510322	26.3	22.3	165498	26.4	20.0
452524	26.0	20.8	173842	26.1	20.3	186120	26.2	20.9	57906	26.2	18.6	499034	26.3	20.7	493571	26.4	20.4
130442	26.0	18.2	303717	26.1	21.4	368727	26.2	21.3	62725	26.2	19.0	131097	26.3	19.8	499898	26.4	20.4
160161	26.0	19.7	480143	26.1	20.9	464686	26										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
221647	26.4	19.6	93138	26.4	19.7	386505	26.5	20.0	499907	26.6	20.5	380079	26.6	21.3	503121	26.7	20.7
439775	26.4	20.9	230843	26.4	20.8	35220	26.5	18.4	232307	26.6	19.9	399360	26.6	20.9	334829	26.7	20.7
354811	26.4	20.9	203825	26.4	20.4	364794	26.5	20.9	520153	26.6	19.6	389233	26.6	20.6	508763	26.7	20.5
407821	26.4	20.9	31159	26.4	17.0	93900	26.5	21.3	246189	26.6	20.7	331114	26.6	20.5	412916	26.7	20.9
57333	26.4	17.7	4385	26.4	18.2	340304	26.5	20.2	219644	26.6	21.2	246132	26.6	20.5	304707	26.7	20.2
99309	26.4	19.4	158534	26.4	19.4	108900	26.5	19.8	295299	26.6	20.7	472681	26.6	20.4	426234	26.7	20.9
426393	26.4	21.9	335824	26.4	19.0	497697	26.5	21.1	187867	26.6	21.0	500401	26.6	21.0	501622	26.7	21.4
373526	26.4	22.3	413475	26.4	19.7	504244	26.5	21.0	276617	26.6	21.3	39904	26.6	18.0	223741	26.7	19.2
482374	26.4	20.1	406085	26.4	20.9	266328	26.5	21.1	321075	26.6	20.9	173823	26.6	20.6	268403	26.7	21.0
158374	26.4	19.9	133162	26.4	19.7	177965	26.5	19.6	338429	26.6	19.6	16948	26.6	18.0	162584	26.7	21.1
366950	26.4	22.0	144944	26.4	19.4	252781	26.5	19.8	65731	26.6	18.8	494663	26.6	21.0	366860	26.7	21.8
12381	26.4	16.7	385495	26.4	19.0	482090	26.5	20.8	28556	26.6	18.2	15825	26.6	17.8	423574	26.7	22.0
296208	26.4	20.3	289941	26.4	21.3	269251	26.5	20.5	283030	26.6	20.2	249505	26.6	19.4	87906	26.7	18.7
253574	26.4	19.5	406537	26.4	21.4	90571	26.5	19.8	17625	26.6	19.6	384120	26.6	21.3	281096	26.7	20.6
259043	26.4	19.5	159674	26.4	19.0	68469	26.5	19.2	463403	26.6	20.6	54437	26.6	18.0	411635	26.7	20.9
330013	26.4	20.6	303254	26.4	21.2	224864	26.5	20.4	14783	26.6	17.9	503091	26.6	20.1	391649	26.7	20.7
392646	26.4	21.3	342366	26.4	20.7	145836	26.5	20.1	497952	26.6	21.4	266860	26.6	20.3	358057	26.7	20.3
241392	26.4	19.3	110857	26.4	20.1	125117	26.5	18.9	65125	26.6	19.1	436891	26.6	19.1	310997	26.7	20.4
385513	26.4	20.7	74964	26.5	18.7	190438	26.5	20.2	418382	26.6	20.5	418073	26.6	21.3	448130	26.7	20.8
231992	26.4	19.9	332658	26.5	21.1	229979	26.5	20.7	470143	26.6	21.4	6880	26.6	15.9	394018	26.7	21.5
52524	26.4	18.4	312138	26.5	21.5	52942	26.5	18.6	242357	26.6	19.5	432440	26.6	19.9	408941	26.7	20.0
415727	26.4	22.0	497811	26.5	21.9	11350	26.5	17.8	235399	26.6	20.8	65978	26.6	17.8	437008	26.7	20.6
387833	26.4	20.2	196691	26.5	20.1	309311	26.5	20.6	160178	26.6	19.0	348835	26.6	20.5	31414	26.7	17.9
74854	26.4	18.3	495128	26.5	21.9	366389	26.5	20.4	504203	26.6	21.0	500850	26.7	21.8	227334	26.7	20.3
78664	26.4	19.1	358374	26.5	20.4	122621	26.5	18.9	47152	26.6	18.7	263199	26.7	19.7	493545	26.7	21.1
392574	26.4	20.2	110510	26.5	19.1	58711	26.5	17.7	193100	26.6	19.7	243049	26.7	20.2	72753	26.7	18.7
60867	26.4	18.7	336218	26.5	19.9	237522	26.5	20.9	271113	26.6	19.9	30408	26.7	17.8	35007	26.7	19.1
268347	26.4	21.4	323738	26.5	20.9	421466	26.5	21.0	129257	26.6	20.2	255686	26.7	21.3	243825	26.7	20.9
162772	26.4	19.1	310374	26.5	21.2	30350	26.5	18.9	328318	26.6	20.2	312822	26.7	20.9	53320	26.7	18.9
100521	26.4	19.3	120436	26.5	19.7	105060	26.5	20.2	270527	26.6	19.8	158320	26.7	19.9	477092	26.7	20.9
521294	26.4	20.8	15496	26.5	16.5	383644	26.5	21.4	56920	26.6	18.1	291190	26.7	20.2	378321	26.7	20.7
382330	26.4	20.7	109227	26.5	19.7	14081	26.5	18.3	77766	26.6	17.6	11788	26.7	18.7	156538	26.7	19.7
306657	26.4	20.2	354762	26.5	21.2	505893	26.5	20.8	470222	26.6	21.9	208631	26.7	18.8	501022	26.7	22.1
358524	26.4	20.7	105276	26.5	19.2	46379	26.5	18.6	405190	26.6	20.8	380944	26.7	20.0	384013	26.7	21.9
280179	26.4	20.1	497419	26.5	22.5	165150	26.5	20.6	167081	26.6	20.3	229168	26.7	20.5	155302	26.7	19.2
186653	26.4	19.7	174642	26.5	20.2	498829	26.5	20.3	2839	26.6	15.8	287659	26.7	19.8	379383	26.7	20.5
146497	26.4	20.2	468809	26.5	20.9	406490	26.5	21.9	155263	26.6	20.5	127013	26.7	19.0	308666	26.7	19.2
283064	26.4	20.7	365178	26.5	20.1	126551	26.5	19.6	36016	26.6	18.3	120094	26.7	18.5	277752	26.7	20.3
434961	26.4	20.7	497686	26.5	22.5	406535	26.5	21.3	215137	26.6	20.9	190432	26.7	20.2	371656	26.7	20.2
230959	26.4	19.4	472643	26.5	19.9	140868	26.5	19.9	27397	26.6	21.2	335776	26.7	19.1	373464	26.7	20.8
354772	26.4	20.5	61388	26.5	19.5	19912	26.5	17.9	53263	26.6	18.4	111996	26.7	19.9	336342	26.7	20.0
150790	26.4	20.4	501510	26.5	20.7	425249	26.5	21.2	187275	26.6	20.5	146227	26.7	19.4	452789	26.7	18.8
162594	26.4	20.5	490003	26.5	21.8	196068	26.5	23.4	15311	26.6	18.3	472124	26.7	20.9	161962	26.7	19.3
288929	26.4	21.2	70067	26.5	18.6	153921	26.5	20.9	340634	26.6	20.3	276003	26.7	21.2	499866	26.7	20.2
300911	26.4	20.8	436660	26.5	21.0	462144	26.5	21.7	357099	26.6	21.2	347803	26.7	20.9	435401	26.7	20.9
365871	26.4	21.1	66815	26.5	18.3	224563	26.5	19.7	143536	26.6	19.0	205746	26.7	19.3	402929	26.7	21.1
478083	26.4	21.0	469941	26.5	19.9	325202	26.5	19.7	368579	26.6	21.1	147721	26.7	21.2	176404	26.7	18.0
49437	26.4	18.5	311248	26.5	19.7	519350	26.5	20.5	234418	26.6	19.6	52572	26.7	19.6	210914	26.7	20.0
360022	26.4	20.4	243978	26.5	20.6	246976	26.5	21.5	263446	26.6	19.7	301047	26.7	21.0	377414	26.7	20.1
5380	26.4	15.8	415909	26.5	22.0	115236	26.5	20.7	331472	26.6	20.2	374144	26.7	20.2	467643	26.7	21.3
263201	26.4	19.2	457347	26.5	21.7	234034	26.5	20.7	232495	26.6	20.7	423435	26.7	22.5	360711	26.7	20.6
145513	26.4	19.8	414100	26.5	21.4	402090	26.5	21.3	281054	26.6	20.4	23283	26.7	18.8	378962	26.7	21.3
58491	26.4	19.1	25876	26.5	19.3	56796	26.5	18.7	503652	26.6	20.4	98190	26.7	18.7	186114	26.7	19.5
217937	26.4	20.9	56943	26.5	18.8	403802	26.5	21.3	58360	26.6	19.3	497897	26.7	21.0	129748	26.7	18.2
298776	26.4	21.3	511599	26.5	20.7	379266	26.5	20.7	465696	26.6	21.3	142610	26.7	20.8	405916	26.7	20.3
404202	26.4	20.0	42559	26.5	18.8	219343	26.5	20.2	431163	26.6	21.2	7306	26.7	16.6	13208	26.7	17.8
39699	26.4	19.4	351878	26.5	21.4	385286	26.5	20.6	43321	26.6	18.5	302827	26.7	19.4	257492	26.8	20.9
295516	26.4	20.2	494174	26.5	20.9	240010	26.5	21.0	425362	26.6	20.0	27986	26.7	18.9	92520	26.8	19.6
344052	26.4	22.0	379690	26.5	19.7	331805	26.5	21.0	337808	26.6	20.5	83913	26.7	19.3	131175	26.8	19.7
392537	26.4	21.2	88786	26.5	19.1	229243	26.5	19.9	117553	26.6	19.3	8545	26.7	18.4	353843	26.8	20.4
10000	26.4	19.9	461408	26.5	20.8	20644</td											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
66327	26.8	18.9	522382	26.8	21.0	21343	26.9	16.6	152421	26.9	20.1	213001	27.0	19.4	411248	27.1	20.7
466388	26.8	21.5	468216	26.8	21.5	358034	26.9	19.7	423731	26.9	20.6	177042	27.0	19.9	69496	27.1	19.0
389802	26.8	19.7	149708	26.8	20.0	405398	26.9	21.9	503937	26.9	22.1	212709	27.0	20.7	56496	27.1	18.2
145462	26.8	20.0	388135	26.8	20.3	521255	26.9	21.0	309683	26.9	20.0	100653	27.0	20.0	419777	27.1	21.5
506045	26.8	20.6	207354	26.9	19.6	36156	26.9	17.5	427211	26.9	21.5	276171	27.0	20.9	426807	27.1	20.7
334853	26.8	20.3	173291	26.9	19.9	376126	26.9	19.2	284145	26.9	20.6	464671	27.0	21.6	140558	27.1	19.9
44805	26.8	19.2	306645	26.9	21.0	247933	26.9	20.2	30467	26.9	18.0	64848	27.0	19.1	379897	27.1	19.6
120676	26.8	20.4	313606	26.9	21.2	408712	26.9	21.4	304453	26.9	21.2	474433	27.0	19.9	58554	27.1	19.0
151990	26.8	18.9	433817	26.9	20.2	497375	26.9	22.2	181815	26.9	20.7	435912	27.0	19.9	130847	27.1	21.1
379424	26.8	21.1	419845	26.9	20.2	120319	26.9	18.9	453296	26.9	21.3	297264	27.0	20.7	206245	27.1	19.7
432915	26.8	20.8	200570	26.9	19.8	92706	26.9	19.7	455614	26.9	21.6	94150	27.0	18.7	498336	27.1	21.7
432936	26.8	21.8	432431	26.9	20.5	498642	26.9	21.5	57287	26.9	19.5	436009	27.0	20.3	48471	27.1	19.1
300939	26.8	20.4	29536	26.9	17.2	245885	26.9	20.3	139306	26.9	18.6	463453	27.0	20.7	130983	27.1	19.5
10751	26.8	18.8	84995	26.9	19.6	196751	26.9	20.5	474118	26.9	19.8	4551	27.0	18.1	211893	27.1	19.6
237688	26.8	20.7	199208	26.9	20.8	233634	26.9	19.8	208047	26.9	20.3	467781	27.0	21.2	470927	27.1	19.3
276916	26.8	20.1	31075	26.9	18.4	105317	26.9	19.3	208924	26.9	19.8	371068	27.0	21.5	140024	27.1	19.4
129304	26.8	19.5	370465	26.9	19.2	132219	26.9	19.0	219806	26.9	20.5	35666	27.0	18.2	246181	27.1	19.5
237678	26.8	20.2	401578	26.9	20.4	433667	26.9	20.9	480152	26.9	21.3	334726	27.0	20.4	258233	27.1	19.9
371992	26.8	21.2	354839	26.9	20.9	158538	26.9	19.5	95134	26.9	19.4	402893	27.1	21.7	319765	27.1	19.9
383683	26.8	20.3	214772	26.9	20.7	231181	26.9	20.8	213560	26.9	20.3	424179	27.1	19.7	505419	27.1	21.4
360572	26.8	20.4	208003	26.9	20.5	86580	26.9	17.4	115062	26.9	18.5	294141	27.1	20.1	338360	27.1	20.7
114304	26.8	19.5	106278	26.9	19.5	435408	26.9	20.8	131169	26.9	18.6	227488	27.1	20.3	315450	27.1	21.1
147017	26.8	20.1	126856	26.9	19.8	182926	26.9	23.5	423231	26.9	21.8	434999	27.1	21.2	210483	27.1	20.3
491775	26.8	20.9	41980	26.9	18.7	72122	26.9	19.0	349017	26.9	20.7	89481	27.1	19.3	221861	27.1	19.7
169639	26.8	18.6	341451	26.9	21.5	137171	26.9	19.2	154673	26.9	19.3	159796	27.1	19.4	368625	27.1	20.4
389086	26.8	21.4	502998	26.9	20.6	270541	26.9	19.5	204299	26.9	20.7	49901	27.1	18.0	137041	27.1	18.8
138567	26.8	20.2	500918	26.9	22.3	135189	26.9	19.5	290160	26.9	21.5	29155	27.1	17.8	369675	27.1	21.2
272851	26.8	19.7	427736	26.9	21.6	423699	26.9	20.3	425959	26.9	20.5	463193	27.1	20.3	455600	27.1	21.5
140252	26.8	19.6	149425	26.9	19.6	215359	26.9	19.7	383312	26.9	20.3	373406	27.1	20.5	144835	27.1	19.6
188452	26.8	21.6	420540	26.9	19.2	286272	26.9	21.8	49791	26.9	20.3	360371	27.1	19.8	268396	27.1	21.5
257616	26.8	19.7	4476	26.9	17.0	235448	26.9	20.0	158480	26.9	20.0	164356	27.1	20.2	138587	27.1	20.9
212945	26.8	19.9	140439	26.9	18.8	19032	26.9	16.8	42296	26.9	17.9	235363	27.1	19.5	272821	27.1	19.3
164	26.8	14.4	236121	26.9	20.3	203330	26.9	19.9	296804	26.9	20.5	77425	27.1	19.1	213020	27.1	20.8
461472	26.8	21.0	211908	26.9	19.9	12628	26.9	17.5	500769	26.9	18.8	497773	27.1	21.4	427377	27.1	20.8
382321	26.8	20.1	255622	26.9	21.1	258879	26.9	21.1	505180	26.9	21.1	160404	27.1	18.9	432335	27.1	21.5
459332	26.8	20.2	385146	26.9	21.1	47442	26.9	18.5	218740	26.9	20.5	467758	27.1	20.1	433304	27.1	20.2
467385	26.8	21.5	458219	26.9	21.5	53160	26.9	18.2	36363	26.9	18.4	37162	27.1	18.7	136022	27.1	19.9
99663	26.8	19.2	312040	26.9	21.8	462586	26.9	20.6	352672	26.9	20.3	120714	27.1	19.6	281954	27.1	20.6
60020	26.8	19.2	282630	26.9	20.2	17512	26.9	16.1	51078	26.9	17.9	265585	27.1	20.6	497619	27.1	19.9
153188	26.8	19.7	162670	26.9	19.6	165344	26.9	21.1	103167	27.0	19.3	499134	27.1	21.9	429892	27.1	20.4
313007	26.8	20.6	412059	26.9	19.1	23488	26.9	18.8	85656	27.0	19.2	271086	27.1	20.7	195508	27.1	18.9
21051	26.8	19.6	68412	26.9	19.7	407898	26.9	20.9	66933	27.0	20.5	373961	27.1	20.6	96097	27.1	20.5
328337	26.8	20.2	54447	26.9	16.6	88389	26.9	17.7	225506	27.0	20.3	435948	27.1	19.7	60454	27.1	22.7
166566	26.8	19.6	479711	26.9	20.8	358038	26.9	19.9	98844	27.0	18.6	175483	27.1	20.5	146208	27.1	19.8
57470	26.8	19.1	150579	26.9	20.8	155774	26.9	20.0	114135	27.0	19.4	129078	27.1	19.8	312082	27.1	20.8
115384	26.8	18.7	388388	26.9	20.9	402909	26.9	21.4	18041	27.0	16.5	423685	27.1	20.8	495507	27.1	21.0
173280	26.8	18.9	413638	26.9	20.7	112801	26.9	19.3	348851	27.0	20.8	417934	27.1	21.3	368069	27.1	19.9
257604	26.8	19.9	11045	26.9	17.1	498339	26.9	21.7	40625	27.0	18.7	421291	27.1	20.2	199561	27.1	19.8
412199	26.8	20.4	376298	26.9	19.1	505231	26.9	21.6	105018	27.0	19.9	385454	27.1	21.4	405296	27.1	21.8
195229	26.8	19.0	247449	26.9	20.9	143389	26.9	19.4	300880	27.0	20.2	277748	27.1	20.1	459963	27.1	20.9
416885	26.8	22.3	459992	26.9	21.1	397131	26.9	20.5	373031	27.0	20.6	208033	27.1	19.9	311157	27.1	21.7
505026	26.8	21.2	315768	26.9	19.7	455915	26.9	19.8	368181	27.0	21.8	4317	27.1	15.9	335662	27.1	20.8
512965	26.8	21.2	430021	26.9	20.2	200214	26.9	20.1	277656	27.0	20.4	109371	27.1	20.5	85227	27.1	19.9
221368	26.8	19.5	375792	26.9	20.7	221098	26.9	20.8	399271	27.0	20.4	469251	27.1	21.3	123298	27.1	19.5
376001	26.8	20.1	90899	26.9	19.4	225544	26.9	19.9	167688	27.0	18.9	203544	27.1	19.3	291515	27.1	20.0
346202	26.8	20.7	463910	26.9	19.8	211218	26.9	20.2	26993	27.0	18.6	146692	27.1	19.1	255205	27.1	20.1
240265	26.8	19.5	308745	26.9	20.1	341407	26.9	19.9	26821	27.0	16.5	301043	27.1	20.7	55653	27.1	18.4
428878	26.8	20.8	427747	26.9	21.6	133258	26.9	19.5	179553	27.0	19.9	312647	27.1	20.4	176041	27.1	20.1
204518	26.8	19.5	63515	26.9	19.2	119764	26.9	19.0	327885	27.0	20.6	213682	27.1	20.4	213014	27.1	20.1
508423	26.8	20.7	245058	26.9	20.3	194057	26.9	19.5	301085	27.0	20.7	5460	27.1	16.4	270217	27.1	20.5
229974	26.8	20.8	328291	26.9	20.6</td												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
458751	27.2	21.8	455457	27.2	20.8	498723	27.3	21.1	357130	27.3	20.2	423760	27.4	20.0	503419	27.5	20.1
224464	27.2	21.0	139249	27.2	18.7	472162	27.3	19.9	65191	27.3	19.9	106028	27.4	19.8	30549	27.5	19.3
494201	27.2	21.1	274928	27.2	20.5	55435	27.3	18.6	6164	27.3	16.6	118000	27.4	20.6	123324	27.5	19.7
502332	27.2	22.2	344817	27.2	19.5	280146	27.3	20.5	523787	27.3	22.2	11427	27.4	17.6	501089	27.5	21.4
194094	27.2	19.3	102479	27.2	19.1	508750	27.3	21.6	322774	27.3	20.1	268956	27.4	21.2	383763	27.5	20.2
378867	27.2	20.5	469745	27.2	21.6	151118	27.3	19.2	508712	27.3	21.9	194304	27.4	19.0	204620	27.5	19.6
136091	27.2	20.1	285542	27.2	19.1	426793	27.3	21.4	430860	27.3	20.6	460081	27.4	21.7	238357	27.5	19.5
273663	27.2	20.4	166590	27.2	20.4	248868	27.3	19.9	9100	27.3	15.8	209628	27.4	20.0	402999	27.5	21.6
70581	27.2	19.1	389230	27.2	20.2	209566	27.3	20.3	184115	27.3	18.8	244181	27.4	20.7	165242	27.5	18.9
389712	27.2	20.8	109170	27.2	20.0	123718	27.3	19.5	246409	27.3	20.3	82535	27.4	18.9	258986	27.5	19.9
458980	27.2	21.7	496002	27.2	22.3	225867	27.3	21.0	144956	27.4	20.5	270569	27.4	19.0	143021	27.5	20.0
16373	27.2	19.1	277299	27.2	21.5	383287	27.3	19.7	165149	27.4	18.8	52265	27.4	18.6	378707	27.5	21.4
330401	27.2	20.9	33994	27.2	18.4	40857	27.3	18.3	228701	27.4	20.5	23563	27.4	19.0	498102	27.5	21.7
234125	27.2	20.5	435415	27.2	20.5	217044	27.3	20.9	189389	27.4	18.9	162411	27.4	19.4	519496	27.5	21.0
11373	27.2	18.2	141923	27.2	19.8	155439	27.3	18.3	242140	27.4	19.7	81375	27.4	18.6	457740	27.5	20.1
435369	27.2	21.2	477084	27.2	19.7	332549	27.3	20.8	386576	27.4	20.4	245039	27.4	19.4	222694	27.5	19.5
370943	27.2	20.5	458938	27.2	21.7	174542	27.3	18.3	126969	27.4	19.5	283517	27.4	19.8	213861	27.5	20.5
144155	27.2	19.4	290802	27.2	21.3	216116	27.3	18.7	19128	27.4	17.9	221373	27.4	20.4	35414	27.5	19.0
336473	27.2	20.7	87541	27.2	18.6	465682	27.3	20.5	65485	27.4	19.0	9641	27.4	17.6	292867	27.5	20.4
191016	27.2	19.2	403822	27.2	21.6	87156	27.3	19.3	459142	27.4	20.0	54222	27.4	18.5	164298	27.5	18.9
482229	27.2	20.1	379291	27.2	20.9	51129	27.3	18.6	140047	27.4	20.0	218697	27.4	21.6	115213	27.5	19.7
155833	27.2	20.3	97936	27.2	20.2	354778	27.3	21.3	351517	27.4	20.3	285933	27.4	21.4	244803	27.5	20.6
196790	27.2	20.2	93584	27.2	20.4	519958	27.3	21.6	345718	27.4	21.7	55572	27.4	18.9	431268	27.5	20.5
61282	27.2	18.7	139457	27.2	19.9	370712	27.3	21.1	519288	27.4	20.5	63920	27.4	19.1	288611	27.5	19.6
387285	27.2	21.1	423720	27.2	20.9	286402	27.3	19.7	241501	27.4	20.7	522746	27.4	22.2	87728	27.5	18.8
500310	27.2	21.9	408667	27.2	21.7	318162	27.3	20.1	58312	27.4	19.3	201009	27.4	19.7	48448	27.5	17.6
173105	27.2	21.1	57513	27.2	18.8	453810	27.3	20.3	338914	27.4	20.5	136629	27.4	20.6	88881	27.5	19.0
425230	27.2	20.4	522625	27.2	21.1	353440	27.3	19.7	459545	27.4	19.7	170945	27.4	19.0	415270	27.5	20.7
495088	27.2	20.9	387346	27.2	21.1	497804	27.3	20.5	144778	27.4	19.7	322399	27.4	20.2	497743	27.5	21.2
300179	27.2	20.8	468458	27.2	21.0	271830	27.3	20.1	411667	27.4	20.9	425938	27.4	20.1	430831	27.5	20.4
120588	27.2	19.4	326366	27.2	21.0	430024	27.3	21.5	245509	27.4	20.0	17051	27.4	17.1	188013	27.5	19.9
458836	27.2	21.0	500352	27.2	21.2	415959	27.3	20.7	278752	27.4	21.3	249303	27.4	20.2	111704	27.5	18.9
399660	27.2	20.9	329361	27.2	19.6	369368	27.3	22.9	195573	27.4	19.7	148384	27.4	20.1	138693	27.5	20.4
375240	27.2	21.8	71205	27.2	20.9	437080	27.3	20.2	381443	27.4	21.6	210721	27.4	20.0	42791	27.5	18.6
143607	27.2	19.3	81998	27.2	20.5	489354	27.3	21.4	338853	27.4	19.5	72195	27.4	19.6	109546	27.5	19.9
500249	27.2	20.8	247852	27.2	18.5	404447	27.3	19.9	127258	27.4	18.8	174735	27.4	20.5	219772	27.5	19.2
277558	27.2	20.1	313778	27.2	19.7	11358	27.3	16.7	518784	27.4	21.2	9620	27.4	17.3	406410	27.5	20.6
312088	27.2	21.1	222352	27.2	19.9	212128	27.3	19.4	505142	27.4	20.0	502021	27.4	21.1	508455	27.5	21.0
298974	27.2	20.3	52473	27.2	18.4	415493	27.3	20.9	466740	27.4	21.3	292683	27.4	21.5	299969	27.5	20.2
163220	27.2	19.0	54913	27.3	18.6	402185	27.3	21.2	177111	27.4	19.7	93993	27.4	19.7	411618	27.5	20.6
257238	27.2	20.2	432994	27.3	21.1	226045	27.3	18.8	27830	27.4	18.3	210924	27.4	19.5	138730	27.5	19.7
345062	27.2	21.1	128669	27.3	20.2	451721	27.3	20.7	341146	27.4	20.3	501484	27.4	21.6	354078	27.5	21.0
179858	27.2	19.5	292496	27.3	20.0	124876	27.3	19.3	379898	27.4	21.5	443854	27.4	21.8	183353	27.5	19.5
206023	27.2	20.6	369332	27.3	21.2	403924	27.3	21.0	39943	27.4	18.4	505210	27.4	20.7	132119	27.5	19.3
145878	27.2	19.7	263129	27.3	20.2	271717	27.3	20.0	232547	27.4	20.5	344374	27.4	20.3	333678	27.5	20.6
12303	27.2	17.3	203780	27.3	20.2	271775	27.3	20.5	413693	27.4	20.7	131795	27.4	20.6	316859	27.5	21.1
253966	27.2	19.8	186122	27.3	19.9	176658	27.3	20.3	253274	27.4	19.8	514379	27.4	20.8	109097	27.5	19.3
228331	27.2	20.5	244553	27.3	20.2	196582	27.3	20.8	53086	27.4	18.1	292859	27.4	19.8	432051	27.5	20.5
172069	27.2	19.2	116874	27.3	19.2	301130	27.3	21.8	169342	27.4	19.5	190422	27.4	21.0	204928	27.5	20.7
294163	27.2	20.6	376440	27.3	20.0	160095	27.3	20.0	227523	27.4	20.1	289282	27.4	20.9	141231	27.5	19.6
411390	27.2	20.2	278172	27.3	20.1	498350	27.3	21.8	128360	27.4	19.9	395282	27.4	20.5	286120	27.5	20.6
112906	27.2	18.7	771310	27.3	18.9	118450	27.3	20.3	427576	27.4	20.1	138664	27.4	19.6	58873	27.5	18.4
442148	27.2	21.7	502932	27.3	21.0	490307	27.3	21.4	211108	27.4	19.6	375318	27.4	20.8	39815	27.5	19.0
64489	27.2	19.1	239664	27.3	19.9	308128	27.3	20.6	423835	27.4	21.3	192843	27.4	20.7	281303	27.5	21.2
162119	27.2	19.3	229915	27.3	20.6	371687	27.3	20.6	281769	27.4	20.2	171977	27.4	20.7	512449	27.5	21.6
339034	27.2	19.0	502264	27.3	20.7	435361	27.3	21.0	121632	27.4	19.2	210913	27.5	19.3	212706	27.5	21.4
165324	27.2	19.5	284079	27.3	21.0	154297	27.3	19.8	246461	27.4	20.4	351534	27.5	21.2	225559	27.5	17.3
52985	27.2	17.0	421408	27.3	19.4	844047	27.3	19.4	429998	27.4	20.3	209176	27.5	20.2	419341	27.5	20.0
4314	27.2	16.6	195481	27.3	20.1	505836	27.3	21.4	83487	27.4	18.9	453357	27.5	21.5	471288	27.5	21.5
193222	27.2	19.3	25044	27.3	18.3	32801	27.3	18.3	303772	27.4	21.2	84470	27.5	18.8	505721	27.5	20.2
162467	27.2	19.2	108175	27.3													

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
407688	27.5	21.3	7088	27.6	17.6	351821	27.7	21.7	464681	27.7	21.8	431491	27.8	20.6	146918	27.9	19.6
40903	27.5	17.5	314655	27.6	20.6	204396	27.7	19.7	300232	27.7	21.3	242756	27.8	19.9	238748	27.9	20.1
18833	27.5	16.8	357109	27.6	20.7	384425	27.7	20.6	271827	27.8	19.7	406453	27.8	20.9	438641	27.9	20.6
357316	27.5	20.4	171061	27.6	20.6	522974	27.7	21.4	2670	27.8	15.7	122344	27.8	19.5	158734	27.9	19.6
500562	27.5	22.1	60058	27.6	19.1	366831	27.7	20.6	192561	27.8	20.8	501036	27.8	21.6	276981	27.9	20.1
259451	27.5	19.5	391386	27.6	20.6	426162	27.7	21.4	154779	27.8	20.1	169378	27.8	19.5	404465	27.9	20.2
203417	27.5	19.3	373852	27.6	19.4	187049	27.7	19.8	165464	27.8	20.5	33733	27.8	18.1	522838	27.9	20.8
498952	27.5	20.9	126368	27.6	19.7	429035	27.7	20.1	308483	27.8	20.5	100537	27.8	20.4	228272	27.9	21.3
387493	27.5	20.4	141258	27.6	19.7	24543	27.7	18.0	37581	27.8	18.4	106148	27.8	19.8	370108	27.9	22.0
264648	27.5	19.3	417448	27.6	21.3	273856	27.7	21.1	85587	27.8	17.9	339238	27.8	20.0	500687	27.9	21.3
31775	27.5	16.7	388364	27.6	21.0	55963	27.7	18.7	362745	27.8	20.3	81425	27.8	18.8	34266	27.9	18.0
192086	27.5	19.6	288738	27.6	20.6	456533	27.7	19.6	210897	27.8	20.8	16826	27.8	16.9	170088	27.9	20.6
170069	27.6	19.6	430316	27.6	20.8	461647	27.7	20.9	287158	27.8	20.4	84432	27.8	19.5	456341	27.9	20.9
75164	27.6	19.3	208475	27.6	20.3	219359	27.7	19.8	291178	27.8	20.0	195183	27.8	19.9	220592	27.9	20.4
413126	27.6	21.1	230648	27.6	20.5	386579	27.7	20.0	511572	27.8	20.1	434923	27.8	20.4	354339	27.9	20.7
370088	27.6	21.1	505239	27.6	21.8	461709	27.7	21.1	416833	27.8	20.3	243596	27.8	19.5	169944	27.9	19.8
380051	27.6	21.2	132608	27.6	19.3	215931	27.7	19.8	73621	27.8	18.9	72059	27.8	18.6	33582	27.9	17.8
436811	27.6	20.8	151052	27.6	20.6	115886	27.7	19.5	496672	27.8	20.4	58534	27.8	23.0	430183	27.9	20.7
419891	27.6	20.0	285950	27.6	21.0	500686	27.7	21.5	374064	27.8	21.1	153474	27.8	18.3	267378	27.9	19.9
433961	27.6	22.0	64892	27.6	18.9	17616	27.7	18.1	432797	27.8	20.9	285892	27.8	21.1	34153	27.9	19.6
461111	27.6	20.0	87048	27.6	19.0	68768	27.7	18.9	384089	27.8	22.0	3341	27.8	17.5	340517	27.9	21.3
253135	27.6	20.7	508693	27.6	20.7	14321	27.7	19.1	55317	27.8	17.8	505020	27.8	20.8	501634	27.9	22.4
308104	27.6	21.2	429617	27.6	20.4	234929	27.7	20.4	55871	27.8	19.6	389812	27.8	20.2	462177	27.9	21.8
286557	27.6	20.5	480454	27.6	20.8	422703	27.7	20.3	523672	27.8	22.1	263993	27.8	18.9	465967	27.9	19.4
292993	27.6	20.1	315373	27.6	21.5	374139	27.7	22.1	146474	27.8	18.4	172440	27.8	20.2	343448	27.9	20.2
205817	27.6	19.2	37349	27.6	17.9	88598	27.7	19.7	123034	27.8	19.7	468227	27.8	21.3	460100	27.9	20.9
368609	27.6	20.9	406853	27.6	20.6	55528	27.7	18.6	170272	27.8	20.7	289981	27.8	20.5	328301	27.9	20.4
34604	27.6	17.9	2979	27.6	17.6	219329	27.7	18.9	320229	27.8	20.2	294224	27.8	20.2	357111	27.9	21.2
381500	27.6	20.7	157439	27.6	19.5	388695	27.7	20.9	1613	27.8	15.4	435972	27.8	20.4	392543	27.9	20.7
176449	27.6	20.2	154560	27.6	19.3	352679	27.7	20.0	427900	27.8	21.4	115303	27.8	19.6	497499	27.9	20.1
176290	27.6	19.3	404336	27.6	20.5	78105	27.7	19.1	140070	27.8	19.8	455198	27.8	21.2	329241	27.9	20.1
336821	27.6	20.2	182651	27.6	21.0	241307	27.7	19.7	496489	27.8	20.3	3421	27.8	16.4	31201	27.9	18.6
31475	27.6	17.1	380556	27.6	21.8	144807	27.7	19.8	500872	27.8	21.3	298928	27.8	21.5	73810	27.9	19.1
96375	27.6	18.8	506637	27.6	21.6	109889	27.7	20.5	48857	27.8	18.5	206135	27.8	20.3	142135	27.9	19.4
455611	27.6	21.7	359046	27.6	19.4	36163	27.7	18.2	334643	27.8	20.2	192848	27.8	19.8	322255	27.9	20.8
425748	27.6	21.7	134448	27.6	20.0	268596	27.7	20.2	241075	27.8	20.7	301675	27.8	20.0	468252	27.9	20.0
391678	27.6	20.4	199549	27.6	20.6	337609	27.7	21.0	437276	27.8	21.2	283571	27.8	21.2	212614	27.9	20.2
336308	27.6	20.3	287608	27.6	20.5	492300	27.7	20.7	78482	27.8	19.4	286359	27.8	20.8	159197	27.9	19.2
39090	27.6	18.1	55570	27.6	18.9	109340	27.7	18.3	335611	27.8	20.5	502202	27.8	20.6	251000	27.9	21.3
258104	27.6	20.6	323443	27.6	19.4	252705	27.7	19.4	465708	27.8	21.5	216469	27.8	19.7	462847	27.9	19.0
228780	27.6	17.5	114013	27.6	19.2	417814	27.7	19.5	207655	27.8	20.2	368197	27.8	20.8	506048	27.9	21.2
105648	27.6	20.6	214970	27.6	20.2	76627	27.7	18.7	48034	27.8	18.1	11412	27.9	17.4	458819	27.9	20.8
289433	27.6	19.1	240058	27.7	21.0	371670	27.7	19.7	242490	27.8	20.3	298849	27.9	20.7	410189	27.9	21.5
513960	27.6	21.1	386784	27.7	20.3	83778	27.7	18.5	480660	27.8	19.7	462910	27.9	20.3	244858	27.9	21.0
333383	27.6	20.9	239522	27.7	20.7	501830	27.7	21.4	369279	27.8	20.6	389192	27.9	20.0	197330	27.9	20.1
74472	27.6	18.1	427851	27.7	20.3	195571	27.7	19.5	350298	27.8	21.0	508330	27.9	20.2	429066	27.9	20.2
90334	27.6	18.3	371069	27.7	20.0	312087	27.7	20.0	284631	27.8	21.1	159567	27.9	19.5	346013	27.9	21.0
441815	27.6	20.4	501486	27.7	21.2	472731	27.7	20.4	135427	27.8	19.2	431083	27.9	20.7	269079	27.9	19.0
461739	27.6	20.5	228316	27.7	19.9	443759	27.7	21.2	388363	27.8	20.3	307439	27.9	20.1	206125	27.9	20.8
94584	27.6	18.8	177048	27.7	19.3	31931	27.7	19.7	197953	27.8	19.6	414085	27.9	20.3	213356	27.9	20.9
170252	27.6	20.7	153916	27.7	20.3	270137	27.7	20.8	473237	27.8	20.5	209012	27.9	19.2	471187	27.9	20.7
289679	27.6	20.0	57808	27.7	19.2	237053	27.7	20.2	241074	27.8	21.0	95069	27.9	19.0	324519	27.9	20.6
39521	27.6	18.8	89726	27.7	19.0	208526	27.7	19.8	129312	27.8	19.9	283221	27.9	20.0	504738	27.9	20.6
191329	27.6	20.7	383706	27.7	19.6	386209	27.7	20.4	506721	27.8	22.2	388705	27.9	22.3	7207	27.9	17.7
60029	27.6	18.8	387419	27.7	20.9	385141	27.7	21.4	168060	27.8	20.1	18624	27.9	18.2	78596	27.9	19.7
129417	27.6	19.4	2654	27.7	16.8	69703	27.7	18.6	427482	27.8	20.9	344408	27.9	20.4	162523	27.9	20.0
436720	27.6	21.1	184490	27.7	20.8	465082	27.7	20.9	18562	27.8	17.9	8826	27.9	18.2	433464	27.9	20.5
221196	27.6	21.2	260646	27.7	20.8	495008	27.7	21.3	247489	27.8	20.6	131979	27.9	19.3	18250	27.9	18.3
203785	27.6	20.5	344294	27.7	21.0	145367	27.7	20.7	37246	27.8	19.4	308103	27.9	21.3	140117	27.9	20.0
199029	27.6	19.1	51482	27.7	18.9	116784	27.7	19.3	374987	27.8	20.4	286777	27.9	18.5	33906	27.9	18.6
502035	27.6	20.9	428264	27.7	20.9	201937</											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V															
453918	27.9	20.4	109138	28.0	20.8	427963	28.1	20.9	157492	28.1	19.9	246177	28.2	20.3	246650	28.3	20.5
188286	27.9	19.5	433185	28.0	20.9	306315	28.1	20.7	225987	28.1	19.1	112120	28.2	18.1	341774	28.3	20.5
499025	27.9	21.3	170024	28.0	20.3	461926	28.1	19.9	420529	28.1	20.4	437193	28.2	20.3	211492	28.3	20.6
58118	27.9	19.1	166221	28.0	20.1	90844	28.1	19.3	501695	28.1	19.7	122483	28.2	19.4	292888	28.3	20.9
57383	27.9	18.4	137336	28.0	19.1	199874	28.1	19.8	246386	28.2	20.4	121370	28.2	19.5	24611	28.3	17.8
466142	27.9	20.4	224916	28.0	20.0	300056	28.1	20.3	303363	28.2	21.6	455678	28.2	19.5	86118	28.3	19.0
413787	27.9	20.6	464739	28.0	20.1	294215	28.1	20.0	370143	28.2	20.8	463142	28.2	21.7	191302	28.3	19.5
374406	27.9	20.1	292667	28.0	21.0	472063	28.1	20.9	24213	28.2	18.7	465134	28.2	20.3	160995	28.3	19.3
154658	27.9	20.0	372470	28.0	20.7	191111	28.1	19.6	64003	28.2	19.4	365452	28.2	21.4	415584	28.3	20.5
467355	27.9	20.9	150166	28.0	21.0	348458	28.1	21.2	60050	28.2	18.9	431972	28.2	21.3	14522	28.3	18.2
198344	27.9	19.3	289195	28.0	20.7	286345	28.1	21.4	174512	28.2	19.6	393368	28.2	21.3	106862	28.3	19.0
32903	27.9	19.0	374066	28.0	21.6	177303	28.1	20.9	420824	28.2	21.6	58068	28.2	18.1	181944	28.3	20.5
352798	27.9	20.1	22763	28.0	18.7	16765	28.1	17.9	304641	28.2	20.9	491617	28.2	21.2	304878	28.3	19.8
285632	27.9	20.8	173447	28.0	20.4	463110	28.1	21.8	386589	28.2	21.2	323272	28.2	20.7	60137	28.3	18.8
57534	27.9	18.7	346961	28.0	21.0	155841	28.1	19.7	245483	28.2	21.3	253202	28.2	20.3	5685	28.3	15.2
462838	27.9	21.3	293461	28.0	20.6	365505	28.1	21.0	349280	28.2	21.6	336331	28.2	20.8	78927	28.3	20.0
70169	27.9	19.9	133272	28.0	19.9	165350	28.1	20.2	109559	28.2	19.8	471561	28.2	21.3	480262	28.3	21.0
498953	27.9	21.0	68820	28.0	19.3	410225	28.1	21.0	243998	28.2	20.3	463722	28.2	21.8	88182	28.3	19.0
396201	27.9	21.0	330108	28.0	20.6	498314	28.1	21.1	256424	28.2	19.4	38440	28.2	17.8	244847	28.3	21.2
249621	27.9	19.7	508138	28.0	21.2	109440	28.1	19.5	287354	28.2	21.2	98865	28.2	19.9	350949	28.3	21.1
147783	27.9	20.5	268382	28.0	21.0	213346	28.1	20.0	319791	28.2	19.7	413568	28.2	21.8	361111	28.3	20.0
191775	27.9	20.1	96048	28.0	19.1	378873	28.1	20.8	168187	28.2	19.2	502482	28.2	20.8	134727	28.3	19.4
70294	27.9	17.9	134687	28.0	20.0	195523	28.1	19.7	501934	28.2	22.0	273640	28.2	21.0	375262	28.3	21.1
5765	27.9	15.7	402849	28.0	21.7	217965	28.1	19.8	381850	28.2	20.8	46193	28.2	19.0	284633	28.3	20.2
434332	27.9	21.1	56978	28.0	17.6	89650	28.1	18.5	264610	28.2	20.8	109354	28.2	20.0	330414	28.3	20.1
237481	27.9	20.4	317951	28.0	21.7	304658	28.1	20.1	232827	28.2	20.8	36645	28.2	18.5	488782	28.3	22.1
148087	27.9	19.3	474435	28.0	19.3	493236	28.1	20.8	6548	28.2	16.7	387043	28.2	20.9	347374	28.3	20.7
471400	27.9	21.0	307536	28.0	19.7	125576	28.1	18.9	138622	28.2	19.5	340744	28.2	20.3	165906	28.3	19.3
507309	27.9	21.4	308715	28.0	19.4	298977	28.1	20.4	122176	28.2	20.4	184420	28.2	20.2	299299	28.3	21.2
236168	27.9	19.1	408785	28.0	21.6	189831	28.1	20.2	465154	28.2	19.9	420774	28.2	21.0	70370	28.3	19.2
172539	27.9	19.5	386219	28.0	21.0	426545	28.1	20.8	40729	28.2	17.6	357161	28.2	18.8	343040	28.3	20.1
172136	27.9	19.2	459582	28.0	20.7	110722	28.1	19.3	275706	28.2	20.7	111856	28.2	18.1	91789	28.3	19.5
483472	27.9	22.6	17961	28.0	17.9	310996	28.1	19.7	120128	28.2	19.1	96928	28.2	19.3	127138	28.3	19.2
372670	27.9	20.6	55735	28.0	18.3	30590	28.1	19.6	11888	28.2	19.3	63145	28.2	19.3	384056	28.3	20.8
315433	27.9	21.3	471340	28.0	21.0	148867	28.1	19.2	300073	28.2	21.2	226023	28.2	18.5	460383	28.3	21.8
61810	27.9	19.4	498648	28.0	21.2	492251	28.1	21.3	47909	28.2	17.5	380592	28.2	20.7	231752	28.3	20.6
87206	27.9	18.8	188007	28.0	19.2	141269	28.1	19.9	425091	28.2	22.0	385155	28.2	21.0	503526	28.3	20.9
272268	27.9	21.3	436208	28.0	20.9	465104	28.1	21.3	365106	28.2	19.8	342943	28.2	20.3	111602	28.3	19.4
433686	27.9	20.5	152561	28.0	18.8	74762	28.1	19.5	468677	28.2	20.3	303392	28.2	21.2	470892	28.3	20.7
212320	27.9	19.7	357932	28.1	20.5	418278	28.1	21.1	492196	28.2	21.3	255727	28.2	21.2	309816	28.3	19.9
179008	27.9	20.3	400324	28.1	21.8	234884	28.1	20.4	214424	28.2	21.0	65500	28.2	20.5	349406	28.3	21.0
341400	27.9	19.9	413131	28.1	21.4	2140	28.1	15.9	266227	28.2	19.2	325265	28.2	20.4	500725	28.3	21.1
512954	27.9	20.5	178681	28.1	20.7	327814	28.1	19.7	61428	28.2	19.6	458794	28.2	21.5	309380	28.3	20.3
504371	27.9	21.4	493464	28.1	20.9	292391	28.1	19.9	327270	28.2	21.0	503011	28.2	20.2	416942	28.3	20.7
29958	27.9	17.6	211128	28.1	19.5	8890	28.1	17.0	21231	28.2	17.7	210739	28.2	20.8	157294	28.3	19.5
366334	27.9	21.3	466505	28.1	20.0	163720	28.1	19.8	374123	28.2	20.9	129339	28.2	19.6	315324	28.3	20.8
285772	27.9	20.4	363529	28.1	20.6	240873	28.1	20.1	312835	28.2	20.1	165276	28.2	19.9	205840	28.3	19.5
283596	27.9	20.6	345589	28.1	20.9	21453	28.1	18.0	420192	28.2	19.4	386237	28.2	20.2	353287	28.3	20.3
457537	27.9	21.3	531114	28.1	18.6	340363	28.1	20.3	83842	28.2	19.2	292463	28.2	20.5	421963	28.3	21.3
464914	27.9	21.7	522820	28.1	20.9	325189	28.1	19.2	2562	28.2	15.6	474594	28.2	20.1	390704	28.3	20.4
173930	27.9	17.8	188063	28.1	20.5	135441	28.1	19.0	160426	28.2	19.5	136739	28.2	19.4	326185	28.3	21.0
123263	27.9	19.5	437202	28.1	21.1	419231	28.1	20.6	506269	28.2	20.2	10834	28.2	16.7	219761	28.3	19.3
301462	27.9	20.8	73588	28.1	18.4	258741	28.1	18.8	304086	28.2	19.4	422247	28.2	21.3	144777	28.3	19.5
20167	27.9	18.5	415714	28.1	21.2	5667	28.1	17.2	328475	28.2	19.6	121517	28.2	20.0	499839	28.3	20.3
385425	27.9	18.7	293192	28.1	20.5	350290	28.1	21.0	307345	28.2	21.5	428932	28.2	21.3	458760	28.3	21.6
51247	27.9	18.5	429100	28.1	21.9	319426	28.1	20.6	42024	28.2	19.5	111484	28.2	19.8	91519	28.3	19.7
496318	27.9	21.2	337692	28.1	21.5	92811	28.1	18.7	401040	28.2	20.5	287996	28.2	21.2	431889	28.3	21.2
3412	27.9	16.3	70103	28.1	18.7	419703	28.1	20.5	85284	28.2	19.5	338445	28.2	18.9	418050	28.3	20.3
82278	27.9	18.9	5865	28.1	17.4	462179	28.1	21.3	258091	28.2	21.2	388796	28.2	20.3	326333	28.3	20.7
112353	27.9	19.3	179383	28.1	20.0	311238	28.1	20.7	93410	28.2	18.8	95512	28.2	18.9	425222	28.3	20.6
40795	27.9	18.2	414839	28.1	20.3	14482											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
500534	28.3	21.4	388376	28.4	21.0	173054	28.4	19.4	67794	28.5	17.0	505503	28.6	22.1	409363	28.6	19.6
35011	28.3	18.9	168379	28.4	19.3	35959	28.4	19.0	90086	28.5	18.7	386221	28.6	20.2	115270	28.6	17.9
520069	28.3	21.5	310906	28.4	20.9	34059	28.4	19.0	176655	28.5	20.5	13154	28.6	17.6	200591	28.6	20.3
264600	28.3	21.3	266546	28.4	20.2	380067	28.4	20.5	151756	28.5	19.2	244005	28.6	20.3	310958	28.6	20.4
287621	28.3	19.8	174005	28.4	22.0	158497	28.5	18.9	210169	28.5	19.6	244044	28.6	21.0	337767	28.6	21.0
498593	28.3	21.9	501485	28.4	20.9	115094	28.5	19.1	163608	28.5	19.5	419895	28.6	21.2	406489	28.6	21.1
387320	28.3	20.7	272996	28.4	19.6	421755	28.5	21.2	297942	28.5	20.8	161660	28.6	19.4	68614	28.6	20.0
145661	28.3	19.7	428293	28.4	20.6	497792	28.5	21.7	496317	28.5	21.5	217556	28.6	19.7	304433	28.6	21.1
503127	28.3	21.3	508406	28.4	21.6	344316	28.5	21.3	429191	28.5	21.0	495968	28.6	21.6	491794	28.6	21.2
281045	28.3	20.8	240564	28.4	21.1	213809	28.5	19.5	330996	28.5	20.5	303789	28.6	20.9	115678	28.6	19.1
435024	28.3	20.3	323812	28.4	20.1	501188	28.5	20.9	296860	28.5	20.3	72514	28.6	18.2	437439	28.6	20.6
424921	28.3	20.4	412386	28.4	20.6	422792	28.5	20.2	271897	28.5	20.8	419961	28.6	21.1	204189	28.6	20.3
107016	28.3	20.0	260700	28.4	20.2	213792	28.5	18.6	208591	28.5	20.2	219691	28.6	21.0	350427	28.6	20.5
60158	28.3	18.5	41099	28.4	19.2	296198	28.5	20.4	146503	28.5	20.2	364353	28.6	21.9	3740	28.6	18.0
371195	28.3	22.2	500023	28.4	20.7	29399	28.5	17.1	138574	28.5	19.4	120833	28.6	19.2	312508	28.6	20.5
426347	28.3	21.4	409402	28.4	19.8	170109	28.5	18.8	350627	28.5	21.4	389197	28.6	20.3	500654	28.7	21.4
34209	28.3	17.3	292854	28.4	20.6	518874	28.5	20.8	213892	28.5	19.9	284360	28.6	21.4	69354	28.7	19.6
207989	28.3	19.8	463014	28.4	20.7	473030	28.5	21.4	38934	28.5	18.8	34302	28.6	18.2	82985	28.7	19.1
238457	28.3	19.5	514609	28.4	21.7	386183	28.5	21.5	56348	28.5	18.8	152738	28.6	19.6	292803	28.7	20.1
372574	28.3	21.4	2271	28.4	14.9	38919	28.5	18.6	269677	28.5	19.4	54529	28.6	18.9	272701	28.7	20.7
37245	28.3	18.5	500611	28.4	21.1	121357	28.5	19.9	693432	28.5	20.1	32382	28.6	19.0	101598	28.7	20.1
114384	28.3	18.9	45678	28.4	17.5	320452	28.5	21.0	417037	28.5	20.8	27209	28.6	17.8	468643	28.7	21.4
213865	28.3	20.3	425025	28.4	20.6	64392	28.5	19.0	436697	28.5	21.2	247763	28.6	20.0	338361	28.7	20.1
177124	28.3	19.7	16116	28.4	18.7	303268	28.5	20.1	465457	28.5	21.1	271345	28.6	20.4	55566	28.7	17.5
477581	28.3	20.5	267433	28.4	19.7	376797	28.5	21.2	70204	28.5	18.2	151637	28.6	20.1	140768	28.7	19.1
309419	28.3	19.6	372515	28.4	20.5	385858	28.5	21.1	489987	28.5	22.1	328556	28.6	21.0	269042	28.7	19.7
414062	28.3	20.4	28752	28.4	19.0	292427	28.5	21.3	447261	28.5	20.6	506638	28.6	22.0	207616	28.7	20.3
334633	28.3	20.7	506392	28.4	21.4	69379	28.5	20.2	435405	28.5	20.9	339018	28.6	20.1	329062	28.7	20.2
125000	28.3	19.4	94659	28.4	18.6	248044	28.5	19.6	505048	28.5	21.6	480453	28.6	20.7	121649	28.7	20.1
378245	28.3	19.8	439006	28.4	19.6	412161	28.5	19.6	378960	28.5	20.8	368738	28.6	21.9	272902	28.7	21.1
146560	28.3	19.8	417749	28.4	20.7	241479	28.5	20.6	501128	28.5	22.2	351599	28.6	21.1	128518	28.7	19.9
148669	28.3	19.2	302203	28.4	20.5	411801	28.5	19.5	264670	28.5	19.9	174492	28.6	19.6	133284	28.7	19.3
162791	28.3	19.7	8784	28.4	18.4	423705	28.5	20.9	406335	28.5	21.4	218024	28.6	19.7	207008	28.7	20.5
34766	28.3	18.3	339035	28.4	20.2	462065	28.5	20.6	278229	28.5	20.4	93992	28.6	19.4	310925	28.7	20.6
400999	28.3	21.1	376007	28.4	21.0	377705	28.5	20.6	145559	28.5	19.8	495123	28.6	21.7	502610	28.7	20.9
136182	28.3	19.4	376503	28.4	19.8	243800	28.5	20.7	255795	28.5	20.3	55436	28.6	18.3	466256	28.7	20.8
264630	28.3	19.5	125811	28.4	19.2	41328	28.5	18.8	132080	28.5	19.9	517623	28.6	20.2	168347	28.7	20.1
349407	28.3	19.8	24367	28.4	17.2	323726	28.5	19.8	21847	28.5	17.5	122620	28.6	19.8	62739	28.7	19.5
205598	28.3	20.1	153900	28.4	19.1	423206	28.5	20.9	461361	28.5	21.0	255702	28.6	21.3	368236	28.7	22.2
221297	28.3	20.4	496128	28.4	21.4	37405	28.5	18.9	173949	28.5	19.9	65268	28.6	18.2	234276	28.7	21.0
313706	28.3	20.7	54301	28.4	17.4	439595	28.5	20.7	2723	28.5	18.4	409235	28.6	20.6	19405	28.7	17.0
131409	28.3	19.7	191852	28.4	21.1	434001	28.5	20.7	164707	28.5	19.3	331917	28.6	20.5	335928	28.7	20.7
494887	28.3	21.7	142699	28.4	19.9	363415	28.5	21.8	159546	28.5	20.5	491335	28.6	21.0	417075	28.7	20.0
93054	28.3	18.8	192700	28.4	20.2	497067	28.5	21.7	370791	28.5	21.8	100306	28.6	18.9	370938	28.7	21.6
266689	28.3	20.8	224277	28.4	19.9	300149	28.5	21.1	197538	28.5	18.9	345611	28.6	20.9	172545	28.7	20.1
107454	28.3	18.9	164130	28.4	20.2	365897	28.5	20.3	389681	28.5	21.1	271110	28.6	20.4	68180	28.7	18.4
498652	28.3	21.5	519938	28.4	21.6	11785	28.5	16.3	508711	28.5	20.9	41024	28.6	18.8	363743	28.7	21.2
333464	28.4	20.8	52536	28.4	19.1	335808	28.5	20.5	8273	28.5	16.6	66812	28.6	19.5	229649	28.7	19.4
497314	28.4	22.4	83635	28.4	18.4	221136	28.5	20.3	249159	28.5	19.9	35899	28.6	18.0	211910	28.7	19.5
310533	28.4	20.1	238543	28.4	20.2	85939	28.5	17.9	337695	28.5	19.7	95489	28.6	19.2	199291	28.7	19.5
245427	28.4	20.2	269965	28.4	21.3	471150	28.5	21.7	519300	28.5	20.9	464443	28.6	21.1	102634	28.7	19.5
329598	28.4	19.8	173955	28.4	20.1	273962	28.5	20.0	349071	28.5	20.1	399445	28.6	20.1	213885	28.7	20.2
170062	28.4	20.2	507359	28.4	22.2	265020	28.5	19.4	84452	28.5	19.1	37743	28.6	19.1	87810	28.7	20.4
242161	28.4	18.6	158489	28.4	18.9	315992	28.5	21.0	125409	28.5	18.3	137179	28.6	20.1	76997	28.7	19.0
277855	28.4	20.5	61275	28.4	19.7	430531	28.5	20.3	287916	28.6	21.3	330139	28.6	21.1	127655	28.7	19.2
360407	28.4	19.3	19223	28.4	18.0	523509	28.5	20.8	22785	28.6	17.7	221336	28.6	20.5	420311	28.7	21.2
198986	28.4	20.3	141263	28.4	19.9	472276	28.5	20.0	418415	28.6	20.3	222668	28.6	20.0	501043	28.7	23.1
331924	28.4	21.1	213417	28.4	20.2	495886	28.5	22.4	303389	28.6	19.6	142322	28.6	21.8	149911	28.7	20.2
17577	28.4	17.3	504140	28.4	21.3	95942	28.5	19.4	288996	28.6	20.7	497689	28.6	21.2	264483	28.7	20.5
237198	28.4	20.5	466184	28.4	20.3	81321	28.5	19.1	443666	28.6	20.1	501236	28.6	20.4	438425	28.7	21.4
135505	28.4	20.0	465774	28.4	20.7												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
457641	28.7	20.8	158535	28.8	19.7	28936	28.8	18.5	501448	28.9	21.2	21656	28.9	19.2	455679	29.0	20.2
499130	28.7	22.3	318622	28.8	20.2	503783	28.8	20.8	433752	28.9	20.2	344283	28.9	20.8	306277	29.0	21.5
309241	28.7	19.8	148652	28.8	19.0	499103	28.8	19.9	300048	28.9	21.0	464721	28.9	21.1	300343	29.0	20.0
459590	28.7	19.5	425132	28.8	20.6	314194	28.8	20.0	268996	28.9	20.8	99780	28.9	19.5	242909	29.0	19.8
314658	28.7	20.2	310521	28.8	20.5	221315	28.8	20.6	386550	28.9	20.2	38943	28.9	18.2	457636	29.0	20.0
37288	28.7	19.5	419820	28.8	20.1	396257	28.8	20.4	318110	28.9	20.3	77730	28.9	18.9	439129	29.0	20.7
220285	28.7	18.9	214269	28.8	19.3	34125	28.8	19.8	289931	28.9	20.0	321049	28.9	19.6	469354	29.0	20.2
496378	28.7	21.4	489921	28.8	22.0	211201	28.8	19.7	341549	28.9	20.5	46331	28.9	18.1	21412	29.0	17.3
332759	28.7	21.0	229637	28.8	18.8	465128	28.8	21.1	70674	28.9	18.8	497914	28.9	21.1	122016	29.0	18.8
410359	28.7	21.2	381450	28.8	21.1	117090	28.8	20.0	502326	28.9	21.3	9793	28.9	18.6	205485	29.0	19.8
295024	28.7	20.3	397694	28.8	20.1	208671	28.8	19.9	156669	28.9	19.2	227318	28.9	20.5	166560	29.0	19.4
231756	28.7	20.4	239338	28.8	20.4	500039	28.8	20.3	435970	28.9	20.9	290304	28.9	19.7	276301	29.0	20.0
191870	28.7	20.2	406387	28.8	21.8	58845	28.8	17.9	502629	28.9	21.5	53991	28.9	18.1	354870	29.0	18.8
267452	28.7	19.8	222915	28.8	20.1	52129	28.8	19.9	508442	28.9	21.3	50407	28.9	19.4	505321	29.0	21.6
327807	28.7	19.8	248706	28.8	20.2	32665	28.8	18.4	362022	28.9	20.9	497316	28.9	22.0	415944	29.0	20.7
257325	28.7	20.7	387202	28.8	20.7	498957	28.8	21.0	24481	28.9	18.3	221075	28.9	20.0	285618	29.0	19.7
37176	28.7	18.8	65578	28.8	19.2	80029	28.8	18.5	211878	28.9	19.5	300854	28.9	20.1	215463	29.0	19.7
105553	28.7	17.8	111157	28.8	18.6	331153	28.8	20.7	387138	28.9	21.5	145496	28.9	18.8	247990	29.0	19.8
433076	28.7	20.8	354849	28.8	21.1	62892	28.8	19.3	12060	28.9	16.2	50894	28.9	17.9	366922	29.0	21.2
223280	28.7	19.2	87539	28.8	20.0	205571	28.8	20.0	218716	28.9	20.8	498293	28.9	21.3	100896	29.0	18.7
11126	28.7	18.6	230373	28.8	19.5	336424	28.8	20.3	191364	28.9	19.6	171950	28.9	20.0	306908	29.0	19.9
281544	28.7	20.8	326986	28.8	20.4	393471	28.8	20.8	11312	28.9	16.7	165250	28.9	20.0	8628	29.0	18.5
398405	28.7	20.8	111555	28.8	18.8	292714	28.8	19.8	213559	28.9	19.9	166153	28.9	20.4	134675	29.0	19.6
175439	28.7	21.4	436015	28.8	20.3	31328	28.8	18.5	455632	28.9	21.9	144281	28.9	18.5	157689	29.0	19.3
363418	28.7	21.5	8200	28.8	17.1	226865	28.8	20.1	432384	28.9	21.7	280897	28.9	20.3	29465	29.0	19.2
228393	28.7	19.4	428775	28.8	20.7	183334	28.8	20.2	94020	28.9	19.3	455114	28.9	20.2	286526	29.0	20.2
53962	28.7	19.7	402932	28.8	20.5	216851	28.8	19.4	55656	28.9	18.8	140511	28.9	19.5	494225	29.0	20.5
311599	28.7	20.1	119953	28.8	18.8	452357	28.8	21.7	257240	28.9	19.5	368715	28.9	21.2	378775	29.0	20.2
371071	28.7	22.0	264565	28.8	19.8	466694	28.8	21.7	135312	28.9	20.3	213589	28.9	20.5	491818	29.0	20.6
222315	28.7	20.6	464750	28.8	21.9	388703	28.8	20.4	386561	28.9	20.1	253569	28.9	21.1	209637	29.0	19.1
88665	28.7	19.4	2408	28.8	15.1	42694	28.8	17.7	508701	28.9	19.3	292823	28.9	21.3	241140	29.0	20.8
306864	28.7	20.5	472702	28.8	21.2	124311	28.9	20.1	341764	28.9	20.5	214254	28.9	20.0	32350	29.0	18.6
32699	28.7	18.7	167031	28.8	20.7	38348	28.9	18.4	466856	28.9	21.1	291886	28.9	20.8	415300	29.0	20.2
365618	28.7	21.6	7084	28.8	15.7	293199	28.9	19.1	488535	28.9	22.1	63064	28.9	19.3	108540	29.0	20.7
503177	28.7	21.1	306461	28.8	16.0	118711	28.9	19.0	179047	28.9	20.1	285706	28.9	21.1	24662	29.0	16.5
426733	28.7	21.6	209445	28.8	20.3	293933	28.9	20.4	506872	28.9	22.5	425976	28.9	20.7	380895	29.0	20.7
245154	28.7	20.7	387191	28.8	21.1	188111	28.9	19.8	469088	28.9	20.2	322225	28.9	20.9	376285	29.0	20.5
230045	28.7	21.2	502046	28.8	20.3	45842	28.9	18.9	468297	28.9	20.3	144166	28.9	19.8	502766	29.0	21.1
142696	28.7	19.4	522924	28.8	20.5	372023	28.9	20.5	383402	28.9	20.4	83032	28.9	20.0	229567	29.0	20.6
67977	28.7	18.4	219791	28.8	21.4	344278	28.9	20.8	160414	28.9	20.4	266424	28.9	19.7	291244	29.0	20.3
415620	28.7	21.3	273081	28.8	20.9	232233	28.9	20.3	35253	28.9	19.7	8711	28.9	17.2	211805	29.0	20.2
18344	28.7	17.9	201601	28.8	20.8	506212	28.9	19.6	4840	28.9	16.8	162612	28.9	19.7	150536	29.0	18.5
217588	28.7	19.8	339456	28.8	20.2	380147	28.9	22.1	152166	28.9	20.6	65020	28.9	18.8	429112	29.0	22.0
366600	28.7	20.3	503765	28.8	19.8	288720	28.9	20.8	193966	28.9	19.7	205838	28.9	18.9	331969	29.0	20.8
366934	28.7	21.2	411756	28.8	21.1	23002	28.9	17.9	46186	28.9	19.0	467509	28.9	20.9	352000	29.0	20.5
496573	28.7	21.0	347656	28.8	21.3	221209	28.9	20.7	162550	28.9	19.7	519039	28.9	21.1	327387	29.0	20.1
138684	28.7	19.2	381563	28.8	21.6	425175	28.9	22.2	38230	28.9	18.9	368716	28.9	21.6	433014	29.0	20.8
249665	28.7	19.4	331255	28.8	20.7	63567	28.9	18.9	425837	28.9	20.6	63044	28.9	19.5	47129	29.0	18.4
107239	28.7	19.3	121463	28.8	19.4	72523	28.9	18.2	49843	28.9	19.4	292890	28.9	21.3	146951	29.0	19.8
6437	28.7	16.6	309276	28.8	20.3	52727	28.9	18.8	208232	28.9	20.2	57471	28.9	18.9	278741	29.0	20.5
241362	28.7	20.2	432817	28.8	20.3	501867	28.9	20.2	315267	28.9	20.2	202677	28.9	19.9	26375	29.0	20.9
90823	28.7	20.7	246555	28.8	20.1	429603	28.9	20.2	250375	28.9	20.5	135231	28.9	19.0	274481	29.0	20.9
173266	28.7	21.4	186096	28.8	18.7	269646	28.9	20.8	216827	28.9	20.3	32278	28.9	18.2	336656	29.0	20.6
371073	28.7	19.8	328522	28.8	21.0	31118	28.9	20.5	436013	28.9	20.1	327197	28.9	20.9	470125	29.0	22.1
209386	28.7	19.8	264527	28.8	20.4	389537	28.9	20.1	434736	28.9	20.4	506192	28.9	21.6	281972	29.0	19.7
117909	28.7	20.4	38786	28.8	18.6	2245	28.9	15.9	411326	28.9	20.9	372622	28.9	20.3	313013	29.0	19.9
356611	28.7	20.3	332349	28.8	20.7	499452	28.9	20.5	480221	28.9	21.6	32856	28.9	18.7	248509	29.1	20.9
198016	28.7	20.6	463640	28.8	20.9	134572	28.9	20.0	276986	28.9	19.8	498572	28.9	21.1	108120	29.1	17.8
212611	28.7	20.1	406516	28.8	20.7	38744	28.9	18.8	235140	28.9	20.4	298721	28.9	20.3	189792	29.1	19.9
253131	28.7	20.1	213376	28.8	20.6	471462	28.9	21.9	496393	28.9	22.1	110123	28.9	18.4	25526	29.1	18.2
56897	28.7	19.0	240294	28.8	20.1	8642											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
275354	29.1	20.3	228365	29.2	20.1	308011	29.2	19.8	165408	29.3	19.9	1179	29.4	15.5	429077	29.4	21.8
386303	29.1	20.4	41027	29.2	19.6	352618	29.2	20.7	105448	29.3	19.9	74539	29.4	19.5	520168	29.4	20.9
406417	29.1	21.3	210317	29.2	19.9	333499	29.2	20.3	218991	29.3	19.2	330649	29.4	19.6	135973	29.4	19.4
436730	29.1	21.0	328346	29.2	19.2	170803	29.2	19.6	297463	29.3	20.2	58535	29.4	19.9	8099	29.4	19.0
174059	29.1	19.5	10992	29.2	19.3	303770	29.2	21.0	124125	29.3	19.5	427957	29.4	22.8	190106	29.4	19.5
236948	29.1	20.3	145304	29.2	19.0	409938	29.2	21.5	266341	29.3	19.8	279703	29.4	19.9	204418	29.4	20.3
83591	29.1	19.4	200618	29.2	21.0	312114	29.2	21.4	439111	29.3	20.9	456822	29.4	20.9	160442	29.4	20.3
41667	29.1	18.6	305515	29.2	20.3	493480	29.2	21.3	37820	29.3	17.6	7031	29.4	16.5	208178	29.4	21.3
237604	29.1	19.6	203415	29.2	20.6	409416	29.2	20.7	439099	29.3	21.4	13830	29.4	17.8	497345	29.4	22.2
293312	29.1	19.3	10769	29.2	17.4	497367	29.2	21.8	480777	29.3	20.4	172074	29.4	20.6	435255	29.4	21.3
204375	29.1	18.6	501413	29.2	21.0	76777	29.2	18.2	435962	29.3	20.7	136903	29.4	19.5	376762	29.4	21.0
377362	29.1	20.4	108957	29.2	19.9	416077	29.2	21.1	372963	29.3	21.9	509194	29.4	21.8	56377	29.4	18.2
464561	29.1	20.8	286092	29.2	20.7	180085	29.2	19.4	170113	29.3	19.8	190326	29.4	20.1	107472	29.4	18.4
366536	29.1	22.0	333134	29.2	20.3	313733	29.2	20.6	116663	29.3	19.0	523533	29.4	21.3	120699	29.4	20.0
310186	29.1	20.2	127199	29.2	19.0	347741	29.2	20.6	299570	29.3	20.6	332607	29.4	20.7	315511	29.4	21.7
54602	29.1	18.2	358052	29.2	20.3	498089	29.2	21.5	121927	29.3	19.3	517587	29.4	21.7	246383	29.4	20.7
2934	29.1	16.2	274523	29.2	20.7	155768	29.2	19.5	501499	29.3	20.7	204289	29.4	20.4	406020	29.4	20.8
119398	29.1	19.3	204663	29.2	18.0	294689	29.2	19.8	30300	29.3	18.7	157837	29.4	19.0	384893	29.4	20.5
497045	29.1	21.6	419790	29.2	20.6	251654	29.2	19.7	506009	29.3	20.5	506512	29.4	21.5	212003	29.4	20.4
52451	29.1	18.5	368179	29.2	21.1	41928	29.2	18.6	132083	29.3	19.7	345609	29.4	20.6	325645	29.4	20.0
86140	29.1	17.8	402987	29.2	21.5	70440	29.2	19.3	333214	29.3	20.5	467426	29.4	21.7	410419	29.4	21.7
139478	29.1	18.9	162020	29.2	19.8	402863	29.2	21.3	374078	29.3	20.9	242418	29.4	19.9	286307	29.4	20.2
501607	29.1	21.7	73084	29.2	18.3	205233	29.2	19.9	463623	29.3	20.3	125190	29.4	18.3	30647	29.4	18.5
506729	29.1	22.4	177657	29.2	19.4	490188	29.2	21.1	24444	29.3	18.4	499887	29.4	20.9	302292	29.4	20.0
89427	29.1	18.7	405364	29.2	19.6	343054	29.2	19.9	37761	29.3	18.2	55077	29.4	18.6	349357	29.4	20.7
467667	29.1	21.1	498653	29.2	21.7	292276	29.2	20.5	140669	29.3	19.3	198026	29.4	20.4	234226	29.4	20.2
102586	29.1	20.7	315173	29.2	19.3	98595	29.2	19.3	338337	29.3	21.1	78554	29.4	19.4	385950	29.4	20.6
170895	29.1	20.2	153783	29.2	19.8	346089	29.2	21.4	286488	29.3	19.0	465150	29.4	20.8	417672	29.4	20.6
104546	29.1	19.1	107599	29.2	19.0	73658	29.2	18.1	313613	29.3	20.4	134297	29.4	18.7	68063	29.4	20.4
254701	29.1	19.9	239884	29.2	21.1	217418	29.2	21.0	238640	29.3	20.2	148376	29.4	20.8	459890	29.4	21.4
64351	29.1	18.3	467881	29.2	21.1	322231	29.2	20.1	246471	29.3	19.9	295603	29.4	20.7	352034	29.4	21.5
419222	29.1	20.5	325267	29.2	19.6	96408	29.2	18.5	121726	29.3	20.0	341302	29.4	21.2	115046	29.4	18.8
89902	29.1	18.9	20050	29.2	18.7	499021	29.3	20.5	488783	29.3	22.0	312128	29.4	20.9	360756	29.4	20.1
169953	29.1	21.0	497050	29.2	20.2	215968	29.3	21.1	375428	29.3	20.4	227210	29.4	19.7	114309	29.4	20.0
377621	29.1	21.5	173343	29.2	19.9	225501	29.3	20.3	496020	29.3	22.3	380576	29.4	21.0	466561	29.4	21.6
95504	29.1	19.6	114666	29.2	20.0	437247	29.3	20.3	270995	29.3	20.4	125432	29.4	19.5	177071	29.4	19.1
37259	29.1	19.2	21327	29.2	17.6	155094	29.3	19.4	521307	29.3	21.2	368721	29.4	21.8	287110	29.4	21.4
140133	29.1	19.7	333649	29.2	20.5	346868	29.3	21.0	209457	29.3	19.0	273042	29.4	20.6	102238	29.4	19.5
92846	29.1	17.6	301848	29.2	21.4	212933	29.3	20.0	93839	29.3	19.2	299967	29.4	20.5	347668	29.4	20.3
343130	29.1	19.4	171315	29.2	19.6	400581	29.3	21.5	281040	29.3	20.8	80075	29.4	18.8	367797	29.5	20.9
410077	29.1	19.6	137287	29.2	19.8	16223	29.3	17.9	209067	29.3	20.5	229086	29.4	21.4	99957	29.5	19.3
433396	29.1	21.5	160707	29.2	20.7	387825	29.3	19.1	385439	29.3	20.6	86271	29.4	18.8	512266	29.5	20.7
415039	29.1	19.8	464667	29.2	22.2	235936	29.3	20.5	79504	29.3	18.4	172447	29.4	19.6	160100	29.5	20.1
141931	29.1	19.9	217	29.2	14.5	384869	29.3	21.4	521275	29.3	20.9	433880	29.4	19.7	258271	29.5	20.8
433551	29.1	21.4	140167	29.2	20.6	327029	29.3	20.9	139715	29.3	20.3	348716	29.4	20.0	225571	29.5	20.1
239873	29.1	20.5	166948	29.2	19.5	431578	29.3	20.9	464084	29.3	20.9	496439	29.4	20.5	227245	29.5	19.7
234748	29.1	18.3	502847	29.2	19.6	501210	29.3	21.7	216539	29.3	21.3	423570	29.4	22.8	523592	29.5	23.4
76754	29.1	18.9	331347	29.2	20.3	334941	29.3	20.1	13190	29.3	16.8	297672	29.4	21.2	362051	29.5	20.3
399710	29.1	21.6	436018	29.2	20.3	49675	29.3	17.1	225896	29.3	20.0	272860	29.4	20.1	287909	29.5	20.3
284366	29.1	21.4	118500	29.2	18.7	399556	29.3	21.3	434860	29.3	20.6	503636	29.4	19.6	224838	29.5	19.9
410077	29.1	19.6	137287	29.2	19.8	16223	29.3	17.9	209067	29.3	20.5	229086	29.4	21.4	99957	29.5	19.3
433396	29.1	21.5	160707	29.2	20.7	387825	29.3	19.1	385439	29.3	20.6	86271	29.4	18.8	512266	29.5	20.7
415039	29.1	19.8	464667	29.2	22.2	235936	29.3	20.5	79504	29.3	18.4	172447	29.4	19.6	160100	29.5	20.1
141931	29.1	19.9	217	29.2	14.5	384869	29.3	21.4	521275	29.3	20.9	433880	29.4	19.7	258271	29.5	20.8
433551	29.1	21.4	140167	29.2	20.6	327029	29.3	20.9	139715	29.3	20.3	348716	29.4	20.0	225571	29.5	20.1
239873	29.1	20.5	166948	29.2	19.5	431578	29.3	20.9	464084	29.3	20.9	496439	29.4	20.5	227245	29.5	19.7
234748	29.1	18.3	502847	29.2	19.6	501210	29.3	21.7	216539	29.3	21.3	423570	29.4	22.8	523592	29.5	23.4
76754	29.1	18.9	331347	29.2	20.3	334941	29.3	20.1	13190	29.3	16.8	297672	29.4	21.2	362051	29.5	20.3
399710	29.1	21.6	436018	29.2	20.3	49675	29.3	17.1	225896	29.3	20.0	272860	29.4	20.1	287909	29.5	20.3
284366	29.1	21.4	118500	29.2	18.7	399556	29.3	21.3	434860	29.3	20.6	503636	29.4	19.6	224838	29.5	19.9
208414	29.1	20.2	244165	29.2	20												

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
500403	29.5	21.6	303316	29.5	20.9	475558	29.6	20.8	247823	29.7	19.4	227490	29.8	20.2	15979	29.8	17.3
317358	29.5	20.5	330088	29.5	21.4	142172	29.6	19.7	72206	29.7	17.8	35746	29.8	18.3	162572	29.8	19.9
271693	29.5	21.0	335728	29.5	19.6	361995	29.6	20.4	238975	29.7	20.0	54369	29.8	17.9	503376	29.8	19.4
203365	29.5	20.0	138612	29.5	20.0	86345	29.6	19.2	21613	29.7	18.5	322851	29.8	20.6	32834	29.8	17.9
226039	29.5	19.4	413193	29.5	19.8	157528	29.6	18.5	209689	29.7	20.0	8067	29.8	17.0	500709	29.8	21.5
221102	29.5	20.3	24064	29.5	18.7	252787	29.6	19.5	496993	29.7	21.4	105277	29.8	18.6	317910	29.8	21.9
297617	29.5	20.6	114688	29.5	18.5	57053	29.6	18.6	87053	29.7	19.2	198678	29.8	19.7	253088	29.8	20.9
499310	29.5	21.9	116253	29.5	18.8	288863	29.6	20.1	65068	29.7	19.0	150820	29.8	19.3	5095	29.8	17.4
280142	29.5	20.4	290323	29.5	20.4	116445	29.6	20.6	5203	29.7	16.5	143510	29.8	18.3	392830	29.8	21.5
54995	29.5	18.9	124406	29.5	20.6	414891	29.6	21.1	497676	29.7	20.9	224590	29.8	20.3	327457	29.8	21.0
344857	29.5	19.9	301712	29.5	19.2	464457	29.6	19.9	473337	29.7	20.6	460159	29.8	21.5	296159	29.8	20.0
348807	29.5	21.0	34280	29.5	18.6	423763	29.6	20.9	292344	29.7	20.6	472049	29.8	20.2	380940	29.8	20.8
176589	29.5	19.4	431589	29.5	21.0	162049	29.6	18.9	165406	29.7	20.1	303870	29.8	21.2	436020	29.8	21.1
111116	29.5	18.7	177841	29.5	20.0	146193	29.6	20.2	467430	29.7	20.5	390192	29.8	20.5	240603	29.8	20.6
87556	29.5	18.9	375839	29.6	21.7	502372	29.6	20.8	10319	29.7	17.1	183247	29.8	19.9	500859	29.8	20.9
62881	29.5	19.2	3716	29.6	16.6	171446	29.6	20.0	499332	29.7	20.9	522352	29.8	20.5	53560	29.8	18.6
407814	29.5	21.7	57541	29.6	17.6	173743	29.6	19.8	225139	29.7	19.7	416962	29.8	20.4	387811	29.8	19.1
65949	29.5	17.0	62924	29.6	19.0	157908	29.6	20.1	97271	29.7	19.3	334628	29.8	22.0	246973	29.8	21.2
285052	29.5	20.3	390878	29.6	21.7	212029	29.6	19.9	500456	29.7	21.1	307186	29.8	18.8	258528	29.8	19.6
43898	29.5	19.4	497857	29.6	21.7	210380	29.6	20.0	201565	29.7	19.8	49880	29.8	19.1	103021	29.8	19.1
208437	29.5	20.2	45179	29.6	17.8	237874	29.6	19.1	51990	29.7	18.3	58217	29.8	19.6	164378	29.8	19.9
502572	29.5	21.1	83915	29.6	19.1	155523	29.6	19.0	244292	29.7	20.1	243428	29.8	20.0	433246	29.8	21.0
207632	29.5	19.8	502623	29.6	19.7	387885	29.6	21.8	29816	29.7	18.3	401098	29.8	21.4	505152	29.8	21.7
15510	29.5	18.1	402948	29.6	19.6	57416	29.6	20.1	400529	29.7	22.3	274570	29.8	20.2	435336	29.8	21.3
268979	29.5	20.1	261157	29.6	20.4	218033	29.6	19.1	27971	29.7	19.7	49963	29.8	19.4	28494	29.8	18.4
334653	29.5	20.2	241484	29.6	20.4	267386	29.6	20.5	372700	29.7	20.2	265611	29.8	21.1	41225	29.8	19.7
62029	29.5	19.0	246808	29.6	20.4	368578	29.6	20.3	455230	29.7	21.9	506341	29.8	21.3	462300	29.8	21.0
131960	29.5	18.3	520052	29.6	20.7	95631	29.6	20.1	31601	29.7	17.3	276543	29.8	20.4	126619	29.8	23.4
296762	29.5	21.2	245999	29.6	20.1	374470	29.6	21.1	82963	29.7	19.3	309868	29.8	20.8	99606	29.8	18.1
330681	29.5	19.6	118137	29.6	20.7	298730	29.6	17.8	29420	29.7	17.9	275733	29.8	19.5	150740	29.8	20.2
443669	29.5	19.8	289257	29.6	20.1	156006	29.6	19.0	285908	29.7	20.4	20366	29.8	18.1	430481	29.8	21.2
502550	29.5	20.5	7840	29.6	18.5	297670	29.6	21.0	277719	29.7	20.7	66283	29.8	17.0	436704	29.8	20.1
202303	29.5	20.0	453362	29.6	21.1	29569	29.6	17.3	69470	29.7	19.3	521189	29.8	20.2	371653	29.8	20.2
9824	29.5	17.9	293424	29.6	20.0	184068	29.6	20.1	81990	29.7	19.1	51892	29.8	18.0	327333	29.9	21.1
156326	29.5	20.2	386247	29.6	20.9	288636	29.6	20.6	104072	29.7	20.0	101012	29.8	18.9	240260	29.9	19.7
159612	29.5	20.4	341699	29.6	21.2	242165	29.6	19.5	69306	29.7	18.8	452553	29.8	20.3	499269	29.9	21.6
291011	29.5	20.6	335528	29.6	19.7	422747	29.6	21.8	5235	29.7	18.5	511724	29.8	20.7	10627	29.9	17.9
332127	29.5	20.4	109372	29.6	19.5	86012	29.6	19.7	135209	29.7	20.1	15640	29.8	19.7	65067	29.9	19.6
65099	29.5	17.5	154814	29.6	19.6	247800	29.6	20.4	339446	29.7	21.2	178684	29.8	20.9	206232	29.9	20.6
298768	29.5	20.0	107693	29.6	18.7	57456	29.6	19.3	361602	29.7	20.8	239288	29.8	19.6	92746	29.9	18.5
31988	29.5	18.4	217855	29.6	21.3	286138	29.6	21.5	84523	29.7	18.9	25753	29.8	17.8	159038	29.9	20.6
303355	29.5	20.7	185323	29.6	19.9	505737	29.6	20.6	244170	29.7	18.8	205753	29.8	19.1	410323	29.9	21.9
334394	29.5	19.1	135695	29.6	19.0	423480	29.6	22.5	80060	29.7	18.4	377338	29.8	20.7	244137	29.9	20.5
158914	29.5	20.2	455086	29.6	21.4	346232	29.6	21.1	313660	29.7	21.6	318581	29.8	19.7	430506	29.9	21.1
332362	29.5	20.4	186103	29.6	20.6	344238	29.6	21.2	459067	29.7	20.0	419592	29.8	22.1	36818	29.9	19.8
114585	29.5	18.7	362119	29.6	20.9	57117	29.6	19.3	428306	29.7	20.6	367182	29.8	20.2	277804	29.9	20.6
456937	29.5	20.9	104279	29.6	18.7	299426	29.6	21.1	10697	29.7	18.5	140530	29.8	19.7	45952	29.9	18.3
172090	29.5	19.6	331488	29.6	19.7	436971	29.6	21.4	319701	29.7	20.8	136936	29.8	20.5	400545	29.9	20.6
369382	29.5	22.2	278823	29.6	20.7	346163	29.6	20.3	135307	29.7	21.0	407767	29.8	21.3	99461	29.9	20.0
502062	29.5	21.3	260767	29.6	20.7	156332	29.7	19.4	262198	29.7	21.9	295454	29.8	21.5	435400	29.9	20.4
379330	29.5	20.7	436696	29.6	21.7	379613	29.7	22.0	204338	29.7	20.9	7162	29.8	18.1	399055	29.9	20.7
463418	29.5	21.9	341706	29.6	20.6	412961	29.7	20.7	286297	29.7	20.6	452754	29.8	20.4	509694	29.9	20.9
364192	29.5	20.6	182636	29.6	19.8	205728	29.7	18.4	199571	29.7	18.8	434813	29.8	21.4	107387	29.9	19.2
425128	29.5	22.1	59507	29.6	18.9	65772	29.7	18.3	206880	29.7	19.9	114722	29.8	20.1	331796	29.9	20.2
86669	29.5	18.1	358991	29.6	20.9	433261	29.7	21.2	470513	29.7	21.0	87814	29.8	20.0	192780	29.9	20.4
413249	29.5	22.4	412117	29.6	20.9	381684	29.7	19.6	461395	29.7	20.9	204945	29.8	19.0	318125	29.9	21.0
343646	29.5	20.3	278308	29.6	19.7	120995	29.7	17.5	338069	29.7	20.4	219577	29.8	21.4	366416	29.9	21.6
213621	29.5	20.7	126819	29.6	19.5	504432	29.7	21.3	214077	29.7	19.8	505474	29.8	22.0	141250	29.9	19.6
405531	29.5	20.7	61183	29.6	19.6	172312	29.7	19.7	253010	29.7	21.2	166222	29.8	18.9	305736	29.9	20.8
162069	29.5	19.9	54430	29.6	18.3	253191	29.7	19.5	269998	29.7	20.3	2785	29.8	16.5	400311	29.9	22.2
210175	29.5	20.6	14797	29.6	17.6	200955	29.7</										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
66682	29.9	16.4	358466	29.9	20.8	250337	30.0	20.2	389724	30.1	19.6	466605	30.2	20.4	90155	30.3	18.4
370214	29.9	20.1	284310	29.9	21.8	11421	30.0	16.8	466665	30.1	21.1	214921	30.2	20.0	368742	30.3	21.1
454490	29.9	19.9	91237	29.9	16.6	290610	30.0	21.2	431744	30.1	20.2	1637	30.2	14.7	396269	30.3	20.0
456885	29.9	21.5	422472	29.9	21.9	464342	30.0	20.0	272599	30.1	21.4	380728	30.2	21.8	22396	30.3	18.6
497901	29.9	21.3	79971	29.9	19.3	201934	30.0	20.1	159215	30.1	20.3	493761	30.2	21.6	431786	30.3	21.1
294285	29.9	20.9	498155	29.9	21.2	229982	30.0	19.7	422386	30.1	21.0	209393	30.2	19.9	20765	30.3	16.4
502967	29.9	20.3	1823	29.9	14.8	517649	30.0	20.8	206746	30.1	20.8	204833	30.2	20.6	223504	30.3	18.5
92688	29.9	18.1	171575	29.9	19.7	97978	30.0	19.1	133128	30.1	19.6	299898	30.2	21.7	119660	30.3	19.7
180265	29.9	20.4	18233	29.9	18.6	423538	30.0	21.7	176450	30.1	20.5	413178	30.2	22.1	362671	30.3	19.6
244700	29.9	20.9	127798	29.9	19.5	471905	30.0	20.8	224431	30.1	20.5	422791	30.2	23.2	71190	30.3	18.1
471399	29.9	21.3	348902	29.9	20.8	95359	30.0	19.6	275402	30.1	21.1	164329	30.2	19.9	500029	30.3	21.0
91506	29.9	19.8	328336	29.9	20.4	39700	30.1	18.1	105393	30.1	19.3	152603	30.2	21.1	33965	30.3	18.5
144638	29.9	19.5	39832	29.9	17.8	429172	30.1	20.4	32342	30.1	16.7	99637	30.2	19.1	360768	30.3	20.5
176765	29.9	21.3	468338	29.9	20.4	498725	30.1	21.8	287467	30.1	19.5	501181	30.2	21.5	211901	30.3	20.1
134303	29.9	20.1	151832	29.9	19.6	150883	30.1	19.9	368707	30.1	23.4	43728	30.2	18.3	418967	30.3	20.8
469920	29.9	20.0	384101	29.9	21.4	274986	30.1	20.3	387402	30.1	20.4	63054	30.2	18.2	314211	30.3	19.9
201634	29.9	21.0	429135	29.9	21.1	351930	30.1	20.5	275253	30.1	19.3	23127	30.2	16.9	51962	30.3	18.5
120432	29.9	19.3	238639	29.9	20.3	237619	30.1	20.5	246065	30.1	20.4	229537	30.2	20.2	422419	30.3	21.4
34934	29.9	17.6	87755	29.9	19.4	242584	30.1	20.1	272250	30.1	21.1	289336	30.2	20.5	176552	30.3	18.9
304783	29.9	20.4	84087	29.9	19.7	192544	30.1	20.8	72015	30.1	17.6	32583	30.2	16.7	64683	30.3	19.3
72182	29.9	19.0	113492	29.9	19.6	332359	30.1	20.7	173826	30.1	20.8	251628	30.2	19.2	293542	30.3	20.8
84829	29.9	18.6	40690	29.9	19.4	5834	30.1	16.3	300209	30.1	20.5	107670	30.2	18.9	341216	30.3	21.3
294695	29.9	19.9	199755	29.9	19.8	335118	30.1	20.3	386150	30.1	21.7	461506	30.2	21.1	341714	30.3	20.4
422478	29.9	21.1	306882	29.9	20.1	182699	30.1	20.1	117690	30.1	19.5	415051	30.2	19.8	407675	30.3	20.8
210095	29.9	20.1	347908	29.9	20.1	52579	30.1	19.7	30757	30.1	19.0	36723	30.2	17.9	434439	30.3	20.7
203404	29.9	18.8	102574	29.9	20.2	278637	30.1	20.4	255729	30.1	20.6	150925	30.2	18.8	5509	30.3	17.0
277774	29.9	20.3	351498	29.9	20.6	111999	30.1	20.1	129999	30.1	20.6	63283	30.2	19.5	305281	30.3	21.0
254528	29.9	19.5	422635	29.9	21.9	354878	30.1	20.0	17998	30.1	17.3	462173	30.2	20.4	298857	30.3	21.3
45046	29.9	18.3	389817	29.9	20.5	184097	30.1	19.4	204335	30.1	20.7	18546	30.2	16.3	30723	30.3	19.2
162592	29.9	19.7	309452	29.9	20.6	177907	30.1	19.3	341267	30.1	20.6	362751	30.2	21.1	58750	30.3	18.7
270136	29.9	21.8	382378	29.9	20.3	90153	30.1	18.9	313636	30.1	21.2	494836	30.2	22.2	369359	30.3	20.2
128666	29.9	19.7	207467	29.9	19.5	5422	30.1	17.7	40910	30.1	19.1	374302	30.2	20.5	122268	30.3	19.6
145257	29.9	19.8	275681	29.9	19.4	104603	30.1	18.7	467265	30.1	21.0	434988	30.2	21.4	384199	30.3	20.3
381556	29.9	20.9	464971	29.9	20.1	47778	30.1	19.1	460862	30.1	20.8	246880	30.2	21.3	225523	30.3	20.2
96463	29.9	17.6	498138	29.9	21.9	519865	30.1	21.5	122510	30.1	19.4	494230	30.2	21.0	498771	30.3	21.7
147332	29.9	18.2	65656	29.9	20.5	384235	30.1	20.3	242179	30.1	19.6	287060	30.2	20.4	77949	30.3	19.6
268443	29.9	20.7	62929	29.9	19.5	341181	30.1	19.8	338933	30.1	20.0	251845	30.2	20.6	48072	30.3	18.1
72106	29.9	18.7	475914	29.9	20.9	86505	30.1	19.6	472030	30.1	21.0	284705	30.2	21.1	512977	30.3	21.8
184695	29.9	20.5	39524	29.9	18.7	519323	30.1	21.2	291359	30.1	20.8	264742	30.2	20.3	224529	30.3	20.5
224332	29.9	19.7	110812	30.0	19.6	65985	30.1	17.8	297845	30.1	20.9	437338	30.2	20.7	64471	30.3	19.7
295247	29.9	19.5	502421	30.0	20.7	72465	30.1	18.9	139857	30.1	19.0	141380	30.2	19.3	217929	30.3	20.7
341642	29.9	21.0	93678	30.0	19.6	488523	30.1	22.2	513029	30.1	21.1	317892	30.2	21.4	11105	30.3	19.3
497780	29.9	21.9	306646	30.0	21.3	365878	30.1	20.2	22144	30.1	17.9	151018	30.2	19.4	409862	30.3	21.0
342421	29.9	18.9	275880	30.0	21.7	122356	30.1	19.2	55151	30.1	18.3	317088	30.2	20.3	165992	30.3	20.1
117947	29.9	19.2	126126	30.0	19.3	500521	30.1	22.0	389982	30.1	20.1	302346	30.2	19.8	353326	30.3	19.9
292940	29.9	20.0	503686	30.0	20.0	274495	30.1	19.0	245926	30.1	20.7	154271	30.2	19.9	431863	30.3	21.5
109886	29.9	20.0	437582	30.0	20.5	92898	30.1	20.5	8770	30.1	16.7	380320	30.2	20.2	329394	30.3	21.1
376782	29.9	20.5	14902	30.0	17.3	424821	30.1	20.8	372931	30.1	21.2	506453	30.2	21.8	100458	30.3	19.7
73039	29.9	18.4	461547	30.0	22.1	61690	30.1	19.2	210755	30.1	21.0	308157	30.2	20.2	357512	30.3	21.8
434989	29.9	21.2	469586	30.0	20.1	498632	30.1	22.3	185612	30.2	19.4	18852	30.2	17.6	505209	30.3	20.9
336906	29.9	20.4	496729	30.0	20.3	64094	30.1	20.3	162549	30.2	20.1	273001	30.2	19.0	85967	30.3	17.9
192168	29.9	19.7	508511	30.0	21.1	372014	30.1	20.0	472322	30.2	19.6	107373	30.2	17.8	467636	30.3	21.2
21868	29.9	18.2	210681	30.0	20.0	282006	30.1	20.2	385916	30.2	20.9	253090	30.2	21.4	208320	30.3	21.3
283743	29.9	19.5	135087	30.0	19.6	435397	30.1	21.1	411655	30.2	22.2	7153	30.2	17.7	264545	30.3	21.9
383880	29.9	20.8	465707	30.0	21.7	289428	30.1	20.6	22419	30.2	17.5	391339	30.2	20.3	326957	30.3	19.6
259466	29.9	20.5	52619	30.0	18.6	507428	30.1	21.8	384060	30.2	21.4	228395	30.2	19.6	63682	30.3	18.7
112328	29.9	19.1	499184	30.0	21.7	364627	30.1	21.3	473713	30.2	22.0	186565	30.2	19.0	91595	30.3	19.3
287704	29.9	20.5	187337	30.0	21.3	30744	30.1	19.0	258465	30.2	20.2	437476	30.2	20.6	128861	30.3	19.6
140566	29.9	19.6	219524	30.0	21.4	313612	30.1	21.3	145033	30.2	19.3	302881	30.2	19.1	280272	30.3	19.6
496989	29.9	22.6	35120	30.0	18.4	503532	30.1	21.1	40538	30.2	17.3	170894	30.2	20.3	467435	30.3	20.4
483037	29.9	21.1	305552	30.0	19.6	456666	30.1										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
67172	30.3	19.3	253137	30.4	20.4	253257	30.4	19.8	495281	30.5	21.2	218703	30.6	20.1	383875	30.6	21.3
172481	30.3	20.4	105000	30.4	19.4	425084	30.4	21.5	104472	30.5	19.2	284691	30.6	20.7	10838	30.6	16.8
98646	30.3	18.6	488564	30.4	22.2	437682	30.4	20.7	197623	30.5	19.4	502270	30.6	21.2	161830	30.6	20.6
143468	30.3	19.1	159422	30.4	20.0	157782	30.4	20.2	272824	30.5	19.5	407758	30.6	20.5	409765	30.6	20.1
94923	30.3	20.1	102705	30.4	19.6	108915	30.4	19.4	345645	30.5	20.3	466328	30.6	21.0	152590	30.6	20.3
295399	30.3	20.0	32526	30.4	17.3	94544	30.4	18.7	93206	30.5	20.2	367682	30.6	20.7	208058	30.6	20.5
154679	30.3	19.2	159946	30.4	19.4	412049	30.4	20.7	505294	30.5	21.2	403927	30.6	20.2	311589	30.6	20.0
422352	30.3	21.6	9206	30.4	18.4	322329	30.4	20.8	430875	30.5	20.7	482394	30.6	19.9	368545	30.6	19.6
401007	30.3	21.7	210408	30.4	20.4	387117	30.4	21.1	273038	30.5	20.1	159459	30.6	22.1	146463	30.6	18.8
39581	30.3	19.0	219821	30.4	20.7	402076	30.4	21.9	51394	30.5	18.0	169111	30.6	20.1	368958	30.6	20.7
53606	30.3	17.6	319013	30.4	19.4	328280	30.5	19.6	456631	30.5	21.1	100912	30.6	18.5	231847	30.6	21.3
90299	30.3	18.3	386590	30.4	19.0	142668	30.5	19.8	244006	30.5	19.6	196640	30.6	19.4	408270	30.6	21.2
424103	30.3	21.5	210723	30.4	20.8	450985	30.5	21.0	234141	30.5	19.6	332352	30.6	19.9	341228	30.6	20.8
415315	30.3	20.0	303767	30.4	20.1	163956	30.5	19.8	329069	30.5	20.8	17406	30.6	16.9	30118	30.6	18.7
344222	30.3	21.2	384757	30.4	20.3	117499	30.5	19.0	212678	30.5	20.4	68555	30.6	18.3	173299	30.6	20.8
381436	30.3	21.0	360272	30.4	20.5	8528	30.5	17.3	266621	30.5	19.8	346035	30.6	20.1	337423	30.6	21.6
354904	30.3	19.6	129294	30.4	19.8	280335	30.5	20.5	322487	30.5	21.0	378234	30.6	20.1	477182	30.6	21.0
229686	30.3	20.1	114789	30.4	17.2	443750	30.5	21.2	310011	30.5	21.1	62128	30.6	18.2	149915	30.6	19.7
224501	30.3	20.6	8934	30.4	17.6	464223	30.5	20.4	371140	30.5	21.2	224211	30.6	19.9	224574	30.7	20.0
337621	30.3	21.1	87908	30.4	18.6	198405	30.5	20.6	166964	30.5	19.7	160446	30.6	20.3	258130	30.7	21.8
412074	30.3	19.2	215477	30.4	19.9	381617	30.5	20.3	210167	30.5	20.9	155297	30.6	20.4	255791	30.7	20.6
176067	30.3	19.8	217108	30.4	21.1	423522	30.5	21.4	367766	30.5	20.7	82936	30.6	18.4	131181	30.7	19.8
210910	30.3	20.7	175586	30.4	20.0	402927	30.5	20.7	305792	30.5	20.8	406354	30.6	21.0	20849	30.7	18.0
498916	30.3	20.8	105548	30.4	19.2	185477	30.5	21.1	45257	30.5	19.1	138667	30.6	20.0	522876	30.7	20.8
425467	30.3	20.8	344768	30.4	22.1	239798	30.5	19.3	421219	30.5	20.5	23272	30.6	18.8	354814	30.7	20.3
253209	30.3	21.7	52368	30.4	18.3	499145	30.5	22.2	209557	30.5	19.3	85422	30.6	20.4	62591	30.7	19.4
59614	30.3	18.2	468924	30.4	20.0	407826	30.5	20.9	54303	30.5	18.4	20638	30.6	18.1	266307	30.7	20.7
200753	30.3	18.6	109293	30.4	20.7	107574	30.5	19.1	436672	30.5	20.9	340583	30.6	20.7	397159	30.7	21.0
274491	30.3	20.7	503115	30.4	20.0	113607	30.5	18.7	500792	30.5	20.4	297779	30.6	21.1	272151	30.7	22.5
358042	30.3	19.9	167240	30.4	20.5	52884	30.5	19.4	2313	30.5	18.7	267218	30.6	20.6	308163	30.7	20.5
92943	30.3	18.7	409393	30.4	19.9	417656	30.5	21.2	277002	30.5	19.8	249469	30.6	20.6	165144	30.7	19.2
39590	30.3	19.1	212809	30.4	19.4	15673	30.5	17.8	506046	30.5	21.5	33196	30.6	18.4	187458	30.7	19.8
49638	30.3	17.8	310522	30.4	20.7	151046	30.5	18.9	466843	30.5	20.9	105094	30.6	19.3	453289	30.7	21.0
102304	30.3	19.7	300070	30.4	19.6	151097	30.5	20.2	422981	30.5	20.5	57130	30.6	18.4	171250	30.7	19.6
361672	30.3	20.2	385132	30.4	19.7	329594	30.5	19.4	225385	30.5	19.8	200972	30.6	19.1	411465	30.7	20.9
230941	30.3	19.6	317412	30.4	20.8	199028	30.5	20.1	470916	30.5	20.8	116308	30.6	19.1	52478	30.7	18.9
86799	30.3	18.8	100969	30.4	20.3	386497	30.5	20.5	209868	30.5	19.7	24137	30.6	20.0	331541	30.7	20.6
295723	30.3	21.0	232967	30.4	20.6	168920	30.5	20.7	171875	30.5	19.6	36325	30.6	18.8	86650	30.7	18.6
341188	30.3	21.7	169938	30.4	21.1	336445	30.5	21.1	42910	30.5	19.3	249133	30.6	20.9	17662	30.7	16.7
380498	30.3	20.5	187980	30.4	18.8	293070	30.5	20.1	110552	30.5	18.9	431249	30.6	21.1	186054	30.7	20.9
434843	30.3	21.1	248382	30.4	21.3	497785	30.5	21.4	203750	30.5	20.0	327218	30.6	20.5	30557	30.7	19.7
410050	30.3	21.1	110718	30.4	19.2	225569	30.5	21.0	422782	30.5	21.8	117482	30.6	19.7	64545	30.7	19.3
157264	30.3	20.2	416123	30.4	22.1	26395	30.5	18.3	370952	30.5	21.3	61107	30.6	18.5	189595	30.7	20.1
377371	30.3	20.7	457642	30.4	20.5	390969	30.5	21.1	252215	30.5	19.1	141043	30.6	19.4	297929	30.7	20.5
3698	30.3	16.0	138935	30.4	19.3	285714	30.5	20.7	285742	30.5	20.9	357049	30.6	20.6	495098	30.7	21.9
50555	30.3	18.3	489400	30.4	22.3	269550	30.5	19.8	67575	30.5	19.3	518161	30.6	21.3	466614	30.7	21.9
318725	30.3	19.5	105864	30.4	20.0	303378	30.5	20.8	37941	30.5	18.7	52940	30.6	18.1	490903	30.7	21.3
222587	30.3	19.9	27645	30.4	20.6	35732	30.5	17.8	480744	30.5	20.3	505519	30.6	20.5	316814	30.7	21.8
242764	30.3	19.8	161845	30.4	19.2	34752	30.5	16.8	310082	30.5	19.6	170324	30.6	20.9	217895	30.7	19.9
340758	30.3	20.9	499812	30.4	21.0	416993	30.5	21.1	249637	30.5	19.8	206719	30.6	20.0	43408	30.7	18.7
429274	30.3	20.9	138710	30.4	20.0	64380	30.5	18.0	485851	30.5	19.8	297766	30.6	21.3	9762	30.7	17.8
177054	30.3	19.7	36227	30.4	17.9	208973	30.5	20.3	142369	30.5	19.4	214050	30.6	20.4	212626	30.7	19.3
499241	30.3	23.0	310671	30.4	19.6	124851	30.5	19.7	80262	30.5	17.7	379243	30.6	19.8	418365	30.7	19.9
216	30.3	12.2	123348	30.4	20.0	225524	30.5	20.7	127544	30.6	20.0	64130	30.6	19.6	207842	30.7	20.6
468485	30.3	21.1	386202	30.4	20.6	300018	30.5	21.0	506225	30.6	20.0	462888	30.6	20.5	345678	30.7	20.0
155441	30.3	18.8	458239	30.4	19.5	145209	30.5	20.9	313637	30.6	21.7	403043	30.6	21.1	520924	30.7	20.2
88660	30.3	19.6	109414	30.4	20.1	379209	30.5	20.2	455597	30.6	21.3	316796	30.6	21.1	262063	30.7	21.4
185574	30.3	19.9	42300	30.4	18.9	376531	30.5	20.8	455585	30.6	21.8	434870	30.6	21.4	213180	30.7	19.6
115241	30.3	19.7	332641	30.4	20.2	83672	30.5	17.6	469776	30.6	21.8	367108	30.6	22.5	333422	30.7	20.1
65686	30.3	19.2	127059	30.4	19.1	58132	30.5	19.2	366401	30.6	21.4	35131	30.6	19.4	320681	30.7	20.1
27747	30.3	18.1	432007	30.4	21.1	92437</											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V	Nº	03	V
375914	30.7	20.4	49441	30.8	19.4	4687	30.8	17.3	258151	30.9	21.1	155457	30.9	19.9	171934	31.1	20.9
36065	30.7	19.8	468876	30.8	21.0	284361	30.8	20.8	246429	30.9	20.8	34361	30.9	18.7	341369	31.1	20.1
165443	30.7	19.5	388663	30.8	20.7	57170	30.8	19.3	8459	30.9	18.9	503143	30.9	21.1	285657	31.1	20.5
416115	30.7	22.7	175697	30.8	20.9	348570	30.8	20.6	351466	30.9	21.4	395205	30.9	20.9	214828	31.1	20.6
48413	30.7	18.3	434832	30.8	21.4	375837	30.8	20.9	216396	30.9	19.4	19581	30.9	18.0	117601	31.1	19.2
406885	30.7	20.4	333087	30.8	20.5	274073	30.8	19.6	3560	30.9	15.9	407888	30.9	21.4	231769	31.1	20.5
63658	30.7	19.4	396670	30.8	21.6	356228	30.8	20.2	188454	30.9	19.0	67888	30.9	19.4	384887	31.1	21.4
278725	30.7	20.2	495125	30.8	21.4	33992	30.8	19.0	196242	30.9	20.4	470921	30.9	20.4	72920	31.1	19.1
460420	30.7	19.8	279426	30.8	20.4	140627	30.8	20.2	10582	30.9	18.0	408715	30.9	20.3	376002	31.1	20.9
290761	30.7	20.8	146485	30.8	19.8	499948	30.8	21.1	463474	30.9	21.6	99923	30.9	18.4	426770	31.1	21.5
273930	30.7	19.4	70699	30.8	18.0	341251	30.8	20.4	363503	30.9	20.3	341675	30.9	20.3	290260	31.1	21.2
238188	30.7	20.0	120172	30.8	19.9	171877	30.8	20.2	44547	30.9	18.6	226207	30.9	19.1	67940	31.1	19.6
216610	30.7	21.2	54850	30.8	18.8	369889	30.8	20.1	304637	30.9	21.8	382834	30.9	21.2	228674	31.1	19.1
105579	30.7	20.7	506568	30.8	21.3	10714	30.9	18.9	463467	30.9	20.6	231698	30.9	19.7	503667	31.1	20.8
135106	30.7	19.4	503398	30.8	20.4	136703	30.9	20.7	433247	30.9	20.9	109171	30.9	19.4	372692	31.1	20.9
174571	30.7	19.7	408753	30.8	21.8	134728	30.9	20.4	167612	30.9	20.1	458869	30.9	21.8	242565	31.1	19.7
242916	30.7	21.0	392571	30.8	20.6	318540	30.9	19.3	14048	30.9	17.0	389198	30.9	20.3	286377	31.1	20.7
437771	30.7	20.9	241900	30.8	21.0	462681	30.9	20.0	374057	30.9	21.2	323445	30.9	19.6	415964	31.1	20.4
503854	30.7	21.1	153175	30.8	19.7	16255	30.9	19.0	40004	30.9	16.7	430349	30.9	20.8	88616	31.1	17.9
290336	30.7	20.6	109191	30.8	18.8	388399	30.9	20.7	39470	30.9	18.9	334500	30.9	20.6	133926	31.1	20.2
403912	30.7	20.2	165251	30.8	20.0	278505	30.9	21.4	502466	30.9	21.0	72223	30.9	19.4	82947	31.1	19.8
507828	30.7	20.7	192370	30.8	20.6	233371	30.9	20.9	378294	30.9	20.5	82830	30.9	20.2	210160	31.1	19.5
170080	30.7	19.1	362775	30.8	20.8	329310	30.9	20.1	249662	30.9	21.4	67574	30.9	18.2	466168	31.1	20.8
438868	30.7	20.6	180540	30.8	19.5	504828	30.9	21.1	184216	30.9	19.9	411208	31.0	21.5	134616	31.1	20.2
269797	30.7	19.3	337947	30.8	20.2	377385	30.9	20.8	307988	30.9	20.1	270069	31.0	20.8	67317	31.1	19.1
67266	30.7	19.3	499205	30.8	21.5	325786	30.9	21.7	455599	30.9	21.0	431095	31.0	21.3	165359	31.1	20.5
258907	30.7	20.6	34866	30.8	17.8	286437	30.9	19.1	338325	30.9	20.6	61652	31.0	18.5	131224	31.1	19.7
331941	30.7	21.8	235975	30.8	19.8	98334	30.9	19.6	191898	30.9	20.5	377911	31.0	21.0	106101	31.1	20.1
219533	30.7	20.0	332836	30.8	19.8	138759	30.9	20.7	63887	30.9	16.8	67013	31.0	19.5	241275	31.1	20.8
42563	30.7	19.5	212431	30.8	20.6	367849	30.9	21.9	214567	30.9	20.1	211851	31.0	19.0	9057	31.1	17.6
2217	30.7	16.1	364582	30.8	20.7	212628	30.9	19.4	138686	30.9	19.7	446805	31.0	21.0	7570	31.1	16.9
499265	30.7	20.3	360217	30.8	20.6	423427	30.9	21.8	65193	30.9	18.9	404150	31.0	19.8	313640	31.1	21.1
463687	30.7	21.8	262524	30.8	19.3	363107	30.9	20.8	502911	30.9	20.0	180676	31.0	19.4	205655	31.1	20.4
475764	30.7	21.4	39828	30.8	16.8	385871	30.9	21.1	141476	30.9	19.4	347484	31.0	20.9	489571	31.1	21.2
391721	30.7	20.4	410002	30.8	19.6	337030	30.9	20.3	18641	30.9	17.4	186100	31.0	20.8	255635	31.1	20.5
274303	30.7	20.1	92048	30.8	18.9	417577	30.9	21.7	509301	30.9	22.2	377866	31.0	21.1	18656	31.1	17.5
197179	30.7	20.5	145068	30.8	19.4	291923	30.9	21.1	270534	30.9	19.3	435306	31.0	20.9	429968	31.1	20.5
35314	30.7	18.2	330360	30.8	20.0	459157	30.9	21.5	69634	30.9	18.2	3374	31.0	16.8	235718	31.1	20.1
209362	30.7	19.6	506714	30.8	21.4	406462	30.9	21.5	498363	30.9	21.2	501304	31.0	21.5	123775	31.1	18.8
353612	30.7	21.4	157954	30.8	20.0	409166	30.9	21.9	477702	30.9	20.8	162743	31.0	19.7	211558	31.1	20.0
128429	30.7	19.9	455752	30.8	19.8	432242	30.9	21.2	201701	30.9	20.3	166800	31.0	20.2	495815	31.1	20.3
4914	30.7	16.0	27507	30.8	18.5	112392	30.9	18.9	498232	30.9	23.0	511632	31.0	20.9	414272	31.1	20.0
477945	30.7	20.8	147350	30.8	18.2	199317	30.9	19.9	58550	30.9	19.2	241047	31.0	20.8	221085	31.1	19.4
246144	30.7	20.8	287558	30.8	20.4	200687	30.9	19.9	343055	30.9	20.8	66408	31.0	19.7	277751	31.1	19.7
6268	30.7	17.7	425886	30.8	20.8	6480	30.9	18.1	63328	30.9	18.7	126357	31.0	20.2	496964	31.1	21.8
68457	30.7	19.4	339455	30.8	20.7	500620	30.9	20.9	375892	30.9	21.5	500745	31.0	21.9	365532	31.1	21.2
438436	30.7	21.1	501221	30.8	20.1	67396	30.9	19.8	217026	30.9	20.4	458763	31.0	21.7	237697	31.1	20.9
278789	30.7	20.5	342948	30.8	21.3	259188	30.9	18.4	16756	30.9	17.7	489243	31.0	21.6	364632	31.1	21.2
29134	30.7	18.2	468114	30.8	21.9	306633	30.9	20.8	456749	30.9	21.3	335788	31.0	19.6	353454	31.1	20.7
345696	30.7	19.9	333013	30.8	20.6	58247	30.9	20.0	506689	30.9	21.5	173932	31.0	20.0	301444	31.1	20.2
503675	30.7	20.8	522714	30.8	20.1	264570	30.9	20.5	147956	30.9	20.4	292137	31.0	21.2	3411	31.1	15.8
502521	30.7	20.9	146113	30.8	20.2	57242	30.9	19.2	364653	30.9	20.5	175650	31.0	21.1	452689	31.1	20.9
270519	30.7	19.3	499157	30.8	21.8	148622	30.9	20.5	141915	30.9	19.7	196771	31.0	20.4	339479	31.1	20.3
142401	30.7	19.0	236687	30.8	20.1	522827	30.9	21.3	162632	30.9	20.1	30509	31.0	17.3	153533	31.1	20.1
9973	30.7	18.3	430079	30.8	20.6	495837	30.9	21.2	92348	30.9	19.0	293577	31.0	20.6	338717	31.1	20.4
115238	30.7	19.6	270522	30.8	19.8	97855	30.9	19.4	83344	30.9	19.0	265733	31.0	20.7	172348	31.1	20.9
277331	30.7	21.6	500875	30.8	20.2	457470	30.9	21.2	145446	30.9	19.8	329379	31.0	20.6	402928	31.1	21.5
339031	30.7	19.8	294716	30.8	20.5	21881	30.9	18.5	215840	30.9	19.4	155278	31.0	20.6	34739	31.1	18.7
8480	30.8	17.3	497378	30.8	23.2	98070	30.9	19.9	85563	30.9	18.7	357575	31.0	21.0	286501	31.1	21.2
363287	30.8	20.3	373404	30.8	20.8	35172	30.9	17.7	671	30.9	14.7	407757	31.0	21.0	216735	31.1	19.9
294009	30.8	19.3	315468	30.8	21.3	199446	30.9</td										

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
299768	31.1	19.6	463132	31.2	21.6	340736	31.2	20.9	87711	31.3	19.5	285287	31.4	20.9	403235	31.5	20.0
425882	31.1	20.5	303912	31.2	21.8	313621	31.2	20.8	242369	31.3	20.5	109673	31.4	19.6	308670	31.5	20.0
291900	31.1	20.9	187762	31.2	21.5	150562	31.2	19.5	221360	31.3	20.2	511897	31.4	21.0	387609	31.5	19.9
500241	31.1	21.4	463304	31.2	20.0	132433	31.2	19.6	264579	31.3	20.7	379878	31.4	19.8	241043	31.5	20.8
70928	31.1	19.7	300195	31.2	19.9	277769	31.2	20.4	522860	31.3	22.2	21361	31.4	17.5	109765	31.5	20.6
488539	31.1	21.3	253178	31.2	19.8	409839	31.2	21.4	363333	31.3	21.9	128412	31.4	19.8	330419	31.5	19.7
507820	31.1	20.4	271151	31.2	19.7	94436	31.2	18.9	107652	31.3	19.1	100356	31.4	20.5	393507	31.5	20.3
489511	31.1	21.0	356370	31.2	20.0	15499	31.2	17.3	421199	31.3	20.5	121231	31.4	18.8	65885	31.5	19.1
79248	31.1	18.7	46354	31.2	17.6	319389	31.2	20.7	39732	31.3	19.1	88118	31.4	19.6	116834	31.5	19.4
365873	31.1	20.5	335783	31.2	20.8	140662	31.2	19.2	115375	31.3	19.8	364744	31.4	20.7	287455	31.5	20.6
32993	31.1	18.7	102665	31.2	20.3	331895	31.3	20.7	301202	31.3	20.7	114556	31.4	19.5	330046	31.5	20.6
430229	31.1	21.4	177632	31.2	20.0	455240	31.3	21.5	376333	31.3	20.4	177360	31.4	20.3	253515	31.5	20.4
510560	31.1	21.4	259345	31.2	18.9	381502	31.3	21.4	317148	31.3	20.3	160324	31.4	19.4	93079	31.5	19.1
255607	31.1	21.7	292348	31.2	20.8	363749	31.3	21.2	181948	31.3	20.5	204564	31.4	19.8	71291	31.5	18.7
412550	31.1	19.1	30955	31.2	17.6	337727	31.3	19.9	286082	31.3	21.3	242202	31.4	21.0	114880	31.5	19.4
278852	31.1	20.9	312180	31.2	20.0	503726	31.3	20.6	278375	31.3	20.8	463581	31.4	20.3	165457	31.5	20.9
400393	31.1	21.1	46745	31.2	18.9	70591	31.3	18.1	142525	31.3	19.9	503216	31.4	19.7	105290	31.5	19.4
244778	31.1	21.1	507647	31.2	21.8	498800	31.3	21.4	458929	31.3	21.6	273658	31.4	20.3	257621	31.5	20.4
143365	31.1	19.3	501093	31.2	21.6	87700	31.3	19.4	3997	31.3	17.4	181447	31.4	19.8	150668	31.5	20.2
211889	31.1	19.4	284331	31.2	20.2	97969	31.3	18.6	241247	31.3	20.7	140454	31.4	19.9	499804	31.5	21.1
455446	31.1	20.6	496242	31.2	20.0	8561	31.3	18.7	24772	31.3	19.0	403815	31.4	19.9	453702	31.5	19.9
135447	31.1	20.5	425194	31.2	20.9	172877	31.3	20.0	35655	31.3	18.5	337420	31.4	19.9	437257	31.5	21.0
188543	31.1	18.9	206305	31.2	19.5	350357	31.3	19.9	255789	31.3	20.6	452381	31.4	19.6	346135	31.5	20.4
411246	31.1	22.2	297471	31.2	20.7	523770	31.3	20.7	505610	31.3	20.5	200477	31.4	19.2	237043	31.5	20.2
345051	31.1	20.7	518154	31.2	21.1	462630	31.3	20.0	323753	31.3	20.5	130653	31.4	19.7	371012	31.5	21.4
446876	31.1	20.8	266617	31.2	19.5	20390	31.3	17.8	230085	31.3	20.7	177894	31.4	19.9	249244	31.5	20.4
246249	31.1	20.3	374478	31.2	20.0	502673	31.3	21.1	26398	31.3	17.6	105755	31.4	19.6	162557	31.5	19.1
236146	31.1	20.5	275548	31.2	20.4	433361	31.3	21.9	207995	31.3	18.9	383655	31.4	21.5	413080	31.5	21.2
176070	31.1	20.1	16873	31.2	17.2	363534	31.3	21.4	86439	31.3	18.0	140316	31.4	19.8	77090	31.5	19.1
344198	31.1	20.9	467315	31.2	21.8	33776	31.3	17.1	217859	31.3	20.8	324478	31.4	19.5	269764	31.5	20.5
240704	31.1	21.0	102204	31.2	19.9	140553	31.3	19.1	116193	31.3	19.1	7277	31.4	18.3	64621	31.5	18.8
457580	31.1	22.0	503151	31.2	20.9	132830	31.3	19.8	498828	31.3	21.8	189828	31.4	20.3	347110	31.5	20.7
4716	31.1	15.8	255816	31.2	21.5	85828	31.3	18.1	250074	31.3	20.7	203324	31.4	19.9	142435	31.5	20.0
38961	31.1	19.4	102512	31.2	19.0	43412	31.3	18.8	422225	31.3	21.0	522909	31.4	21.4	186172	31.5	20.8
210846	31.1	20.5	500595	31.2	20.3	348419	31.3	20.7	21309	31.3	18.3	58103	31.4	19.6	40653	31.5	19.5
507773	31.1	20.7	166875	31.2	20.1	416152	31.3	20.8	134393	31.3	19.8	190044	31.4	20.6	371262	31.5	19.9
5163	31.1	16.6	327225	31.2	20.2	217485	31.3	20.2	296695	31.3	20.9	209125	31.4	19.9	298985	31.5	20.2
198225	31.1	20.2	225936	31.2	19.8	469176	31.3	19.7	336395	31.3	20.9	200665	31.4	20.2	42768	31.5	18.7
306514	31.1	21.0	421156	31.2	19.3	152517	31.3	20.5	85075	31.3	18.7	265376	31.4	19.1	47063	31.5	18.0
322572	31.1	19.5	214467	31.2	20.1	406890	31.3	20.8	140717	31.3	19.4	229538	31.4	20.3	43934	31.5	18.1
248669	31.1	20.1	334731	31.2	21.5	337792	31.3	20.2	424628	31.3	20.7	209096	31.4	20.3	224484	31.5	19.8
461504	31.1	19.4	413968	31.2	19.6	384774	31.3	19.4	385895	31.3	20.0	237568	31.4	21.0	249436	31.5	19.1
231626	31.1	19.5	61250	31.2	19.3	343010	31.3	21.0	272934	31.4	20.4	208486	31.4	20.5	253039	31.5	21.2
521234	31.1	21.0	13799	31.2	18.9	368682	31.3	20.6	51041	31.4	19.6	360339	31.4	20.4	214439	31.5	20.0
273050	31.1	20.2	362015	31.2	19.8	63451	31.3	19.2	468660	31.4	21.2	66397	31.4	19.3	63872	31.5	19.0
431030	31.1	20.1	436909	31.2	20.7	32358	31.3	17.8	212416	31.4	20.4	241914	31.4	19.9	467785	31.5	21.4
21661	31.1	18.7	145554	31.2	20.6	28340	31.3	17.6	435317	31.4	21.5	406491	31.4	19.7	370976	31.5	21.5
42615	31.1	18.3	135493	31.2	19.2	502549	31.3	21.1	64973	31.4	17.1	437339	31.4	20.9	417820	31.5	20.7
215134	31.1	20.8	323437	31.2	19.9	13781	31.3	18.8	341140	31.4	20.3	281052	31.4	20.5	31340	31.5	17.5
229586	31.1	20.1	212537	31.2	20.6	3227	31.3	15.4	500229	31.4	20.2	480462	31.4	21.3	267455	31.5	18.8
285140	31.1	19.9	158289	31.2	20.0	240733	31.3	20.3	202419	31.4	19.6	469135	31.4	19.9	1255	31.5	15.7
289013	31.1	21.6	437221	31.2	20.8	46311	31.3	18.8	338279	31.4	20.7	98618	31.4	19.7	371067	31.5	21.5
206169	31.2	21.0	224684	31.2	20.6	207446	31.3	19.6	106438	31.4	19.6	415989	31.4	20.6	309986	31.5	20.9
326343	31.2	21.3	183963	31.2	22.9	286097	31.3	21.0	389696	31.4	20.8	211886	31.4	19.6	152469	31.5	19.9
415162	31.2	20.3	434801	31.2	21.6	343962	31.3	20.5	341158	31.4	20.8	424030	31.4	21.5	496839	31.5	21.4
173484	31.2	20.1	178085	31.2	21.6	210959	31.3	20.7	106807	31.4	19.8	368752	31.4	21.4	446609	31.5	20.8
327877	31.2	20.1	494696	31.2	22.8	190441	31.3	20.6	457372	31.4	21.8	243775	31.4	19.5	157612	31.5	21.0
242993	31.2	20.2	165697	31.2	20.4	165997	31.3	18.0	300	31.4	14.7	347733	31.4	21.2	300154	31.5	21.2
62359	31.2	20.0	111825	31.2	19.9	92458	31.3	19.7	38121	31.4	19.0	392132	31.4	19.9	439127	31.5	21.0
36899	31.2	17.5	91407	31.2	18.4	2793	31.3	15.9	470049	31.4	21.6	436014	31.4	20.4	388638	31.5	21.0
428733	31.2	20.4	303346	31.2	20.8	5012											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPOSITION DATES IN 2020

Nº	03	V															
55931	31.5	18.6	305838	31.6	20.8	410736	31.6	20.3	481483	31.7	21.0	110690	31.7	19.9	303399	31.8	20.2
411315	31.5	19.6	221113	31.6	18.8	83551	31.6	18.8	420935	31.7	21.2	423246	31.8	21.0	381169	31.8	19.9
432794	31.5	20.2	419774	31.6	22.0	246192	31.6	20.1	214193	31.7	19.4	278836	31.8	20.3	341768	31.8	20.5
146502	31.5	18.8	226882	31.6	20.4	223620	31.6	20.2	522072	31.7	20.8	50911	31.8	18.5	509350	31.8	23.0
113031	31.5	20.7	500923	31.6	22.1	499115	31.6	20.6	61234	31.7	17.5	362005	31.8	19.8	408388	31.8	19.8
275184	31.5	20.4	78522	31.6	18.9	2616	31.6	15.3	502164	31.7	20.9	8876	31.8	17.9	196424	31.8	19.1
10915	31.5	17.8	309307	31.6	20.5	315351	31.6	21.2	331205	31.7	20.0	3711	31.8	17.2	428337	31.8	19.4
238711	31.5	20.3	36089	31.6	19.2	140415	31.6	19.3	344225	31.7	21.5	212090	31.8	19.2	65608	31.8	19.8
496460	31.5	21.2	145076	31.6	19.3	333271	31.6	21.1	103096	31.7	19.5	14927	31.8	17.2	312140	31.8	19.6
255684	31.5	20.3	61824	31.6	18.7	377329	31.6	20.2	291641	31.7	19.3	12497	31.8	18.1	34147	31.8	18.3
91478	31.5	20.1	366454	31.6	21.6	53140	31.6	19.1	374307	31.7	22.3	27911	31.8	17.2	253260	31.8	19.8
163598	31.5	21.2	187792	31.6	18.6	4772	31.6	16.8	147296	31.7	20.1	213238	31.8	20.0	415662	31.8	21.8
253368	31.5	19.4	169394	31.6	20.0	479572	31.6	19.6	293829	31.7	20.1	107177	31.8	19.5	417275	31.8	20.9
466058	31.5	20.9	352371	31.6	21.0	114793	31.6	19.4	228033	31.7	20.3	427143	31.8	20.7	326069	31.8	20.6
337572	31.5	22.0	268573	31.6	19.4	30527	31.6	18.4	140802	31.7	20.2	264404	31.8	20.3	297401	31.8	20.8
390173	31.5	20.3	350774	31.6	19.9	34352	31.6	17.9	403561	31.7	21.1	313723	31.8	21.0	100844	31.8	19.3
175806	31.5	20.2	176171	31.6	19.2	100929	31.6	20.5	54866	31.7	18.4	329384	31.8	20.5	22395	31.8	17.7
94005	31.5	19.3	150832	31.6	21.4	179533	31.6	19.8	168399	31.7	19.8	331477	31.8	19.5	200727	31.8	20.1
430754	31.5	20.4	498809	31.6	21.5	174012	31.6	20.5	364067	31.7	21.4	504194	31.8	21.5	120586	31.8	19.7
28765	31.5	18.0	212643	31.6	20.2	139951	31.6	19.6	369369	31.7	20.9	161801	31.8	20.9	497922	31.8	22.1
427547	31.5	22.7	102736	31.6	20.0	213246	31.6	20.5	342847	31.7	20.2	157790	31.8	21.4	497768	31.8	22.0
8739	31.5	17.5	429214	31.6	21.7	202871	31.6	20.2	459001	31.7	21.7	5748	31.8	17.1	183636	31.8	19.6
336234	31.5	20.3	252808	31.6	19.6	84735	31.6	19.0	338903	31.7	20.6	497874	31.8	22.4	320554	31.8	20.9
135211	31.5	19.6	498200	31.6	20.9	496583	31.6	21.5	210139	31.7	20.1	226714	31.8	20.6	373524	31.8	21.8
380395	31.5	20.0	110470	31.6	18.4	119761	31.6	18.8	27961	31.7	19.7	393464	31.8	20.7	451483	31.8	19.4
33205	31.5	18.2	43124	31.6	19.2	15049	31.6	17.5	158060	31.7	20.7	30811	31.8	18.4	372755	31.8	21.5
417708	31.5	20.1	229568	31.6	19.7	325917	31.6	20.8	315265	31.7	21.3	258101	31.8	20.8	468646	31.8	21.1
153597	31.5	19.3	194251	31.6	19.5	12484	31.6	18.0	364178	31.7	21.7	436365	31.8	20.6	427997	31.8	20.7
84434	31.5	19.3	181572	31.6	21.0	437639	31.6	21.0	169231	31.7	18.8	32483	31.8	18.0	8611	31.8	17.7
429213	31.5	21.8	340636	31.6	20.3	65771	31.6	18.8	230671	31.7	19.9	315461	31.8	21.4	421519	31.8	20.2
141304	31.5	19.8	48450	31.6	19.4	4046	31.6	15.9	496965	31.7	23.4	45129	31.8	18.2	368065	31.8	20.7
305945	31.5	20.2	329966	31.6	20.6	21617	31.6	18.5	95086	31.7	19.2	355846	31.8	20.2	368965	31.8	19.8
468462	31.5	22.7	466176	31.6	20.5	159285	31.6	20.5	361614	31.7	20.3	292039	31.8	20.5	379558	31.8	20.4
361154	31.5	19.5	369375	31.6	21.3	346246	31.7	19.1	32070	31.7	19.0	59257	31.8	17.6	366437	31.8	22.0
85643	31.5	18.1	169581	31.6	18.9	144801	31.7	19.3	214506	31.7	20.6	90502	31.8	18.9	433268	31.8	21.2
210472	31.5	20.3	431993	31.6	21.0	259602	31.7	19.9	189274	31.7	19.6	207848	31.8	19.7	384934	31.8	20.8
211959	31.5	19.4	57678	31.6	19.1	68050	31.7	18.3	300955	31.7	20.8	30563	31.8	19.1	499590	31.8	21.5
101586	31.5	19.5	371138	31.6	21.9	337755	31.7	20.0	467969	31.7	20.5	352071	31.8	21.9	480215	31.8	20.8
268363	31.5	19.9	165487	31.6	19.5	386964	31.7	20.5	293832	31.7	19.7	316400	31.8	20.0	423737	31.8	20.6
415911	31.5	20.8	169013	31.6	19.8	32022	31.7	17.6	125198	31.7	17.8	98071	31.8	19.1	30612	31.8	20.4
433504	31.5	21.6	201209	31.6	20.3	293296	31.7	19.7	188057	31.7	20.3	63544	31.8	19.7	426991	31.8	20.3
232933	31.5	20.6	228353	31.6	20.3	119411	31.7	20.6	198446	31.7	19.8	229180	31.8	21.1	342875	31.8	20.7
15313	31.5	18.5	261949	31.6	21.0	328248	31.7	20.7	123087	31.7	19.9	95854	31.8	19.0	280984	31.8	19.7
94927	31.5	19.8	222288	31.6	20.3	312223	31.7	20.5	227464	31.7	20.9	134922	31.8	18.1	128183	31.8	19.2
143473	31.6	20.1	146211	31.6	20.0	242303	31.7	20.5	102502	31.7	19.7	96210	31.8	19.8	109198	31.8	19.2
499945	31.6	20.1	427371	31.6	20.8	501437	31.7	21.0	162507	31.7	19.8	249442	31.8	20.1	173151	31.8	20.2
502469	31.6	21.6	173920	31.6	20.2	293486	31.7	19.9	522373	31.7	21.0	189827	31.8	20.3	208880	31.8	19.9
12801	31.6	18.0	471135	31.6	21.1	19530	31.7	17.5	272757	31.7	20.1	438637	31.8	20.9	267345	31.8	20.6
253232	31.6	20.7	8858	31.6	17.2	40883	31.7	18.8	78473	31.7	19.5	222578	31.8	19.5	161649	31.8	18.7
213198	31.6	21.0	345100	31.6	20.5	373139	31.7	20.0	169519	31.7	18.9	299355	31.8	20.2	221285	31.8	19.4
497385	31.6	21.7	501029	31.6	22.3	500283	31.7	19.6	8226	31.7	16.8	180125	31.8	19.7	5746	31.9	17.4
85217	31.6	19.4	32451	31.6	19.1	460153	31.7	21.2	290279	31.7	21.9	434589	31.8	21.6	190166	31.9	18.4
337260	31.6	20.9	435053	31.6	20.9	301167	31.7	19.0	164780	31.7	18.8	310492	31.8	20.4	170472	31.9	20.1
248641	31.6	19.2	208667	31.6	19.1	109257	31.7	20.4	238393	31.7	19.6	375288	31.8	21.1	205938	31.9	19.8
123520	31.6	19.2	346552	31.6	20.8	115584	31.7	20.5	501000	31.7	21.4	245983	31.8	19.9	222770	31.9	20.2
39397	31.6	18.9	386125	31.6	21.1	210542	31.7	20.4	351536	31.7	18.8	382753	31.8	21.7	462159	31.9	21.3
303436	31.6	19.7	93640	31.6	20.0	393504	31.7	21.4	384176	31.7	20.3	222313	31.8	19.5	468477	31.9	21.2
464132	31.6	21.1	288901	31.6	20.4	333607	31.7	20.2	190390	31.7	19.9	235395	31.8	20.5	379633	31.9	20.4
291206	31.6	20.5	343156	31.6	20.3	401071	31.7	22.0	313761	31.7	19.2	98806	31.8	18.2	458811	31.9	21.6
217893	31.6	20.7	172017	31.6	19.0	56436	31.7	18.3	117453	31.7	19.4	54621	31.8	19.3	167880	31.9	19.7
500735	31.6	21.6	226846	31.6	20.6	229573											

LIST OF ALL MINOR PLANETS IN ORDER OF OPPPOSITION DATES IN 2020

Nº	03	V															
201414	31.9	19.4	440223	31.9	20.4	7232	31.9	18.2	296922	31.9	19.8	370107	31.9	21.4	502377	31.9	20.8
369743	31.9	20.0	431941	31.9	21.0	102234	31.9	20.5	28984	31.9	18.7	386162	31.9	21.3	39655	31.9	18.9
375799	31.9	21.7	237457	31.9	21.2	29790	31.9	17.4	502567	31.9	21.5	475590	31.9	21.4	188453	31.9	19.5
330093	31.9	20.8	107076	31.9	19.4	374373	31.9	21.7	341685	31.9	21.3	457593	31.9	21.4	29299	31.9	17.3
122313	31.9	19.8	212594	31.9	19.9	212577	31.9	21.2	17357	31.9	18.7	462215	31.9	22.2	507714	31.9	22.4
98345	31.9	18.5	198505	31.9	19.5	335947	31.9	20.4	27191	31.9	18.1	377413	31.9	21.9	429996	31.9	22.1
174547	31.9	19.5	237270	31.9	20.4	433154	31.9	20.9	415552	31.9	20.7	504435	31.9	21.3	122014	31.9	19.8
93719	31.9	17.6	470094	31.9	21.4	386129	31.9	20.9	36139	31.9	18.3	461494	31.9	21.0	336936	31.9	20.3
275251	31.9	20.7	498389	31.9	21.7	160571	31.9	20.0	261370	31.9	20.8	86367	31.9	20.4	245536	31.9	19.7
73204	31.9	18.4	9346	31.9	17.7	422757	31.9	22.2	17815	31.9	17.9	338402	31.9	19.8	455267	31.9	21.7
522818	31.9	21.4	295564	31.9	20.5	188870	31.9	18.9	219671	31.9	20.5	186882	31.9	19.2	504173	31.9	22.0
114513	31.9	19.4	109877	31.9	20.2	166658	31.9	19.1	244151	31.9	19.6	17836	31.9	17.4	105668	31.9	19.3
189452	31.9	19.4	377968	31.9	19.7	376766	31.9	21.6	112968	31.9	19.2	227427	31.9	20.0	501387	31.9	21.5
74652	31.9	20.6	383671	31.9	21.7	33239	31.9	18.6	184605	31.9	20.4	82157	31.9	22.7	246654	31.9	19.3
299198	31.9	19.2	355807	31.9	20.9	64322	31.9	18.3	106406	31.9	18.2	334422	31.9	19.8	264591	31.9	21.2
433975	31.9	21.1	422446	31.9	20.9	435268	31.9	21.0	17441	31.9	18.4	10567	31.9	18.5	199433	31.9	19.5
315371	31.9	20.5	232530	31.9	20.2	297881	31.9	21.3	491669	31.9	21.4	105386	31.9	19.4	3611	31.9	17.2
49603	31.9	18.0	15664	31.9	18.4	402912	31.9	20.6	365847	31.9	20.6	176698	31.9	20.9	389254	31.9	19.7
6575	31.9	18.0	306901	31.9	20.6	438349	31.9	20.8	425254	31.9	21.5	188908	31.9	20.1			
43760	31.9	18.0	337400	31.9	21.0	499905	31.9	20.8	90776	31.9	19.0	16328	31.9	17.2			
47519	31.9	18.0	372479	31.9	20.3	374114	31.9	21.0	157899	31.9	19.9	503875	31.9	22.2			
306119	31.9	19.7	134370	31.9	19.7	294399	31.9	20.1	456836	31.9	21.3	74739	31.9	19.3			
337787	31.9	20.1	98460	31.9	20.2	64788	31.9	19.1	216491	31.9	19.4	433583	31.9	20.1			
280967	31.9	18.8	234420	31.9	19.2	61062	31.9	18.7	86931	31.9	18.8	143583	31.9	19.3			
379666	31.9	19.5	24005	31.9	18.4	193925	31.9	20.4	407716	31.9	21.0	134872	31.9	20.2			
159684	31.9	18.6	151762	31.9	19.3	85706	31.9	19.9	160698	31.9	20.0	376469	31.9	20.7			
305668	31.9	19.8	402947	31.9	21.3	503095	31.9	20.7	390473	31.9	21.2	80462	31.9	19.1			
96982	31.9	19.8	430169	31.9	21.1	459028	31.9	20.3	39096	31.9	20.2	405535	31.9	21.4			
506249	31.9	20.5	150749	31.9	20.8	252935	31.9	20.8	296610	31.9	20.4	453365	31.9	20.2			
213251	31.9	20.5	102666	31.9	19.5	120576	31.9	19.4	506011	31.9	21.2	468279	31.9	20.7			