

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
383868	1.0	20.5	233689	1.1	20.3	320467	1.1	20.9	250518	1.2	18.9	373540	1.3	21.4	348970	1.4	20.8
55526	1.0	18.5	176330	1.1	20.7	156986	1.2	18.6	10111	1.2	15.9	174535	1.3	19.1	293033	1.4	19.2
478105	1.0	21.0	367099	1.1	19.4	301100	1.2	19.4	201756	1.2	19.5	498329	1.3	21.5	471732	1.4	20.7
67923	1.0	18.1	502160	1.1	21.4	33658	1.2	19.5	102638	1.2	19.7	310509	1.3	21.0	386332	1.4	20.5
218961	1.0	19.2	41986	1.1	18.2	397161	1.2	20.9	347538	1.2	19.4	223248	1.3	19.6	401321	1.4	19.7
236644	1.0	20.4	216060	1.1	19.4	504211	1.2	21.9	157484	1.2	21.3	470260	1.3	20.8	216473	1.4	19.7
324444	1.0	20.2	387478	1.1	21.0	383614	1.2	19.9	411846	1.2	22.2	25338	1.3	18.7	34729	1.4	18.7
508107	1.0	19.3	499292	1.1	21.9	324958	1.2	21.6	177096	1.2	19.0	123705	1.3	19.6	295722	1.4	20.5
219558	1.0	20.9	429625	1.1	20.4	270757	1.2	20.3	274469	1.2	20.3	427489	1.3	21.3	353814	1.4	20.8
272760	1.0	19.3	418942	1.1	20.0	43590	1.2	18.3	508670	1.2	21.2	120154	1.3	18.8	462253	1.4	20.9
18710	1.0	16.9	185753	1.1	20.6	391336	1.2	20.5	358469	1.2	19.8	398848	1.3	21.0	21267	1.4	18.0
24975	1.0	17.4	470411	1.1	21.2	306960	1.2	20.3	140549	1.2	19.4	203741	1.3	20.4	41466	1.4	17.9
475136	1.0	21.6	323043	1.1	19.5	74321	1.2	18.7	245111	1.2	19.5	85123	1.3	19.2	333998	1.4	19.9
187096	1.0	19.5	195320	1.1	19.9	442103	1.2	19.8	173994	1.2	19.9	217597	1.3	19.7	499689	1.4	21.9
504040	1.0	22.1	481887	1.1	22.9	28879	1.2	17.9	41171	1.2	17.4	205648	1.3	19.4	397684	1.4	21.0
343793	1.0	19.5	267305	1.1	21.7	140940	1.2	19.0	120641	1.2	20.0	140825	1.3	19.1	166532	1.4	20.5
491658	1.0	21.6	436244	1.1	20.3	149879	1.2	19.6	509864	1.2	21.0	167485	1.3	19.7	28755	1.4	18.7
361083	1.0	20.7	494430	1.1	21.1	65800	1.2	18.8	320505	1.2	21.6	357776	1.3	20.5	29326	1.4	17.8
241508	1.0	20.1	289576	1.1	19.0	504560	1.2	21.6	20688	1.2	17.1	379377	1.3	20.4	338858	1.4	20.4
80601	1.0	18.9	344448	1.1	18.3	297602	1.2	19.3	15949	1.2	17.3	222697	1.3	20.7	311259	1.4	20.5
101505	1.0	19.4	415122	1.1	20.2	143769	1.2	19.3	152548	1.2	20.3	519695	1.3	21.0	501644	1.4	21.1
138041	1.0	19.3	166491	1.1	20.0	192869	1.2	21.5	433487	1.2	20.5	279325	1.3	20.5	425045	1.4	19.6
440342	1.0	20.6	370154	1.1	22.3	115075	1.2	18.7	237514	1.2	19.8	134540	1.3	20.3	85165	1.4	19.2
469408	1.0	21.1	340327	1.1	20.8	265003	1.2	20.0	23406	1.2	17.4	98275	1.3	18.8	335017	1.4	18.8
391018	1.0	20.0	12262	1.1	17.5	327229	1.2	19.7	122375	1.2	18.0	32817	1.3	16.9	509224	1.4	22.7
394721	1.0	20.4	35201	1.1	19.5	25388	1.2	17.3	502987	1.2	21.2	340366	1.3	20.6	57713	1.4	19.1
316315	1.0	20.2	102845	1.1	19.5	118691	1.2	17.5	72613	1.2	18.0	200720	1.3	19.5	382459	1.4	22.8
20300	1.0	17.3	134693	1.1	19.6	74874	1.2	17.6	179495	1.3	19.3	250887	1.3	21.1	155736	1.4	19.0
260557	1.0	18.7	215639	1.1	19.7	509468	1.2	20.7	177362	1.3	19.1	261781	1.3	20.4	519497	1.4	20.7
94750	1.0	19.3	475035	1.1	20.6	196473	1.2	18.8	98397	1.3	19.7	303813	1.3	20.8	306431	1.4	23.1
261624	1.0	21.3	335812	1.1	18.7	483060	1.2	20.5	21869	1.3	17.4	136366	1.3	19.7	413400	1.4	20.6
500117	1.0	21.4	101870	1.1	19.5	481137	1.2	20.7	62175	1.3	18.9	375886	1.3	21.2	500883	1.4	23.7
365834	1.0	21.3	175258	1.1	20.3	336711	1.2	20.6	259038	1.3	19.9	215341	1.3	19.8	57605	1.4	17.2
436283	1.0	19.8	192010	1.1	20.0	214554	1.2	18.6	138061	1.3	20.6	175335	1.3	19.0	474880	1.4	21.2
470447	1.0	21.7	89882	1.1	18.9	164716	1.2	18.5	334871	1.3	20.2	213973	1.3	19.7	289374	1.4	19.6
108999	1.0	19.7	262530	1.1	20.3	264886	1.2	19.2	507607	1.3	22.5	114903	1.3	19.3	106682	1.4	19.0
293137	1.0	19.1	98854	1.1	18.5	431391	1.2	20.2	437187	1.3	20.7	474206	1.3	21.4	93105	1.4	19.7
74827	1.0	18.9	414083	1.1	21.2	488828	1.2	20.8	308403	1.3	21.8	64455	1.3	18.2	291626	1.4	20.7
199642	1.0	20.2	8719	1.1	16.7	250049	1.2	20.0	126093	1.3	19.5	309873	1.3	19.2	497220	1.4	21.1
222479	1.0	20.0	371585	1.1	20.0	16586	1.2	18.6	36627	1.3	19.1	265618	1.3	20.1	236090	1.4	19.5
92188	1.0	19.8	125939	1.1	19.6	72768	1.2	18.9	239553	1.3	19.9	512445	1.3	21.1	502556	1.4	21.2
243046	1.0	19.6	177788	1.1	20.1	471155	1.2	20.7	306732	1.3	20.2	406902	1.3	21.9	83746	1.4	19.3
435745	1.0	20.7	242196	1.1	20.3	288242	1.2	21.1	122835	1.3	19.9	333925	1.3	20.2	297472	1.4	20.2
375976	1.0	21.1	87312	1.1	17.6	38749	1.2	18.8	117212	1.3	19.1	368199	1.3	21.2	488568	1.4	21.7
491900	1.0	21.0	111328	1.1	19.7	510575	1.2	21.6	172779	1.3	19.3	493540	1.4	21.4	397093	1.4	20.2
114423	1.0	18.8	350096	1.1	19.7	445278	1.2	19.9	496107	1.3	20.2	105565	1.4	19.1	75211	1.4	19.0
424006	1.0	21.6	384970	1.1	20.0	243518	1.2	20.7	32138	1.3	16.5	105732	1.4	19.5	467284	1.4	21.0
218262	1.0	20.0	186389	1.1	19.6	395462	1.2	20.6	504690	1.3	20.9	202659	1.4	19.7	440981	1.4	21.5
192933	1.0	20.5	165626	1.1	17.5	497816	1.2	22.3	261077	1.3	20.1	6854	1.4	17.3	104201	1.4	19.8
296459	1.0	20.3	4682	1.1	17.8	123859	1.2	19.6	314029	1.3	20.3	248517	1.4	20.7	326205	1.4	20.4
282165	1.0	20.0	89283	1.1	18.2	434722	1.2	21.2	258992	1.3	20.1	57408	1.4	20.0	71122	1.4	19.2
236628	1.0	20.2	295054	1.1	20.6	139307	1.2	18.8	124492	1.3	19.7	61047	1.4	18.9	92609	1.4	19.1
342496	1.0	20.3	394715	1.1	21.0	178223	1.2	20.2	506702	1.3	21.8	250628	1.4	20.0	234105	1.4	20.5
493229	1.0	21.4	75112	1.1	18.3	346764	1.2	20.0	488766	1.3	21.2	11191	1.4	16.2	332061	1.4	20.6
278915	1.0	20.4	439413	1.1	20.7	10407	1.2	16.4	355571	1.3	20.6	17371	1.4	17.9	59969	1.4	19.5
418255	1.0	21.5	96790	1.1	19.7	231867	1.2	20.3	129035	1.3	19.4	106143	1.4	19.0	287136	1.4	19.9
429221	1.0	21.0	480109	1.1	18.9	102733	1.2	19.1	291097	1.3	20.0	108978	1.4	18.5	67145	1.4	19.0
326626	1.0	19.8	280630	1.1	20.5	183735	1.2	20.4	90283	1.3	19.0	510811	1.4	22.1	75525	1.4	20.0
296512	1.1	19.8	278071	1.1	20.2	136244	1.2	20.0	130897	1.3	19.2	297704	1.4	19.5	36960	1.4	18.3
64309	1.1	18.1	250346	1.1	19.8	360656	1.2	19.3	305612	1.3	20.7	308339	1.4	18.8	135183	1.4	19.9
506920	1.1	21.6	237242	1.1	20.9	62725	1.2	18.6	431865	1.3	20.3	15926	1.4	17.6	472806	1.4	20.7
96028	1.1	19.1	230893	1.1	20.0	145802	1.2	18.6	90873	1.3	19.5	106727	1.4	18.8	173205	1.4	19.1
162484	1.1	18.2	70943	1.1	19.3	497481	1.2	21.5</td									

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
353731	1.5	20.7	40544	1.5	18.7	428188	1.6	21.0	497985	1.7	21.3	230133	1.7	20.2	94764	1.8	18.4
275609	1.5	20.7	156487	1.5	19.1	45583	1.6	18.0	157211	1.7	19.7	342888	1.7	20.8	414164	1.8	21.1
507837	1.5	19.3	259814	1.5	20.5	443773	1.6	19.3	475015	1.7	21.8	33800	1.7	17.0	34972	1.8	18.2
148444	1.5	20.3	5106	1.5	16.5	491264	1.6	22.0	230915	1.7	21.3	67477	1.7	18.3	261134	1.8	21.0
455701	1.5	19.1	523003	1.5	21.0	167602	1.6	20.4	99450	1.7	18.3	170757	1.7	20.2	47025	1.8	18.8
25603	1.5	17.8	519214	1.5	20.6	74100	1.6	18.5	141456	1.7	18.8	504625	1.7	21.9	228324	1.8	20.3
422437	1.5	20.8	407712	1.5	20.9	438280	1.6	20.5	338665	1.7	20.2	313921	1.7	20.2	302411	1.8	20.1
372918	1.5	21.6	382450	1.5	19.6	205548	1.6	19.1	19870	1.7	18.3	357688	1.7	21.1	442598	1.8	21.0
77873	1.5	17.1	351974	1.5	20.3	137716	1.6	20.0	280361	1.7	19.9	100892	1.7	18.3	147676	1.8	17.7
294114	1.5	18.9	437624	1.5	20.7	46195	1.6	18.4	270583	1.7	18.9	469484	1.7	21.5	195603	1.8	19.3
30942	1.5	18.7	424162	1.5	20.0	491536	1.6	20.6	504644	1.7	20.7	307078	1.7	20.1	337207	1.8	20.5
426003	1.5	20.2	290651	1.5	20.0	169094	1.6	19.8	39001	1.7	18.3	1546466	1.7	18.5	415698	1.8	19.6
67573	1.5	17.3	461480	1.5	20.0	1238	1.6	15.7	199083	1.7	19.9	138157	1.7	19.3	481246	1.8	20.8
32859	1.5	17.1	455300	1.5	19.5	502280	1.6	21.7	277615	1.7	20.0	243093	1.7	19.4	415380	1.8	20.3
103393	1.5	18.4	276971	1.5	19.9	443337	1.6	20.0	86256	1.7	18.8	342279	1.7	20.4	134808	1.8	18.4
153599	1.5	19.0	374878	1.5	19.8	260653	1.6	19.0	370426	1.7	20.7	265001	1.7	19.5	169954	1.8	20.0
470428	1.5	21.0	121846	1.5	18.0	121415	1.6	19.9	181150	1.7	19.9	168941	1.7	18.9	353451	1.8	20.3
471796	1.5	21.1	148186	1.5	20.9	395466	1.6	21.1	84291	1.7	18.3	321701	1.7	19.8	1190	1.8	16.3
65616	1.5	16.9	392589	1.5	21.3	509196	1.6	21.0	67456	1.7	18.8	323543	1.7	22.7	179428	1.8	19.4
475214	1.5	21.3	204541	1.5	18.8	364593	1.6	19.6	93818	1.7	18.9	414101	1.7	20.1	192557	1.8	19.8
269671	1.5	19.7	462524	1.5	19.2	316074	1.6	18.6	185430	1.7	20.7	111352	1.7	18.7	291623	1.8	18.4
159491	1.5	18.2	171795	1.5	20.4	72082	1.6	19.7	503390	1.7	20.8	335831	1.8	20.1	497425	1.8	22.2
58673	1.5	18.6	322998	1.5	20.8	271675	1.6	20.1	177870	1.7	20.1	146233	1.8	18.8	257228	1.8	19.5
496890	1.5	20.7	274435	1.6	19.3	346452	1.6	20.8	468070	1.7	19.9	483344	1.8	19.9	142221	1.8	18.8
91939	1.5	17.2	275876	1.6	19.0	331647	1.6	19.8	390669	1.7	21.3	363217	1.8	20.5	501618	1.8	19.9
8243	1.5	16.1	222522	1.6	19.1	214200	1.6	19.7	239332	1.7	20.1	428274	1.8	20.7	387186	1.8	21.4
113834	1.5	18.2	131666	1.6	18.6	207986	1.6	20.4	519988	1.7	21.1	176533	1.8	20.3	67813	1.8	18.9
201537	1.5	19.4	242751	1.6	20.4	342470	1.6	20.5	71400	1.7	18.8	250901	1.8	18.9	114906	1.8	18.6
505973	1.5	20.9	238757	1.6	19.8	497416	1.6	21.3	25360	1.7	18.3	244747	1.8	20.1	131309	1.8	18.7
242733	1.5	20.4	493524	1.6	20.9	205652	1.6	20.3	510964	1.7	21.0	280321	1.8	19.7	490738	1.8	21.2
164540	1.5	20.0	290769	1.6	20.8	335071	1.6	20.9	407665	1.7	22.0	129757	1.8	20.5	119496	1.8	19.1
214082	1.5	19.5	17622	1.6	18.1	198105	1.6	18.9	176456	1.7	20.9	460394	1.8	20.5	325987	1.8	20.4
133135	1.5	18.6	61177	1.6	18.6	480545	1.6	20.4	50014	1.7	18.0	381417	1.8	20.4	200090	1.8	20.1
310602	1.5	20.0	468519	1.6	20.6	222709	1.6	20.8	216931	1.7	19.8	120089	1.8	20.0	126978	1.8	19.7
222071	1.5	19.5	471361	1.6	21.6	419632	1.6	20.3	222671	1.7	21.0	324430	1.8	19.8	88570	1.8	19.1
40227	1.5	17.8	243288	1.6	19.6	512671	1.6	20.5	343571	1.7	20.2	236500	1.8	20.7	509719	1.8	20.7
34248	1.5	18.5	113008	1.6	18.4	62579	1.6	18.6	70351	1.7	19.6	478257	1.8	22.1	269086	1.8	19.0
467081	1.5	20.9	166190	1.6	19.4	310215	1.6	20.0	182693	1.7	21.2	125898	1.8	19.0	256593	1.8	20.0
349214	1.5	20.6	509388	1.6	21.0	370116	1.6	21.3	101047	1.7	18.8	425528	1.8	19.7	147757	1.8	20.5
94324	1.5	19.2	329948	1.6	20.4	110163	1.6	19.4	303716	1.7	20.1	69622	1.8	18.8	143360	1.8	19.7
470308	1.5	20.6	391093	1.6	20.1	211987	1.6	19.4	307561	1.7	19.7	233716	1.8	20.1	81212	1.8	19.0
131620	1.5	19.6	231276	1.6	20.6	387455	1.6	20.1	411851	1.7	21.4	382975	1.8	21.2	318223	1.8	19.5
424724	1.5	20.5	153615	1.6	18.8	193580	1.6	19.4	461507	1.7	19.5	7057	1.8	16.8	237352	1.8	21.4
429949	1.5	19.9	305520	1.6	21.5	231341	1.6	19.7	255792	1.7	18.4	406353	1.8	19.5	198386	1.8	19.5
522891	1.5	19.7	98323	1.6	18.8	167944	1.6	19.5	433399	1.7	22.2	215208	1.8	19.7	79169	1.8	18.9
404657	1.5	20.9	37454	1.6	18.4	320347	1.6	20.7	214218	1.7	19.3	225794	1.8	20.9	508836	1.8	19.7
419690	1.5	21.1	297183	1.6	20.1	278401	1.6	19.2	204659	1.7	20.0	9166	1.8	16.4	137131	1.8	19.0
175859	1.5	20.9	123103	1.6	18.7	380804	1.6	20.7	324982	1.7	20.8	443023	1.8	21.4	506667	1.8	21.9
189576	1.5	19.0	262349	1.6	19.9	517214	1.6	21.3	500018	1.7	21.0	55920	1.8	19.1	295383	1.9	20.6
468570	1.5	20.6	28364	1.6	17.9	27241	1.6	17.5	11899	1.7	17.4	115038	1.8	19.5	365085	1.9	20.6
430286	1.5	20.3	435812	1.6	21.7	498550	1.6	20.6	64472	1.7	18.7	436364	1.8	20.4	438078	1.9	20.2
202885	1.5	18.8	353697	1.6	20.5	420455	1.6	20.7	98631	1.7	19.8	391673	1.8	21.0	257245	1.9	19.1
471567	1.5	20.9	95992	1.6	20.5	52920	1.6	16.8	368995	1.7	20.9	21767	1.8	18.6	158353	1.9	20.3
498453	1.5	21.6	405843	1.6	20.7	118405	1.6	19.3	263536	1.7	21.3	442045	1.8	20.6	504749	1.9	20.7
74846	1.5	19.4	205714	1.6	19.1	281727	1.6	19.7	263964	1.7	19.9	477745	1.8	20.9	71038	1.9	18.7
93572	1.5	19.5	463397	1.6	20.2	473190	1.6	20.6	103731	1.7	19.5	322466	1.8	19.7	18559	1.9	17.7
191733	1.5	19.4	81119	1.6	19.3	211867	1.6	20.2	415788	1.7	22.1	185565	1.8	19.4	504609	1.9	21.5
364173	1.5	20.2	430293	1.6	19.7	476469	1.6	20.1	4668	1.7	16.7	202271	1.8	19.5	469857	1.9	21.2
374419	1.5	20.2	374272	1.6	20.4	182859	1.6	19.1	497255	1.7	20.7	505334	1.8	20.9	489827	1.9	21.2
384872	1.5	20.9	396443	1.6	19.3	234033	1.6	20.1	133732	1.7	19.3	309685	1.8	19.6	371121	1.9	22.5
491703	1.5	21.1	257600	1.6	19.5	354754	1.6	20.7	383223	1.7	20.1	163384	1.8	19.8	379172	1.9	19.7
459471	1.5	21.2	67941	1.6	18.9	115181	1.6	19.9	495306	1.7	19.5	504840	1.8	21.3	509076	1.9	20.1
250093	1.5	19.0	115361	1.6	19.7	371895	1.6</td										

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
18486	1.9	18.6	14851	1.9	17.1	211977	2.0	20.0	283714	2.1	19.2	481236	2.2	20.4	168938	2.3	20.2
486057	1.9	21.6	248453	1.9	21.1	442931	2.0	20.9	198675	2.1	20.8	259224	2.2	18.4	308179	2.3	19.8
237056	1.9	20.5	45401	1.9	18.8	276643	2.0	19.1	203682	2.1	19.0	367250	2.2	21.3	33622	2.3	17.9
312192	1.9	20.3	505701	1.9	20.5	332812	2.0	19.0	264895	2.1	20.5	36461	2.2	17.9	214438	2.3	19.8
463714	1.9	21.5	172830	1.9	18.0	270400	2.0	20.0	34349	2.1	17.9	439616	2.2	21.2	212443	2.3	18.9
274983	1.9	20.8	183297	1.9	20.5	355689	2.0	21.4	4039	2.1	16.0	215561	2.2	21.1	385013	2.3	20.4
126589	1.9	20.1	250736	1.9	20.5	432789	2.0	21.1	36223	2.1	17.3	467933	2.2	21.4	480650	2.3	20.4
512496	1.9	22.2	318605	1.9	20.6	24234	2.0	17.9	480442	2.1	20.1	29556	2.2	17.7	151053	2.3	18.4
127591	1.9	19.1	442074	1.9	20.7	472730	2.0	20.1	187671	2.1	19.5	127334	2.2	17.5	250364	2.3	19.4
427476	1.9	21.8	202140	1.9	19.5	33603	2.0	17.9	342539	2.1	19.2	362044	2.2	19.5	509759	2.3	21.8
173334	1.9	19.9	141275	1.9	19.8	430926	2.0	22.5	177177	2.1	20.0	416290	2.2	20.1	499847	2.3	20.4
475085	1.9	21.5	499539	1.9	21.6	295526	2.0	20.7	15716	2.1	17.4	509203	2.2	21.7	59937	2.3	19.4
397967	1.9	19.5	356977	1.9	21.5	351858	2.0	22.1	271858	2.1	18.9	62059	2.2	18.1	385033	2.3	20.3
71893	1.9	18.1	474924	1.9	20.9	503874	2.0	20.5	95676	2.1	19.1	42622	2.2	17.4	300404	2.3	19.9
65249	1.9	18.7	384487	1.9	20.1	226326	2.0	18.8	417787	2.1	20.3	105338	2.2	19.4	517202	2.3	20.9
156321	1.9	19.0	219747	1.9	20.1	189566	2.0	20.0	418249	2.1	21.9	240576	2.2	21.2	422678	2.3	21.0
38642	1.9	19.4	62984	1.9	17.7	261603	2.0	18.8	193471	2.1	19.6	387728	2.2	20.4	219560	2.3	20.1
185217	1.9	19.4	392961	1.9	20.1	312179	2.0	19.4	459576	2.1	19.6	247726	2.2	20.1	7016	2.3	16.8
82843	1.9	19.1	36724	1.9	17.8	106811	2.0	19.7	373230	2.1	20.0	454225	2.2	19.6	198718	2.3	20.1
121590	1.9	19.1	180508	1.9	18.7	26671	2.0	19.1	174835	2.1	20.1	356847	2.2	20.8	203328	2.3	18.9
68674	1.9	17.7	294505	1.9	20.7	438183	2.0	20.1	477734	2.1	21.3	405796	2.2	21.5	40079	2.3	18.3
313098	1.9	20.9	3707	1.9	16.6	345940	2.0	19.9	382591	2.1	20.0	17967	2.2	17.8	488497	2.3	21.9
126392	1.9	18.0	181398	1.9	20.5	92453	2.0	18.8	435830	2.1	20.0	155756	2.2	18.9	46695	2.3	18.1
11950	1.9	18.2	289594	1.9	19.3	479806	2.0	20.7	43734	2.1	18.1	491465	2.2	19.5	206898	2.3	19.3
147786	1.9	19.2	161479	1.9	18.0	250017	2.0	19.3	320404	2.1	21.2	380622	2.2	19.7	140914	2.3	19.3
68525	1.9	19.1	295053	1.9	19.8	337097	2.0	20.3	160433	2.1	21.2	420562	2.2	20.1	203181	2.3	18.7
344653	1.9	19.5	393032	1.9	19.9	510383	2.0	21.4	392654	2.1	20.2	394762	2.2	21.7	263333	2.3	19.9
38579	1.9	19.2	64706	1.9	18.6	278374	2.0	20.4	489437	2.1	21.8	437780	2.2	20.9	357382	2.3	20.9
8269	1.9	17.7	142233	1.9	20.2	317515	2.0	19.1	152312	2.1	19.8	168902	2.2	20.0	323389	2.3	20.8
472692	1.9	20.5	321378	1.9	19.1	59895	2.0	19.7	429314	2.1	21.2	341462	2.2	19.6	244974	2.3	19.6
300165	1.9	21.7	435605	1.9	20.4	463234	2.0	20.8	483188	2.1	20.2	418105	2.2	18.2	316944	2.3	20.3
94441	1.9	18.6	266468	1.9	20.5	32898	2.0	17.8	75078	2.1	18.3	380898	2.2	20.0	105988	2.3	18.8
54580	1.9	18.5	263126	1.9	20.8	415081	2.0	20.7	269690	2.1	22.0	34971	2.2	18.9	518395	2.3	21.4
264014	1.9	18.7	292988	1.9	20.1	483608	2.0	21.5	57869	2.1	17.2	395529	2.2	20.0	19287	2.3	18.2
503516	1.9	19.4	84373	1.9	18.4	413865	2.0	21.3	71401	2.1	19.8	300237	2.2	20.6	219548	2.3	20.2
106030	1.9	19.1	73681	1.9	18.2	167236	2.0	20.8	307140	2.1	21.2	480484	2.2	21.2	150132	2.3	21.1
335181	1.9	21.6	425193	1.9	21.0	425828	2.0	21.0	428689	2.1	20.4	175182	2.2	18.9	24264	2.3	18.4
371935	1.9	19.9	13870	1.9	18.3	114878	2.0	19.6	163960	2.1	19.7	344098	2.2	19.8	432403	2.3	21.0
396977	1.9	20.7	287971	1.9	19.9	264718	2.0	20.0	403800	2.1	20.2	183908	2.2	20.8	470003	2.3	20.4
37574	1.9	17.6	22783	1.9	17.4	455471	2.1	19.5	373164	2.1	19.2	279762	2.2	20.2	6813	2.3	16.4
115576	1.9	18.6	43396	1.9	18.9	371563	2.1	19.7	498841	2.1	20.6	320632	2.2	20.7	141941	2.3	18.8
391379	1.9	21.4	134712	1.9	19.7	266709	2.1	19.9	433619	2.1	21.0	250325	2.2	20.8	80803	2.3	19.1
40007	1.9	18.0	416297	1.9	20.3	501524	2.1	21.0	317781	2.1	19.7	352708	2.2	20.3	331557	2.3	19.7
422908	1.9	20.6	236715	1.9	20.9	72186	2.1	17.3	10534	2.1	17.6	336397	2.2	20.5	34888	2.3	17.7
364351	1.9	20.6	488951	1.9	21.1	493632	2.1	21.4	241407	2.1	20.7	266853	2.2	20.2	235575	2.3	19.2
5725	1.9	16.7	307016	1.9	19.8	253063	2.1	19.6	396101	2.1	21.0	438461	2.2	21.0	392627	2.3	20.4
193658	1.9	19.7	114415	1.9	20.3	300133	2.1	21.8	250529	2.1	19.4	233762	2.2	20.2	407747	2.3	20.0
387779	1.9	21.1	195306	1.9	19.5	391716	2.1	20.2	380849	2.1	20.3	100549	2.2	19.8	338554	2.3	20.5
248160	1.9	20.0	395671	1.9	20.0	376892	2.1	20.7	266675	2.1	18.3	214788	2.2	20.4	857	2.3	13.4
87772	1.9	18.6	418130	1.9	21.6	299431	2.1	21.1	127106	2.1	19.8	432857	2.2	20.1	474271	2.3	21.9
149965	1.9	19.7	53092	1.9	17.5	421036	2.1	20.6	257955	2.1	20.5	19588	2.2	18.8	42586	2.3	18.7
438603	1.9	21.0	61960	1.9	18.4	289043	2.1	19.6	456672	2.1	19.8	380642	2.2	21.2	106449	2.3	19.0
471742	1.9	21.4	498150	1.9	21.4	127550	2.1	18.8	423788	2.1	20.2	258949	2.2	20.4	179703	2.3	20.1
4056	1.9	16.4	435244	1.9	20.1	436943	2.1	21.4	312029	2.1	19.9	9112	2.2	16.4	344790	2.3	20.8
507100	1.9	19.3	95167	1.9	18.6	332294	2.1	21.0	111065	2.1	18.6	500907	2.2	20.4	27380	2.3	17.1
251695	1.9	20.7	437046	1.9	20.6	382906	2.1	20.9	409787	2.1	20.5	125675	2.2	19.0	72404	2.3	19.3
131660	1.9	20.0	288165	1.9	20.1	223216	2.1	19.9	428002	2.1	20.7	351507	2.2	20.3	182938	2.3	19.7
429992	1.9	20.6	364659	1.9	19.9	361548	2.1	19.6	214101	2.1	19.1	175553	2.2	19.6	139725	2.3	18.7
100167	1.9	19.5	484394	1.9	22.5	439606	2.1	20.0	152651	2.1	20.5	122221	2.2	19.1	151474	2.3	18.7
491333	1.9	20.4	41483	1.9	18.6	470795	2.1	20.6	139936	2.1	19.7	304734	2.2	21.0	44291	2.3	17.1
208655	1.9	20.5	266099	1.9	21.1	395900	2.1	20.9	40471	2.1	18.4	475495	2.2	20.9	508679	2.3	20.5
338589	1.9	19.6	246819	1.9	19.7	1977	2.1	15.1	85648	2.1	18.2	119803	2.2	18.5	92608	2.3	18.9
500173	1.9	20.5	236658	1.9	20.0	63821	2.1	18.4	17690</								

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

Nº	06	V															
418200	2.3	21.2	177316	2.4	19.6	86243	2.5	19.7	355205	2.6	19.6	471673	2.6	21.5	471725	2.7	20.6
346412	2.3	20.1	380189	2.4	21.1	65571	2.5	19.0	124833	2.6	20.2	135650	2.6	17.6	505526	2.7	21.6
300664	2.3	21.0	468731	2.4	20.3	244773	2.5	19.1	308213	2.6	19.7	336270	2.7	20.0	161697	2.7	18.1
92892	2.3	18.2	59629	2.4	17.2	68721	2.5	17.8	419695	2.6	20.6	412446	2.7	20.2	38450	2.7	17.9
83095	2.3	19.8	505568	2.4	20.6	242695	2.5	20.4	270502	2.6	19.6	187168	2.7	20.0	253484	2.7	19.6
97990	2.3	17.6	111719	2.4	20.3	127346	2.5	18.8	242709	2.6	19.5	87308	2.7	18.9	467472	2.7	20.3
123335	2.3	19.6	262569	2.4	20.8	125291	2.5	19.4	239172	2.6	20.5	277829	2.7	19.1	202852	2.7	19.4
506556	2.3	22.1	312148	2.4	19.9	204074	2.5	20.4	502503	2.6	20.8	332296	2.7	20.0	342870	2.7	20.9
140839	2.3	18.8	368926	2.4	21.8	393850	2.5	20.8	513010	2.6	21.2	171750	2.7	19.8	477562	2.7	19.6
23102	2.3	17.5	311391	2.4	21.3	195369	2.5	20.1	39417	2.6	18.4	264170	2.7	20.5	364621	2.7	19.1
417995	2.3	20.7	34660	2.4	18.1	260552	2.5	19.8	442099	2.6	20.0	257664	2.7	18.9	111277	2.7	19.6
114733	2.3	18.5	445834	2.4	20.5	252985	2.5	20.6	81921	2.6	17.7	498286	2.7	21.0	131351	2.7	18.1
263501	2.4	21.6	379162	2.4	19.1	497429	2.5	22.3	504567	2.6	21.6	144744	2.7	19.8	65809	2.7	18.8
18591	2.4	17.4	459126	2.4	20.0	8692	2.5	16.4	106990	2.6	19.7	313920	2.7	19.9	38019	2.7	18.0
335814	2.4	20.2	430785	2.4	20.6	224588	2.5	20.4	398276	2.6	19.9	21981	2.7	16.7	342430	2.7	19.6
501311	2.4	21.7	91703	2.4	18.0	81987	2.5	17.8	430456	2.6	21.2	355175	2.7	21.1	20899	2.7	15.9
176382	2.4	21.1	268448	2.4	20.1	295483	2.5	20.7	377796	2.6	20.8	512573	2.7	20.6	89755	2.7	20.1
270401	2.4	21.0	21589	2.4	16.2	250728	2.5	20.0	469802	2.6	20.6	435848	2.7	21.0	522945	2.7	20.1
296517	2.4	20.1	392312	2.4	20.7	312871	2.5	20.9	508400	2.6	20.2	231907	2.7	20.2	253689	2.7	20.4
370138	2.4	22.5	32368	2.4	18.6	165184	2.5	18.4	240209	2.6	19.6	34831	2.7	18.6	129874	2.7	19.0
313159	2.4	20.4	479213	2.4	20.9	16310	2.5	18.6	160020	2.6	20.3	300967	2.7	21.3	35406	2.7	17.7
17721	2.4	17.3	96421	2.4	18.3	147440	2.5	20.1	112562	2.6	18.7	96784	2.7	19.1	50970	2.7	16.5
446601	2.4	20.4	471452	2.4	21.1	436998	2.5	21.1	376937	2.6	22.1	145025	2.7	18.7	304388	2.7	20.7
203048	2.4	20.6	302003	2.4	19.8	489760	2.5	21.3	385246	2.6	20.0	85053	2.7	19.5	202275	2.7	20.2
462571	2.4	21.8	115702	2.4	18.8	6510	2.5	15.3	32701	2.6	18.6	191709	2.7	19.3	429180	2.7	19.8
433847	2.4	21.2	382225	2.4	19.9	353914	2.5	20.7	390468	2.6	18.7	290867	2.7	19.6	320269	2.7	20.3
499378	2.4	21.4	317988	2.4	19.9	302834	2.5	19.6	380936	2.6	19.6	386910	2.7	20.1	430153	2.8	20.2
211135	2.4	19.1	475261	2.4	20.3	82483	2.5	18.4	474742	2.6	22.4	111231	2.7	19.8	8291	2.8	18.4
149814	2.4	20.0	308679	2.4	18.6	376871	2.5	19.3	85848	2.6	19.6	185054	2.7	19.7	169234	2.8	19.7
115640	2.4	20.0	436154	2.4	21.3	54366	2.5	19.6	347873	2.6	19.7	500893	2.7	20.2	69608	2.8	17.2
430938	2.4	20.7	254468	2.4	19.8	309131	2.5	21.0	335583	2.6	20.2	77226	2.7	18.6	144658	2.8	18.9
520037	2.4	21.4	355614	2.4	20.8	273704	2.5	19.9	367956	2.6	20.9	74278	2.7	20.1	67562	2.8	17.4
377709	2.4	20.2	250930	2.4	20.2	510287	2.5	20.5	491603	2.6	21.2	33904	2.7	18.4	515062	2.8	22.3
149141	2.4	19.4	425576	2.4	21.5	248081	2.5	20.1	338699	2.6	20.3	522698	2.7	20.5	509092	2.8	20.9
129886	2.4	20.3	247396	2.4	19.9	120495	2.5	19.8	75192	2.6	18.4	283692	2.7	20.0	108110	2.8	19.5
432828	2.4	20.5	113569	2.4	19.2	27628	2.5	18.2	20541	2.6	17.6	144100	2.7	18.6	476299	2.8	21.2
186982	2.4	19.6	61860	2.4	18.3	438985	2.5	21.4	2132	2.6	15.5	343378	2.7	20.3	81794	2.8	18.2
246139	2.4	19.1	290038	2.4	20.4	323018	2.5	20.1	476150	2.6	20.8	69456	2.7	19.3	340319	2.8	19.4
510572	2.4	20.8	15665	2.4	17.8	275622	2.5	19.2	207694	2.6	19.3	310644	2.7	21.3	86321	2.8	17.1
346162	2.4	20.4	281878	2.4	20.5	21011	2.5	17.6	90896	2.6	19.2	272510	2.7	20.5	114862	2.8	18.3
173895	2.4	19.6	364575	2.4	20.3	428730	2.5	20.4	367124	2.6	20.1	51455	2.7	17.8	404741	2.8	20.0
137537	2.4	20.1	351979	2.4	20.1	512063	2.5	20.4	35451	2.6	18.6	249769	2.7	19.2	424087	2.8	22.1
431204	2.4	20.3	393560	2.5	20.8	95581	2.5	19.0	165299	2.6	19.8	392630	2.7	20.3	95371	2.8	19.1
472884	2.4	20.8	126640	2.5	19.1	303674	2.5	20.6	478129	2.6	21.1	467260	2.7	19.9	302389	2.8	20.3
254281	2.4	20.5	511951	2.5	20.9	102157	2.5	19.8	309940	2.6	19.9	84266	2.7	20.2	131788	2.8	18.3
225795	2.4	20.5	251372	2.5	20.0	504817	2.5	21.0	395896	2.6	20.6	472940	2.7	20.7	330839	2.8	19.3
85037	2.4	19.9	190643	2.5	20.1	166448	2.5	18.5	17328	2.6	16.5	471621	2.7	20.2	494268	2.8	20.6
27579	2.4	17.5	69464	2.5	19.3	507055	2.5	20.6	229528	2.6	20.3	12281	2.7	16.5	106655	2.8	19.1
354769	2.4	19.2	420521	2.5	20.9	232111	2.5	20.6	403222	2.6	21.1	149910	2.7	19.5	352175	2.8	20.6
44999	2.4	19.0	189352	2.5	20.6	503052	2.5	21.1	327233	2.6	19.8	342708	2.7	21.1	3659	2.8	17.7
394307	2.4	21.7	48038	2.5	17.6	39596	2.5	19.2	358070	2.6	19.6	438252	2.7	20.6	307178	2.8	19.9
165187	2.4	20.1	150920	2.5	19.8	230308	2.5	21.1	19731	2.6	17.3	90438	2.7	18.5	253486	2.8	19.2
277587	2.4	20.7	393982	2.5	20.9	456422	2.5	19.2	388802	2.6	19.6	427639	2.7	20.8	381920	2.8	20.7
253730	2.4	20.6	286636	2.5	20.6	2745	2.5	17.4	82354	2.6	19.1	146928	2.7	19.6	161084	2.8	18.9
374370	2.4	21.6	292213	2.5	19.6	38305	2.5	18.6	86366	2.6	19.4	393864	2.7	21.2	290902	2.8	21.5
158441	2.4	20.4	169531	2.5	18.4	248182	2.5	19.7	501849	2.6	20.7	516989	2.7	20.8	522968	2.8	20.7
202976	2.4	20.2	506886	2.5	21.6	383264	2.5	20.3	63032	2.6	19.1	135543	2.7	19.4	96859	2.8	19.2
187409	2.4	20.6	497526	2.5	20.9	478176	2.5	21.5	257328	2.6	19.9	508225	2.7	20.8	355703	2.8	20.6
125754	2.4	18.9	254370	2.5	20.2	24310	2.5	17.6	294834	2.6	19.4	142196	2.7	20.0	519672	2.8	22.0
337135	2.4	19.8	249808	2.5	19.9	473277	2.5	20.6	439697	2.6	20.3	78640	2.7	18.4	259053	2.8	20.5
20485	2.4	18.5	432848	2.5	20.1	13660	2.6	18.9	492375	2.6	20.8	121411	2.7	19.9	468487	2.8	19.9
168866	2.4	20.3	261078	2.5	21.3	475766	2.6	20.3	182945	2.6	19.5	211422	2.7	20.5	255439	2.8	20.1
244784	2.4	19.7	380264	2.5	21.1	100363	2.6	18.3									

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

Nº	06	V															
31	2.8	12.5	437268	2.9	19.5	366535	2.9	20.1	168753	3.0	20.0	377660	3.1	20.8	262870	3.2	19.9
134916	2.8	18.7	270545	2.9	20.2	173849	2.9	19.6	472082	3.0	20.8	151006	3.1	19.2	254235	3.2	20.0
297730	2.8	20.0	393642	2.9	19.6	499302	2.9	22.1	417594	3.0	21.0	46033	3.1	17.9	425733	3.2	19.8
247960	2.8	19.4	259883	2.9	20.1	101782	2.9	20.3	292613	3.0	20.9	185454	3.1	21.4	475542	3.2	21.4
439184	2.8	20.3	253658	2.9	20.8	438769	2.9	21.0	411640	3.0	21.0	230342	3.1	21.0	206014	3.2	19.5
344893	2.8	20.9	2651	2.9	17.4	393167	2.9	20.3	92426	3.0	17.1	190631	3.1	20.1	507550	3.2	20.3
427340	2.8	20.8	510101	2.9	21.2	329955	2.9	19.4	139536	3.0	20.0	356728	3.1	21.2	216039	3.2	19.6
414216	2.8	21.7	236655	2.9	20.8	176106	2.9	19.6	320193	3.0	20.4	424054	3.1	20.4	72279	3.2	18.5
334784	2.8	20.7	20197	2.9	18.1	398426	2.9	20.5	94184	3.0	18.2	10636	3.1	21.3	308747	3.2	19.4
192789	2.8	20.2	102001	2.9	19.0	268022	2.9	19.9	443514	3.0	20.4	472239	3.1	21.4	387533	3.2	20.9
177896	2.8	19.4	59178	2.9	17.3	437847	2.9	20.1	289431	3.0	19.6	478229	3.1	21.7	294600	3.2	20.5
269930	2.8	19.6	39864	2.9	18.6	520080	2.9	21.3	311396	3.0	19.9	350827	3.1	20.7	181659	3.2	20.3
359783	2.8	20.1	141328	2.9	20.0	513434	2.9	21.7	522387	3.0	21.1	48039	3.1	17.6	212368	3.2	18.8
297707	2.8	20.7	39565	2.9	21.4	504143	2.9	20.8	180168	3.0	19.4	419764	3.1	20.5	510766	3.2	20.8
459641	2.8	19.1	59990	2.9	18.2	338576	2.9	18.9	56096	3.0	17.0	219568	3.1	20.5	79503	3.2	17.9
370041	2.8	20.5	427882	2.9	21.2	388404	2.9	18.9	373475	3.0	19.8	138864	3.1	20.2	300053	3.2	20.0
475835	2.8	20.6	437432	2.9	21.2	31998	2.9	17.8	422830	3.0	21.8	126988	3.1	19.1	413311	3.2	22.0
423432	2.8	20.4	220992	2.9	18.8	394046	2.9	19.4	430522	3.0	21.5	514344	3.1	21.9	411842	3.2	20.9
489360	2.8	22.4	26690	2.9	16.6	210802	2.9	19.2	11925	3.0	18.9	253970	3.1	20.6	77175	3.2	19.4
235005	2.8	19.1	499748	2.9	21.4	456075	2.9	20.2	405416	3.0	20.4	471602	3.1	20.8	239792	3.2	20.4
287301	2.8	19.3	257860	2.9	19.5	312004	2.9	20.3	505520	3.0	20.3	133959	3.1	19.6	514469	3.2	20.8
17552	2.8	18.3	48078	2.9	18.1	153033	2.9	18.0	111223	3.0	18.8	140535	3.1	19.7	288230	3.2	20.8
79098	2.8	19.0	231292	2.9	20.6	69469	2.9	18.7	45204	3.0	18.8	72394	3.1	19.0	394777	3.2	21.1
62407	2.8	19.1	45270	2.9	16.9	146212	2.9	20.1	510426	3.0	21.4	356771	3.1	20.5	115583	3.2	18.9
92956	2.8	17.5	113067	2.9	18.4	12752	2.9	18.7	218936	3.0	18.5	357097	3.1	19.7	253679	3.2	20.4
507929	2.8	19.6	432358	2.9	20.7	434267	2.9	20.3	139065	3.0	19.1	237954	3.1	19.6	398761	3.2	21.4
334560	2.8	20.8	451272	2.9	19.5	509304	2.9	21.2	248389	3.0	20.0	67279	3.1	17.9	501033	3.2	21.1
435276	2.8	19.8	85824	2.9	18.7	131870	2.9	20.4	384846	3.0	20.2	397291	3.1	20.9	254444	3.2	19.8
67736	2.8	17.9	37124	2.9	19.3	10577	2.9	16.3	118426	3.0	19.2	861426	3.1	18.8	261084	3.2	20.5
12046	2.8	16.2	258815	2.9	19.2	390231	2.9	20.8	250923	3.0	19.9	123842	3.1	21.1	87528	3.2	18.3
115120	2.8	19.3	300151	2.9	20.8	474977	2.9	21.3	469872	3.0	21.3	313074	3.1	20.7	499346	3.2	21.2
250289	2.8	20.4	48603	2.9	21.1	35093	2.9	18.3	512049	3.0	20.9	355163	3.1	19.7	325775	3.2	20.5
106880	2.8	20.0	31995	2.9	18.1	69120	2.9	17.7	133077	3.0	19.5	385828	3.1	20.9	383901	3.2	21.1
409326	2.8	21.3	417557	2.9	19.9	491411	2.9	21.1	148402	3.0	20.1	381507	3.1	20.9	183980	3.2	19.7
189581	2.8	19.3	393324	2.9	20.8	181453	2.9	19.9	31819	3.0	18.4	192006	3.1	20.1	447929	3.2	19.9
434680	2.8	22.0	43153	2.9	18.0	519050	2.9	19.8	131741	3.0	19.9	36742	3.1	18.8	360904	3.2	22.2
424002	2.8	21.8	474222	2.9	21.6	521078	2.9	19.9	425589	3.0	21.4	143420	3.1	19.9	193220	3.2	19.3
380173	2.8	21.0	85951	2.9	17.9	372756	2.9	20.7	242268	3.1	20.4	323182	3.1	19.9	449962	3.2	20.6
32794	2.8	19.5	81094	2.9	17.9	13723	2.9	18.3	398905	3.1	21.1	438954	3.1	21.6	335597	3.2	20.3
384100	2.8	19.5	42044	2.9	18.7	344536	2.9	20.9	167793	3.1	20.0	59976	3.1	18.4	394066	3.2	20.3
488918	2.8	21.2	30856	2.9	15.4	35370	2.9	19.3	14326	3.1	18.2	42671	3.1	17.7	388294	3.2	20.5
140730	2.8	19.4	28914	2.9	18.2	141730	2.9	17.9	263483	3.1	20.0	106575	3.1	19.6	474138	3.2	22.7
344749	2.8	19.3	345964	2.9	19.8	434254	2.9	20.1	139952	3.1	19.3	102152	3.1	20.3	140989	3.2	20.1
408489	2.8	20.4	170985	2.9	19.6	471599	2.9	20.5	243798	3.1	20.2	478086	3.1	21.2	107467	3.2	17.6
475778	2.8	21.1	128691	2.9	20.0	235235	2.9	20.5	121578	3.1	19.9	438188	3.1	21.1	31215	3.2	18.6
289386	2.8	20.3	79014	2.9	18.7	213247	2.9	19.7	440934	3.1	20.9	472728	3.1	20.2	120697	3.2	20.0
250294	2.8	20.0	21873	2.9	17.7	63147	2.9	18.9	475620	3.1	22.4	474809	3.1	21.5	45582	3.2	18.2
350676	2.8	21.2	122598	2.9	19.7	58635	2.9	18.9	100391	3.1	20.8	504754	3.1	20.8	396203	3.2	19.6
230302	2.8	20.0	507114	2.9	21.4	140887	2.9	20.5	143572	3.1	19.5	364229	3.1	20.0	389866	3.2	20.0
279605	2.8	20.4	184560	2.9	20.2	416961	2.9	20.9	507606	3.1	21.5	320601	3.2	19.3	294626	3.2	20.0
119738	2.8	19.3	96316	2.9	19.3	509515	2.9	20.6	377719	3.1	19.9	242731	3.2	19.9	374312	3.2	21.3
369089	2.8	19.9	19711	2.9	15.7	283177	2.9	20.3	476394	3.1	21.9	435577	3.2	21.3	28614	3.2	16.4
136356	2.8	20.3	383276	2.9	20.6	249022	3.0	19.6	461843	3.1	20.9	208594	3.2	20.0	370186	3.2	20.6
43158	2.8	18.6	75752	2.9	19.5	196698	3.0	20.5	437058	3.1	20.9	388352	3.2	20.7	505177	3.2	21.1
291722	2.9	20.0	509662	2.9	20.9	303805	3.0	21.7	417926	3.1	21.1	441698	3.2	21.1	499537	3.2	22.0
329526	2.9	20.8	317225	2.9	19.8	17548	3.0	17.8	86297	3.1	18.3	302306	3.2	21.0	297601	3.2	21.2
346092	2.9	21.1	309107	2.9	19.1	413471	3.0	20.8	228623	3.1	19.2	231337	3.2	19.5	137683	3.2	20.4
379585	2.9	19.9	276154	2.9	19.1	60246	3.0	18.0	392146	3.1	20.5	336198	3.2	18.8	332344	3.2	19.2
208350	2.9	20.6	9443	2.9	18.0	437484	3.0	21.0	270452	3.1	21.0	61355	3.2	18.9	41181	3.2	18.6
267181	2.9	19.4	510375	2.9	21.8	231596	3.0	20.1	253253	3.1	19.2	311440	3.2	20.7	244012	3.2	20.6
248395	2.9	19.6	381829	2.9	21.4	501291	3.0	20.9	159991	3.1	19.0	429696	3.2	20.6	153692	3.2	18.1
182361	2.9	19.4	108049	2.9	19.1	345939	3.0	20.6	184638	3.1	19.5	474207	3.2	22.1	304635	3.2	19.7
33970	2.9	18.4	422045	2.9	21.5	75223	3.0	1									

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

Nº	06	V															
502880	3.2	21.1	305312	3.3	19.6	328933	3.4	21.3	32116	3.4	17.5	278044	3.5	19.6	366204	3.6	19.5
523552	3.2	21.4	213716	3.3	19.3	72516	3.4	17.8	151465	3.4	19.9	513051	3.5	20.1	213851	3.6	19.6
397403	3.2	21.3	412413	3.3	19.7	471643	3.4	20.7	202746	3.4	18.1	398046	3.5	19.9	509710	3.6	20.9
68606	3.2	17.4	299790	3.3	20.9	118834	3.4	19.2	166702	3.4	20.2	38323	3.5	18.1	480490	3.6	20.4
96331	3.2	19.3	91984	3.3	18.0	206684	3.4	20.5	367093	3.4	19.6	69832	3.5	19.5	116856	3.6	18.1
161376	3.2	19.5	24714	3.3	17.3	105328	3.4	19.5	371650	3.4	21.3	332376	3.5	18.8	206734	3.6	20.5
71173	3.2	19.6	472343	3.3	19.4	40686	3.4	18.3	302308	3.4	19.9	115202	3.5	19.6	492338	3.6	20.5
9279	3.2	18.2	513123	3.3	22.6	75451	3.4	19.2	243200	3.4	19.9	127329	3.5	19.2	454087	3.6	20.7
166385	3.2	18.7	33571	3.3	18.0	262043	3.4	20.8	11014	3.4	16.5	282053	3.5	19.8	386558	3.6	20.5
45875	3.2	17.9	501959	3.3	21.6	190093	3.4	20.1	176517	3.4	20.0	446656	3.5	20.0	236857	3.6	20.4
439931	3.2	21.6	38260	3.3	17.9	160148	3.4	23.2	114547	3.4	19.1	281965	3.5	20.9	352420	3.6	19.2
342044	3.2	20.7	123027	3.3	18.5	52531	3.4	18.1	61779	3.4	19.3	257937	3.5	20.2	99572	3.6	18.6
508807	3.2	20.7	261328	3.3	20.1	136798	3.4	19.1	184425	3.4	20.7	169444	3.5	19.5	342697	3.6	19.4
90259	3.2	18.0	166420	3.3	20.1	141009	3.4	19.2	497949	3.4	20.9	95419	3.5	19.6	286422	3.6	20.6
267322	3.2	20.6	431423	3.3	20.8	171802	3.4	19.6	180379	3.4	20.3	1560	3.5	15.7	28362	3.6	17.3
499720	3.2	21.8	301052	3.3	19.8	387247	3.4	20.4	260771	3.4	19.7	40587	3.5	18.1	363909	3.6	20.6
78053	3.2	18.7	336244	3.3	20.4	213522	3.4	19.7	352114	3.4	20.2	240189	3.5	20.2	101452	3.6	20.2
264890	3.2	20.2	312498	3.3	19.4	417937	3.4	20.2	347748	3.5	20.4	477690	3.5	21.5	355217	3.6	20.4
40689	3.2	19.0	512825	3.3	21.0	23105	3.4	18.6	362759	3.5	20.6	346165	3.5	20.5	32488	3.6	17.8
360651	3.2	19.6	374464	3.3	21.3	511377	3.4	19.7	239073	3.5	20.2	504490	3.5	21.8	432417	3.6	20.8
61785	3.2	19.8	307060	3.3	18.4	128116	3.4	18.3	12645	3.5	18.5	250326	3.5	20.4	24346	3.6	19.0
380570	3.2	21.0	459541	3.3	20.6	172866	3.4	19.1	364041	3.5	20.0	158196	3.5	18.2	519206	3.6	20.8
496682	3.2	21.0	115884	3.3	19.9	214813	3.4	19.9	61516	3.5	18.8	505754	3.5	19.8	315359	3.6	20.7
349588	3.2	21.6	266890	3.3	19.2	46394	3.4	18.2	4444	3.5	16.0	225986	3.5	20.4	474918	3.6	21.4
67725	3.2	17.6	317427	3.3	19.0	60723	3.4	17.8	309794	3.5	20.0	290943	3.5	19.7	128516	3.6	19.4
19804	3.2	18.0	482146	3.3	21.5	488848	3.4	21.5	496719	3.5	20.9	282414	3.5	20.3	433640	3.6	20.6
93544	3.2	18.5	146870	3.3	19.1	255671	3.4	19.1	425871	3.5	20.5	388754	3.5	21.1	75531	3.6	19.3
40829	3.2	17.9	170992	3.3	19.9	4257	3.4	19.9	469463	3.5	21.4	85372	3.5	18.7	156322	3.6	20.6
327740	3.2	20.6	159484	3.3	20.1	323067	3.4	19.8	444870	3.5	19.7	308718	3.5	20.5	396052	3.6	20.3
502897	3.3	21.0	272588	3.3	21.0	345667	3.4	20.7	438130	3.5	20.7	488508	3.5	22.1	380507	3.6	20.6
174539	3.3	18.9	127866	3.3	19.1	198957	3.4	20.7	126288	3.5	18.4	509683	3.5	20.6	237006	3.6	21.1
175249	3.3	18.6	141027	3.3	19.3	489947	3.4	21.5	9147	3.5	16.4	278733	3.5	20.0	470352	3.6	21.9
56303	3.3	19.1	68176	3.3	18.5	181917	3.4	19.8	520283	3.5	20.3	504408	3.5	21.5	149742	3.6	19.4
302211	3.3	19.6	519709	3.3	21.3	319523	3.4	19.9	410301	3.5	22.1	142115	3.5	20.1	203008	3.6	20.3
394755	3.3	21.1	333897	3.3	20.2	76686	3.4	19.1	100937	3.5	18.3	190576	3.5	19.7	292110	3.6	21.5
185591	3.3	18.2	165274	3.3	18.7	8365	3.4	17.5	356352	3.5	20.5	171331	3.5	18.9	88093	3.6	19.7
197869	3.3	19.0	288853	3.3	18.5	30790	3.4	18.9	45128	3.5	19.0	126063	3.5	19.3	394238	3.6	21.7
40282	3.3	16.6	178312	3.3	19.7	480363	3.4	20.5	505826	3.5	20.8	497011	3.5	21.0	86083	3.6	19.1
483470	3.3	20.0	253735	3.3	19.7	476352	3.4	20.1	225601	3.5	20.3	14218	3.5	17.7	121842	3.6	18.5
390617	3.3	20.6	504150	3.3	20.5	91235	3.4	18.2	142076	3.5	18.4	117993	3.5	18.2	311883	3.6	20.1
71894	3.3	18.5	440062	3.3	20.4	245546	3.4	18.8	143322	3.5	20.1	317939	3.5	20.1	270426	3.6	19.6
138837	3.3	19.5	109038	3.3	18.3	283083	3.4	20.3	398269	3.5	21.5	479872	3.5	20.6	154882	3.6	20.2
382314	3.3	20.1	160554	3.3	18.9	154005	3.4	20.0	206188	3.5	20.1	25479	3.5	17.5	28949	3.6	17.7
295803	3.3	19.0	364688	3.3	20.1	434266	3.4	21.3	22935	3.5	19.3	365895	3.5	20.7	371416	3.6	19.7
413837	3.3	21.8	289586	3.3	19.8	377657	3.4	20.1	302270	3.5	20.7	156981	3.5	19.2	123608	3.6	19.8
36638	3.3	18.5	475259	3.3	21.9	137466	3.4	20.3	32258	3.5	18.4	435252	3.5	20.8	180107	3.6	19.3
493608	3.3	20.7	477649	3.3	20.6	153880	3.4	19.1	111449	3.5	19.2	137597	3.5	19.3	82076	3.6	17.1
471712	3.3	21.3	2804	3.3	15.2	336207	3.4	19.7	261376	3.5	20.5	497523	3.5	21.8	83558	3.6	19.3
123086	3.3	19.7	28486	3.3	17.0	156543	3.4	18.6	429702	3.5	21.2	215198	3.5	20.0	507822	3.6	20.8
172746	3.3	20.1	500073	3.3	20.6	468818	3.4	20.3	287914	3.5	20.5	44356	3.5	17.9	478080	3.6	20.7
224466	3.3	20.9	382192	3.3	19.3	505570	3.4	20.6	304408	3.5	20.2	69427	3.5	18.7	31595	3.6	17.8
371952	3.3	19.8	489954	3.3	21.4	178925	3.4	20.8	339254	3.5	19.5	261164	3.5	21.3	264766	3.6	20.8
249325	3.3	19.0	29701	3.3	18.0	165197	3.4	19.2	505762	3.5	19.7	152438	3.5	18.8	310484	3.6	20.3
508898	3.3	21.6	336157	3.3	20.3	346950	3.4	20.4	355452	3.5	20.5	309085	3.5	19.1	359588	3.6	20.1
476332	3.3	20.8	507768	3.3	20.8	204111	3.4	20.1	391709	3.5	20.2	259787	3.5	20.1	257419	3.6	19.8
79138	3.3	18.5	33272	3.3	19.0	99188	3.4	18.4	270480	3.5	19.5	231837	3.5	20.9	133296	3.6	18.2
183054	3.3	21.6	506565	3.3	21.7	418956	3.4	19.7	40640	3.5	19.3	187392	3.6	19.1	180349	3.6	20.1
255140	3.3	19.9	58788	3.3	18.7	38628	3.4	19.4	398536	3.5	21.5	198242	3.6	20.2	178587	3.6	20.4
472691	3.3	20.6	343876	3.3	20.0	467160	3.4	20.7	560	3.5	15.3	244638	3.6	18.6	520223	3.6	20.9
102077	3.3	19.3	293319	3.3	21.2	33172	3.4	17.4	266939	3.5	20.0	41296	3.6	17.6	67028	3.6	18.6
225892	3.3	17.1	5704	3.3	16.5	175832	3.4	19.5	394237	3.5	21.6	25372	3.6	19.3	512494	3.6	20.9
312456	3.3	20.4	62038	3.3	18.8	179470	3.4	21.4	394743	3.5	21.6	449293	3.6	20.3	158336	3.6	20.3
156642	3.3	20.1	235794	3.3	20.4	21896	3.4	18.8	429550								

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

Nº	06	V															
162141	3.6	19.8	146902	3.7	19.3	259023	3.8	20.5	60019	3.9	19.5	429497	3.9	20.9	59072	4.0	18.0
294749	3.6	19.9	500812	3.7	20.6	410393	3.8	21.4	328222	3.9	19.4	67265	3.9	18.2	410279	4.0	20.0
29349	3.6	17.1	376396	3.7	20.1	183065	3.8	20.1	459006	3.9	21.8	90802	3.9	18.2	89542	4.0	17.8
325175	3.6	19.3	273668	3.7	20.1	47542	3.8	18.6	160069	3.9	19.7	469858	3.9	21.0	349453	4.0	20.9
505468	3.6	21.6	149937	3.7	19.8	241273	3.8	20.5	439377	3.9	20.4	463946	3.9	20.1	432724	4.0	20.5
209041	3.6	18.2	62404	3.7	18.3	279826	3.8	19.9	315035	3.9	21.0	63177	3.9	19.1	277696	4.0	20.4
58313	3.6	19.4	478006	3.7	20.7	510088	3.8	21.1	73011	3.9	18.2	88079	3.9	19.6	112856	4.0	19.0
250696	3.6	20.1	137996	3.7	20.2	64122	3.8	17.5	67655	3.9	19.6	341031	3.9	19.1	175368	4.0	19.9
90724	3.6	20.4	248539	3.7	20.3	198434	3.8	20.0	313075	3.9	20.9	307021	3.9	20.3	419378	4.0	19.6
500961	3.6	20.0	436817	3.7	20.6	175378	3.8	19.5	471848	3.9	19.9	263588	3.9	20.7	295304	4.0	20.2
221810	3.6	19.3	176581	3.7	18.7	290230	3.8	20.5	478197	3.9	22.1	342761	3.9	20.7	246328	4.0	20.7
304737	3.6	21.0	58409	3.7	19.6	336290	3.8	20.1	432380	3.9	21.1	344679	3.9	20.7	373615	4.0	21.4
61302	3.6	19.1	216691	3.7	19.4	147835	3.8	20.1	55779	3.9	18.6	35437	3.9	19.3	146271	4.0	20.2
474851	3.6	21.4	163713	3.7	18.5	111230	3.8	20.1	95825	3.9	18.1	215079	3.9	19.9	341565	4.0	20.7
455832	3.6	21.8	437405	3.7	21.0	336931	3.8	19.8	508954	3.9	21.9	78884	3.9	19.6	471338	4.0	20.3
393861	3.6	20.2	473305	3.7	19.6	61819	3.8	18.0	203463	3.9	20.6	322773	3.9	20.5	144995	4.0	19.4
81183	3.7	19.3	492323	3.7	20.9	1851	3.8	17.1	398198	3.9	21.4	376963	3.9	20.2	307146	4.0	19.4
321670	3.7	20.4	99112	3.7	19.1	508188	3.8	21.1	308404	3.9	21.8	227527	3.9	20.0	498123	4.0	22.0
309177	3.7	20.2	320544	3.7	21.4	63006	3.8	19.0	336847	3.9	19.3	144664	3.9	18.8	263660	4.0	20.6
151201	3.7	20.5	436331	3.7	20.4	520221	3.8	21.2	159799	3.9	19.3	315475	3.9	20.8	396954	4.0	19.1
425831	3.7	21.2	505548	3.7	20.4	141237	3.8	20.0	429447	3.9	21.5	214899	3.9	20.6	284400	4.0	20.9
176395	3.7	20.8	243193	3.7	18.8	508633	3.8	20.7	494355	3.9	21.5	383909	3.9	20.2	228344	4.0	19.4
204048	3.7	19.9	270382	3.7	21.0	438191	3.8	21.0	371621	3.9	20.9	215636	3.9	19.3	391050	4.0	19.5
127921	3.7	18.7	497083	3.7	20.8	330498	3.8	19.3	5359	3.9	17.1	309189	3.9	20.7	465103	4.0	20.7
507130	3.7	22.0	425215	3.7	20.5	203326	3.8	20.1	511565	3.9	19.4	383926	3.9	21.1	144032	4.0	18.5
69142	3.7	18.2	258562	3.7	19.8	195419	3.8	19.9	287738	3.9	19.6	313108	3.9	20.8	275427	4.0	19.5
415120	3.7	19.5	128559	3.7	19.3	488477	3.8	20.7	60282	3.9	18.7	472598	3.9	20.2	420212	4.0	20.1
388763	3.7	20.4	486693	3.7	20.6	380655	3.8	21.1	165167	3.9	20.0	318657	3.9	19.4	459253	4.0	20.9
433562	3.7	19.5	324464	3.7	20.7	94815	3.8	20.4	308363	3.9	20.8	250362	3.9	21.0	466723	4.0	20.6
295015	3.7	20.0	235382	3.7	19.4	387234	3.8	20.8	476351	3.9	20.5	396971	3.9	20.8	324503	4.0	19.2
115601	3.7	20.0	302329	3.7	20.2	471776	3.8	21.3	221033	3.9	19.5	372899	3.9	20.2	219692	4.0	21.0
398475	3.7	20.7	153697	3.7	19.4	505357	3.8	22.6	109562	3.9	18.5	248550	3.9	20.1	350402	4.0	20.8
417682	3.7	21.5	435570	3.7	20.9	148680	3.8	20.0	245647	3.9	19.9	429198	3.9	20.8	506599	4.0	21.3
123624	3.7	18.7	507361	3.7	23.4	352819	3.8	19.9	346881	3.9	21.1	156496	3.9	20.7	69726	4.0	18.4
45816	3.7	17.6	370187	3.7	21.6	338510	3.8	18.8	178585	3.9	20.7	295097	3.9	20.0	143950	4.0	19.7
294808	3.7	20.0	176565	3.7	19.5	210533	3.8	21.2	53397	3.9	18.4	89772	3.9	19.2	59000	4.0	19.5
300600	3.7	20.2	496968	3.7	21.4	110914	3.8	18.8	336494	3.9	21.2	128959	3.9	19.4	440747	4.0	20.2
162803	3.7	19.8	15081	3.7	17.5	501157	3.8	21.6	249101	3.9	20.0	334845	3.9	20.7	34215	4.0	17.5
37569	3.7	16.2	395278	3.7	20.7	173594	3.8	19.4	99053	3.9	19.6	166439	3.9	19.7	497008	4.0	21.5
150290	3.7	19.3	519536	3.7	19.5	501335	3.8	20.9	31218	3.9	19.1	430544	3.9	23.9	233871	4.0	19.5
215006	3.7	19.8	69835	3.7	18.5	97884	3.8	20.0	433402	3.9	22.1	314163	3.9	19.6	179577	4.0	18.5
323299	3.7	20.5	183351	3.7	18.8	44382	3.8	18.4	111113	3.9	19.5	175613	3.9	19.7	248684	4.0	19.7
170456	3.7	20.1	242678	3.7	19.8	376273	3.8	21.0	507069	3.9	21.4	124412	3.9	19.3	340514	4.1	20.1
342877	3.7	21.2	300954	3.8	21.1	318488	3.8	20.9	469882	3.9	21.1	45478	3.9	19.3	62993	4.1	17.9
505414	3.7	21.2	424385	3.8	20.9	54341	3.8	20.8	306769	3.9	19.1	366301	3.9	19.8	470482	4.1	21.0
9385	3.7	16.8	139119	3.8	19.6	294582	3.8	19.8	224338	3.9	21.0	280278	3.9	20.9	437316	4.1	19.6
522994	3.7	21.3	6977	3.8	15.8	171195	3.8	20.2	358918	3.9	20.4	309654	3.9	20.0	427358	4.1	20.3
380042	3.7	19.5	83989	3.8	18.5	330641	3.8	21.0	155044	3.9	21.1	172404	3.9	19.6	499961	4.1	20.5
503228	3.7	21.4	102319	3.8	19.0	502295	3.8	20.1	304645	3.9	20.2	280618	3.9	19.7	358784	4.1	20.6
431042	3.7	20.7	404693	3.8	20.3	77349	3.8	19.2	91290	3.9	17.0	37859	3.9	18.8	497039	4.1	21.1
207630	3.7	20.1	94359	3.8	19.5	439636	3.8	19.4	355512	3.9	21.6	51628	3.9	18.1	322598	4.1	20.1
173863	3.7	19.0	99809	3.8	18.4	147847	3.8	19.6	320642	3.9	20.8	291701	3.9	20.3	469337	4.1	19.8
99434	3.7	17.0	366524	3.8	20.7	248917	3.8	19.7	218232	3.9	18.9	163242	3.9	19.7	77068	4.1	17.2
391994	3.7	22.4	494658	3.8	23.6	506691	3.8	22.5	311415	3.9	20.8	52918	3.9	17.9	350800	4.1	21.4
430025	3.7	21.1	21019	3.8	18.3	198348	3.8	19.7	308608	3.9	19.9	357323	3.9	18.9	94236	4.1	18.4
353534	3.7	21.0	195486	3.8	19.8	357794	3.8	21.7	106271	3.9	18.2	245677	3.9	20.8	396374	4.1	20.0
255145	3.7	19.8	222541	3.8	19.6	324979	3.8	20.3	99218	3.9	18.6	355654	3.9	20.2	458856	4.1	21.1
338768	3.7	20.1	203157	3.8	21.4	521091	3.8	20.5	117562	3.9	18.6	416565	3.9	21.5	308457	4.1	20.9
252708	3.7	19.2	34407	3.8	16.4	303851	3.8	20.5	30457	3.9	18.2	198437	3.9	20.0	327737	4.1	21.3
512749	3.7	20.3	507789	3.8	22.2	20310	3.8	17.7	482165	3.9	21.8	224505	3.9	20.8	395441	4.1	20.5
65564	3.7	18.6	294017	3.8	19.2	274820	3.8	19.1	227844	3.9	19.2	60091	3.9	17.8	463812	4.1	20.9
146893	3.7	19.9	402150	3.8	21.0	13454	3.8	18.1	242693	3.9	20.4	436837	3.9	21.4	431704	4.1	22.3
507149	3.7	21.6	1762	3.8	15.4	396880	3.8	21									

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

Nº	06	V															
227571	4.1	19.6	307511	4.2	20.5	470379	4.2	21.8	93068	4.3	18.5	474756	4.4	21.8	364641	4.5	20.3
204938	4.1	20.4	384110	4.2	20.9	64581	4.2	17.3	150954	4.3	20.5	137623	4.4	20.8	494823	4.5	20.3
493383	4.1	21.2	236812	4.2	20.3	431099	4.2	21.0	460837	4.3	19.4	510795	4.4	22.8	234650	4.5	21.5
60026	4.1	18.1	513669	4.2	21.5	182186	4.2	20.9	6071	4.3	16.5	304599	4.4	20.8	418228	4.5	20.9
190998	4.1	18.8	202731	4.2	19.3	396563	4.2	20.9	473767	4.3	21.2	181564	4.4	20.6	103201	4.5	19.4
208315	4.1	19.0	23242	4.2	17.0	392645	4.3	20.2	106199	4.3	18.8	472916	4.4	20.8	474806	4.5	21.8
97325	4.1	19.1	35969	4.2	17.8	212932	4.3	20.0	114060	4.3	19.1	181884	4.4	20.6	281577	4.5	19.8
187438	4.1	18.8	39250	4.2	17.8	294083	4.3	20.7	510496	4.3	21.1	250334	4.4	20.5	291687	4.5	20.4
35977	4.1	17.6	45793	4.2	17.5	206679	4.3	19.9	468247	4.3	20.8	345906	4.4	20.2	162603	4.5	20.2
181340	4.1	21.2	413922	4.2	21.1	294751	4.3	21.2	43833	4.3	18.6	140331	4.4	20.1	333069	4.5	19.9
393931	4.1	19.7	372834	4.2	20.7	431098	4.3	21.2	233810	4.3	20.2	151730	4.4	18.5	234388	4.5	19.2
379261	4.1	21.8	287763	4.2	21.6	320575	4.3	20.1	106165	4.3	20.6	118442	4.4	20.4	470384	4.5	20.8
300946	4.1	19.9	121255	4.2	19.6	13742	4.3	18.2	441396	4.3	20.9	326178	4.4	20.2	356714	4.5	20.0
172850	4.1	20.6	254109	4.2	18.4	181446	4.3	20.6	35282	4.3	18.7	70139	4.4	16.7	162586	4.5	19.7
284112	4.1	20.8	105584	4.2	19.2	162897	4.3	18.9	478118	4.3	21.4	299819	4.4	21.0	235848	4.5	20.0
77287	4.1	18.6	31547	4.2	16.6	318330	4.3	20.9	314518	4.3	21.6	138899	4.4	19.6	838817	4.5	19.3
249137	4.1	20.1	94878	4.2	19.7	413821	4.3	22.2	171734	4.3	19.8	390787	4.4	22.4	20921	4.5	18.4
431081	4.1	20.1	425087	4.2	20.3	293762	4.3	19.9	7009	4.3	17.8	467838	4.4	20.3	218240	4.5	19.2
230080	4.1	21.0	7670	4.2	19.3	279416	4.3	19.0	278412	4.3	20.1	53341	4.4	18.4	144904	4.5	19.8
240387	4.1	21.2	507329	4.2	21.4	472014	4.3	20.0	512715	4.3	21.3	490288	4.4	22.2	375004	4.5	20.7
357793	4.1	21.6	477684	4.2	21.3	330339	4.3	21.4	148440	4.3	19.1	102291	4.4	19.1	57811	4.5	19.8
512732	4.1	20.8	316392	4.2	19.7	44528	4.3	17.8	440759	4.3	20.8	258313	4.4	19.1	158407	4.5	19.5
57880	4.1	19.2	253485	4.2	19.9	302237	4.3	20.1	308482	4.3	20.2	433890	4.4	19.7	459499	4.5	20.7
17468	4.1	18.7	177589	4.2	18.6	209533	4.3	20.3	183182	4.3	20.7	412322	4.4	20.1	64220	4.5	18.4
440444	4.1	19.8	88111	4.2	17.6	438967	4.3	21.1	328207	4.3	19.7	478069	4.4	21.5	67765	4.5	18.3
386301	4.1	21.1	57019	4.2	17.3	501806	4.3	19.4	306299	4.4	21.1	75716	4.4	19.2	48961	4.5	18.2
115346	4.1	19.3	383883	4.2	20.9	379527	4.3	20.4	346725	4.4	20.1	336376	4.4	20.2	497505	4.5	21.7
14040	4.1	18.2	307404	4.2	19.9	270318	4.3	20.0	120165	4.4	18.3	215001	4.4	20.5	338575	4.5	19.8
377894	4.1	21.1	95938	4.2	16.6	478027	4.3	21.8	372682	4.4	19.7	455658	4.4	19.8	326120	4.5	20.0
502246	4.1	21.9	476825	4.2	19.4	497941	4.3	22.3	14018	4.4	17.9	281877	4.4	20.1	105865	4.5	18.8
445535	4.1	21.1	444954	4.2	20.6	176739	4.3	19.8	501875	4.4	20.1	191786	4.4	20.2	80561	4.5	18.7
365429	4.1	19.2	26087	4.2	16.9	379252	4.3	21.2	426277	4.4	20.7	408292	4.4	20.5	333942	4.5	20.5
139158	4.1	18.4	207987	4.2	20.1	346726	4.3	20.8	435814	4.4	21.3	510120	4.4	20.6	86335	4.5	18.7
291792	4.1	20.7	143278	4.2	19.7	412189	4.3	19.3	59634	4.4	18.0	383322	4.4	20.3	381435	4.5	19.8
418078	4.1	20.4	409943	4.2	21.2	438509	4.3	21.1	68101	4.4	18.7	490235	4.4	21.4	303967	4.5	19.4
87592	4.1	18.2	95505	4.2	19.1	334980	4.3	19.8	255009	4.4	20.4	41799	4.4	19.2	178214	4.5	19.3
507757	4.1	21.4	88499	4.2	18.9	380260	4.3	19.5	249180	4.4	19.9	422880	4.4	20.8	35309	4.5	18.0
336882	4.1	19.3	147687	4.2	18.8	501251	4.3	22.3	46106	4.4	18.9	178379	4.4	20.3	131138	4.5	19.0
203248	4.1	19.6	521265	4.2	21.0	146954	4.3	18.8	394236	4.4	20.9	219701	4.4	20.0	55618	4.5	18.6
34360	4.1	18.1	157495	4.2	20.0	336672	4.3	19.8	504747	4.4	20.8	213010	4.4	19.2	97933	4.5	19.6
218223	4.1	20.2	510721	4.2	20.9	394781	4.3	20.2	69426	4.4	19.1	306819	4.4	21.0	15206	4.5	18.3
54556	4.1	17.3	203737	4.2	20.0	466543	4.3	21.0	443120	4.4	19.6	336343	4.4	20.2	389887	4.5	21.8
338742	4.1	20.7	211104	4.2	19.7	105306	4.3	19.8	456946	4.4	21.3	431905	4.4	20.3	436185	4.5	21.6
260292	4.1	20.4	73453	4.2	19.3	501276	4.3	21.7	478339	4.4	20.6	87932	4.4	18.2	214066	4.5	19.2
54558	4.1	18.3	121943	4.2	19.1	221128	4.3	19.2	433460	4.4	20.8	339449	4.4	20.4	499646	4.5	21.1
171077	4.1	20.4	112073	4.2	17.3	107219	4.3	18.5	19170	4.4	17.5	333850	4.4	20.8	147883	4.5	19.3
62454	4.1	18.8	318486	4.2	18.9	427148	4.3	19.7	421175	4.4	20.0	285606	4.4	19.5	250507	4.5	20.0
310276	4.1	19.4	181980	4.2	20.7	374430	4.3	20.4	372967	4.4	21.0	189536	4.4	19.5	259033	4.5	20.0
509296	4.1	21.0	122755	4.2	20.2	101260	4.3	19.2	19712	4.4	16.7	505400	4.4	21.1	3683	4.5	14.8
225934	4.1	20.9	380598	4.2	20.7	478110	4.3	21.3	176574	4.4	18.9	211069	4.4	20.3	366621	4.5	19.5
375785	4.1	20.8	354508	4.2	20.0	267342	4.3	21.3	299061	4.4	21.0	502402	4.4	21.5	66392	4.5	18.5
166725	4.1	19.9	122226	4.2	19.0	216761	4.3	19.7	292552	4.4	20.7	498231	4.4	21.1	186363	4.5	19.1
488884	4.1	21.9	106674	4.2	19.0	501772	4.3	21.3	208406	4.4	20.2	140164	4.4	19.4	503909	4.5	20.8
430160	4.1	20.4	110256	4.2	20.3	468587	4.3	20.0	140548	4.4	19.9	147884	4.4	18.5	119844	4.5	19.1
381509	4.1	20.8	153191	4.2	18.6	435700	4.3	20.9	137649	4.4	21.0	347318	4.4	21.0	66298	4.5	17.3
32983	4.1	17.3	27583	4.2	17.9	386170	4.3	20.3	467059	4.4	21.0	489742	4.4	22.4	325007	4.5	20.5
301575	4.1	20.3	345588	4.2	19.9	514371	4.3	20.9	276562	4.4	18.6	410727	4.4	21.2	409378	4.5	20.2
423888	4.1	21.1	183798	4.2	20.6	166331	4.3	19.2	297706	4.4	21.0	499809	4.4	21.4	265573	4.5	21.4
141340	4.1	21.2	209929	4.2	19.7	426415	4.3	21.0	342844	4.4	21.0	14009	4.4	17.4	121308	4.5	19.7
506246	4.1	20.7	462610	4.2	19.4	329764	4.3	20.3	441697	4.4	19.6	412048	4.4	20.2	237921	4.5	19.9
384809	4.1	20.0	65095	4.2	18.3	290996	4.3	20.2	309006	4.4	21.9	169551	4.4	19.3	203317	4.5	20.3
99095	4.1	18.4	39708	4.2	18.0	179402	4.3	21.0	254908	4.4	19.9	152233	4.5	21.2	75547	4.5	19.3
93914	4.1	18.7	178761	4.2	19.8	325796	4.3										

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

Nº	06	V															
252153	4.5	20.5	79219	4.6	19.1	338606	4.7	21.6	370125	4.8	20.7	506566	4.9	22.3	335159	4.9	21.4
34303	4.5	17.2	405080	4.6	21.6	438092	4.7	20.7	465326	4.8	20.9	354793	4.9	19.8	463663	4.9	21.1
500790	4.5	20.4	383308	4.6	19.7	234196	4.7	20.0	498316	4.8	20.8	69507	4.9	20.0	185357	4.9	20.3
14247	4.5	17.1	406608	4.6	21.0	420835	4.7	20.1	225612	4.8	19.7	244206	4.9	20.9	468144	4.9	21.6
460732	4.5	20.2	16169	4.6	16.9	78192	4.7	18.9	381151	4.8	19.6	423936	4.9	21.1	465214	4.9	19.0
206803	4.5	20.0	57834	4.6	17.8	474269	4.7	21.3	140849	4.8	19.3	248801	4.9	19.9	245507	4.9	19.4
365495	4.5	19.1	4679	4.6	16.9	393950	4.7	20.6	462209	4.8	20.4	276087	4.9	21.4	119924	4.9	19.9
331912	4.5	18.9	512078	4.6	21.3	399122	4.7	20.4	455938	4.8	22.0	122885	4.9	20.6	11258	4.9	18.5
497757	4.5	21.5	344788	4.6	21.2	472960	4.7	20.4	505864	4.8	20.7	347494	4.9	21.1	259168	4.9	21.3
479116	4.5	20.6	315421	4.6	20.5	501075	4.7	21.8	398270	4.8	20.7	218516	4.9	19.3	250833	4.9	21.2
480406	4.5	20.5	26657	4.6	15.9	102847	4.7	19.4	285188	4.8	20.0	31320	4.9	18.2	355236	4.9	20.9
307200	4.5	19.9	192715	4.6	21.2	446040	4.7	20.8	261070	4.8	19.7	236697	4.9	20.2	12359	4.9	17.9
161295	4.5	19.0	347134	4.6	20.9	60999	4.7	17.6	379612	4.8	19.4	327721	4.9	21.8	80875	4.9	18.8
359982	4.5	20.3	342855	4.6	20.9	357755	4.7	21.2	127551	4.8	18.8	511162	4.9	20.5	192771	4.9	19.7
54433	4.5	18.0	342231	4.6	19.3	293758	4.7	21.2	338692	4.8	20.1	169595	4.9	18.8	439312	4.9	19.8
97254	4.5	19.3	249817	4.6	20.1	119480	4.7	21.1	477058	4.8	21.1	272576	4.9	21.1	320514	4.9	21.7
215581	4.5	19.1	182175	4.6	20.3	377451	4.7	21.0	118135	4.8	20.7	439437	4.9	19.0	160946	4.9	19.4
86049	4.6	19.3	338841	4.6	20.6	266490	4.7	19.8	44863	4.8	18.2	162560	4.9	19.8	384399	4.9	21.3
503848	4.6	19.5	479246	4.6	20.9	146138	4.7	20.0	387344	4.8	20.1	440947	4.9	20.5	90729	4.9	19.2
121659	4.6	19.2	168896	4.6	20.0	161843	4.7	21.2	11468	4.8	18.5	305470	4.9	19.0	448573	4.9	20.6
429341	4.6	20.4	502351	4.6	21.1	263341	4.7	19.9	16343	4.8	18.1	72127	4.9	18.3	5929	4.9	18.0
427040	4.6	20.2	507124	4.6	21.2	206703	4.7	20.7	36648	4.8	19.2	351895	4.9	22.0	275802	4.9	18.8
106373	4.6	19.4	436243	4.6	20.8	205216	4.7	19.0	391707	4.8	20.6	246229	4.9	20.3	247713	4.9	19.0
261986	4.6	21.0	359936	4.6	20.6	367106	4.7	20.4	32277	4.8	18.8	435924	4.9	20.8	137044	4.9	19.2
396112	4.6	21.2	507915	4.6	20.1	156334	4.7	20.7	95467	4.8	19.7	469311	4.9	20.7	285473	4.9	22.0
300138	4.6	20.6	153941	4.6	19.5	497026	4.7	22.3	172513	4.8	21.1	387442	4.9	19.0	268258	4.9	20.9
128566	4.6	19.0	336468	4.6	19.4	302134	4.7	20.6	259799	4.8	20.6	426945	4.9	19.7	326798	4.9	20.9
405879	4.6	20.3	424049	4.6	21.4	195620	4.7	18.3	102235	4.8	18.8	428228	4.9	22.2	333945	4.9	20.3
332126	4.6	20.9	117821	4.6	18.1	102287	4.7	17.4	300735	4.8	20.2	186967	4.9	19.3	395269	4.9	19.9
360216	4.6	20.9	302307	4.6	20.8	232894	4.7	19.8	305581	4.8	19.1	472872	4.9	19.2	498929	4.9	20.6
507105	4.6	19.7	84001	4.6	19.1	204002	4.7	20.3	22511	4.8	18.5	26803	4.9	17.8	427741	4.9	19.4
437526	4.6	20.5	232796	4.6	18.1	201599	4.7	20.0	388629	4.8	21.3	505413	4.9	20.4	286483	4.9	20.9
107293	4.6	19.4	144813	4.6	19.0	497056	4.7	22.0	131737	4.8	20.4	321313	4.9	19.4	332369	4.9	21.0
209452	4.6	19.9	397722	4.6	21.0	469146	4.7	20.5	472721	4.8	20.2	423496	4.9	21.7	425555	4.9	19.8
382883	4.6	19.6	382369	4.6	19.7	189578	4.7	19.7	505455	4.8	20.7	152206	4.9	19.0	136407	4.9	18.0
469985	4.6	20.7	308499	4.6	21.0	268464	4.7	20.4	31275	4.8	19.0	387782	4.9	20.9	412035	4.9	19.8
168868	4.6	19.5	393035	4.6	20.4	198146	4.7	19.4	20951	4.8	18.5	359829	4.9	22.0	335048	4.9	19.8
354190	4.6	20.3	302302	4.6	20.5	508943	4.7	21.4	342482	4.8	20.8	410296	4.9	19.4	11484	4.9	17.8
131824	4.6	18.1	469873	4.6	20.8	192405	4.7	19.8	391101	4.8	20.3	198997	4.9	20.0	474884	4.9	22.2
512575	4.6	21.3	39561	4.6	16.6	180010	4.7	18.8	493719	4.8	20.4	478030	4.9	21.1	12532	4.9	16.9
88449	4.6	18.7	95030	4.6	19.6	499773	4.7	21.4	69233	4.8	19.6	250291	4.9	18.8	106191	4.9	19.4
269960	4.6	20.0	119817	4.7	18.6	506475	4.7	21.8	145904	4.8	19.4	111608	4.9	18.9	97859	4.9	18.0
128038	4.6	19.1	63194	4.7	18.8	374898	4.7	20.4	257253	4.8	19.5	136960	4.9	19.0	93838	4.9	19.3
220402	4.6	19.9	384974	4.7	19.9	235379	4.7	19.6	92240	4.8	19.2	480657	4.9	20.0	367129	4.9	21.1
385019	4.6	21.2	305975	4.7	20.6	3945	4.7	16.3	75831	4.8	19.7	482169	4.9	22.3	178693	4.9	20.7
294296	4.6	19.8	294642	4.7	20.9	392118	4.7	20.8	145483	4.8	19.8	250561	4.9	19.7	58036	4.9	18.0
293346	4.6	19.8	55919	4.7	18.8	259081	4.7	19.6	78255	4.8	19.4	503485	4.9	21.3	498069	4.9	20.8
30915	4.6	17.0	443000	4.7	20.9	152456	4.7	21.3	381530	4.8	20.4	60138	4.9	17.5	110041	4.9	19.5
338838	4.6	21.7	410694	4.7	19.9	29952	4.7	18.3	198635	4.8	20.5	431804	4.9	20.0	471894	4.9	20.6
8873	4.6	17.6	293789	4.7	21.1	30592	4.7	19.8	180150	4.8	19.4	368957	4.9	20.5	393036	4.9	20.8
23231	4.6	15.8	272768	4.7	19.7	222523	4.7	19.7	295661	4.8	21.7	471292	4.9	19.1	476271	4.9	21.3
425807	4.6	20.5	93496	4.7	19.1	308498	4.7	21.4	47072	4.8	18.3	59580	4.9	18.2	183355	4.9	19.3
247101	4.6	20.6	361558	4.7	19.4	317912	4.7	20.4	22371	4.8	19.6	448284	4.9	22.3	432296	5.0	22.0
492274	4.6	19.9	325066	4.7	20.6	144033	4.7	18.7	130600	4.8	17.9	141522	4.9	19.0	129664	5.0	19.3
194944	4.6	19.8	58087	4.7	19.0	356702	4.7	20.9	284695	4.8	20.8	121326	4.9	17.9	12519	5.0	16.4
212639	4.6	20.7	432872	4.7	20.6	85819	4.7	18.9	310256	4.8	20.3	329457	4.9	20.2	507573	5.0	21.0
340457	4.6	19.1	154758	4.7	18.9	308524	4.7	19.7	84494	4.8	19.5	519015	4.9	20.4	20976	5.0	19.0
180791	4.6	19.2	468078	4.7	20.0	39361	4.7	19.2	42457	4.8	19.4	216717	4.9	19.4	238685	5.0	20.3
370917	4.6	19.2	217549	4.7	19.6	36523	4.7	18.2	367126	4.8	21.4	36735	4.9	17.6	426073	5.0	20.9
345035	4.6	20.9	120869	4.7	17.8	390471	4.7	20.1	150918	4.8	20.2	430428	4.9	21.0	107819	5.0	19.8
478041	4.6	20.9	413422	4.7	20.3	499903	4.7	20.3	156993	4.8	18.3	71265	4.9	19.2	306397	5.0	21.1
511840	4.6	20.8	509354	4.7	22.8	504588	4.7	21.2	498354	4.8	21.8	13877	4.9	17.3	234835	5.0	19.1
472744	4.6	20.3	413316	4.7	19.9	393075	4.										

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

Nº	06	V															
119505	5.0	18.0	61854	5.1	19.6	502301	5.2	21.5	148414	5.3	20.2	223233	5.3	19.4	183145	5.4	20.9
296477	5.0	19.5	182151	5.1	21.3	57445	5.2	19.2	145787	5.3	19.4	478091	5.3	21.2	9378	5.4	17.3
133282	5.0	20.3	485548	5.1	21.1	387363	5.2	20.7	348403	5.3	20.9	336701	5.3	19.9	222518	5.4	19.7
201585	5.0	19.6	511727	5.1	20.4	433967	5.2	20.9	106989	5.3	19.1	146166	5.3	19.5	384012	5.4	21.7
250436	5.0	19.5	423885	5.1	21.0	36315	5.2	17.3	377862	5.3	21.1	249640	5.3	20.4	148442	5.4	20.1
435648	5.0	20.4	38347	5.1	18.5	268368	5.2	21.0	471938	5.3	21.1	392151	5.3	21.0	75439	5.4	19.9
36669	5.0	18.5	219062	5.1	20.5	246852	5.2	20.1	53870	5.3	17.4	355549	5.4	22.0	470342	5.4	21.2
38197	5.0	18.3	306930	5.1	20.3	497506	5.2	22.0	48275	5.3	18.1	106158	5.4	19.2	300912	5.4	20.6
134311	5.0	19.8	352202	5.1	20.1	59896	5.2	19.4	480629	5.3	20.3	100291	5.4	20.1	347441	5.4	20.3
85271	5.0	19.1	345869	5.1	20.0	350981	5.2	20.3	45375	5.3	17.6	155388	5.4	19.7	156173	5.4	21.0
498295	5.0	21.7	306543	5.1	20.0	255845	5.2	21.3	145241	5.3	18.9	401923	5.4	21.1	286559	5.4	19.8
157800	5.0	18.2	225861	5.1	19.4	177829	5.2	20.3	24594	5.3	18.8	181946	5.4	20.0	188592	5.4	19.5
187872	5.0	18.6	385462	5.1	21.3	38046	5.2	18.0	184882	5.3	19.7	294034	5.4	19.8	243047	5.4	20.4
483204	5.0	20.8	424503	5.1	21.6	397739	5.2	21.2	131499	5.3	19.5	263148	5.4	20.8	41906	5.4	19.3
298299	5.0	20.6	267131	5.1	24.0	324981	5.2	20.4	173079	5.3	19.7	47425	5.4	18.2	442036	5.4	19.1
508464	5.0	21.0	300251	5.1	20.4	296642	5.2	21.5	418208	5.3	21.2	437399	5.4	20.7	126300	5.4	20.2
413033	5.0	20.9	342041	5.1	19.4	121455	5.2	19.2	22189	5.3	18.6	441388	5.4	20.7	388354	5.4	19.9
93758	5.0	19.7	242700	5.1	19.9	478565	5.2	20.6	10823	5.3	17.9	224224	5.4	20.0	312656	5.4	19.7
175356	5.0	20.0	230953	5.1	19.5	368665	5.2	18.6	323208	5.3	20.2	202283	5.4	19.8	441964	5.4	21.5
232161	5.0	20.2	50032	5.1	19.0	103188	5.2	19.0	491245	5.3	20.9	507485	5.4	21.1	181386	5.4	19.1
303753	5.1	20.0	347814	5.1	18.9	58381	5.2	19.7	468311	5.3	20.3	468074	5.4	20.1	326937	5.4	21.2
9180	5.1	17.1	301824	5.1	21.4	115367	5.2	19.4	398278	5.3	19.8	54013	5.4	17.7	130744	5.4	19.4
508005	5.1	19.7	396983	5.1	21.3	430283	5.2	20.6	247422	5.3	19.8	249668	5.4	21.2	294977	5.4	19.5
149035	5.1	19.9	477959	5.1	21.3	182740	5.2	19.5	429206	5.3	20.9	347474	5.4	20.4	149491	5.4	18.4
140407	5.1	19.9	461527	5.1	19.4	351978	5.2	21.5	497490	5.3	21.4	199428	5.4	20.5	83828	5.4	18.2
93024	5.1	19.9	393369	5.1	20.2	186306	5.2	20.7	303953	5.3	19.4	387193	5.4	20.3	145297	5.4	19.4
29495	5.1	18.3	65765	5.1	18.0	307591	5.2	20.7	63151	5.3	18.7	296521	5.4	19.7	354795	5.4	21.0
478005	5.1	21.2	242221	5.1	20.5	178680	5.2	19.5	442165	5.3	21.8	470057	5.4	21.5	290152	5.4	20.5
368152	5.1	21.1	66646	5.1	18.8	344626	5.2	19.8	276800	5.3	18.3	201662	5.4	20.1	191128	5.4	19.1
393794	5.1	20.8	338628	5.1	21.0	106701	5.2	19.6	501981	5.3	21.5	329530	5.4	20.1	463762	5.4	21.3
112621	5.1	18.7	338766	5.1	20.8	506684	5.2	21.2	180100	5.3	19.2	446570	5.4	20.7	474560	5.4	22.2
522856	5.1	21.4	368420	5.1	20.2	227483	5.2	20.2	253547	5.3	20.6	371942	5.4	19.6	501758	5.4	20.9
469518	5.1	20.8	90669	5.1	19.7	491811	5.2	21.7	256861	5.3	20.7	145804	5.4	20.4	245229	5.4	20.8
242757	5.1	19.5	427097	5.1	21.4	344088	5.2	21.6	85654	5.3	19.1	181136	5.4	20.7	266372	5.4	20.8
226038	5.1	20.5	89991	5.1	19.1	347383	5.2	20.9	291985	5.3	19.5	464748	5.4	20.0	395613	5.4	20.6
240349	5.1	19.1	274086	5.1	21.5	254598	5.2	19.5	519101	5.3	21.5	376878	5.4	20.7	171771	5.4	20.8
191807	5.1	19.4	370403	5.1	21.0	62758	5.2	19.9	254322	5.3	20.5	102430	5.4	18.5	415606	5.5	20.9
416056	5.1	19.2	60364	5.1	18.8	393934	5.2	20.7	50116	5.3	18.1	353161	5.4	20.7	287627	5.5	19.1
311392	5.1	19.7	144159	5.1	19.7	230886	5.2	20.1	359078	5.3	19.6	292958	5.4	19.8	23013	5.5	16.7
317488	5.1	19.9	142053	5.1	18.7	42376	5.2	16.5	203345	5.3	19.8	353716	5.4	20.6	522604	5.5	21.0
37827	5.1	17.4	352497	5.1	20.6	162382	5.2	19.0	171017	5.3	20.2	144934	5.4	19.1	30697	5.5	18.0
66970	5.1	18.5	490731	5.1	21.3	230326	5.2	20.5	260964	5.3	20.8	250092	5.4	19.4	653	5.5	13.6
489663	5.1	22.3	255911	5.1	21.4	176372	5.2	20.7	164348	5.3	19.8	466091	5.4	20.4	142285	5.5	19.7
164245	5.1	19.0	348142	5.1	20.2	18706	5.2	17.9	438243	5.3	20.7	306945	5.4	20.0	58736	5.5	17.9
390623	5.1	20.1	509868	5.1	22.9	311135	5.2	20.6	231792	5.3	20.8	300915	5.4	21.1	225809	5.5	19.4
446628	5.1	20.3	432989	5.1	19.8	508893	5.2	20.9	231469	5.3	18.6	177102	5.4	19.0	61401	5.5	18.8
191869	5.1	20.5	457704	5.2	20.7	499655	5.2	21.8	463163	5.3	20.8	234020	5.4	20.5	436306	5.5	20.6
391742	5.1	20.2	392159	5.2	19.9	83898	5.2	20.2	92662	5.3	20.0	67503	5.4	18.4	276327	5.5	20.1
131564	5.1	19.3	151813	5.2	18.5	93438	5.2	19.3	107186	5.3	19.2	68348	5.4	18.8	130052	5.5	20.6
462603	5.1	19.3	240424	5.2	20.9	205699	5.2	20.1	506235	5.3	20.1	430249	5.4	19.7	397066	5.5	21.2
479081	5.1	20.5	263154	5.2	20.7	398089	5.2	20.8	357845	5.3	21.7	183032	5.4	20.9	141514	5.5	19.9
185846	5.1	21.4	69768	5.2	18.9	171788	5.2	20.2	25135	5.3	17.9	507323	5.4	20.5	56697	5.5	17.3
463408	5.1	21.4	411170	5.2	19.1	8967	5.2	17.4	214521	5.3	20.4	174640	5.4	21.2	339029	5.5	19.6
395531	5.1	21.3	130605	5.2	19.5	155591	5.2	19.7	275431	5.3	21.1	58751	5.4	19.0	312878	5.5	19.5
171765	5.1	20.5	374562	5.2	21.6	503992	5.2	21.0	376958	5.3	20.3	523783	5.4	22.1	245648	5.5	20.2
320503	5.1	21.6	102177	5.2	19.0	390168	5.2	20.9	281620	5.3	20.3	2186	5.4	16.6	257686	5.5	21.4
390279	5.1	19.5	297452	5.2	22.2	266497	5.2	19.4	187249	5.3	20.7	247138	5.4	20.7	335820	5.5	20.2
519501	5.1	21.6	505213	5.2	21.3	446630	5.2	19.9	493626	5.3	21.1	116247	5.4	18.7	170282	5.5	19.2
41895	5.1	18.7	351976	5.2	21.3	172815	5.2	18.7	499341	5.3	21.1	125244	5.4	19.7	359526	5.5	20.7
137831	5.1	19.4	392647	5.2	19.7	469632	5.2	19.8	342889	5.3	20.5	467983	5.4	19.2	473105	5.5	19.8
326953	5.1	19.2	368370	5.2	19.9	48928	5.2	17.0	423075	5.3	21.4	22370	5.4	19.2	387425	5.5	20.3
218285	5.1	18.5	509696	5.2	19.7	458962	5.2	20.2	487603	5.3	21.8	255643	5.4	19.5	32837	5.5	18.3
317896	5.1	19.8	97411	5.2	19.1	137401											

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

Nº	06	V															
290791	5.5	20.0	127668	5.5	19.2	245110	5.6	19.8	272688	5.7	20.4	221602	5.8	19.4	416973	5.8	21.4
67748	5.5	19.0	281627	5.5	20.2	106332	5.6	18.4	419724	5.7	21.5	466064	5.8	21.6	256093	5.8	20.3
501020	5.5	21.4	508275	5.5	19.8	519327	5.6	20.7	411636	5.7	20.8	354774	5.8	21.1	67975	5.8	18.1
216572	5.5	19.5	15423	5.5	18.4	432005	5.6	20.6	285261	5.7	20.2	256700	5.8	20.3	431121	5.8	21.1
304671	5.5	20.5	361893	5.5	20.6	328492	5.6	19.5	411721	5.7	20.9	434761	5.8	20.9	299975	5.8	20.4
12697	5.5	17.8	483569	5.5	20.5	469695	5.6	20.5	296174	5.7	20.7	409688	5.8	21.7	106323	5.8	19.6
50744	5.5	19.6	400214	5.5	20.7	250427	5.6	20.0	140319	5.7	19.6	123454	5.8	19.7	376808	5.8	20.9
420513	5.5	21.3	148140	5.5	19.3	313039	5.6	20.4	29029	5.7	18.2	120385	5.8	19.4	209842	5.8	20.1
315218	5.5	20.1	371596	5.5	21.4	94932	5.6	17.8	71109	5.7	18.2	488643	5.8	20.7	353168	5.8	20.8
56785	5.5	16.2	129325	5.5	17.8	41415	5.6	19.3	10254	5.7	16.8	188541	5.8	19.7	432449	5.8	21.1
192877	5.5	20.6	126148	5.5	18.1	189528	5.6	19.9	175416	5.7	19.3	9996	5.8	17.8	47979	5.8	18.2
336263	5.5	20.8	300039	5.6	21.1	375721	5.6	20.8	23249	5.7	18.2	212559	5.8	20.0	501923	5.8	21.3
89453	5.5	19.4	503381	5.6	19.5	203748	5.6	19.2	473095	5.7	20.3	476993	5.8	20.3	513220	5.8	22.1
80689	5.5	18.4	18028	5.6	17.8	164437	5.6	18.8	374374	5.7	20.6	169442	5.8	20.0	311180	5.8	20.5
308083	5.5	19.9	240584	5.6	21.4	388299	5.6	20.5	508451	5.7	19.7	395637	5.8	20.9	199756	5.8	20.7
211174	5.5	19.2	469983	5.6	19.4	28531	5.6	17.3	376875	5.7	19.2	33693	5.8	17.7	338683	5.8	20.5
181277	5.5	19.6	231878	5.6	20.9	357782	5.6	20.7	425897	5.7	21.2	446592	5.8	19.3	471432	5.8	20.4
250871	5.5	20.6	31184	5.6	17.6	199907	5.6	19.2	158420	5.7	18.5	84724	5.8	19.6	57382	5.8	18.4
435272	5.5	20.9	376560	5.6	19.8	115112	5.6	19.6	333642	5.7	20.0	446647	5.8	20.3	401796	5.8	20.2
157354	5.5	20.4	355185	5.6	21.2	219591	5.6	20.3	494331	5.7	20.6	464752	5.8	19.9	236446	5.8	20.4
380133	5.5	22.8	355669	5.6	20.7	66287	5.6	17.6	337339	5.7	19.2	411656	5.8	21.2	249235	5.8	20.8
338697	5.5	20.4	471645	5.6	19.9	115162	5.6	20.1	264639	5.7	20.1	103071	5.8	20.1	157095	5.8	17.9
275432	5.5	19.7	74271	5.6	19.5	502579	5.6	21.6	434098	5.7	20.3	499764	5.8	22.0	398997	5.8	20.8
457441	5.5	21.2	482920	5.6	20.3	31671	5.6	17.5	233872	5.7	19.6	386297	5.8	21.0	204051	5.8	20.0
123192	5.5	19.6	154514	5.6	18.6	25894	5.6	18.8	465375	5.7	19.1	123207	5.8	19.7	189008	5.8	21.5
319563	5.5	19.8	508776	5.6	21.6	182228	5.6	20.8	491864	5.7	22.0	505437	5.8	21.0	257403	5.8	20.5
145306	5.5	19.2	476199	5.6	20.1	505971	5.6	20.3	168297	5.7	19.1	44797	5.8	19.1	304751	5.8	21.5
477725	5.5	21.5	290001	5.6	20.9	245121	5.6	19.5	414171	5.7	21.8	297893	5.8	21.5	503084	5.8	20.9
236629	5.5	20.3	500882	5.6	24.2	388277	5.6	21.7	462526	5.7	21.5	409281	5.8	19.8	417519	5.8	19.8
1285	5.5	15.2	269983	5.6	20.1	11521	5.7	18.6	342618	5.7	19.8	74835	5.8	19.7	241617	5.8	19.8
238438	5.5	19.1	286038	5.6	20.3	192080	5.7	21.1	490892	5.7	21.0	357311	5.8	22.5	214168	5.8	19.5
123672	5.5	19.0	71059	5.6	18.2	258970	5.7	20.3	323374	5.7	20.9	499585	5.8	20.5	490728	5.8	21.5
174753	5.5	18.9	37419	5.6	18.4	348311	5.7	21.2	115307	5.7	19.6	276616	5.8	19.3	117560	5.8	18.4
272715	5.5	20.7	504485	5.6	21.3	356761	5.7	21.4	480486	5.7	20.4	342635	5.8	20.9	294800	5.8	20.6
167734	5.5	20.4	477749	5.6	21.5	100539	5.7	19.7	145397	5.7	19.9	475024	5.8	21.7	250843	5.8	20.0
356801	5.5	21.6	302414	5.6	20.9	437438	5.7	21.5	519618	5.7	21.2	300984	5.8	20.4	390092	5.8	21.4
341249	5.5	20.4	476126	5.6	19.8	491299	5.7	20.4	490105	5.7	21.2	117308	5.8	19.6	384639	5.8	19.9
379275	5.5	21.3	327799	5.6	20.4	504147	5.7	21.5	340520	5.7	20.6	265071	5.8	21.7	38415	5.8	18.4
148542	5.5	19.6	519133	5.6	19.3	519008	5.7	20.4	415406	5.7	19.7	392427	5.8	19.3	93886	5.8	19.8
61527	5.5	19.2	438222	5.6	19.9	305097	5.7	19.7	212292	5.7	19.6	518398	5.8	21.2	315328	5.8	21.0
111778	5.5	19.2	224292	5.6	21.5	268987	5.7	18.5	365826	5.7	21.3	497871	5.8	21.1	119776	5.8	18.9
89137	5.5	17.0	168770	5.6	17.7	172525	5.7	19.1	497383	5.7	21.1	211074	5.8	19.5	20265	5.8	17.7
137191	5.5	18.8	507966	5.6	18.9	428219	5.7	21.5	474920	5.7	22.1	422594	5.8	20.4	87248	5.8	18.2
155466	5.5	19.0	61668	5.6	19.2	70886	5.7	18.5	383546	5.7	19.1	133566	5.8	19.2	366216	5.8	20.9
471660	5.5	20.5	427258	5.6	20.7	188976	5.7	19.5	166501	5.7	19.6	17806	5.8	18.1	111773	5.8	20.6
250985	5.5	19.2	400527	5.6	20.2	70256	5.7	19.0	510084	5.7	20.6	356928	5.8	19.6	363223	5.8	20.6
16820	5.5	16.5	302045	5.6	20.4	469302	5.7	21.3	328030	5.7	18.8	126562	5.8	19.8	103026	5.8	19.1
174124	5.5	18.3	61385	5.6	18.4	504527	5.7	21.0	90382	5.7	20.6	72722	5.8	18.0	251331	5.8	20.2
189802	5.5	19.7	67901	5.6	19.4	210855	5.7	20.3	142042	5.7	20.3	279786	5.8	20.0	111094	5.8	18.1
307061	5.5	20.4	477208	5.6	20.0	23047	5.7	18.1	18880	5.7	19.5	358551	5.8	18.5	420965	5.8	20.9
35960	5.5	18.9	198385	5.6	20.4	230820	5.7	18.8	459002	5.7	19.9	58262	5.8	18.2	258565	5.9	20.1
100830	5.5	19.7	507615	5.6	21.8	93530	5.7	18.9	277796	5.7	20.2	125656	5.8	19.4	207922	5.9	19.9
110522	5.5	19.7	277334	5.6	20.4	506522	5.7	21.9	19810	5.7	18.2	149146	5.8	19.5	1639	5.9	15.2
508760	5.5	20.3	298315	5.6	19.7	384861	5.7	20.4	416307	5.7	20.7	160609	5.8	17.9	149330	5.9	20.0
168000	5.5	20.3	427132	5.6	20.7	363219	5.7	20.2	122631	5.7	19.6	391367	5.8	20.8	273823	5.9	19.6
465612	5.5	21.9	250424	5.6	21.7	286430	5.7	20.3	342919	5.7	20.2	103456	5.8	20.0	278148	5.9	20.1
471586	5.5	20.0	498063	5.6	21.7	327402	5.7	19.8	385537	5.7	21.5	198422	5.8	20.2	494376	5.9	20.2
61640	5.5	16.1	4050	5.6	17.5	22943	5.7	19.0	479198	5.7	20.7	139924	5.8	20.3	204476	5.9	21.4
393891	5.5	20.9	503931	5.6	20.3	181496	5.7	21.0	507965	5.7	20.9	357842	5.8	21.9	291343	5.9	22.1
371215	5.5	21.7	54530	5.6	17.4	112359	5.7	19.4	309731	5.7	20.1	131262	5.8	18.6	321883	5.9	21.2
117188	5.5	19.1	46103	5.6	17.9	414163	5.7	21.4	520964	5.7	18.7	95634	5.8	18.9	278361	5.9	20.6
58910	5.5	18.5	389666	5.6	20.1	272890	5.7	20.8	471785	5.7	20.4	157494	5.8	20.4	200519	5.9	19.7
41109	5.5	19.7	302074	5.6	20.2	189061	5										

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

Nº	06	V															
382467	5.9	21.8	328495	5.9	20.0	507169	5.9	20.9	391771	6.1	18.5	183899	6.1	21.1	336301	6.2	19.3
505003	5.9	19.8	141270	5.9	19.9	489976	5.9	20.8	344682	6.1	20.4	153189	6.1	18.6	507014	6.2	21.2
294108	5.9	20.9	200109	5.9	20.5	169776	5.9	19.6	400216	6.1	20.9	432462	6.1	20.3	280126	6.2	20.2
26157	5.9	17.3	501431	5.9	21.2	308623	6.0	20.2	219802	6.1	21.1	83376	6.1	19.1	472781	6.2	21.1
23720	5.9	18.0	131894	5.9	19.3	367088	6.0	20.8	405041	6.1	21.7	479191	6.1	21.7	508419	6.2	19.4
430937	5.9	20.9	9688	5.9	17.1	438195	6.0	21.2	429726	6.1	19.7	375784	6.1	19.6	135524	6.2	19.6
262770	5.9	21.6	140889	5.9	20.5	480674	6.0	19.7	57671	6.1	19.1	106103	6.1	19.9	87631	6.2	19.3
306780	5.9	18.6	250514	5.9	18.5	217031	6.0	20.2	59283	6.1	18.9	19357	6.1	17.9	325039	6.2	21.0
153778	5.9	18.8	514107	5.9	24.2	507730	6.0	20.4	208603	6.1	20.7	421185	6.1	20.3	260957	6.2	20.4
204673	5.9	20.3	352498	5.9	21.1	478255	6.0	20.3	390343	6.1	19.9	111615	6.1	19.6	176558	6.2	20.0
129316	5.9	18.8	242436	5.9	19.2	393143	6.0	20.3	216263	6.1	20.1	297719	6.1	22.1	342421	6.2	20.3
332112	5.9	19.7	85594	5.9	18.7	281445	6.0	20.5	3141	6.1	16.1	205582	6.1	20.6	246487	6.2	19.6
508233	5.9	20.3	56830	5.9	18.6	20941	6.0	18.8	255036	6.1	20.2	388316	6.1	20.4	287908	6.2	20.4
313069	5.9	20.7	170920	5.9	19.2	76508	6.0	19.2	38193	6.1	17.5	16998	6.1	17.4	121384	6.2	18.8
257690	5.9	20.9	463198	5.9	20.5	247755	6.0	19.5	65151	6.1	18.7	102797	6.1	19.0	316076	6.2	20.6
56209	5.9	17.9	384913	5.9	20.0	240475	6.0	20.3	506156	6.1	19.9	152839	6.1	20.6	382635	6.2	19.5
13549	5.9	16.3	479256	5.9	21.1	43645	6.0	18.9	513425	6.1	21.4	162536	6.1	18.4	37116	6.2	17.8
205651	5.9	19.5	490843	5.9	19.5	3916	6.0	17.2	433977	6.1	20.3	212764	6.1	21.2	470393	6.2	21.1
314047	5.9	21.2	288875	5.9	19.8	174517	6.0	20.1	394314	6.1	20.4	198393	6.1	20.4	440667	6.2	21.1
56890	5.9	18.8	34635	5.9	17.5	213763	6.0	19.1	107526	6.1	18.9	510831	6.1	22.2	61478	6.2	17.5
304629	5.9	21.3	326645	5.9	20.1	442584	6.0	20.6	259594	6.1	20.5	480682	6.2	20.7	23610	6.2	18.5
279111	5.9	19.6	267206	5.9	20.0	16881	6.0	18.3	349179	6.1	20.6	359036	6.2	20.0	461442	6.2	20.0
279721	5.9	20.8	180985	5.9	18.4	163860	6.0	19.0	9220	6.1	16.6	220966	6.2	19.7	251985	6.2	21.3
479031	5.9	21.2	470593	5.9	21.0	393180	6.0	20.9	137569	6.1	20.5	276446	6.2	18.0	78956	6.2	18.7
305487	5.9	19.9	230310	5.9	20.0	349343	6.0	20.8	63183	6.1	18.4	376297	6.2	21.3	235874	6.2	19.1
505537	5.9	21.2	307552	5.9	19.1	12913	6.0	16.9	24128	6.1	17.3	235335	6.2	20.2	272110	6.2	19.6
467206	5.9	19.9	472652	5.9	20.8	426875	6.0	20.9	384963	6.1	20.0	85755	6.2	19.5	246118	6.2	18.8
253665	5.9	20.9	225797	5.9	20.1	71850	6.0	17.4	203391	6.1	19.8	157833	6.2	19.5	281672	6.2	20.3
510473	5.9	22.4	191773	5.9	20.7	173581	6.0	19.8	3737	6.1	15.9	197887	6.2	20.1	205566	6.2	22.0
417974	5.9	21.2	368423	5.9	21.9	507689	6.0	21.8	203430	6.1	18.1	102841	6.2	19.6	48723	6.2	17.3
466	5.9	13.3	7060	5.9	16.9	304701	6.0	21.5	177981	6.1	19.7	106859	6.2	20.0	44407	6.2	19.4
436632	5.9	19.7	511613	5.9	20.6	502112	6.0	21.2	348889	6.1	20.5	162146	6.2	19.1	255640	6.2	19.7
1781	5.9	16.1	316250	5.9	20.4	247087	6.0	18.7	380555	6.1	20.8	214686	6.2	21.0	228314	6.2	18.6
24236	5.9	18.1	437494	5.9	21.5	347339	6.0	20.1	153738	6.1	20.7	413055	6.2	19.6	416850	6.2	19.3
367091	5.9	20.3	302880	5.9	18.3	10101	6.0	17.3	42871	6.1	18.2	100957	6.2	18.9	514555	6.2	21.1
240258	5.9	20.4	505525	5.9	21.0	386382	6.0	21.3	158379	6.1	19.9	374284	6.2	20.3	297605	6.2	20.7
423976	5.9	22.0	514620	5.9	20.7	424157	6.0	21.5	416772	6.1	20.9	18616	6.2	15.8	502368	6.2	20.8
253834	5.9	20.5	185867	5.9	19.7	446246	6.0	20.8	433546	6.1	20.8	391046	6.2	19.6	236647	6.2	20.1
80372	5.9	19.6	478376	5.9	21.4	388606	6.0	21.1	161791	6.1	20.3	76187	6.2	18.1	292133	6.2	19.8
495961	5.9	20.5	124501	5.9	20.0	482103	6.0	21.5	312566	6.1	18.5	225955	6.2	21.3	94419	6.2	17.8
69805	5.9	19.0	465873	5.9	21.3	427979	6.0	19.9	280345	6.1	19.9	350879	6.2	20.2	503338	6.2	20.3
424013	5.9	20.5	201736	5.9	19.5	347869	6.0	20.6	3762	6.1	16.2	203921	6.2	18.5	432756	6.2	21.6
287928	5.9	20.5	124614	5.9	18.8	509709	6.0	20.9	506968	6.1	21.6	191888	6.2	20.0	276069	6.2	20.1
313151	5.9	20.3	302385	5.9	20.2	457689	6.0	20.6	303286	6.1	19.8	195542	6.2	19.1	436841	6.2	20.8
463086	5.9	21.5	24185	5.9	17.6	522574	6.0	20.2	377891	6.1	20.9	178881	6.2	18.9	136069	6.2	19.9
433644	5.9	21.0	362715	5.9	21.6	37280	6.0	17.9	215627	6.1	20.2	219778	6.2	21.5	390269	6.2	21.2
501902	5.9	21.9	506687	5.9	20.9	476350	6.0	21.6	425419	6.1	20.3	512755	6.2	20.5	479126	6.2	20.4
31895	5.9	16.8	178743	5.9	20.8	72821	6.0	18.8	39433	6.1	19.0	137613	6.2	20.2	233299	6.2	20.2
232825	5.9	21.0	105710	5.9	20.0	430175	6.0	21.0	385239	6.1	20.9	509024	6.2	20.8	103106	6.2	19.6
504119	5.9	21.5	348991	5.9	20.3	432998	6.0	20.1	19315	6.1	17.9	277743	6.2	20.4	22932	6.2	19.1
203144	5.9	19.8	305529	5.9	21.3	437491	6.0	20.5	325003	6.1	20.8	511381	6.2	20.4	489244	6.2	21.6
347854	5.9	21.8	479152	5.9	21.0	130100	6.0	18.6	184505	6.1	19.4	92324	6.2	18.4	390459	6.3	20.2
393218	5.9	20.7	311202	5.9	21.3	137878	6.0	20.3	289036	6.1	20.4	45285	6.2	18.5	117724	6.3	18.9
470826	5.9	19.4	184006	5.9	20.8	82974	6.0	19.3	12604	6.1	17.3	109793	6.2	19.5	387271	6.3	21.3
468228	5.9	21.0	475806	5.9	21.0	507869	6.0	20.5	430931	6.1	19.2	306946	6.2	20.3	114851	6.3	19.3
395457	5.9	20.5	504167	5.9	21.6	190318	6.0	20.5	134652	6.1	19.9	628	6.2	12.6	172766	6.3	19.9
245150	5.9	21.2	74431	5.9	18.9	185577	6.0	21.8	429562	6.1	20.5	96771	6.2	18.2	115269	6.3	20.4
261977	5.9	19.8	477121	5.9	20.3	397755	6.0	21.4	214117	6.1	20.1	477885	6.2	18.0	401177	6.3	19.0
311964	5.9	21.5	6517	5.9	16.8	493723	6.0	20.6	342172	6.1	20.6	119914	6.2	19.4	341795	6.3	20.6
419595	5.9	21.6	68127	5.9	18.1	115245	6.0	18.9	80508	6.1	18.9	71052	6.2	18.8	212410	6.3	18.6
214076	5.9	20.8	407726	5.9	20.8	340237	6.0	20.0	33365	6.1	17.6	475252	6.2	20.9	87396	6.3	17.8
520196	5.9	20.9	10736	5.9	18.1	107896	6.0	18.4	280329	6.1	20.3	254107	6.2	18.8	310504	6.3	20.6
8843	5.9	17.3	35311	5.9	18.3	467211	6.0	21.0									

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

Nº	06	V															
501164	6.3	21.6	439304	6.4	19.0	101920	6.4	19.3	213425	6.5	19.1	102937	6.5	20.0	211951	6.6	20.1
159513	6.3	19.4	91156	6.4	18.9	470821	6.4	20.4	467612	6.5	21.4	186529	6.5	20.0	160342	6.6	19.7
436263	6.3	20.7	216932	6.4	19.7	355638	6.4	21.5	207951	6.5	20.3	509324	6.5	21.7	368868	6.6	20.3
418147	6.3	21.9	87666	6.4	17.9	408816	6.4	21.1	102739	6.5	18.3	289320	6.5	19.8	158901	6.6	19.9
159626	6.3	20.3	84146	6.4	19.2	322464	6.4	20.4	106237	6.5	19.8	387524	6.5	21.0	279314	6.6	20.7
250540	6.3	19.8	170747	6.4	20.8	379374	6.4	20.7	434717	6.5	21.6	140949	6.5	20.5	352113	6.6	20.5
12920	6.3	15.7	238332	6.4	19.9	379204	6.4	20.1	196216	6.5	19.7	277561	6.6	20.5	481107	6.6	20.2
136035	6.3	19.1	346229	6.4	21.5	162040	6.4	18.1	313100	6.5	20.4	25547	6.6	19.1	209443	6.6	19.1
270438	6.3	19.7	394294	6.4	21.1	372506	6.4	21.4	46099	6.5	17.7	272443	6.6	21.9	475742	6.6	22.8
90466	6.3	19.5	16773	6.4	16.4	522888	6.4	20.6	512534	6.5	21.2	313845	6.6	19.5	103497	6.6	19.3
45479	6.3	18.4	51601	6.4	17.9	384969	6.4	20.9	213486	6.5	17.7	175244	6.6	18.7	324936	6.6	21.3
370129	6.3	20.8	263077	6.4	20.2	80606	6.4	20.0	338280	6.5	20.1	427585	6.6	19.6	138973	6.6	19.4
498243	6.3	21.8	508054	6.4	20.8	329765	6.4	19.9	187314	6.5	20.9	177321	6.6	19.1	326946	6.6	22.8
473085	6.3	20.7	393863	6.4	20.2	474127	6.4	20.2	43109	6.5	18.6	417907	6.6	21.2	346242	6.6	20.9
346115	6.3	20.7	466527	6.4	21.3	271650	6.4	19.3	254379	6.5	20.2	355644	6.6	20.9	442411	6.6	19.8
25290	6.3	18.5	141855	6.4	19.5	184444	6.4	20.5	499384	6.5	22.7	393092	6.6	19.8	96491	6.6	17.9
44539	6.3	18.2	65851	6.4	18.7	34372	6.4	17.6	191317	6.5	19.3	341295	6.6	20.2	99737	6.6	18.5
521249	6.3	21.2	92436	6.4	18.3	120169	6.4	19.2	90262	6.5	19.0	419831	6.6	20.8	17879	6.6	17.3
348888	6.3	21.7	360707	6.4	20.7	129152	6.4	19.9	417774	6.5	22.0	299917	6.6	21.4	402284	6.6	20.2
489003	6.3	20.2	95675	6.4	20.0	335032	6.4	19.6	518584	6.5	19.5	429568	6.6	21.5	424443	6.6	21.3
393253	6.3	19.9	25225	6.4	17.8	122833	6.4	19.0	88884	6.5	19.0	289947	6.6	19.9	297633	6.6	21.0
264061	6.3	20.5	507454	6.4	21.3	195435	6.4	20.2	247746	6.5	19.8	478095	6.6	21.0	174214	6.6	20.1
368924	6.3	21.3	469277	6.4	21.1	499311	6.4	22.4	383927	6.5	21.3	308612	6.6	20.6	360139	6.6	20.1
442866	6.3	20.7	496444	6.4	20.8	56784	6.4	18.1	437423	6.5	20.4	42564	6.6	17.9	421876	6.6	19.1
250924	6.3	20.7	389252	6.4	20.3	365862	6.4	21.4	325105	6.5	19.5	401778	6.6	19.7	138818	6.6	21.2
519209	6.3	21.3	157272	6.4	18.8	496313	6.4	20.1	131212	6.5	19.5	329393	6.6	18.8	174487	6.6	19.8
58818	6.3	18.4	500775	6.4	21.9	208523	6.4	20.2	349741	6.5	21.2	1902	6.6	14.5	470356	6.6	20.7
346003	6.3	21.1	497221	6.4	21.5	435711	6.4	21.1	384082	6.5	21.7	471779	6.6	21.5	24258	6.6	18.6
131007	6.3	19.8	80237	6.4	21.0	282310	6.4	20.2	510422	6.5	21.8	134285	6.6	19.7	299402	6.6	20.6
12759	6.3	17.5	168886	6.4	20.4	140948	6.4	20.1	362999	6.5	21.5	353653	6.6	21.0	32971	6.6	19.4
461628	6.3	19.8	414035	6.4	21.2	41556	6.4	17.2	41553	6.5	19.7	351905	6.6	22.1	506559	6.6	21.1
430750	6.3	20.4	510816	6.4	19.7	262173	6.4	21.0	393288	6.5	20.2	477660	6.6	20.7	231690	6.6	20.2
170371	6.3	18.8	10685	6.4	17.6	131113	6.4	18.7	344751	6.5	20.5	11511	6.6	18.0	7877	6.7	18.4
277605	6.3	20.8	69971	6.4	17.7	376904	6.4	20.9	138779	6.5	19.1	328283	6.6	20.4	29570	6.7	18.5
442991	6.3	20.7	84157	6.4	18.5	1850	6.4	14.6	483328	6.5	20.4	174855	6.6	17.9	29484	6.7	18.2
205369	6.3	19.0	216325	6.4	20.3	54062	6.4	17.6	343483	6.5	20.3	287336	6.6	21.8	293646	6.7	18.5
389141	6.3	21.2	150013	6.4	20.1	71132	6.4	18.7	138100	6.5	20.9	152304	6.6	19.9	191715	6.7	19.6
230042	6.3	20.8	354779	6.4	20.2	167729	6.4	18.6	477695	6.5	21.6	399211	6.6	21.1	77240	6.7	17.5
108991	6.3	18.9	359876	6.4	20.9	353521	6.4	20.6	66660	6.5	19.1	137594	6.6	19.0	420330	6.7	21.6
1294	6.3	15.0	297846	6.4	21.7	280411	6.4	19.7	199120	6.5	18.8	248456	6.6	20.5	14277	6.7	18.7
352425	6.3	20.2	190035	6.4	19.3	341135	6.4	20.1	385501	6.5	20.4	176014	6.6	20.8	105429	6.7	19.9
127052	6.3	18.1	65287	6.4	19.1	279358	6.4	20.2	178754	6.5	19.3	181186	6.6	20.0	470370	6.7	21.0
241743	6.3	20.2	352030	6.4	20.7	62825	6.4	19.6	490802	6.5	20.0	207332	6.6	20.0	70223	6.7	19.5
207947	6.3	20.2	432985	6.4	20.7	389820	6.4	23.0	91689	6.5	20.0	375810	6.6	21.8	499148	6.7	21.7
133883	6.3	19.8	35646	6.4	18.5	326948	6.4	19.5	156431	6.5	19.1	489745	6.6	21.3	253925	6.7	20.2
73801	6.3	17.2	402824	6.4	20.3	482161	6.4	20.8	441375	6.5	21.0	177925	6.6	19.0	314152	6.7	19.8
190654	6.3	20.1	214674	6.4	19.9	33279	6.4	18.0	472648	6.5	20.4	293805	6.6	20.5	307152	6.7	20.5
288859	6.3	19.1	356874	6.4	19.8	235787	6.4	20.5	253087	6.5	19.6	521097	6.6	20.9	436881	6.7	20.9
59615	6.3	17.2	399158	6.4	19.5	497406	6.4	22.0	343454	6.5	19.1	47375	6.6	18.8	178233	6.7	20.8
89389	6.3	19.4	110356	6.4	18.4	240469	6.4	19.9	311190	6.5	20.4	430402	6.6	20.8	67038	6.7	17.7
483177	6.3	20.1	498348	6.4	21.3	299989	6.5	22.1	100438	6.5	20.8	247154	6.6	19.1	58541	6.7	18.6
93099	6.3	19.1	467980	6.4	20.7	83702	6.5	19.1	504127	6.5	21.7	500179	6.6	21.9	328896	6.7	21.6
69999	6.3	18.4	340386	6.4	20.3	127825	6.5	18.1	9725	6.5	17.3	237090	6.6	20.7	356182	6.7	20.6
303773	6.3	19.7	306831	6.4	20.7	277498	6.5	21.1	91652	6.5	18.0	67802	6.6	17.9	63611	6.7	18.1
506730	6.3	20.9	343034	6.4	20.3	415067	6.5	21.7	14384	6.5	19.8	466546	6.6	21.6	163091	6.7	18.7
443444	6.3	20.3	212883	6.4	19.6	333138	6.5	20.8	470653	6.5	21.2	299396	6.6	20.1	299117	6.7	19.4
385485	6.3	20.9	140281	6.4	19.4	110568	6.5	19.3	262531	6.5	18.8	59862	6.6	18.5	355231	6.7	20.1
393355	6.3	20.5	432352	6.4	20.0	429677	6.5	20.3	147164	6.5	18.2	363157	6.6	20.9	37355	6.7	18.7
376928	6.3	22.1	464001	6.4	19.9	472331	6.5	18.7	3726	6.5	15.9	438113	6.6	20.2	434386	6.7	21.6
105035	6.3	18.6	392927	6.4	21.1	457665	6.5	21.2	477938	6.5	21.0	37986	6.6	17.3	171807	6.7	20.2
36671	6.3	18.2	378100	6.4	19.5	4710	6.5	15.8	304514	6.5	20.6	391131	6.6	19.3	313079	6.7	19.7
287573	6.3	20.4	17041	6.4	18.4	471615	6.5	20.1	23876	6.5	17.3	509596	6.6	21.4	295118	6.7	19.0
229345	6.3	20.0	73259	6.4	20.8	478784	6.5	20.1	15								

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

Nº	06	V															
300895	6.7	20.6	432690	6.8	20.0	229525	6.8	19.7	57894	6.9	17.9	71404	6.9	19.4	215237	7.0	20.4
311204	6.7	19.8	112097	6.8	17.9	286015	6.8	20.9	432754	6.9	21.8	422048	6.9	21.4	284555	7.0	19.4
340560	6.7	20.8	259603	6.8	19.9	127753	6.8	18.4	45273	6.9	17.7	85243	6.9	20.4	353143	7.0	20.3
336710	6.7	21.0	379355	6.8	19.9	288522	6.8	20.3	447060	6.9	21.3	131200	6.9	19.1	504417	7.0	22.1
79863	6.7	19.7	295265	6.8	20.3	479987	6.8	20.3	398303	6.9	20.3	317899	6.9	21.2	338744	7.0	19.8
395630	6.7	20.8	232646	6.8	20.0	179239	6.8	21.1	263485	6.9	19.4	509115	6.9	21.3	390304	7.0	19.7
167160	6.7	19.6	200289	6.8	20.1	465893	6.8	20.0	87298	6.9	19.3	365445	6.9	19.4	59547	7.0	18.2
422997	6.7	20.3	477852	6.8	19.4	214138	6.8	20.0	79314	6.9	18.6	123590	6.9	20.4	168907	7.0	20.0
173923	6.7	19.5	252001	6.8	20.8	262760	6.8	20.2	102195	6.9	18.6	117149	6.9	18.9	206481	7.0	19.9
168460	6.7	18.1	480663	6.8	20.3	152442	6.8	19.9	476444	6.9	21.8	317732	6.9	20.0	187547	7.0	21.0
478218	6.7	20.6	40661	6.8	17.9	523078	6.8	21.1	319613	6.9	19.7	65311	6.9	19.5	489434	7.0	20.5
63018	6.7	18.0	76070	6.8	20.4	70289	6.8	18.7	145010	6.9	19.5	401410	6.9	20.8	201682	7.0	19.7
207758	6.7	20.2	117957	6.8	20.5	442136	6.8	20.4	256504	6.9	20.9	499754	6.9	21.3	438431	7.0	19.1
72000	6.7	19.3	122602	6.8	19.3	239871	6.8	18.6	143964	6.9	19.1	88152	6.9	18.3	157319	7.0	17.9
4813	6.7	16.5	126535	6.8	18.8	115010	6.8	19.6	74141	6.9	20.0	165265	6.9	19.4	323328	7.0	20.5
361997	6.7	21.5	166450	6.8	20.3	176406	6.8	20.5	507047	6.9	22.3	499949	6.9	20.6	367702	7.0	20.0
287601	6.7	20.6	176460	6.8	19.2	376921	6.8	21.0	518547	6.9	20.6	115885	6.9	19.8	350840	7.0	20.1
380119	6.7	21.1	181089	6.8	20.1	435728	6.8	20.5	192243	6.9	20.0	385585	6.9	21.2	414071	7.0	21.5
310873	6.7	19.6	507362	6.8	21.1	281252	6.8	19.2	150028	6.9	18.7	149747	6.9	19.9	48816	7.0	17.7
228534	6.7	21.2	379346	6.8	19.9	169023	6.8	21.0	504710	6.9	20.9	273679	6.9	20.6	134553	7.0	20.6
263293	6.7	19.9	506899	6.8	20.7	147302	6.8	19.5	392429	6.9	18.5	5892	6.9	18.0	426926	7.0	19.7
108392	6.7	18.1	9928	6.8	17.2	474781	6.8	20.8	165354	6.9	19.8	208472	6.9	19.7	336382	7.0	19.2
370314	6.7	20.4	441394	6.8	20.7	251841	6.8	21.0	372541	6.9	20.3	471806	6.9	21.0	367781	7.0	20.9
387273	6.7	20.1	139196	6.8	18.3	36503	6.8	19.0	254138	6.9	20.6	9286	6.9	19.1	368663	7.0	19.6
501843	6.7	21.8	509773	6.8	21.2	250797	6.8	21.5	341157	6.9	20.9	476272	6.9	21.4	422516	7.0	20.6
445288	6.7	20.5	471685	6.8	20.6	317095	6.8	19.3	196674	6.9	19.7	216210	6.9	21.0	78486	7.0	18.5
47565	6.7	18.2	67962	6.8	18.7	149184	6.8	19.1	34881	6.9	18.9	465315	6.9	21.7	248822	7.0	21.0
132485	6.7	17.9	297459	6.8	21.1	147167	6.8	19.1	36924	6.9	18.2	103831	6.9	19.8	306716	7.0	20.1
426582	6.7	21.7	262240	6.8	21.0	433476	6.8	21.4	93257	6.9	19.5	163984	6.9	17.6	423600	7.0	19.3
479235	6.7	21.4	44385	6.8	18.2	215600	6.8	20.4	385245	6.9	21.9	33104	6.9	17.9	41908	7.0	19.1
23072	6.7	17.9	101434	6.8	18.9	236400	6.8	20.9	225970	6.9	20.7	305535	6.9	21.7	209570	7.0	20.3
87294	6.7	17.9	380539	6.8	19.4	193556	6.8	20.2	280577	6.9	20.2	100489	6.9	20.6	508581	7.0	20.3
481155	6.7	21.0	43676	6.8	17.6	294367	6.8	20.6	157559	6.9	18.5	316533	6.9	20.5	434389	7.0	21.0
133406	6.7	19.2	431400	6.8	20.8	258925	6.8	20.0	123270	6.9	19.7	193309	6.9	20.8	498472	7.1	22.1
65697	6.7	19.0	17084	6.8	18.1	284635	6.8	19.9	128870	6.9	18.5	192875	6.9	20.4	19780	7.1	18.5
416562	6.7	21.5	150472	6.8	17.7	417654	6.8	20.4	394689	6.9	21.4	86334	6.9	18.9	247129	7.1	21.5
235810	6.7	20.6	177198	6.8	20.5	479896	6.8	20.8	395658	6.9	19.7	275995	6.9	19.7	149520	7.1	20.0
387248	6.7	20.6	288046	6.8	20.1	284809	6.8	20.1	59117	6.9	18.0	11550	6.9	16.7	176579	7.1	17.8
172527	6.7	19.5	415132	6.8	21.5	279772	6.8	20.1	113043	6.9	18.5	338535	6.9	19.4	176349	7.1	20.3
342284	6.7	21.8	133232	6.8	18.2	4745	6.8	16.1	419709	6.9	21.7	465102	6.9	20.3	249630	7.1	20.5
289910	6.7	20.0	510445	6.8	21.8	398565	6.8	20.4	362327	6.9	19.7	430966	6.9	22.3	36771	7.1	16.2
465628	6.7	20.5	483557	6.8	19.9	469574	6.8	20.8	87787	6.9	19.2	247794	6.9	20.7	213194	7.1	19.8
491580	6.7	22.5	485760	6.8	20.4	512109	6.8	19.8	364695	6.9	20.3	53364	6.9	17.1	82164	7.1	18.7
165209	6.7	19.1	164009	6.8	19.2	488981	6.8	21.7	273883	6.9	18.3	504315	6.9	20.2	91826	7.1	18.8
448613	6.7	21.2	45460	6.8	17.8	395983	6.8	20.4	148090	6.9	19.8	50045	6.9	16.9	67547	7.1	17.9
395083	6.7	20.0	372381	6.8	20.2	201642	6.8	19.5	105354	6.9	19.5	506580	6.9	21.8	137646	7.1	19.5
23156	6.7	18.5	380543	6.8	18.7	436884	6.8	20.9	72129	6.9	19.1	360661	6.9	19.5	360049	7.1	20.6
308551	6.7	20.5	446637	6.8	20.1	338693	6.8	21.1	183290	6.9	20.5	125082	6.9	19.7	472495	7.1	19.9
359550	6.7	20.3	317908	6.8	21.2	23001	6.8	18.4	155733	6.9	19.3	8220	6.9	16.6	84402	7.1	18.8
494362	6.7	21.2	342610	6.8	20.2	374325	6.8	21.8	91842	6.9	19.6	522608	6.9	21.2	177270	7.1	20.1
372475	6.7	20.9	141930	6.8	19.3	115634	6.8	19.9	502442	6.9	21.9	268084	6.9	19.9	436655	7.1	20.3
20660	6.7	18.2	140749	6.8	20.3	131287	6.8	17.7	438123	6.9	20.6	100866	6.9	18.3	472669	7.1	20.6
6314	6.7	16.6	479820	6.8	21.1	224347	6.8	21.3	17292	6.9	18.0	522722	6.9	20.9	18692	7.1	17.3
8221	6.7	17.3	284618	6.8	19.9	368433	6.8	21.2	417703	6.9	19.9	497084	6.9	20.6	365063	7.1	20.5
382388	6.7	23.1	173101	6.8	20.0	136945	6.8	19.5	48271	6.9	17.4	438460	6.9	20.8	349062	7.1	21.3
438962	6.7	20.1	151803	6.8	18.8	500885	6.8	24.6	127299	6.9	19.0	470561	7.0	21.0	235748	7.1	20.8
153791	6.7	20.5	501678	6.8	22.1	147793	6.9	18.4	57381	6.9	18.0	214085	7.0	19.7	423047	7.1	19.9
373559	6.7	22.5	507815	6.8	21.2	99360	6.9	20.0	342206	6.9	20.5	336147	7.0	21.4	243329	7.1	20.7
140771	6.7	19.0	434370	6.8	21.6	433946	6.9	20.8	163029	6.9	19.0	506781	7.0	21.7	53926	7.1	18.2
125211	6.7	19.2	206712	6.8	20.3	18422	6.9	17.0	501777	6.9	20.0	397429	7.0	21.0	463738	7.1	21.1
257898	6.7	20.5	229924	6.8	20.2	111618	6.9	19.1	68905	6.9	18.0	250042	7.0	20.4	55597	7.1	18.6
430065	6.7	20.3	374300	6.8	21.8	475060	6.9	20.0	290343	6.9	20.8	471112	7.0	21.0	384546	7.1	21.0
112092	6.7	18.9	200259	6.8	20.4	44446	6.9	18.									

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
121389	7.1	19.4	489604	7.2	20.5	480615	7.2	20.9	270282	7.3	18.7	219626	7.4	19.6	150891	7.5	20.5
75481	7.1	17.9	478722	7.2	21.6	111777	7.2	19.5	439508	7.3	20.2	434706	7.4	21.2	229928	7.5	20.3
20955	7.1	17.8	410716	7.2	20.9	142060	7.2	20.2	51514	7.3	17.7	221809	7.4	19.7	391089	7.5	20.0
224096	7.1	19.4	106216	7.2	20.3	331900	7.2	19.9	145350	7.3	19.5	475861	7.4	21.4	153531	7.5	20.2
47370	7.1	19.0	140211	7.2	19.6	70568	7.2	19.7	192698	7.3	20.2	42258	7.4	17.3	215676	7.5	20.3
152428	7.1	20.6	337163	7.2	20.3	107568	7.2	20.1	17664	7.3	17.7	105609	7.4	18.9	138077	7.5	20.1
47257	7.1	17.4	147102	7.2	18.8	370458	7.2	19.7	201197	7.3	19.4	189554	7.4	19.5	623	7.5	14.9
508391	7.1	19.9	39849	7.2	18.2	105351	7.2	19.9	215834	7.3	20.7	247073	7.4	19.9	342606	7.5	20.8
328499	7.1	19.9	467499	7.2	20.6	302397	7.2	20.5	164739	7.3	20.4	499313	7.4	21.7	345713	7.5	20.8
503038	7.1	21.7	428267	7.2	20.5	472685	7.2	20.5	388586	7.3	21.2	121440	7.4	20.6	506516	7.5	21.3
471391	7.1	20.7	14029	7.2	16.5	106183	7.2	19.5	499509	7.3	21.7	308478	7.4	20.2	500100	7.5	21.4
251495	7.1	19.6	64251	7.2	17.9	423845	7.2	21.0	249624	7.3	20.5	238675	7.4	20.3	292184	7.5	20.2
232567	7.1	20.3	80810	7.2	19.2	56729	7.2	18.9	178656	7.3	19.7	377734	7.4	19.8	259567	7.5	20.8
71904	7.1	18.7	242261	7.2	19.3	407734	7.2	21.2	216836	7.3	20.8	359920	7.4	22.2	509728	7.5	20.7
465323	7.1	20.9	41176	7.2	17.9	391096	7.2	20.5	428516	7.3	21.7	464651	7.4	19.9	308586	7.5	19.6
374586	7.1	22.8	192354	7.2	20.6	320600	7.2	19.4	479922	7.3	22.2	93095	7.4	19.8	177942	7.5	19.1
298334	7.1	20.5	202924	7.2	19.8	522961	7.2	21.2	2761	7.3	16.9	225935	7.4	20.1	101153	7.5	19.6
75109	7.1	18.6	302710	7.2	20.2	499551	7.2	21.1	348274	7.3	21.0	235280	7.4	19.7	196829	7.5	19.6
360078	7.1	19.5	259683	7.2	20.4	213537	7.2	19.7	482112	7.3	21.7	240223	7.4	19.9	10357	7.5	15.3
81688	7.1	19.1	255679	7.2	18.8	416411	7.2	21.7	915	7.3	14.9	286270	7.4	21.1	290887	7.5	20.2
204328	7.1	19.9	153679	7.2	19.8	137059	7.2	20.1	393033	7.3	20.0	496440	7.4	20.8	154626	7.5	20.3
192758	7.1	19.3	269123	7.2	18.4	62465	7.2	18.8	472041	7.3	20.8	423505	7.4	20.1	68540	7.5	18.7
6176	7.1	16.3	501681	7.2	22.1	83527	7.2	18.8	371700	7.3	21.4	313090	7.4	20.3	437017	7.5	21.0
211498	7.1	18.9	499865	7.2	21.0	346015	7.2	20.1	3967	7.3	16.2	141113	7.4	20.4	338559	7.5	20.3
22634	7.1	18.8	377679	7.2	21.7	275557	7.2	20.3	38397	7.3	18.1	117801	7.4	18.7	236958	7.5	18.8
100773	7.1	18.6	148534	7.2	19.2	5122	7.2	16.2	56805	7.3	18.1	138827	7.4	20.2	278504	7.5	20.1
219188	7.1	18.5	952228	7.2	18.5	251673	7.2	21.7	20446	7.3	16.5	148058	7.4	20.2	441965	7.5	20.4
300144	7.1	21.4	437559	7.2	20.9	497329	7.3	22.4	490708	7.3	20.4	196489	7.4	18.9	362809	7.5	21.0
10344	7.1	17.3	253917	7.2	21.4	490688	7.3	21.3	321173	7.3	20.8	337979	7.4	19.6	507134	7.5	19.1
304755	7.1	20.9	352395	7.2	21.5	426950	7.3	20.4	435834	7.3	21.2	292108	7.4	21.3	139892	7.5	19.5
242296	7.1	20.6	438235	7.2	21.3	427949	7.3	21.3	368284	7.3	19.7	439418	7.4	20.6	468642	7.5	20.7
15301	7.1	18.3	106728	7.2	19.5	17881	7.3	16.6	368156	7.3	20.0	155500	7.4	18.0	327198	7.5	19.7
385484	7.1	20.1	384049	7.2	20.8	408164	7.3	19.9	114769	7.3	18.2	522740	7.4	20.8	243281	7.5	19.6
295669	7.1	21.3	45994	7.2	18.5	433335	7.3	20.7	163803	7.3	19.8	166473	7.4	17.8	522561	7.5	20.3
253806	7.1	19.6	497032	7.2	21.4	349273	7.3	21.6	61579	7.3	18.1	3008	7.4	17.3	231343	7.5	20.0
195566	7.1	19.3	268417	7.2	20.2	290976	7.3	20.7	69105	7.3	18.0	401117	7.4	20.7	402438	7.5	21.5
152060	7.1	20.1	504663	7.2	21.2	374940	7.3	20.4	278652	7.3	20.2	198149	7.4	20.9	130725	7.5	18.5
150212	7.1	18.6	5354	7.2	16.4	312145	7.3	20.3	337178	7.3	21.7	120117	7.4	19.7	3913	7.5	15.5
22579	7.1	17.0	140584	7.2	19.5	339416	7.3	20.9	236659	7.3	20.8	339390	7.4	21.2	65141	7.5	18.2
378265	7.1	19.4	46572	7.2	17.6	394060	7.3	19.5	190636	7.3	19.1	277457	7.4	19.3	434694	7.5	21.4
261557	7.1	19.8	259271	7.2	18.5	119654	7.3	19.5	294150	7.3	20.1	84970	7.4	18.7	398367	7.5	21.6
203047	7.1	20.3	179455	7.2	20.8	390625	7.3	19.6	479142	7.3	21.8	153308	7.4	18.3	512740	7.5	21.3
502485	7.1	21.7	499647	7.2	22.0	30871	7.3	19.6	262618	7.3	21.3	437529	7.4	20.1	215868	7.5	20.2
379759	7.1	19.9	488419	7.2	20.9	245104	7.3	19.9	105428	7.3	19.4	422916	7.4	21.0	519043	7.5	20.3
336399	7.1	19.8	261202	7.2	20.5	121598	7.3	20.6	391666	7.3	21.5	152441	7.4	19.0	224438	7.5	20.6
397708	7.1	21.2	478776	7.2	19.2	123538	7.3	19.4	141041	7.3	20.2	288009	7.4	20.1	343810	7.5	19.5
462162	7.1	20.8	336150	7.2	20.7	285090	7.3	20.2	279782	7.3	20.8	355198	7.4	21.6	46683	7.5	18.1
291702	7.1	20.4	141961	7.2	18.9	129907	7.3	20.2	276097	7.4	19.8	317831	7.4	19.3	474479	7.5	21.5
384119	7.1	21.4	335604	7.2	21.0	443778	7.3	20.0	220968	7.4	19.7	162505	7.4	18.6	475586	7.5	21.3
40467	7.1	17.6	126740	7.2	19.5	93320	7.3	19.6	504050	7.4	21.5	385801	7.4	22.3	148592	7.5	19.7
483153	7.1	20.6	395415	7.2	21.2	32456	7.3	17.8	414051	7.4	20.7	36303	7.4	16.7	401252	7.5	21.1
387787	7.1	20.4	378302	7.2	20.0	360069	7.3	19.3	216138	7.4	19.0	505999	7.4	21.2	305378	7.5	20.7
134865	7.1	19.2	53421	7.2	18.1	157835	7.3	19.5	84445	7.4	17.6	508151	7.4	21.0	257773	7.5	21.8
186246	7.1	20.0	377816	7.2	21.6	3654	7.3	17.2	272605	7.4	21.3	123621	7.4	19.4	277609	7.5	20.1
380283	7.1	22.0	214164	7.2	20.3	314031	7.3	19.9	59136	7.4	18.3	230952	7.4	19.3	246086	7.5	19.1
302349	7.1	19.9	466121	7.2	20.3	277644	7.3	20.0	422651	7.4	21.2	82533	7.4	18.2	28397	7.5	18.3
163707	7.1	18.6	441979	7.2	20.6	425188	7.3	20.4	39317	7.4	18.1	294226	7.4	19.4	312668	7.5	19.1
472100	7.1	20.9	20678	7.2	18.8	347907	7.3	20.5	295801	7.4	21.0	198620	7.4	19.7	143552	7.5	20.5
245795	7.1	19.4	435628	7.2	20.6	176563	7.3	19.4	392140	7.4	20.6	245910	7.4	20.3	494404	7.5	20.4
157107	7.1	18.7	512055	7.2	21.1	17778	7.3	17.5	256750	7.4	20.7	207956	7.4	20.7	452378	7.5	20.5
375000	7.2	19.7	237155	7.2	19.5	141895	7.3	18.9	288347	7.4	21.8	158495	7.4	19.0	64957	7.5	18.7
302078	7.2	21.1	195622	7.2	18.7	281441	7.3	18.2	108086	7.4	19.2	28342	7.4	18.0	443655	7.5	20.0
244223	7.2	18.8	204130	7.2	20.5	248129	7.3</td										

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
346033	7.5	21.7	2550	7.6	16.8	477675	7.7	19.9	256066	7.7	19.9	34000	7.8	16.6	261359	7.9	20.0
19649	7.5	18.0	214849	7.6	20.3	499584	7.7	21.8	57628	7.8	19.0	294395	7.8	20.3	379313	7.9	20.8
512620	7.5	20.6	192739	7.6	19.4	214478	7.7	18.7	284441	7.8	21.6	304367	7.8	21.6	312562	7.9	19.8
210149	7.5	20.6	232502	7.6	20.4	249096	7.7	19.8	239703	7.8	20.4	120765	7.8	19.5	431405	7.9	20.5
142187	7.5	18.5	8979	7.6	17.1	512538	7.7	21.8	325950	7.8	19.6	250726	7.8	20.3	388000	7.9	19.9
329213	7.5	20.3	212455	7.6	18.4	420890	7.7	19.8	190032	7.8	20.0	349826	7.8	21.1	263927	7.9	19.1
286596	7.5	20.3	473242	7.6	20.9	2139	7.7	15.3	356841	7.8	21.5	405832	7.8	19.6	272593	7.9	21.3
474330	7.5	20.9	499364	7.6	22.0	415540	7.7	20.2	418168	7.8	20.3	357358	7.8	16.8	142106	7.9	19.3
436323	7.5	21.2	388714	7.6	21.2	342814	7.7	20.9	163052	7.8	18.9	235257	7.8	19.4	506884	7.9	21.2
359542	7.5	20.8	145463	7.6	19.8	138116	7.7	19.5	126899	7.8	20.5	506776	7.8	21.9	497781	7.9	21.4
20603	7.5	18.6	336338	7.6	21.1	343756	7.7	19.9	506885	7.8	21.7	285345	7.8	19.5	191314	7.9	19.2
165401	7.5	20.2	509753	7.6	21.8	346558	7.7	19.7	416638	7.8	19.9	307000	7.8	21.0	314125	7.9	20.3
172754	7.5	19.6	322371	7.6	19.8	195332	7.7	20.4	351957	7.8	20.4	107258	7.8	17.5	379300	7.9	21.1
2706	7.5	16.1	46832	7.6	18.8	435890	7.7	21.0	478804	7.8	22.1	439692	7.8	19.8	293233	7.9	20.1
251805	7.5	20.9	394034	7.6	20.7	87820	7.7	19.4	137258	7.8	19.3	169106	7.8	19.5	162538	7.9	19.6
479970	7.5	20.9	464746	7.6	20.9	185918	7.7	20.8	299777	7.8	21.7	294496	7.8	20.7	359453	7.9	19.9
111731	7.5	19.8	3006	7.6	17.5	346678	7.7	20.4	159786	7.8	19.2	469708	7.8	21.8	338826	7.9	20.6
295278	7.5	21.0	362931	7.6	19.8	158419	7.7	18.7	286090	7.8	20.4	211126	7.8	19.2	232056	7.9	20.7
334416	7.5	20.6	376900	7.6	21.4	99761	7.7	19.3	306837	7.8	20.0	314124	7.8	19.9	119643	7.9	20.3
98770	7.5	17.7	156931	7.6	18.8	182158	7.7	20.4	436905	7.8	20.7	490697	7.8	21.7	205634	7.9	20.2
17695	7.5	18.6	146192	7.6	19.3	469536	7.7	20.9	404972	7.8	22.2	260724	7.8	19.6	308068	7.9	19.1
422885	7.5	21.0	216287	7.6	19.7	206242	7.7	19.8	250292	7.8	19.4	238846	7.8	19.9	296048	7.9	20.0
377680	7.5	19.3	165202	7.6	19.9	69602	7.7	18.9	192636	7.8	19.5	373569	7.8	21.1	383922	7.9	21.2
429650	7.5	21.1	503506	7.6	21.5	106724	7.7	19.9	148104	7.8	18.7	32935	7.8	18.6	184735	7.9	19.2
293102	7.5	20.0	276089	7.6	20.0	100613	7.7	21.2	512791	7.8	20.9	412071	7.8	19.7	323059	7.9	20.6
510139	7.5	21.3	343478	7.6	20.4	377122	7.7	19.9	427250	7.8	21.6	348190	7.8	20.5	11327	7.9	17.9
250700	7.6	19.9	147487	7.6	19.9	198534	7.7	18.3	443211	7.8	20.8	507742	7.8	21.0	509791	7.9	20.9
475385	7.6	20.4	357979	7.6	18.5	386115	7.7	21.1	171014	7.8	19.4	83785	7.8	19.2	470456	7.9	21.7
125875	7.6	20.0	213700	7.6	19.0	180137	7.7	19.5	139872	7.8	19.4	4276	7.8	17.6	126278	7.9	20.0
237934	7.6	19.9	390668	7.6	21.1	61002	7.7	17.7	310667	7.8	20.8	342546	7.8	19.7	410738	7.9	19.8
216869	7.6	19.7	319374	7.6	21.0	173828	7.7	20.7	430760	7.8	20.4	435653	7.8	21.5	174359	7.9	19.9
512451	7.6	21.4	440270	7.6	20.9	204080	7.7	20.4	312046	7.8	19.4	129749	7.8	20.3	408210	7.9	21.1
474210	7.6	21.3	370994	7.6	21.9	383992	7.7	20.0	129402	7.8	19.4	394025	7.8	20.2	62478	7.9	18.3
157104	7.6	19.3	301393	7.6	20.4	42076	7.7	19.3	276041	7.8	20.8	308383	7.8	21.7	471856	7.9	20.3
17425	7.6	18.0	268441	7.6	20.9	163714	7.7	18.1	497442	7.8	21.1	467153	7.8	19.9	323202	7.9	21.3
54761	7.6	18.4	93619	7.6	19.7	281825	7.7	20.6	181851	7.8	19.5	118905	7.8	19.9	405664	7.9	19.8
248055	7.6	19.7	365081	7.6	20.0	56328	7.7	18.4	317730	7.8	20.7	370260	7.8	20.6	428112	7.9	21.4
236580	7.6	21.0	176623	7.6	19.2	513352	7.7	20.6	498365	7.8	20.4	327758	7.8	21.2	314338	7.9	21.1
160403	7.6	17.5	106253	7.6	20.3	19557	7.7	16.3	214430	7.8	20.4	245306	7.8	19.8	159333	7.9	19.7
237463	7.6	20.0	178564	7.6	20.3	316223	7.7	20.4	156264	7.8	19.8	362797	7.8	20.5	37286	7.9	17.0
502396	7.6	21.0	292240	7.6	20.8	89688	7.7	18.5	367143	7.8	21.4	208379	7.8	19.5	123527	7.9	18.6
7330	7.6	18.1	341201	7.7	20.8	135313	7.7	19.6	214954	7.8	19.5	202984	7.8	19.2	345927	7.9	20.9
382923	7.6	20.5	150675	7.7	18.6	34602	7.7	17.6	37838	7.8	18.1	140734	7.8	19.8	285725	7.9	21.4
16197	7.6	16.6	263219	7.7	20.1	297819	7.7	19.8	122905	7.8	19.5	34671	7.8	19.0	270478	7.9	20.0
310369	7.6	20.6	49698	7.7	18.7	176509	7.7	20.2	16437	7.8	17.4	184496	7.8	20.0	338521	7.9	20.4
351268	7.6	19.7	506023	7.7	20.7	67817	7.7	18.1	267145	7.8	19.8	478163	7.8	21.5	364155	7.9	20.2
491912	7.6	21.5	367489	7.7	20.0	180821	7.7	18.9	175614	7.8	19.5	475653	7.8	22.1	352451	7.9	21.4
386434	7.6	20.5	469668	7.7	20.5	483107	7.7	21.5	504158	7.8	22.1	518837	7.8	21.3	508334	7.9	20.1
478367	7.6	21.5	478096	7.7	21.2	180496	7.7	19.3	94964	7.8	19.5	420437	7.8	19.9	202804	7.9	20.1
316870	7.6	20.5	184202	7.7	19.4	501799	7.7	21.4	164468	7.8	18.7	281492	7.8	20.5	325002	7.9	21.1
476518	7.6	20.8	425817	7.7	19.4	146136	7.7	19.3	38089	7.8	17.2	229125	7.8	20.4	358889	7.9	20.7
160225	7.6	18.8	470364	7.7	21.5	359775	7.7	20.4	293633	7.8	20.7	318017	7.8	19.3	256918	7.9	21.0
250556	7.6	20.3	424814	7.7	20.2	346050	7.7	21.3	499607	7.8	20.6	134683	7.9	20.2	127554	7.9	19.4
58724	7.6	19.8	475201	7.7	21.5	61187	7.7	18.9	318673	7.8	20.3	144743	7.9	18.4	480278	7.9	20.5
137736	7.6	19.8	463220	7.7	20.1	200113	7.7	19.6	409376	7.8	21.1	179263	7.9	21.4	349295	7.9	20.9
214994	7.6	20.3	462172	7.7	20.0	510672	7.7	21.3	257353	7.8	19.7	390996	7.9	19.7	151470	7.9	20.8
392626	7.6	19.7	509703	7.7	21.4	272489	7.7	21.0	482467	7.8	20.6	198969	7.9	19.4	148347	7.9	20.3
504999	7.6	20.1	497445	7.7	21.6	497929	7.7	21.5	432887	7.8	20.2	148438	7.9	19.9	502909	7.9	21.2
342775	7.6	20.5	58661	7.7	18.6	268056	7.7	19.9	383343	7.8	19.6	453207	7.9	20.1	293671	7.9	19.1
478099	7.6	21.1	196614	7.7	20.1	229551	7.7	20.1	493609	7.8	20.4	235792	7.9	21.0	202305	7.9	20.5
103040	7.6	19.0	64477	7.7	17.8	480680	7.7	21.1	501685	7.8	21.1	250134	7.9	21.0	296043	7.9	19.0
137186	7.6	18.5	497133	7.7	19.7	58591	7.7	17.8	332155	7.8	20.0	323775	7.9	19.1	313926	7.9	19.9
471826	7.6	20.3	303823	7.7	20.6</td												

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

Nº	06	V															
257159	7.9	20.3	508010	8.1	19.8	314050	8.1	21.2	19858	8.2	18.8	336483	8.3	19.7	355558	8.4	21.1
507611	7.9	23.1	249305	8.1	20.0	466650	8.1	21.0	345919	8.2	21.6	160913	8.3	19.1	505676	8.4	19.6
209036	7.9	19.6	520983	8.1	20.8	436278	8.1	20.5	158317	8.2	20.4	58827	8.3	18.1	366462	8.4	21.0
198471	7.9	20.2	39481	8.1	17.3	89394	8.1	18.8	115278	8.2	19.6	509707	8.3	21.1	437289	8.4	19.9
225873	7.9	20.3	154540	8.1	19.3	471639	8.1	20.9	282277	8.2	19.5	157799	8.3	18.8	302404	8.4	20.3
433782	7.9	19.9	308459	8.1	20.9	386521	8.1	19.9	322431	8.2	20.5	393933	8.3	20.6	425805	8.4	20.8
300198	7.9	21.5	425836	8.1	22.3	324359	8.1	20.3	377461	8.2	20.7	183400	8.3	19.3	63120	8.4	18.7
139243	7.9	18.5	474857	8.1	21.0	71760	8.1	17.2	281257	8.2	19.1	320562	8.3	20.9	435875	8.4	21.0
140698	7.9	19.7	19973	8.1	18.4	265024	8.1	19.9	183772	8.2	21.0	419630	8.3	21.6	172452	8.4	18.8
489790	7.9	21.8	7594	8.1	15.5	43962	8.2	18.9	309947	8.2	19.5	470766	8.3	20.9	9447	8.4	16.6
440752	7.9	20.3	345877	8.1	20.5	441355	8.2	20.2	471743	8.2	21.9	198589	8.3	21.3	122457	8.4	18.9
216567	7.9	20.9	78961	8.1	17.9	203751	8.2	20.2	141072	8.2	19.5	87531	8.3	18.7	231759	8.4	20.4
173094	7.9	20.4	511193	8.1	20.7	58463	8.2	18.0	278842	8.2	19.9	20184	8.3	17.1	341187	8.4	21.6
93904	7.9	18.9	507568	8.1	21.5	72278	8.2	18.9	51395	8.2	18.0	86341	8.3	20.2	134641	8.4	19.7
163647	7.9	18.8	342850	8.1	21.6	480745	8.2	19.0	286416	8.2	21.2	295489	8.3	21.4	192340	8.4	18.8
347955	7.9	20.9	425742	8.1	21.9	116348	8.2	20.2	62147	8.2	18.8	338258	8.3	21.4	64153	8.4	18.5
384068	7.9	20.4	108144	8.1	19.0	512995	8.2	20.9	336271	8.2	20.6	69809	8.3	17.7	420062	8.4	22.4
220278	7.9	20.2	394035	8.1	19.8	264893	8.2	20.5	261955	8.2	20.2	179324	8.3	21.0	287473	8.4	20.9
164238	7.9	19.8	86260	8.1	18.2	4689	8.2	16.1	140123	8.2	20.7	275226	8.3	20.7	35291	8.4	19.4
439425	7.9	21.4	499667	8.1	21.9	335146	8.2	21.2	507500	8.2	20.1	276604	8.3	18.8	182576	8.4	21.0
250943	7.9	20.7	475007	8.1	21.2	144542	8.2	19.2	66524	8.2	18.1	443754	8.3	19.9	371863	8.4	19.4
503682	7.9	19.3	118942	8.1	19.4	315307	8.2	21.5	206104	8.2	20.1	328140	8.3	21.8	206766	8.4	19.9
431308	7.9	21.8	76564	8.1	18.5	41607	8.2	18.5	431049	8.2	21.0	254401	8.3	20.5	254177	8.4	20.5
416061	7.9	20.6	221794	8.1	19.0	112387	8.2	19.3	160448	8.2	20.2	521595	8.3	20.0	389926	8.4	21.3
11631	7.9	16.9	871155	8.1	17.2	181613	8.2	18.5	203955	8.2	19.8	87568	8.3	19.1	239440	8.4	19.9
139776	7.9	19.3	74416	8.1	18.2	471642	8.2	21.1	393879	8.2	20.9	49666	8.3	17.2	342979	8.4	21.0
80309	8.0	19.8	87857	8.1	18.3	352513	8.2	20.3	230116	8.2	18.2	380947	8.3	20.7	73047	8.4	18.3
71177	8.0	19.9	373253	8.1	19.7	213797	8.2	19.2	472890	8.2	20.1	115338	8.3	19.6	40040	8.4	17.5
9693	8.0	17.4	428013	8.1	20.6	311953	8.2	21.1	471750	8.2	21.5	157779	8.3	19.2	37626	8.4	17.9
30021	8.0	17.5	491321	8.1	22.2	37586	8.2	16.7	383981	8.2	20.6	506426	8.3	20.7	425679	8.4	19.8
243981	8.0	19.2	350929	8.1	20.8	427753	8.2	20.9	90765	8.2	19.6	148151	8.3	20.2	357744	8.4	21.0
469551	8.0	21.2	64169	8.1	20.4	399798	8.2	21.0	195554	8.2	19.8	215231	8.3	20.4	439864	8.4	21.3
262105	8.0	20.4	284578	8.1	20.5	443753	8.2	21.1	60968	8.2	18.1	521210	8.3	20.9	519635	8.4	20.7
468811	8.0	19.2	32467	8.1	19.0	396989	8.2	21.5	389701	8.2	20.9	386859	8.3	20.3	371105	8.4	20.6
177070	8.0	19.4	379191	8.1	20.3	59133	8.2	18.8	311543	8.2	21.0	393279	8.3	19.1	256728	8.4	20.6
460726	8.0	19.2	520908	8.1	21.6	2538	8.2	16.5	4847	8.2	16.6	197158	8.3	19.9	7678	8.4	17.9
308488	8.0	19.9	43813	8.1	19.4	507719	8.2	21.0	357798	8.2	20.1	247375	8.3	20.6	139974	8.4	19.3
114783	8.0	19.0	81614	8.1	18.9	133201	8.2	19.6	308579	8.3	21.0	436222	8.3	21.6	118863	8.4	18.9
83762	8.0	18.7	190431	8.1	18.1	190449	8.2	19.6	499605	8.3	22.1	262178	8.3	20.3	160919	8.4	19.5
521458	8.0	21.0	8123	8.1	18.3	217558	8.2	19.6	395380	8.3	21.0	402345	8.3	20.8	286705	8.4	21.6
181435	8.0	20.6	499358	8.1	22.2	387984	8.2	20.5	363660	8.3	20.6	368374	8.3	20.5	158467	8.4	20.7
472954	8.0	20.3	319559	8.1	19.2	362460	8.2	20.4	442594	8.3	20.7	203989	8.3	20.2	462528	8.4	19.8
392171	8.0	20.1	326911	8.1	21.2	140296	8.2	20.0	235762	8.3	21.1	471025	8.3	20.9	411649	8.4	20.8
475693	8.0	21.1	518180	8.1	20.6	276017	8.2	21.1	265397	8.3	20.2	438795	8.3	21.6	506147	8.4	19.5
302014	8.0	20.3	504576	8.1	21.7	180874	8.2	19.4	383957	8.3	21.0	426485	8.3	19.5	405767	8.4	22.1
293191	8.0	20.3	93505	8.1	19.2	380808	8.2	20.7	96472	8.3	18.3	242674	8.3	19.5	398971	8.4	20.5
17378	8.0	18.6	375838	8.1	19.7	434662	8.2	22.2	266549	8.3	20.5	31022	8.3	16.6	48373	8.4	19.1
52470	8.0	18.5	389115	8.1	20.9	294407	8.2	21.0	470740	8.3	21.6	64941	8.3	17.7	256936	8.4	18.7
32931	8.0	19.7	302143	8.1	19.2	171194	8.2	19.4	323235	8.3	21.4	7701	8.3	18.7	270265	8.4	21.0
82730	8.0	19.0	330336	8.1	21.2	259024	8.2	20.9	170719	8.3	20.2	398694	8.3	20.6	185816	8.4	20.6
52647	8.0	18.8	384112	8.1	21.3	523623	8.2	25.2	123691	8.3	19.2	66068	8.3	17.2	257880	8.4	20.6
56877	8.0	19.1	87575	8.1	18.4	446872	8.2	19.7	249736	8.3	19.1	280333	8.3	20.0	416246	8.4	20.6
131687	8.0	19.2	170931	8.1	19.7	266268	8.2	19.9	80208	8.3	19.8	142132	8.3	19.2	121625	8.4	18.8
275166	8.0	21.1	450021	8.1	20.6	477996	8.2	20.7	92169	8.3	18.3	338534	8.3	21.2	502463	8.4	20.0
23062	8.0	17.3	384047	8.1	20.7	267466	8.2	20.1	280282	8.3	19.1	367074	8.3	20.1	178171	8.4	20.1
191123	8.0	20.6	442541	8.1	20.1	217522	8.2	20.6	321140	8.3	19.9	394196	8.3	21.0	335687	8.4	19.3
30858	8.0	17.3	397969	8.1	20.9	235872	8.2	20.0	397421	8.3	20.1	284828	8.3	20.1	97674	8.4	18.2
514364	8.0	21.8	417490	8.1	21.8	436950	8.2	21.0	259443	8.3	21.1	471781	8.3	21.0	79122	8.4	18.5
200123	8.0	19.8	284999	8.1	19.5	399123	8.2	20.3	245095	8.3	20.7	115808	8.3	19.3	154621	8.4	19.4
241634	8.0	20.5	36032	8.1	17.8	340074	8.2	19.3	189575	8.3	20.4	370919	8.3	20.0	160965	8.4	19.1
504442	8.0	21.0	397359	8.1	21.6	509837	8.2	22.1	506871	8.3	21.1	349281	8.3	21.4	145018	8.4	19.0
210267	8.0	20.1	499154	8.1	20.7	501606	8.2	21.0	277009	8.3	19.5	315290	8.3	21.3	250391	8.4	21.0
68213	8.0	19.8	20115	8.1	17.9	425585	8.2	21.6	62								

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

Nº	06	V															
423922	8.4	21.7	505627	8.5	21.8	475284	8.6	21.3	61470	8.7	18.4	283701	8.7	19.8	377609	8.8	20.6
501617	8.4	20.7	290241	8.5	20.1	89652	8.6	17.4	107656	8.7	19.9	331471	8.7	15.7	86385	8.8	17.8
413030	8.4	20.8	470672	8.5	21.1	282065	8.6	20.2	152806	8.7	21.1	389514	8.7	20.3	311159	8.8	19.8
471491	8.4	21.0	188245	8.5	21.0	257365	8.6	18.4	261373	8.7	20.6	500816	8.7	20.5	317230	8.8	20.5
278290	8.4	19.5	435769	8.5	20.5	138942	8.6	19.5	146128	8.7	20.1	478296	8.7	20.1	193886	8.8	19.9
120807	8.4	19.1	117043	8.5	19.2	174821	8.6	19.7	137834	8.7	20.7	338	8.7	12.7	235197	8.8	20.0
244215	8.4	19.1	44533	8.5	17.0	513664	8.6	21.5	68872	8.7	17.9	310663	8.7	19.6	376175	8.8	20.6
298303	8.4	20.1	474916	8.5	21.4	467252	8.6	19.3	446615	8.7	20.9	468037	8.7	20.5	349028	8.8	21.0
118424	8.4	19.8	504001	8.5	21.1	11878	8.6	17.2	440714	8.7	22.0	293247	8.7	20.5	261710	8.8	18.5
408854	8.4	19.6	136683	8.5	19.5	350797	8.6	21.2	128723	8.7	19.5	415099	8.7	22.4	214148	8.8	20.0
202574	8.4	19.8	350930	8.5	21.1	51400	8.6	16.8	33652	8.7	18.3	437583	8.7	20.5	12534	8.8	17.8
478821	8.4	21.5	330565	8.5	20.6	484	8.6	13.5	183644	8.7	20.7	234008	8.7	20.3	304502	8.8	20.4
509341	8.4	21.3	358328	8.5	22.1	430975	8.6	19.9	490831	8.7	21.3	309738	8.7	21.3	499645	8.8	20.9
289218	8.4	21.0	247770	8.5	20.1	45637	8.6	18.2	180288	8.7	20.4	423690	8.7	20.2	402358	8.8	21.6
175303	8.4	19.2	496214	8.5	20.9	509214	8.6	21.7	173896	8.7	20.4	181030	8.7	19.4	228360	8.8	20.9
177079	8.4	19.3	101887	8.5	18.7	338113	8.6	21.4	416153	8.7	21.1	67789	8.7	19.0	141402	8.8	21.0
267368	8.4	21.0	250834	8.5	20.0	159010	8.6	19.6	461874	8.7	21.1	26650	8.7	19.4	488329	8.8	20.2
522948	8.4	20.6	235803	8.5	20.4	269792	8.6	19.0	498033	8.7	20.9	494444	8.7	20.7	304413	8.8	21.6
6772	8.4	17.6	42543	8.5	19.1	394651	8.6	21.1	385337	8.7	20.9	488876	8.7	21.6	436970	8.8	20.3
497972	8.4	21.9	302158	8.5	21.2	369043	8.6	20.9	113307	8.7	19.3	257014	8.7	19.9	411862	8.8	21.4
489031	8.4	21.8	169853	8.5	20.0	200260	8.6	20.6	59661	8.7	17.5	333955	8.7	20.7	467826	8.8	20.6
122776	8.4	18.7	382924	8.5	19.7	490382	8.6	18.8	145380	8.7	19.9	180139	8.7	18.4	522517	8.8	21.0
160541	8.4	19.8	504093	8.5	21.3	17869	8.6	18.0	479881	8.7	20.2	105814	8.7	19.5	14718	8.8	18.5
497707	8.4	21.9	391524	8.5	21.6	348205	8.6	20.4	131729	8.7	19.3	494403	8.7	21.0	250430	8.8	20.6
71806	8.4	17.8	507801	8.5	21.9	213490	8.6	19.9	28461	8.7	15.9	311386	8.7	21.5	509920	8.8	21.1
9815	8.4	18.1	394248	8.5	20.0	263955	8.6	20.1	80620	8.7	19.0	174875	8.7	19.2	225945	8.8	21.0
323402	8.4	20.3	344757	8.5	20.9	76115	8.6	19.5	253323	8.7	20.5	475234	8.7	20.4	473264	8.8	20.2
259049	8.5	20.3	243273	8.5	19.6	204008	8.6	19.7	102891	8.7	20.0	462490	8.7	21.8	212721	8.8	19.9
497408	8.5	21.4	183973	8.5	19.8	16754	8.6	18.6	237015	8.7	19.9	249144	8.7	19.1	245619	8.8	21.2
383229	8.5	20.6	179480	8.5	19.9	5845	8.6	16.8	237977	8.7	20.1	121753	8.7	19.8	240774	8.8	21.1
176575	8.5	19.8	476191	8.5	21.6	64379	8.6	20.0	350881	8.7	20.4	511427	8.8	20.4	106063	8.8	19.1
156204	8.5	20.3	482342	8.5	21.3	41787	8.6	18.1	301121	8.7	20.3	496889	8.8	20.8	394262	8.8	21.0
230072	8.5	22.0	86267	8.5	19.1	185098	8.6	20.3	199327	8.7	19.6	308348	8.8	21.2	375942	8.8	20.1
423868	8.5	20.7	355749	8.5	20.8	511197	8.6	21.2	253678	8.7	20.6	122224	8.8	17.5	253868	8.8	19.9
106926	8.5	19.7	260668	8.5	19.6	195290	8.6	20.0	257649	8.7	19.2	465600	8.8	21.4	124216	8.8	17.9
221350	8.5	19.0	384052	8.5	21.0	488754	8.6	21.5	416471	8.7	20.7	310284	8.8	21.1	115493	8.8	20.2
297082	8.5	19.7	16209	8.5	18.8	309400	8.6	18.8	123326	8.7	19.8	508542	8.8	21.1	126463	8.8	20.2
295302	8.5	18.9	344931	8.5	20.5	506804	8.6	20.5	255851	8.7	20.1	475740	8.8	21.8	443138	8.8	20.3
38939	8.5	18.3	182200	8.5	20.7	289199	8.6	20.9	47433	8.7	18.8	305591	8.8	20.6	401996	8.8	20.9
405089	8.5	20.5	134093	8.5	19.8	200314	8.6	19.4	288666	8.7	19.8	79609	8.8	19.3	374992	8.8	21.0
98585	8.5	18.5	299429	8.5	20.0	146947	8.6	19.9	311357	8.7	20.2	267183	8.8	18.9	179279	8.8	21.0
498269	8.5	21.7	147934	8.5	21.1	319314	8.6	20.8	120929	8.7	19.9	211087	8.8	20.4	187433	8.8	19.7
377738	8.5	20.7	224870	8.5	19.8	423945	8.6	20.8	61926	8.7	18.5	112043	8.8	18.7	116878	8.8	19.5
391274	8.5	20.9	470626	8.5	20.5	71388	8.6	19.0	390249	8.7	21.4	102063	8.8	18.8	164756	8.8	19.9
394335	8.5	20.5	352298	8.5	19.9	189592	8.6	20.5	360092	8.7	21.4	6762	8.8	16.7	338860	8.8	20.9
403816	8.5	20.1	185051	8.5	21.2	391110	8.6	19.8	306938	8.7	20.5	80239	8.8	19.4	118436	8.8	19.6
367135	8.5	21.1	438131	8.5	19.9	479024	8.6	19.8	273966	8.7	18.2	349868	8.8	20.8	200341	8.8	19.5
230062	8.5	20.1	131244	8.5	19.4	377651	8.6	21.7	93713	8.7	20.4	520359	8.8	20.6	485908	8.8	20.6
312680	8.5	21.0	27050	8.5	18.2	333647	8.6	20.3	138677	8.7	20.4	94136	8.8	18.4	356879	8.8	20.2
435382	8.5	20.0	506183	8.5	20.3	362926	8.6	20.1	483574	8.7	20.4	269460	8.8	21.0	470876	8.8	21.8
501666	8.5	21.9	479201	8.5	21.2	148505	8.6	19.2	28549	8.7	17.5	150349	8.8	19.0	79784	8.8	19.6
353603	8.5	20.3	393378	8.5	20.4	162527	8.6	19.9	225921	8.7	20.7	437372	8.8	21.3	89818	8.8	19.7
169605	8.5	19.1	475934	8.5	21.5	480526	8.6	20.6	379574	8.7	19.7	232444	8.8	19.3	248644	8.8	18.5
504070	8.5	21.3	195406	8.5	20.0	380562	8.6	19.2	347725	8.7	20.8	504741	8.8	22.5	144887	8.8	19.5
341320	8.5	21.4	473164	8.5	20.6	81092	8.6	19.8	137327	8.7	18.3	485159	8.8	20.1	90792	8.8	18.9
204667	8.5	19.2	155221	8.5	20.1	183985	8.6	19.0	84395	8.7	18.6	79551	8.8	19.0	398708	8.8	20.1
505738	8.5	20.1	522969	8.5	20.8	21269	8.6	17.5	117195	8.7	17.6	402476	8.8	21.8	251309	8.8	19.8
342447	8.5	20.8	10881	8.5	18.5	181744	8.6	21.5	58204	8.7	20.6	161872	8.8	20.1	510604	8.8	20.7
507074	8.5	21.9	146848	8.5	20.1	438111	8.6	18.9	501300	8.7	22.2	245210	8.8	20.2	380822	8.8	21.6
426979	8.5	20.1	118434	8.5	19.7	15866	8.6	17.3	227429	8.7	18.9	480368	8.8	21.0	443416	8.8	21.4
65278	8.5	18.6	437713	8.6	21.5	174671	8.6	19.9	112916	8.7	19.9	32786	8.8	18.4	126501	8.9	18.8
475260	8.5	21.0	269948	8.6	20.8	73731	8.6	18.7	82055	8.7	19.2	22449	8.8	18.7	71262	8.9	18.8
140813	8.5	20.2	216403	8.6	20.2	399228	8										

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
392661	8.9	20.1	375701	8.9	20.4	398232	9.0	19.9	418032	9.1	21.9	62696	9.2	19.9	362012	9.3	20.6
163404	8.9	19.2	92486	8.9	18.8	303239	9.0	19.0	510104	9.1	20.9	358468	9.2	19.4	377769	9.3	21.2
405420	8.9	20.9	499211	8.9	22.0	441340	9.0	20.3	432829	9.1	20.3	374866	9.2	21.5	58175	9.3	17.4
14311	8.9	19.3	296402	8.9	19.5	419741	9.0	21.2	302235	9.1	20.9	269668	9.2	21.9	143830	9.3	19.6
498285	8.9	22.0	302482	8.9	21.2	499251	9.0	21.9	167241	9.1	20.7	48520	9.2	18.8	467734	9.3	20.7
508771	8.9	20.3	439589	8.9	20.5	360500	9.0	20.8	193479	9.1	20.3	336414	9.2	19.6	107767	9.3	19.2
507061	8.9	21.7	131196	8.9	18.3	270293	9.0	20.6	216370	9.1	20.2	173070	9.2	18.3	397002	9.3	20.7
56454	8.9	18.3	257918	8.9	21.0	486720	9.0	20.6	146109	9.1	20.5	471306	9.2	20.6	174864	9.3	20.4
508055	8.9	20.4	135716	8.9	19.5	225799	9.0	19.6	386800	9.1	21.1	248371	9.2	20.3	158725	9.3	19.0
471961	8.9	20.8	107514	8.9	19.9	146239	9.0	20.7	242019	9.1	20.3	206675	9.2	19.8	240009	9.3	19.9
68564	8.9	19.0	106698	8.9	19.6	192346	9.0	21.8	201591	9.1	19.9	35028	9.2	19.9	519663	9.3	21.1
341155	8.9	19.9	44467	8.9	19.0	314087	9.0	20.5	186752	9.1	20.1	171869	9.2	20.0	99063	9.3	18.6
455332	8.9	20.2	336766	8.9	19.4	16137	9.0	18.2	55014	9.1	17.3	478098	9.2	21.3	507762	9.3	20.8
297235	8.9	21.2	485162	8.9	21.1	270510	9.0	20.2	89657	9.1	19.0	502776	9.2	22.3	302037	9.3	21.2
329921	8.9	20.2	61368	8.9	17.4	500851	9.0	19.9	420450	9.1	21.6	254539	9.2	19.4	475092	9.3	21.1
519437	8.9	21.2	350730	8.9	21.1	238731	9.0	19.2	473985	9.1	20.3	177365	9.2	20.6	41420	9.3	18.8
63121	8.9	18.6	17503	8.9	17.1	146858	9.0	20.0	276942	9.1	20.3	425282	9.2	20.3	294551	9.3	21.6
373619	8.9	21.0	393690	8.9	20.7	438210	9.0	21.3	375841	9.1	20.9	435211	9.2	19.2	385837	9.3	19.5
249806	8.9	20.6	250857	8.9	19.9	420488	9.0	20.7	114276	9.1	18.0	396045	9.2	20.4	521366	9.3	21.3
136925	8.9	20.3	497974	8.9	21.8	309125	9.0	19.7	68226	9.1	19.1	257661	9.2	20.2	475172	9.3	21.0
239771	8.9	20.5	43417	8.9	18.7	347936	9.0	20.0	302327	9.1	20.2	479041	9.2	21.6	100875	9.3	18.1
155231	8.9	19.9	19161	8.9	18.1	37527	9.0	19.7	355189	9.1	21.0	161064	9.2	18.7	463880	9.3	20.5
8378	8.9	18.0	395669	8.9	20.2	357847	9.0	21.4	370908	9.1	18.8	496922	9.2	22.6	438236	9.3	20.0
500884	8.9	24.3	28853	8.9	18.4	237171	9.0	20.7	93723	9.1	19.0	45143	9.2	18.9	179205	9.3	21.4
145509	8.9	19.2	430948	8.9	21.4	22815	9.0	18.1	214434	9.1	19.8	504954	9.2	19.9	491890	9.3	20.8
198553	8.9	20.4	237126	8.9	20.7	34110	9.0	18.8	93147	9.1	19.4	85453	9.2	18.5	74810	9.3	17.3
423637	8.9	22.5	9282	8.9	17.5	435576	9.0	21.3	522570	9.1	20.3	234644	9.2	20.7	518360	9.3	21.5
177902	8.9	19.9	211149	8.9	19.5	505428	9.0	21.5	281429	9.1	20.1	387229	9.2	21.0	53594	9.3	18.2
296344	8.9	19.3	58302	8.9	19.2	54579	9.0	18.8	105849	9.1	19.3	145764	9.2	19.8	290614	9.3	20.8
289234	8.9	19.6	86283	8.9	19.0	36393	9.0	19.3	42486	9.1	18.3	325541	9.2	20.0	339137	9.3	20.1
246980	8.9	19.0	20631	8.9	16.5	195069	9.0	19.9	426814	9.1	20.3	160564	9.2	19.2	516213	9.3	22.5
173964	8.9	20.4	283873	8.9	20.5	204758	9.0	20.2	175724	9.1	20.3	297799	9.2	21.1	120737	9.3	19.5
116051	8.9	20.0	343430	8.9	21.3	224199	9.0	18.4	486723	9.1	20.3	435825	9.2	21.2	418913	9.3	20.6
232536	8.9	18.9	36691	8.9	17.6	370923	9.0	19.4	504662	9.1	21.6	163303	9.2	18.0	98677	9.3	18.2
182013	8.9	20.6	254597	8.9	19.3	66701	9.0	19.7	232836	9.1	20.8	251797	9.2	20.7	523139	9.3	20.7
363474	8.9	19.5	437543	8.9	20.9	97303	9.0	19.4	336380	9.1	21.0	302384	9.2	20.2	475744	9.3	22.3
200643	8.9	20.1	301867	8.9	21.3	468071	9.0	19.5	387380	9.1	20.3	135571	9.2	22.8	868	9.3	14.5
346419	8.9	20.9	248130	8.9	19.4	438143	9.1	20.9	138898	9.1	19.6	431100	9.2	20.7	23109	9.3	19.1
439698	8.9	21.1	336230	8.9	21.0	157620	9.1	19.2	184922	9.1	19.3	428173	9.2	21.4	49149	9.3	19.1
383284	8.9	20.4	376882	8.9	20.3	471839	9.1	22.0	769	9.1	12.6	60665	9.2	18.2	253590	9.3	21.4
311488	8.9	19.8	391714	8.9	20.6	141207	9.1	16.6	502384	9.1	21.7	343947	9.2	19.8	500167	9.3	20.2
439209	8.9	21.3	184021	8.9	19.6	192660	9.1	19.9	393942	9.1	20.6	215450	9.2	19.0	208529	9.3	21.3
393043	8.9	19.5	263615	8.9	20.1	137554	9.1	19.0	181989	9.1	21.2	497541	9.2	21.0	114579	9.3	18.8
222638	8.9	20.4	10333	8.9	17.7	247832	9.1	19.8	235292	9.1	19.9	497730	9.2	21.5	182215	9.3	19.8
288440	8.9	19.8	226346	8.9	19.5	253992	9.1	20.9	130391	9.1	23.7	25101	9.2	17.7	93515	9.3	19.7
474061	8.9	19.9	160132	8.9	20.3	84855	9.1	18.8	61802	9.1	19.2	518179	9.2	20.8	254116	9.3	19.5
78549	8.9	17.7	272683	8.9	21.0	357901	9.1	20.7	23288	9.1	20.2	68151	9.2	19.9	518759	9.3	22.0
320572	8.9	21.5	16281	8.9	18.7	464474	9.1	19.8	120793	9.1	18.3	505524	9.2	21.9	254440	9.3	20.5
286536	8.9	20.9	215633	8.9	20.2	37373	9.1	17.7	72901	9.1	19.2	398458	9.2	20.0	154461	9.3	19.5
116536	8.9	19.9	304775	8.9	18.9	429594	9.1	20.2	439401	9.1	20.3	367092	9.2	21.2	413490	9.3	21.0
257446	8.9	19.9	478668	8.9	21.2	252815	9.1	19.2	507778	9.1	21.8	137859	9.2	19.2	346011	9.3	19.6
186356	8.9	20.7	216282	8.9	20.1	186830	9.1	18.7	127905	9.1	17.8	310517	9.2	19.1	262483	9.3	21.4
496893	8.9	22.0	478377	8.9	21.3	352560	9.1	20.3	69466	9.1	18.4	360025	9.2	19.7	233258	9.3	19.8
87131	8.9	19.8	260935	8.9	21.3	335115	9.1	20.4	58214	9.1	18.9	259201	9.2	20.3	96026	9.3	18.8
479790	8.9	19.9	72153	8.9	19.6	262874	9.1	21.0	383616	9.1	19.8	119377	9.2	19.4	331547	9.3	19.8
320547	8.9	19.1	179175	8.9	21.1	352349	9.1	21.3	257729	9.1	21.1	190635	9.2	20.5	108070	9.3	19.0
151418	8.9	19.7	513209	8.9	22.3	443958	9.1	20.5	193215	9.1	19.8	372382	9.2	19.8	522785	9.3	21.3
124950	8.9	18.8	158089	8.9	20.4	235117	9.1	20.3	257871	9.1	20.5	330674	9.2	20.2	45021	9.3	19.2
509186	8.9	20.9	282399	8.9	19.7	480530	9.1	20.6	300779	9.1	20.6	74819	9.2	18.6	36781	9.3	17.6
173697	8.9	19.8	237208	8.9	20.6	423005	9.1	20.5	514262	9.1	20.4	290426	9.2	21.0	19296	9.3	19.4
112029	8.9	18.7	435799	8.9	20.7	317876	9.1	20.4	17996	9.2	16.3	200729	9.2	20.1	307062	9.3	19.6
4665	8.9	15.8	55471	8.9	18.0	15420	9.1	17.3	12603	9.2	18.8	308981	9.2	20.5	394239	9.3	20.3
508214	8.9	21.1	299892	8.9	21.0	498306	9.1	21.2</td									

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

Nº	06	V															
77103	9.3	18.4	59567	9.4	18.1	177267	9.5	19.8	418258	9.6	20.4	346142	9.6	20.9	40560	9.7	18.6
9097	9.3	17.2	396039	9.4	20.8	37661	9.5	19.9	355576	9.6	21.5	52768	9.6	13.5	468585	9.7	20.0
512658	9.3	21.3	472978	9.4	20.1	148406	9.5	19.8	507208	9.6	20.4	261153	9.6	20.5	185758	9.7	20.2
302861	9.4	20.9	180436	9.4	18.7	478106	9.5	21.5	34369	9.6	17.3	103494	9.6	20.1	9139	9.7	18.0
355688	9.4	21.1	249234	9.4	20.0	307307	9.5	19.3	327715	9.6	20.2	121229	9.6	18.2	250113	9.7	19.1
154824	9.4	20.4	92172	9.4	19.6	108442	9.5	17.2	81616	9.6	18.9	134665	9.6	20.4	171758	9.7	20.4
219609	9.4	21.3	186852	9.4	19.5	260932	9.5	20.3	214613	9.6	18.8	201602	9.6	20.1	134669	9.7	20.2
155336	9.4	22.9	432399	9.4	20.9	33601	9.5	18.0	36216	9.6	17.7	192339	9.6	21.1	389694	9.7	21.0
145854	9.4	19.4	302847	9.4	20.0	142499	9.5	19.7	148403	9.6	20.7	309690	9.6	20.1	271795	9.7	20.5
19732	9.4	15.8	306458	9.4	18.7	65688	9.5	19.0	434346	9.6	21.2	349019	9.6	22.2	435180	9.7	20.5
323333	9.4	21.6	127968	9.4	19.4	416606	9.5	20.2	27069	9.6	17.5	211191	9.6	18.6	353171	9.7	19.5
45954	9.4	18.9	171313	9.4	18.3	185763	9.5	20.8	19386	9.6	16.6	383244	9.6	21.1	126391	9.7	19.3
17676	9.4	17.7	270346	9.4	20.7	250877	9.5	21.2	249346	9.6	18.9	40648	9.6	18.7	470859	9.7	21.9
381833	9.4	20.9	222465	9.4	21.0	261283	9.5	20.1	41548	9.6	19.2	359469	9.6	20.7	290129	9.7	21.5
499799	9.4	21.4	361796	9.4	19.6	25194	9.5	18.1	429525	9.6	21.3	425636	9.6	20.3	384804	9.7	20.8
514342	9.4	22.0	295784	9.4	21.1	143989	9.5	18.7	61427	9.6	19.5	19239	9.6	16.1	305517	9.7	20.7
510673	9.4	22.1	176436	9.4	19.5	408343	9.5	20.6	342670	9.6	21.0	400205	9.6	21.1	286693	9.7	21.1
40912	9.4	18.8	204165	9.4	19.9	120166	9.5	18.7	320530	9.6	20.6	222543	9.6	21.5	105822	9.7	19.3
180776	9.4	18.9	478863	9.4	21.1	341044	9.5	19.5	344082	9.6	21.1	285475	9.6	20.5	344498	9.7	21.1
418159	9.4	21.5	141993	9.4	20.5	364344	9.5	20.7	436181	9.6	21.6	394612	9.6	21.1	268408	9.7	21.3
395596	9.4	21.3	163355	9.4	18.8	253776	9.5	20.4	208657	9.6	18.6	54535	9.6	18.8	409383	9.7	21.4
70075	9.4	18.1	476330	9.4	21.3	283102	9.5	20.4	114618	9.6	18.1	237944	9.6	19.8	99362	9.7	17.8
394687	9.4	20.5	304509	9.4	21.3	358383	9.5	21.3	8945	9.6	17.9	60971	9.6	18.8	277127	9.7	20.7
478047	9.4	21.0	422215	9.4	21.5	278386	9.5	19.2	28203	9.6	19.2	254140	9.6	20.4	409872	9.7	21.2
200272	9.4	19.7	314016	9.4	21.3	123260	9.5	20.5	465286	9.6	21.4	366310	9.6	21.7	86268	9.7	19.5
475637	9.4	21.3	122440	9.4	20.8	342516	9.5	20.2	90728	9.6	19.3	175818	9.6	20.4	163959	9.7	19.7
308428	9.4	21.3	258032	9.4	19.1	16895	9.5	17.2	309720	9.6	20.8	318160	9.6	22.9	44325	9.7	18.6
500967	9.4	21.1	163367	9.4	19.6	1640	9.5	15.7	360934	9.6	22.1	216009	9.6	19.9	475521	9.7	21.4
670	9.4	13.6	370387	9.4	20.4	500690	9.5	20.9	488480	9.6	20.8	396156	9.6	21.4	84441	9.7	19.1
494384	9.4	21.5	106504	9.4	20.5	211521	9.5	19.1	111657	9.6	18.9	73727	9.6	19.6	115510	9.7	20.3
425924	9.4	19.2	188523	9.4	19.5	64562	9.5	19.2	261196	9.6	20.7	496760	9.6	21.7	144657	9.7	20.8
100	9.4	11.5	26852	9.4	18.5	25772	9.5	18.6	65322	9.6	18.8	250926	9.6	21.6	97251	9.7	20.4
278933	9.4	20.4	321805	9.5	20.0	477718	9.5	20.9	192844	9.6	21.0	130551	9.6	18.1	432349	9.7	22.0
21322	9.4	18.6	192035	9.5	20.7	211912	9.5	19.7	478745	9.6	20.2	203398	9.7	18.6	144819	9.7	19.2
506785	9.4	19.8	425923	9.5	20.1	34582	9.5	17.7	259723	9.6	20.8	234178	9.7	21.0	480139	9.7	20.3
242312	9.4	18.6	174042	9.5	19.2	17642	9.5	17.9	352091	9.6	19.5	101650	9.7	19.8	256691	9.7	20.4
111582	9.4	19.1	494400	9.5	20.8	441969	9.5	20.1	479223	9.6	21.7	315291	9.7	20.4	74029	9.7	18.0
513134	9.4	21.6	118466	9.5	18.8	458148	9.5	20.0	105721	9.6	19.5	263324	9.7	18.8	168847	9.7	20.3
169609	9.4	19.6	303866	9.5	20.5	499610	9.5	21.0	177392	9.6	20.4	293118	9.7	21.5	195766	9.7	19.4
184215	9.4	18.6	347856	9.5	20.1	281001	9.5	20.2	260647	9.6	19.7	505841	9.7	21.0	423862	9.7	20.9
358465	9.4	19.9	397095	9.5	21.3	92674	9.5	19.4	308596	9.6	20.0	489614	9.7	21.3	125026	9.7	18.5
32490	9.4	17.4	123242	9.5	20.5	513229	9.5	20.7	414142	9.6	21.3	9311	9.7	17.4	333824	9.7	19.9
255370	9.4	19.6	382566	9.5	21.5	502817	9.5	20.8	19490	9.6	17.4	419756	9.7	20.4	370682	9.7	20.8
57	9.4	12.2	373594	9.5	21.2	211549	9.5	19.4	342151	9.6	20.7	504357	9.7	21.3	396344	9.7	20.1
370418	9.4	21.9	434724	9.5	22.4	30123	9.5	17.1	358452	9.6	21.4	481076	9.7	20.9	410722	9.7	20.2
497632	9.4	21.5	102411	9.5	19.2	142105	9.5	20.2	162412	9.6	19.7	294718	9.7	20.8	58935	9.7	19.1
508702	9.4	21.9	164787	9.5	19.2	377584	9.5	20.5	130226	9.6	20.5	245626	9.7	20.2	396228	9.7	21.1
106508	9.4	19.6	386441	9.5	20.8	275721	9.5	19.9	433146	9.6	19.9	488289	9.7	21.8	511157	9.7	22.2
74786	9.4	19.7	425669	9.5	21.4	436834	9.5	21.1	199064	9.6	20.2	362340	9.7	18.8	362983	9.7	21.2
283700	9.4	20.4	106719	9.5	19.8	173657	9.5	19.6	479765	9.6	20.9	273650	9.7	20.9	268993	9.7	21.3
67600	9.4	17.2	251869	9.5	20.3	63633	9.5	18.3	365431	9.6	19.5	428339	9.7	19.5	259132	9.7	19.3
292734	9.4	21.5	273921	9.5	19.1	290779	9.5	21.1	237109	9.6	20.2	263739	9.7	20.4	251944	9.7	20.9
306688	9.4	21.4	183	9.5	15.2	465353	9.5	21.3	380037	9.6	19.6	134373	9.7	20.4	305528	9.7	21.1
99177	9.4	18.8	315249	9.5	19.9	352001	9.5	21.4	78367	9.6	17.8	59158	9.7	18.7	266488	9.7	20.8
106708	9.4	19.2	350161	9.5	20.5	509835	9.5	21.3	315193	9.6	20.4	119571	9.7	20.1	506539	9.7	21.3
62251	9.4	18.5	470701	9.5	19.3	186333	9.5	20.2	328214	9.6	20.7	476399	9.7	20.9	160300	9.7	20.5
45276	9.4	18.2	301028	9.5	21.5	389984	9.5	21.2	128041	9.6	18.8	310293	9.7	21.3	433558	9.7	20.4
86000	9.4	18.5	41256	9.5	17.2	435752	9.5	21.4	153166	9.6	18.4	498366	9.7	22.0	252971	9.8	19.1
430014	9.4	21.6	197166	9.5	20.0	201842	9.5	19.7	36753	9.6	18.0	475785	9.7	22.1	469570	9.8	21.8
202493	9.4	18.7	216860	9.5	19.6	420263	9.5	20.8	270321	9.6	20.2	507859	9.7	21.7	45882	9.8	17.9
506532	9.4	20.0	143447	9.5	19.7	27435	9.5	18.0	121812	9.6	19.1	158154	9.7	19.5	480677	9.8	19.5
187319	9.4	19.8	474134	9.5	21.4	344084	9.5	20.6	385473	9.6	20.7	373539	9.7	20.6	143415	9.8	19.7
80313	9.4	19.7	271815	9.5	19.6	43613	9.5	18.3	367								

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
165231	9.8	20.4	139897	9.8	19.8	430806	9.9	20.0	386446	9.9	20.8	167858	10.1	19.8	471752	10.1	20.6
163638	9.8	19.8	104333	9.8	20.2	394705	9.9	20.9	187719	9.9	19.8	305532	10.1	20.1	46843	10.1	17.5
256116	9.8	20.6	50512	9.8	18.4	257118	9.9	19.5	39603	9.9	18.0	502247	10.1	20.0	34232	10.1	18.1
282577	9.8	20.8	62958	9.8	18.7	173602	9.9	19.9	477635	9.9	20.9	133402	10.1	19.6	153102	10.1	19.5
14285	9.8	19.2	475931	9.8	21.9	378292	9.9	20.5	258818	10.0	19.3	229738	10.1	20.5	157623	10.2	20.4
121610	9.8	19.2	105802	9.8	18.7	433153	9.9	21.0	395526	10.0	21.3	422993	10.1	20.8	470831	10.2	20.9
308349	9.8	21.2	42194	9.8	18.4	305970	9.9	21.2	320300	10.0	20.7	480874	10.1	19.3	430204	10.2	21.3
506531	9.8	21.1	279245	9.8	20.1	25206	9.9	17.9	163385	10.0	17.7	430648	10.1	19.6	75287	10.2	19.4
389579	9.8	21.0	492283	9.8	21.7	213441	9.9	20.2	344172	10.0	21.5	501925	10.1	20.7	460412	10.2	21.2
349583	9.8	21.0	123558	9.8	18.1	289088	9.9	20.6	443768	10.0	19.1	389150	10.1	22.1	106627	10.2	19.3
426032	9.8	19.1	37434	9.8	18.7	95684	9.9	19.5	168876	10.0	20.5	94056	10.1	19.6	279662	10.2	20.1
427891	9.8	21.7	335580	9.9	20.3	211278	9.9	19.5	471144	10.0	20.4	513436	10.1	21.2	505504	10.2	20.3
154259	9.8	18.0	504740	9.9	22.3	104227	9.9	19.7	334423	10.0	19.9	356503	10.1	20.6	203058	10.2	19.4
437019	9.8	20.5	314133	9.9	20.8	187248	9.9	20.0	507491	10.0	20.4	180879	10.1	19.1	60427	10.2	20.1
26694	9.8	17.8	474068	9.9	20.5	414042	9.9	20.3	24884	10.0	18.2	471591	10.1	21.6	504801	10.2	20.8
379499	9.8	20.7	166596	9.9	20.4	210917	9.9	20.6	437635	10.0	21.1	36736	10.1	19.9	145620	10.2	20.2
328212	9.8	21.7	280812	9.9	20.4	408867	9.9	20.7	201743	10.0	19.8	59480	10.1	18.1	32839	10.2	18.6
394750	9.8	21.8	126656	9.9	21.0	303811	9.9	20.4	499673	10.0	20.8	109054	10.1	18.9	425981	10.2	20.5
222601	9.8	20.0	313165	9.9	20.4	177847	9.9	19.3	504809	10.0	21.4	293100	10.1	21.3	173628	10.2	19.5
474744	9.8	20.4	32255	9.9	17.1	343848	9.9	20.5	315448	10.0	20.0	176704	10.1	19.6	432807	10.2	21.3
226070	9.8	19.5	105213	9.9	19.2	126272	9.9	20.3	180316	10.0	19.5	357535	10.1	19.3	43513	10.2	18.2
19276	9.8	18.6	175148	9.9	20.5	204715	9.9	20.5	258975	10.0	19.7	356364	10.1	20.7	249623	10.2	19.8
478362	9.8	20.8	29889	9.9	17.2	56368	9.9	19.2	80628	10.0	19.0	175286	10.1	19.6	46031	10.2	17.1
415103	9.8	21.0	114181	9.9	18.3	27099	9.9	17.9	368354	10.0	20.3	427987	10.1	21.1	397425	10.2	21.6
310291	9.8	20.0	47468	9.9	18.2	325079	9.9	20.6	496788	10.0	20.0	310093	10.1	21.6	383871	10.2	20.7
504963	9.8	20.4	386358	9.9	22.1	87472	9.9	20.1	396531	10.0	20.2	90391	10.1	19.5	297732	10.2	20.5
354749	9.8	21.9	206643	9.9	20.3	127272	9.9	17.9	316070	10.0	19.6	431134	10.1	19.9	145422	10.2	19.1
310673	9.8	20.2	99903	9.9	19.5	269821	9.9	20.4	44420	10.0	19.0	505323	10.1	21.2	255316	10.2	20.2
149423	9.8	19.5	147269	9.9	20.0	130942	9.9	19.2	86310	10.0	19.4	242712	10.1	20.7	311301	10.2	20.4
131698	9.8	20.2	395578	9.9	20.2	382933	9.9	19.1	192704	10.0	20.2	250564	10.1	19.2	431240	10.2	20.3
276972	9.8	20.5	134223	9.9	20.0	91315	9.9	18.7	308611	10.0	19.9	377883	10.1	21.7	196239	10.2	19.5
227861	9.8	19.1	379617	9.9	21.2	200553	9.9	18.1	147820	10.0	19.4	419583	10.1	21.0	267389	10.2	19.3
196163	9.8	20.4	469548	9.9	21.2	206372	9.9	19.2	438177	10.0	21.1	179785	10.1	19.2	314040	10.2	19.7
119809	9.8	19.6	130654	9.9	19.1	198217	9.9	19.0	25509	10.0	16.9	3352	10.1	18.1	70751	10.2	17.8
441377	9.8	21.0	53495	9.9	19.0	261026	9.9	20.8	496135	10.0	19.5	392007	10.1	20.5	286161	10.2	20.5
496988	9.8	20.9	506574	9.9	23.0	373590	9.9	20.8	258930	10.0	20.2	475604	10.1	21.2	253653	10.2	20.5
160918	9.8	19.4	253422	9.9	19.2	291978	9.9	20.7	428195	10.0	21.3	266999	10.1	20.8	362366	10.2	20.7
483131	9.8	21.4	474346	9.9	21.1	31813	9.9	18.8	451360	10.0	17.8	262194	10.1	21.1	380046	10.2	19.7
428073	9.8	18.6	503101	9.9	21.3	216314	9.9	20.2	205986	10.0	20.9	10649	10.1	18.9	25363	10.2	19.3
484805	9.8	21.4	389942	9.9	21.2	480572	9.9	19.6	471636	10.0	21.2	428018	10.1	20.1	260585	10.2	20.3
283695	9.8	20.2	416247	9.9	19.6	341515	9.9	20.9	260866	10.0	21.6	257917	10.1	19.9	500180	10.2	21.4
251328	9.8	20.8	243549	9.9	20.7	464862	9.9	19.9	175847	10.0	19.6	123670	10.1	19.4	511392	10.2	19.2
17394	9.8	18.7	322049	9.9	19.8	239383	9.9	19.4	422385	10.0	19.8	305617	10.1	20.7	290131	10.2	19.0
304605	9.8	20.8	132673	9.9	18.7	439696	9.9	20.7	128392	10.0	19.3	95908	10.1	18.7	342849	10.2	19.4
16093	9.8	17.5	208554	9.9	20.1	255305	9.9	20.2	290615	10.0	20.4	176606	10.1	19.9	25630	10.2	18.4
66768	9.8	19.0	59714	9.9	18.3	223236	9.9	19.9	71940	10.0	18.9	508761	10.1	21.0	353668	10.2	20.4
430673	9.8	19.7	136642	9.9	19.8	179173	9.9	21.3	328164	10.0	20.5	9749	10.1	17.2	140786	10.2	20.1
343790	9.8	20.0	155341	9.9	20.3	431290	9.9	21.9	446419	10.0	20.5	79874	10.1	17.2	46194	10.2	18.4
515225	9.8	22.9	143794	9.9	19.9	43031	9.9	19.2	39180	10.0	17.8	437689	10.1	20.3	107321	10.2	20.6
3549	9.8	16.6	88207	9.9	19.1	504944	9.9	21.1	141777	10.0	18.4	41722	10.1	16.8	371685	10.2	22.0
274079	9.8	20.4	192826	9.9	20.2	406855	9.9	21.4	87421	10.0	18.6	361996	10.1	20.2	523141	10.2	20.4
510949	9.8	21.7	359839	9.9	20.7	152143	9.9	19.5	287553	10.0	20.8	523121	10.1	20.9	282441	10.2	21.1
206799	9.8	19.7	72503	9.9	19.4	22133	9.9	18.0	98217	10.0	19.0	260159	10.1	19.0	500103	10.2	20.2
445016	9.8	21.0	62786	9.9	18.3	491429	9.9	22.2	325808	10.0	20.7	166679	10.1	18.5	478697	10.2	19.8
471289	9.8	19.5	416446	9.9	21.4	234287	9.9	20.9	393918	10.0	20.4	93561	10.1	18.4	113052	10.2	19.1
304619	9.8	21.4	88069	9.9	18.0	311954	9.9	21.1	305380	10.0	21.1	93019	10.1	19.1	11194	10.2	16.0
355564	9.8	20.1	302317	9.9	20.4	214590	9.9	20.1	275065	10.0	20.7	236667	10.1	19.0	504059	10.2	22.2
509089	9.8	22.0	488758	9.9	21.9	326226	9.9	20.4	178094	10.1	20.4	345503	10.1	19.9	220967	10.2	19.6
70630	9.8	18.4	216698	9.9	18.1	519896	9.9	20.3	252216	10.1	19.5	174528	10.1	19.4	16065	10.2	17.8
165430	9.8	20.1	420394	9.9	20.2	297511	9.9	20.9	373517	10.1	18.1	397060	10.1	19.4	172188	10.2	18.3
143764	9.8	19.4	367102	9.9	21.3	173319	9.9	18.8	186345	10.1	18.9	269712	10.1	19.9	462866	10.2	20.8
343636	9.8	20.2	338552	9.9	19.6	288142</td											

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

Nº	06	V															
420483	10.2	19.7	193655	10.3	20.3	159603	10.4	20.0	36942	10.4	18.0	320516	10.5	21.1	147774	10.6	18.1
338638	10.2	21.0	380034	10.3	19.7	81979	10.4	18.6	507060	10.4	21.3	129893	10.5	18.6	508469	10.6	21.3
384930	10.2	20.8	134176	10.3	20.0	374281	10.4	20.4	128468	10.4	19.1	396819	10.5	20.3	353639	10.6	20.2
150992	10.2	18.9	267685	10.3	20.6	174685	10.4	19.9	380610	10.4	20.2	271798	10.5	19.9	187729	10.6	19.0
192318	10.2	19.3	94924	10.3	18.2	9643	10.4	17.2	184734	10.4	19.7	387208	10.5	19.4	178508	10.6	20.1
258604	10.2	20.8	500823	10.3	20.3	126761	10.4	19.7	353710	10.4	20.8	492978	10.5	21.9	478230	10.6	21.5
408391	10.2	20.0	411850	10.3	20.5	171199	10.4	19.8	214978	10.4	19.7	140640	10.5	18.7	120442	10.6	18.8
33659	10.2	18.1	502088	10.3	21.3	62841	10.4	17.7	140198	10.4	18.9	628545	10.5	19.4	504868	10.6	21.0
75398	10.2	17.8	368436	10.3	20.4	431011	10.4	22.0	470758	10.4	20.7	478667	10.5	21.3	142402	10.6	19.7
96493	10.2	19.3	497439	10.3	21.5	510771	10.4	21.6	436231	10.4	19.8	219567	10.5	20.2	370236	10.6	21.2
203973	10.2	20.1	438825	10.3	20.4	396036	10.4	21.4	300916	10.4	21.2	414149	10.5	20.0	245126	10.6	20.4
114439	10.2	19.4	508351	10.3	20.7	293850	10.4	20.9	148466	10.4	20.0	274309	10.5	19.7	35214	10.6	19.8
311943	10.2	20.2	213922	10.3	18.6	437177	10.4	20.4	250117	10.4	19.4	253734	10.5	19.1	434669	10.6	21.8
61510	10.2	18.9	306950	10.3	21.6	109861	10.4	18.3	206622	10.4	19.4	74585	10.5	18.9	376412	10.6	19.3
32479	10.2	16.0	387878	10.3	21.6	41518	10.4	19.6	410790	10.4	20.6	176036	10.5	19.2	439388	10.6	19.8
44330	10.2	18.7	26041	10.3	17.5	435746	10.4	20.5	77988	10.4	17.1	428804	10.5	20.1	273917	10.6	18.2
124744	10.2	19.1	475143	10.3	21.8	166052	10.4	19.4	276222	10.4	20.3	22178	10.5	18.0	295800	10.6	20.9
186952	10.2	19.6	50361	10.3	18.5	359686	10.4	20.0	210768	10.4	20.2	3329	10.5	16.2	156269	10.6	18.8
208900	10.2	20.3	239272	10.3	19.4	384581	10.4	19.2	47268	10.4	18.1	513170	10.5	15.7	86192	10.6	15.6
161944	10.2	18.2	63427	10.3	18.6	171582	10.4	19.4	302357	10.4	20.0	521345	10.5	20.4	475082	10.6	21.3
141285	10.2	20.1	155719	10.3	20.0	432414	10.4	19.5	438187	10.4	20.5	184196	10.5	19.0	500791	10.6	19.0
146548	10.2	18.6	478058	10.3	21.2	369922	10.4	21.8	99226	10.4	18.5	441444	10.5	20.2	468838	10.6	19.8
196465	10.2	18.2	286069	10.3	20.1	102946	10.4	19.2	499759	10.4	21.1	505424	10.5	21.1	85781	10.6	19.0
254257	10.2	19.1	162078	10.3	19.5	48355	10.4	19.2	2653	10.4	15.3	300135	10.5	21.1	502043	10.6	20.0
172504	10.2	19.9	447259	10.3	20.8	145324	10.4	20.1	145708	10.4	19.0	376930	10.5	20.8	436490	10.6	20.7
276092	10.2	19.9	467945	10.3	21.5	423710	10.4	20.8	434357	10.4	21.9	63990	10.5	18.0	103282	10.6	20.0
419893	10.2	21.1	15036	10.3	17.8	327212	10.4	19.3	37094	10.4	18.0	3587	10.5	16.5	24988	10.6	18.6
435201	10.2	20.2	504713	10.3	21.9	45819	10.4	18.7	277469	10.4	19.6	507669	10.5	21.6	172016	10.6	20.3
237928	10.2	20.1	413426	10.3	20.1	350726	10.4	20.1	359979	10.5	20.1	56171	10.5	19.7	288970	10.6	19.3
384661	10.2	19.6	521377	10.3	20.6	162512	10.4	17.5	316950	10.5	20.9	68527	10.5	18.3	149994	10.6	19.0
3079	10.2	17.7	178590	10.3	21.1	457628	10.4	20.0	428824	10.5	19.6	16434	10.5	18.2	253931	10.6	20.6
50969	10.2	17.8	365439	10.3	20.1	502149	10.4	20.9	67644	10.5	19.2	192974	10.5	19.5	510108	10.6	20.7
36184	10.2	19.7	511982	10.3	20.2	497665	10.4	22.0	507657	10.5	21.3	238291	10.5	20.2	367933	10.6	19.9
500132	10.2	21.7	241745	10.3	20.3	408367	10.4	20.5	112348	10.5	18.3	496328	10.5	19.7	39908	10.6	17.6
7456	10.2	15.7	213715	10.3	18.1	390033	10.4	20.4	448578	10.5	21.0	523055	10.5	20.5	22953	10.6	19.3
247122	10.2	20.1	85627	10.3	23.5	366237	10.4	20.3	205623	10.5	19.6	505884	10.5	21.1	491672	10.6	21.1
336667	10.2	19.7	440946	10.3	20.8	499671	10.4	21.6	156437	10.5	18.1	284603	10.5	20.2	438261	10.6	18.9
510743	10.2	21.5	253821	10.3	20.0	313044	10.4	20.1	386773	10.5	20.5	127933	10.5	17.9	500804	10.6	20.8
513812	10.2	22.8	269082	10.3	19.6	394257	10.4	21.4	46175	10.5	18.9	148560	10.5	19.1	271768	10.6	20.7
380145	10.2	22.2	505598	10.3	21.3	104503	10.4	18.7	235172	10.5	19.8	401129	10.5	20.5	69607	10.6	17.6
491477	10.2	21.3	140053	10.3	19.8	7121	10.4	17.1	12997	10.5	18.2	70663	10.5	19.4	505159	10.6	18.9
388331	10.2	20.3	10709	10.3	17.6	186369	10.4	19.5	229600	10.5	19.7	520276	10.5	20.3	512544	10.6	20.2
297800	10.2	20.7	117688	10.3	19.5	335100	10.4	20.1	304757	10.5	20.8	386078	10.5	19.8	434268	10.6	21.1
497080	10.2	21.7	257470	10.3	20.1	112840	10.4	18.3	353886	10.5	20.6	304639	10.5	20.3	232488	10.6	19.6
475790	10.2	21.0	127982	10.3	18.7	461390	10.4	20.4	298171	10.5	19.4	440608	10.5	21.3	256782	10.6	21.4
385474	10.3	21.3	375903	10.3	20.2	379321	10.4	21.0	304662	10.5	19.7	74056	10.5	18.7	301784	10.6	20.2
375773	10.3	19.9	192699	10.3	20.1	173272	10.4	19.9	498855	10.5	21.6	328234	10.5	19.9	269008	10.6	20.6
64909	10.3	18.4	201580	10.3	20.2	266683	10.4	20.2	486671	10.5	20.5	35342	10.5	18.7	314404	10.6	21.6
228333	10.3	20.7	17714	10.3	16.7	383884	10.4	20.9	149748	10.5	19.4	27521	10.5	18.3	7213	10.6	15.6
393966	10.3	20.2	3868	10.3	15.6	344521	10.4	21.0	90671	10.5	19.7	158387	10.5	20.0	8790	10.6	17.4
248117	10.3	19.7	429983	10.3	20.6	151033	10.4	19.5	149040	10.5	20.3	504401	10.5	21.7	26802	10.6	17.7
320513	10.3	20.3	255663	10.3	19.6	373193	10.4	20.0	347743	10.5	20.0	270456	10.5	19.1	20790	10.6	21.5
366994	10.3	20.4	30912	10.3	18.5	143424	10.4	19.3	248082	10.5	19.2	160522	10.5	19.3	49962	10.6	18.0
29755	10.3	17.5	498991	10.3	20.8	46847	10.4	19.4	392030	10.5	21.0	464834	10.5	21.0	397102	10.6	20.7
436984	10.3	20.0	430304	10.3	21.0	257065	10.4	20.4	490133	10.5	21.1	367495	10.5	20.0	204922	10.6	19.1
29216	10.3	16.7	18116	10.3	18.7	168441	10.4	19.7	292706	10.5	19.4	155460	10.5	20.3	12135	10.6	17.3
307232	10.3	20.9	28422	10.3	18.1	171407	10.4	20.1	471211	10.5	21.0	198523	10.5	19.9	423268	10.6	20.2
504295	10.3	22.7	201631	10.3	19.4	46042	10.4	18.9	423986	10.5	21.7	62217	10.5	18.6	519188	10.6	20.4
305390	10.3	20.5	106052	10.3	19.0	172966	10.4	19.7	423004	10.5	19.5	483155	10.5	19.9	377922	10.6	20.2
345936	10.3	20.3	472754	10.3	19.9	498207	10.4	19.8	512759	10.5	20.2	87618	10.5	18.5	85560	10.6	18.7
25483	10.3	18.3	116508	10.3	19.3	245204											

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

Nº	06	V															
8892	10.6	17.8	163058	10.7	19.4	335601	10.8	21.1	144278	10.9	19.9	51031	10.9	18.3	410292	10.9	21.5
394299	10.6	21.2	487693	10.7	21.3	509881	10.8	21.4	345941	10.9	20.0	128012	10.9	18.6	393831	10.9	21.2
158040	10.6	19.3	496311	10.7	20.0	99765	10.8	18.0	493393	10.9	20.8	244495	10.9	19.0	504079	10.9	21.3
41554	10.6	18.7	41140	10.7	19.2	386289	10.8	21.5	314459	10.9	20.6	125491	10.9	20.0	201628	10.9	19.7
249607	10.6	20.6	157773	10.7	19.6	472791	10.8	20.0	443354	10.9	19.0	182733	10.9	19.6	389922	10.9	21.3
416691	10.6	21.0	406045	10.7	20.7	523066	10.8	21.5	250897	10.9	20.0	254245	10.9	19.1	204692	11.0	17.6
249196	10.6	19.7	431867	10.7	20.2	389858	10.8	20.8	131238	10.9	19.2	335059	10.9	20.7	344958	11.0	21.5
214102	10.6	18.7	140814	10.7	18.4	155285	10.8	19.7	394757	10.9	20.4	121530	10.9	18.7	380924	11.0	19.6
509822	10.6	21.1	290918	10.7	20.5	154967	10.8	20.1	270340	10.9	21.0	343354	10.9	20.0	508476	11.0	19.3
214141	10.6	20.1	431050	10.7	20.7	435669	10.8	19.9	142191	10.9	19.9	435602	10.9	21.5	256832	11.0	21.0
398932	10.6	20.9	157682	10.7	20.3	310057	10.8	19.4	239156	10.9	20.8	423008	10.9	21.5	389461	11.0	19.6
496217	10.6	20.2	383528	10.7	18.9	21308	10.8	18.3	405810	10.9	21.3	442065	10.9	20.6	350699	11.0	20.6
98251	10.6	19.0	25066	10.7	17.8	26676	10.8	18.4	427093	10.9	21.4	512342	10.9	20.0	330806	11.0	19.5
101731	10.6	19.1	342677	10.7	20.0	138999	10.8	19.2	35635	10.9	17.6	416407	10.9	20.9	219630	11.0	20.3
497409	10.6	21.5	258146	10.7	19.3	387044	10.8	20.6	95694	10.9	19.4	106114	10.9	19.5	220984	11.0	18.8
392632	10.6	21.0	101720	10.7	20.5	430511	10.8	21.5	191762	10.9	19.2	237940	10.9	20.2	363680	11.0	20.6
121723	10.6	20.2	380577	10.7	20.1	3895	10.8	15.5	211347	10.9	20.2	138103	10.9	20.2	384051	11.0	20.1
55583	10.6	18.7	277452	10.7	19.0	296297	10.8	19.9	248877	10.9	19.5	423526	10.9	21.0	146248	11.0	19.5
308151	10.7	20.1	446451	10.7	20.5	101625	10.8	17.5	268370	10.9	21.0	137447	10.9	19.1	512440	11.0	20.4
363252	10.7	20.7	305309	10.7	20.7	122883	10.8	20.2	18979	10.9	17.3	196522	10.9	19.9	441368	11.0	20.4
476341	10.7	21.7	377603	10.7	22.7	504232	10.8	20.9	435614	10.9	21.0	346756	10.9	20.9	244410	11.0	20.0
131852	10.7	19.5	502241	10.7	21.9	165415	10.8	19.9	230248	10.9	21.1	2137	10.9	16.0	519333	11.0	20.0
207429	10.7	19.1	235369	10.7	20.0	347958	10.8	20.0	144716	10.9	19.1	160569	10.9	19.1	160927	11.0	19.3
376947	10.7	20.9	303241	10.7	19.3	276032	10.8	20.6	504076	10.9	21.2	21964	10.9	18.6	355235	11.0	20.7
34223	10.7	18.4	466511	10.7	20.6	305440	10.8	19.8	314022	10.9	20.0	50870	10.9	19.4	19333	11.0	17.1
425583	10.7	21.8	308721	10.7	19.4	362348	10.8	20.7	134653	10.9	18.0	105910	10.9	20.5	440271	11.0	20.6
289912	10.7	19.3	418256	10.7	21.3	32423	10.8	17.4	92974	10.9	18.2	358447	10.9	21.6	182312	11.0	18.8
395477	10.7	20.2	332818	10.7	19.5	506338	10.8	20.3	292643	10.9	20.8	105801	10.9	19.1	163349	11.0	19.3
435176	10.7	20.3	73009	10.7	17.1	276538	10.8	18.9	508298	10.9	20.6	154578	10.9	19.2	163056	11.0	19.7
99643	10.7	19.2	320357	10.7	21.1	161475	10.8	18.5	175351	10.9	19.1	139155	10.9	19.3	79563	11.0	18.5
463157	10.7	20.2	18704	10.7	18.2	297665	10.8	20.4	29362	10.9	17.4	355750	10.9	19.8	55584	11.0	17.8
98023	10.7	17.8	48799	10.7	18.4	186971	10.8	19.2	270860	10.9	20.4	341169	10.9	20.7	127374	11.0	17.9
69401	10.7	17.9	175338	10.7	20.0	467617	10.8	20.6	341361	10.9	20.4	482358	10.9	21.1	251708	11.0	19.4
482135	10.7	20.6	146216	10.7	19.6	3260	10.8	15.2	47328	10.9	18.5	483333	10.9	20.4	383930	11.0	20.3
463265	10.7	20.6	311515	10.7	20.8	168862	10.8	20.3	375271	10.9	20.9	171251	10.9	19.6	329178	11.0	21.1
56606	10.7	15.9	125256	10.7	19.9	477656	10.8	20.9	33522	10.9	16.7	149767	10.9	19.4	278779	11.0	20.3
328250	10.7	20.6	237028	10.7	20.1	105779	10.8	19.5	494176	10.9	20.2	347813	10.9	18.5	152240	11.0	20.0
510129	10.7	20.7	250695	10.7	20.6	13913	10.8	17.3	309133	10.9	19.4	296590	10.9	20.3	473948	11.0	21.3
428242	10.7	21.6	290413	10.7	20.2	7845	10.8	18.1	388617	10.9	21.2	177182	10.9	19.6	166530	11.0	19.5
405486	10.7	20.6	389246	10.7	20.9	432694	10.8	21.1	25151	10.9	18.7	303904	10.9	20.9	205635	11.0	21.3
479981	10.7	20.9	261691	10.7	20.7	52369	10.8	18.7	91711	10.9	18.7	248478	10.9	21.2	352616	11.0	19.6
472972	10.7	19.9	169220	10.7	20.0	470343	10.8	20.9	475681	10.9	21.7	82731	10.9	18.2	42160	11.0	18.8
166538	10.7	19.6	304709	10.7	20.5	387722	10.8	20.4	123174	10.9	19.5	262202	10.9	20.3	491863	11.0	20.2
312669	10.7	20.4	430939	10.7	22.5	471324	10.8	20.6	62152	10.9	17.5	66722	10.9	18.5	370405	11.0	21.2
344752	10.7	21.0	237005	10.7	20.8	388611	10.8	21.1	470385	10.9	21.0	501533	10.9	21.1	123522	11.0	19.9
368891	10.7	19.9	103241	10.7	19.6	432289	10.8	21.6	73187	10.9	18.3	344591	10.9	20.0	470860	11.0	21.4
442137	10.7	20.5	85874	10.7	18.4	308543	10.8	20.2	519658	10.9	19.8	279783	10.9	19.5	34013	11.0	18.7
78930	10.7	18.5	356827	10.7	20.6	380265	10.8	20.1	167502	10.9	19.4	511235	10.9	22.0	339486	11.0	20.5
186995	10.7	20.1	257436	10.7	18.9	447255	10.8	20.9	312490	10.9	20.6	182792	10.9	18.9	422687	11.0	21.5
73197	10.7	18.9	139108	10.7	18.2	128473	10.8	19.0	355106	10.9	21.0	209575	10.9	18.8	36034	11.0	17.2
478199	10.7	20.9	185073	10.7	20.7	19403	10.8	17.6	376866	10.9	19.6	332555	10.9	19.6	317895	11.0	20.9
509795	10.7	21.0	497782	10.7	21.4	228599	10.8	20.3	130092	10.9	19.1	152622	10.9	19.7	425783	11.0	21.2
18115	10.7	18.3	35820	10.7	18.3	412299	10.8	19.3	203728	10.9	19.8	234746	10.9	19.6	327823	11.0	20.1
292620	10.7	20.6	121502	10.8	17.5	335523	10.8	20.4	180120	10.9	19.1	470771	10.9	20.7	17826	11.0	18.1
304704	10.7	21.6	520366	10.8	21.2	116039	10.8	19.6	336808	10.9	20.4	168781	10.9	18.5	388669	11.0	20.7
352020	10.7	20.7	380613	10.8	21.2	406792	10.8	21.6	334401	10.9	19.3	277782	10.9	19.9	122858	11.0	19.5
436887	10.7	20.4	30897	10.8	19.0	257644	10.8	20.4	102760	10.9	20.3	398863	10.9	20.4	300856	11.0	19.3
319745	10.7	19.9	198705	10.8	20.5	175158	10.8	16.7	174529	10.9	18.6	477662	10.9	20.8	106325	11.0	20.4
393057	10.7	19.4	442072	10.8	20.4	438263	10.8	18.8	4739	10.9	17.0	355181	10.9	20.9	289665	11.0	18.5
117457	10.7	19.4	250420	10.8	20.4	385547	10.8	21.2	219700	10.9	20.4	261255	10.9	19.6	125708	11.0	18.4
17078	10.7	17.6	393987	10.8													

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

Nº	06	V															
375236	11.1	20.6	288148	11.1	19.6	140792	11.2	19.7	257912	11.3	19.9	391733	11.4	20.4	462606	11.4	19.1
26152	11.1	18.2	310322	11.1	19.8	379331	11.2	20.1	242152	11.3	19.8	290412	11.4	20.5	237922	11.4	19.7
19156	11.1	16.9	290270	11.1	19.7	183768	11.2	20.9	246611	11.3	20.4	150302	11.4	20.1	93921	11.4	17.7
99575	11.1	17.8	477750	11.1	20.1	2451	11.2	14.7	384095	11.3	20.4	471279	11.4	20.3	6679	11.4	16.4
257497	11.1	20.4	18980	11.1	16.2	177639	11.2	19.3	472942	11.3	19.5	241163	11.4	19.7	155699	11.4	20.2
323210	11.1	19.7	396558	11.1	20.2	183133	11.2	20.4	164483	11.3	19.0	345898	11.4	18.1	431035	11.4	20.6
430080	11.1	20.7	227790	11.1	19.9	203009	11.2	19.7	203027	11.3	20.0	356798	11.4	20.7	462797	11.4	19.1
392409	11.1	19.3	93143	11.2	19.0	71423	11.2	20.2	9189	11.3	17.4	46490	11.4	19.0	153026	11.4	18.0
398554	11.1	20.8	498311	11.2	21.2	73043	11.2	16.9	162113	11.3	19.3	179321	11.4	20.7	107890	11.4	19.2
343952	11.1	19.0	64019	11.2	18.8	356386	11.2	19.6	221616	11.3	19.0	138626	11.4	20.1	306699	11.4	20.9
435844	11.1	20.1	481156	11.2	21.4	106273	11.2	19.4	314081	11.3	19.6	78711	11.4	17.6	179787	11.4	18.8
279352	11.1	20.4	417741	11.2	20.2	106494	11.2	18.6	497550	11.3	21.4	259834	11.4	20.8	260604	11.4	18.5
504598	11.1	21.9	438629	11.2	21.0	394748	11.2	20.6	387288	11.3	20.6	475216	11.4	21.7	83443	11.4	18.7
490734	11.1	21.4	428113	11.2	21.6	199525	11.2	20.0	434360	11.3	20.2	440102	11.4	19.5	159630	11.4	20.0
470629	11.1	19.7	176425	11.2	20.7	102449	11.2	20.3	424386	11.3	20.3	24915	11.4	17.6	259505	11.4	21.3
430986	11.1	20.1	249800	11.2	20.8	390202	11.2	20.3	414151	11.3	21.2	179261	11.4	20.6	55848	11.4	17.0
358785	11.1	21.8	518243	11.2	21.2	106981	11.2	18.7	513779	11.3	21.6	475612	11.4	20.1	73140	11.4	18.8
84552	11.1	19.4	346193	11.2	21.1	61923	11.2	18.0	244445	11.3	20.1	490208	11.4	22.2	511412	11.4	20.8
50375	11.1	19.1	276102	11.2	20.9	469550	11.2	21.2	179459	11.3	20.1	195305	11.4	18.8	434249	11.4	19.0
509317	11.1	22.6	443407	11.2	20.2	365045	11.2	19.7	162095	11.3	19.4	106353	11.4	19.8	267431	11.4	20.8
10938	11.1	16.5	6824	11.2	17.7	478358	11.2	20.4	168407	11.3	19.9	249619	11.4	20.1	109314	11.4	19.0
481129	11.1	20.7	105847	11.2	18.3	256904	11.2	19.8	216705	11.3	19.1	465864	11.4	19.5	392573	11.4	20.5
169847	11.1	19.4	79345	11.2	19.1	294794	11.2	20.7	90251	11.3	19.1	209232	11.4	20.6	253877	11.4	21.0
264394	11.1	19.1	470374	11.2	21.2	466264	11.2	19.7	505628	11.3	21.7	7359	11.4	17.7	370169	11.4	22.0
44190	11.1	17.5	504066	11.2	20.9	428166	11.2	20.5	202940	11.3	19.4	62897	11.4	17.3	295743	11.4	20.5
207618	11.1	19.7	231370	11.2	19.3	434708	11.2	21.8	94352	11.3	19.2	249821	11.4	19.5	507070	11.4	21.3
233858	11.1	19.7	179359	11.2	19.5	69639	11.2	18.1	398933	11.3	21.3	439676	11.4	20.7	169334	11.4	19.5
142009	11.1	20.3	213393	11.2	20.3	119020	11.2	19.1	499056	11.3	20.4	443744	11.4	19.8	38556	11.4	18.1
390755	11.1	21.1	199447	11.2	19.8	84064	11.2	19.1	289456	11.3	18.8	115531	11.4	19.5	73706	11.5	18.1
5101	11.1	16.9	230113	11.2	19.9	276500	11.2	19.8	398519	11.3	21.1	181629	11.4	19.3	336319	11.5	20.7
56927	11.1	18.7	150110	11.2	19.7	137978	11.2	20.6	198414	11.3	19.4	441332	11.4	19.7	441435	11.5	21.2
381582	11.1	20.9	382892	11.2	21.4	181338	11.2	20.5	255604	11.3	19.0	19318	11.4	17.7	39148	11.5	17.6
275956	11.1	20.8	149557	11.2	17.6	83836	11.2	19.1	250731	11.3	19.9	58382	11.4	19.8	141978	11.5	18.8
243287	11.1	19.2	336434	11.2	21.6	247127	11.2	20.0	57307	11.3	18.5	419807	11.4	20.5	301099	11.5	19.8
413464	11.1	21.0	403532	11.2	19.2	187095	11.2	19.4	181831	11.3	18.6	307046	11.4	21.6	257906	11.5	20.1
415780	11.1	22.3	436854	11.2	20.4	291168	11.2	20.8	512404	11.3	20.9	296518	11.4	19.5	153878	11.5	18.7
441954	11.1	20.2	180456	11.2	19.9	153690	11.2	18.0	474726	11.3	19.3	366434	11.4	20.4	213062	11.5	19.1
285779	11.1	20.4	32256	11.2	17.0	128444	11.2	18.4	359007	11.3	20.3	302315	11.4	21.2	59840	11.5	17.6
423635	11.1	21.7	377459	11.2	21.6	279098	11.2	19.4	324903	11.3	20.9	496950	11.4	22.2	21809	11.5	17.4
30817	11.1	17.4	424206	11.2	21.1	436486	11.2	20.1	236599	11.3	20.2	151458	11.4	20.1	356358	11.5	20.6
72328	11.1	19.0	332019	11.2	19.1	446682	11.2	19.7	307577	11.3	19.3	292965	11.4	20.5	182940	11.5	19.3
508333	11.1	21.2	510553	11.2	19.9	425772	11.2	19.9	389209	11.3	21.0	270372	11.4	20.2	483103	11.5	21.0
336771	11.1	19.3	38422	11.2	18.5	338674	11.2	21.1	261976	11.3	19.4	314057	11.4	20.2	267350	11.5	20.2
100718	11.1	19.0	491500	11.2	19.9	56221	11.2	17.8	303370	11.3	20.3	128737	11.4	18.3	273886	11.5	19.3
191125	11.1	19.6	523719	11.2	22.5	507221	11.2	21.2	393213	11.3	20.5	59674	11.4	18.1	504793	11.5	21.0
95142	11.1	19.3	255876	11.2	20.0	111509	11.2	19.1	119435	11.3	18.6	470815	11.4	21.2	208578	11.5	19.5
253892	11.1	19.5	501520	11.2	21.3	225519	11.2	20.3	355729	11.3	20.1	314362	11.4	21.4	314117	11.5	20.7
180962	11.1	18.3	261442	11.2	19.6	425237	11.2	21.4	222654	11.3	19.2	398532	11.4	21.2	19242	11.5	18.5
475840	11.1	21.7	219035	11.2	19.9	395659	11.3	20.3	367504	11.3	18.9	161510	11.4	18.4	32472	11.5	18.5
281566	11.1	20.3	137564	11.2	19.2	190051	11.3	19.3	111050	11.3	19.5	34900	11.4	18.1	504235	11.5	21.2
493497	11.1	19.1	397624	11.2	20.6	205706	11.3	20.1	208400	11.3	20.0	501769	11.4	21.8	315222	11.5	20.4
272447	11.1	19.7	110200	11.2	20.6	483105	11.3	21.0	25704	11.3	18.2	311544	11.4	20.9	153739	11.5	20.1
31005	11.1	16.7	384460	11.2	21.1	475836	11.3	21.3	179451	11.3	19.1	138192	11.4	18.6	20054	11.5	17.0
323188	11.1	19.9	510605	11.2	21.1	41341	11.3	17.7	301004	11.3	21.1	184243	11.4	18.7	183017	11.5	19.8
84935	11.1	19.9	513202	11.2	21.6	304001	11.3	20.7	89035	11.3	18.9	463214	11.4	20.1	158409	11.5	18.0
419662	11.1	19.8	16900	11.2	17.5	347719	11.3	20.8	63099	11.3	18.6	230032	11.4	20.1	374276	11.5	19.1
195489	11.1	20.0	123383	11.2	18.8	475072	11.3	21.5	111747	11.3	20.3	412459	11.4	19.5	277638	11.5	18.8
168201	11.1	19.3	132041	11.2	18.3	26384	11.3	17.2	327205	11.3	18.6	410181	11.4	21.6	312567	11.5	19.8
266717	11.1	19.9	430307	11.2	21.5	383332	11.3	20.3	255761	11.3	20.9	281824	11.4	20.0	254335	11.5	18.9
297303	11.1	20.0	443549	11.2	19.9	501639	11.3	20.3	191787	11.3	20.4	184518	11.4	18.8	277041	11.5	20.8
497487	11.1	21.9	370353	11.2	21.0												

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

Nº	06	V															
356405	11.5	20.2	56273	11.6	18.3	250703	11.6	18.9	42375	11.7	19.6	506519	11.8	21.4	248238	11.8	19.7
293031	11.5	21.0	40732	11.6	18.4	123108	11.6	20.3	307457	11.7	19.4	108270	11.8	18.3	308692	11.8	20.5
236619	11.5	18.5	507056	11.6	21.4	284874	11.6	20.5	470812	11.7	20.9	427485	11.8	21.1	253630	11.8	21.3
239937	11.5	20.5	308405	11.6	19.8	316046	11.6	20.7	337021	11.7	20.5	442016	11.8	20.4	2743	11.9	16.0
88297	11.5	18.1	12683	11.6	16.8	387223	11.6	20.1	325857	11.7	20.5	302473	11.8	20.2	84932	11.9	20.0
144678	11.5	20.3	147241	11.6	19.4	146855	11.6	20.0	285378	11.7	20.2	107316	11.8	19.8	95625	11.9	23.0
88411	11.5	17.8	176481	11.6	18.7	318591	11.6	18.8	174193	11.7	19.0	505942	11.8	20.7	471598	11.9	20.4
118786	11.5	18.3	498007	11.6	21.7	127243	11.6	18.2	134554	11.7	19.6	107066	11.8	19.6	113381	11.9	18.3
256519	11.5	20.6	91981	11.6	18.1	201527	11.6	19.0	498862	11.7	21.1	509726	11.8	20.2	150558	11.9	18.3
466615	11.5	21.0	55927	11.6	17.9	316317	11.6	19.0	387876	11.7	21.5	336855	11.8	19.0	422968	11.9	19.7
367090	11.5	18.7	31047	11.6	16.9	295138	11.6	20.8	134617	11.7	19.0	502874	11.8	20.3	118472	11.9	19.1
12931	11.5	17.5	14560	11.6	18.6	434130	11.6	20.5	106016	11.7	20.0	166804	11.8	18.4	357695	11.9	20.8
211991	11.5	20.2	157485	11.6	20.4	441385	11.6	19.8	389139	11.7	21.2	131582	11.8	19.7	61426	11.9	18.9
196919	11.5	19.6	75044	11.6	19.3	279089	11.6	19.0	192344	11.7	18.9	16672	11.8	18.5	23519	11.9	17.7
63087	11.5	17.2	341161	11.6	21.0	71822	11.6	18.0	354837	11.7	18.8	433489	11.8	20.2	481742	11.9	20.6
465831	11.5	19.9	4244	11.6	17.2	482138	11.6	21.1	438170	11.7	20.4	269541	11.8	20.8	281101	11.9	20.3
242715	11.5	20.3	508840	11.6	20.3	217680	11.7	18.8	91185	11.7	18.4	186518	11.8	20.3	41400	11.9	18.0
512948	11.5	20.7	366625	11.6	19.8	310088	11.7	19.8	441412	11.7	20.5	356411	11.8	20.5	212353	11.9	18.6
77422	11.5	18.7	190020	11.6	19.8	481009	11.7	21.1	259216	11.7	18.9	478002	11.8	21.0	137687	11.9	20.1
179338	11.5	20.0	285430	11.6	21.8	369961	11.7	19.6	248546	11.7	20.7	35165	11.8	17.6	258824	11.9	19.9
280629	11.5	20.3	321220	11.6	20.2	37016	11.7	18.0	177677	11.7	19.6	52679	11.8	18.4	118052	11.9	21.1
501177	11.5	20.3	346031	11.6	20.8	16128	11.7	19.2	21233	11.7	19.0	430663	11.8	21.4	213534	11.9	19.2
502671	11.5	21.2	182211	11.6	20.1	341273	11.7	19.5	358888	11.7	20.4	162096	11.8	19.6	451853	11.9	20.7
197599	11.5	18.4	148431	11.6	21.4	339496	11.7	21.1	164368	11.7	19.4	225912	11.8	19.0	146568	11.9	19.8
62517	11.5	19.3	26043	11.6	16.9	501701	11.7	21.3	286725	11.7	18.6	151729	11.8	19.1	218654	11.9	21.0
463399	11.5	19.9	393993	11.6	20.6	123377	11.7	19.8	390481	11.7	19.2	114614	11.8	18.3	58399	11.9	19.5
266333	11.5	20.1	242727	11.6	20.5	546	11.7	13.7	471874	11.7	19.4	343348	11.8	20.3	275138	11.9	21.1
138701	11.5	18.9	144366	11.6	19.5	522359	11.7	21.1	374288	11.7	21.7	64224	11.8	18.6	382198	11.9	19.4
382115	11.5	20.3	503300	11.6	19.6	52089	11.7	19.1	472945	11.7	19.9	252902	11.8	17.8	476411	11.9	21.7
355672	11.5	21.8	509128	11.6	21.8	289305	11.7	19.6	494386	11.7	20.6	500130	11.8	21.8	290325	11.9	20.8
491571	11.5	21.1	509721	11.6	21.4	408263	11.7	19.5	373577	11.7	21.8	475047	11.8	22.0	67117	11.9	18.6
91838	11.5	19.7	391755	11.6	19.7	24746	11.7	17.9	177916	11.7	19.7	489623	11.8	21.5	187121	11.9	20.3
130418	11.5	19.5	396998	11.6	20.7	28507	11.7	16.8	215658	11.7	20.4	202942	11.8	20.3	315884	11.9	20.4
275250	11.5	20.5	355771	11.6	20.2	203010	11.7	20.1	317981	11.7	19.4	273494	11.8	21.4	236915	11.9	19.6
93958	11.5	18.3	229552	11.6	21.2	123248	11.7	19.2	216592	11.7	19.2	67824	11.8	18.0	260097	11.9	20.4
190117	11.5	18.9	52097	11.6	17.9	240370	11.7	20.3	418344	11.7	20.7	358366	11.8	20.8	10679	11.9	18.2
478	11.5	12.5	56662	11.6	17.1	286528	11.7	20.3	66442	11.7	17.8	200631	11.8	19.5	162898	11.9	18.8
2909	11.5	15.3	105962	11.6	19.5	434459	11.7	20.7	80936	11.7	20.2	342698	11.8	20.2	432774	11.9	20.5
382323	11.5	20.8	338722	11.6	20.4	368369	11.7	21.0	384954	11.7	20.6	489260	11.8	20.6	163082	11.9	18.9
191754	11.5	19.7	269714	11.6	18.3	238776	11.7	19.9	142296	11.7	19.7	58680	11.8	17.3	126306	11.9	19.9
159375	11.5	19.9	308395	11.6	20.8	146279	11.7	18.3	161781	11.7	18.8	165364	11.8	20.1	410769	11.9	19.2
31823	11.5	20.2	219069	11.6	20.5	293735	11.7	18.9	417528	11.7	20.9	198491	11.8	20.5	202848	11.9	19.8
10252	11.5	16.8	297434	11.6	20.7	199198	11.7	21.2	467951	11.7	21.1	18977	11.8	15.7	314369	11.9	21.3
142354	11.5	19.6	119943	11.6	19.7	390154	11.7	20.7	107310	11.7	19.7	57457	11.8	18.8	396559	11.9	20.7
50586	11.5	19.4	80341	11.6	20.0	78397	11.7	19.1	497976	11.7	21.0	98828	11.8	18.7	427915	11.9	21.0
149123	11.5	19.9	126474	11.6	17.8	359402	11.7	20.0	478280	11.7	22.1	391517	11.8	20.7	480752	11.9	20.6
219422	11.5	20.3	41808	11.6	19.0	357807	11.7	21.0	176483	11.7	20.3	499169	11.8	22.3	289424	11.9	20.7
497454	11.5	23.4	30244	11.6	18.4	264236	11.7	19.2	17576	11.7	19.9	342640	11.8	20.0	407735	11.9	19.6
375739	11.5	21.0	478082	11.6	21.8	422198	11.7	19.8	58829	11.7	19.9	196692	11.8	20.7	65275	11.9	18.1
362649	11.5	21.2	258338	11.6	19.2	231911	11.7	19.6	147395	11.8	20.0	215795	11.8	18.1	296222	11.9	20.2
42073	11.5	19.2	322954	11.6	19.9	400395	11.7	20.2	78257	11.8	19.4	181241	11.8	19.6	476258	11.9	21.0
554148	11.5	18.2	26855	11.6	18.6	378301	11.7	20.2	503522	11.8	20.7	342608	11.8	18.6	305492	11.9	21.0
343928	11.5	19.5	2827	11.6	15.0	31308	11.7	18.2	154807	11.8	20.9	36630	11.8	17.7	258926	11.9	18.9
332331	11.5	20.7	153253	11.6	20.9	355184	11.7	21.3	508195	11.8	20.0	258878	11.8	20.4	242263	11.9	19.9
70981	11.5	18.1	47487	11.6	18.0	336507	11.7	20.5	474442	11.8	21.1	223477	11.8	20.1	247720	11.9	19.6
488434	11.5	21.7	313045	11.6	20.1	227570	11.7	20.0	167333	11.8	19.1	278379	11.8	19.5	255116	11.9	20.3
37095	11.5	18.5	245589	11.6	19.2	390884	11.7	19.1	18726	11.8	18.4	247018	11.8	19.8	457668	11.9	21.2
469962	11.5	21.3	246473	11.6	20.2	237065	11.7	20.2	471587	11.8	21.1	470454	11.8	20.7	516699	11.9	19.9
497999	11.5	21.4	396123	11.6	20.0	387080	11.7	20.8	463149	11.8	21.0	75777	11.8	18.4	116904	11.9	17.6
13203	11.5	18.2	76469	11.6	19.0	27197	11.7	18.5	111397	11.8	18.8	269945	11.8	20.4	410339	11.9	21.5
449981	11.5	20.7	303700	11.6	20.6	22882	11										

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

Nº	06	V															
462446	11.9	21.6	208579	11.9	19.2	338865	12.1	22.0	274880	12.1	20.7	501706	12.2	20.7	518840	12.3	19.7
41852	11.9	18.0	362838	11.9	20.4	417975	12.1	19.9	349084	12.1	20.6	209401	12.2	19.5	522947	12.3	20.6
27663	11.9	18.7	425666	11.9	20.4	141955	12.1	20.5	243699	12.1	21.1	148456	12.2	20.3	13665	12.3	17.8
513283	11.9	21.0	21530	11.9	16.5	463396	12.1	19.6	167768	12.1	21.0	69309	12.2	19.0	341518	12.3	20.8
205504	11.9	19.8	306863	11.9	21.0	514649	12.1	22.1	344496	12.1	20.5	470732	12.2	20.8	377811	12.3	21.2
429099	11.9	20.3	426298	11.9	19.1	417971	12.1	19.9	85071	12.1	19.8	276495	12.2	18.9	241415	12.3	20.5
205156	11.9	20.5	476165	11.9	20.2	470834	12.1	20.4	100551	12.1	18.9	115855	12.2	19.9	229336	12.3	18.7
446616	11.9	20.9	267885	11.9	20.5	74227	12.1	18.8	487662	12.1	20.6	501621	12.2	19.0	213549	12.3	18.3
137900	11.9	19.3	115449	11.9	19.6	302854	12.1	20.8	150605	12.1	21.4	168129	12.2	20.1	6115	12.3	16.8
469520	11.9	20.5	130616	11.9	19.4	334376	12.1	20.5	239180	12.1	21.2	342554	12.2	20.1	421432	12.3	21.2
117678	11.9	17.8	310696	11.9	20.3	93625	12.1	20.1	370160	12.1	22.0	268042	12.2	18.3	386406	12.3	20.6
519594	11.9	19.9	42065	12.0	17.7	276887	12.1	20.6	125232	12.1	18.8	238637	12.2	20.7	522933	12.3	21.2
124515	11.9	19.5	519954	12.0	21.5	209927	12.1	18.3	8789	12.1	17.3	512016	12.2	20.7	69472	12.3	19.7
99508	11.9	19.9	93303	12.0	18.0	457608	12.1	20.6	9475	12.1	16.7	398271	12.2	21.5	133862	12.3	19.5
203432	11.9	18.5	273931	12.0	19.8	298748	12.1	19.4	263673	12.1	21.2	233993	12.2	20.0	478338	12.3	21.2
512462	11.9	20.3	179331	12.0	21.5	475667	12.1	21.6	41779	12.1	17.0	304602	12.2	21.3	316353	12.3	21.0
441818	11.9	18.9	352567	12.0	20.5	142137	12.1	19.8	277480	12.1	20.1	45634	12.2	18.0	281656	12.3	20.2
480516	11.9	19.9	38569	12.0	18.3	256802	12.1	20.0	343442	12.1	19.9	425725	12.2	20.1	310305	12.3	20.9
506802	11.9	19.9	345506	12.0	19.6	499328	12.1	21.5	246069	12.1	20.5	342177	12.2	20.7	219572	12.3	20.2
63109	11.9	18.8	210289	12.0	20.0	210775	12.1	19.5	107147	12.1	19.9	283699	12.2	19.9	348527	12.3	20.1
448594	11.9	20.6	514333	12.0	20.9	338060	12.1	20.4	494374	12.1	21.5	521295	12.2	20.4	141303	12.3	20.4
471275	11.9	19.8	225845	12.0	20.6	185245	12.1	19.7	69366	12.1	20.0	20926	12.2	18.2	464542	12.3	20.8
183516	11.9	18.8	50797	12.0	18.5	126534	12.1	19.9	123115	12.1	20.5	513739	12.2	21.5	261993	12.3	20.1
404738	11.9	20.1	53207	12.0	16.7	499707	12.1	22.0	375215	12.1	20.0	439847	12.2	20.8	185732	12.3	19.6
121607	11.9	18.2	123575	12.0	19.8	134242	12.1	19.6	196414	12.2	18.8	39789	12.2	16.9	154286	12.3	19.0
321071	11.9	20.8	203562	12.0	19.1	374317	12.1	21.0	415172	12.2	20.9	353384	12.2	19.5	147433	12.3	19.3
309182	11.9	20.1	230093	12.0	20.3	9662	12.1	17.7	260645	12.2	19.8	427266	12.2	20.6	387408	12.3	20.5
176827	11.9	19.6	480618	12.0	21.1	164520	12.1	19.1	213380	12.2	20.5	384820	12.2	19.7	348083	12.3	20.1
249352	11.9	20.2	394657	12.0	21.0	83584	12.1	18.8	290444	12.2	20.5	250831	12.2	21.1	207913	12.3	19.4
225938	11.9	20.0	203611	12.0	19.7	477689	12.1	20.7	145421	12.2	19.5	293121	12.2	20.3	185001	12.3	19.9
123204	11.9	20.5	308583	12.0	20.0	157060	12.1	19.7	519160	12.2	20.4	64898	12.2	19.4	245203	12.3	19.9
203313	11.9	20.0	198257	12.0	20.3	69806	12.1	19.2	437791	12.2	20.5	443774	12.2	20.0	19645	12.3	17.3
24386	11.9	18.8	39860	12.0	19.3	200249	12.1	20.1	152754	12.2	19.9	396892	12.2	19.6	386124	12.3	20.5
146914	11.9	19.5	416279	12.0	19.8	279268	12.1	21.0	67707	12.2	17.8	338796	12.2	20.3	59844	12.3	19.1
443372	11.9	20.3	66756	12.0	19.6	125868	12.1	19.6	183143	12.2	19.5	145771	12.2	19.1	251616	12.3	20.0
345908	11.9	20.8	187155	12.0	18.5	178411	12.1	18.7	399440	12.2	19.9	290941	12.2	19.8	256693	12.3	20.5
183870	11.9	20.1	249789	12.0	20.4	254374	12.1	20.4	377597	12.2	19.5	97819	12.2	18.4	188568	12.3	19.9
130083	11.9	18.8	144071	12.0	20.1	43394	12.1	18.7	266271	12.2	20.8	314956	12.2	19.9	462107	12.3	19.2
182135	11.9	19.7	519676	12.0	20.1	222653	12.1	20.7	189065	12.2	19.4	95544	12.2	19.8	21373	12.3	16.0
393207	11.9	20.5	343103	12.0	20.5	5788	12.1	17.4	321386	12.2	18.7	93943	12.2	19.0	78636	12.3	19.2
270278	11.9	20.6	259889	12.0	20.6	276854	12.1	20.7	357758	12.2	20.2	111901	12.2	18.2	2848	12.3	16.6
134216	11.9	20.2	286341	12.0	21.6	305493	12.1	20.8	107702	12.2	18.2	303288	12.2	20.4	395584	12.3	20.6
504787	11.9	21.7	425325	12.0	19.7	468898	12.1	20.9	127543	12.2	18.9	71343	12.2	17.6	342498	12.3	19.6
473137	11.9	20.5	311513	12.0	19.7	63535	12.1	19.1	56810	12.2	19.1	347897	12.2	20.5	332677	12.3	20.9
342464	11.9	19.7	123279	12.0	20.0	504399	12.1	21.3	336204	12.2	19.7	193328	12.3	20.1	198014	12.3	21.0
103417	11.9	19.4	305300	12.0	20.2	475132	12.1	19.7	471471	12.2	22.2	473695	12.3	19.4	48118	12.3	17.3
5136	11.9	16.6	322377	12.0	19.7	1975	12.1	15.9	178742	12.2	19.6	235855	12.3	19.8	477727	12.3	21.5
321184	11.9	20.3	285278	12.0	21.0	476261	12.1	21.0	474827	12.2	21.5	477668	12.3	20.8	144143	12.3	19.6
56786	11.9	18.3	519118	12.0	20.0	147896	12.1	19.2	376162	12.2	20.9	177641	12.3	19.1	462532	12.3	20.9
501935	11.9	19.7	393650	12.0	20.0	463148	12.1	20.8	361473	12.2	21.2	499761	12.3	22.2	251346	12.3	19.9
316516	11.9	20.3	72592	12.0	18.6	187078	12.1	19.4	389117	12.2	21.4	356747	12.3	21.3	107647	12.3	18.5
134206	11.9	19.5	111961	12.0	18.4	394019	12.1	20.5	501134	12.2	22.5	370094	12.3	20.6	204057	12.3	19.7
50691	11.9	19.7	105816	12.0	18.2	40234	12.1	18.2	475579	12.2	20.7	304686	12.3	21.9	331169	12.3	20.1
99677	11.9	18.6	290242	12.0	20.1	116334	12.1	19.4	292788	12.2	20.0	119951	12.3	20.6	453039	12.3	20.8
384039	11.9	20.2	433828	12.0	19.2	206269	12.1	20.1	244627	12.2	20.1	376909	12.3	22.2	124873	12.3	19.3
201692	11.9	19.9	8705	12.0	17.3	164007	12.1	19.5	145109	12.2	18.5	505121	12.3	19.2	295932	12.3	19.5
203970	11.9	19.8	425849	12.0	21.2	433483	12.1	20.8	488368	12.2	20.2	152488	12.3	18.7	189185	12.3	18.4
466710	11.9	19.4	438002	12.0	20.9	101947	12.1	18.7	292961	12.2	19.6	22986	12.3	19.6	358330	12.3	21.8
224453	11.9	19.4	56740	12.0	18.5	254212	12.1	20.3	514479	12.2	20.0	261967	12.3	21.0	439173	12.3	21.5
2923	11.9	16.7	389258	12.0	20.3	11297	12.1	17.0	479523	12.2	20.6	2549	12.3	17.5	47167	12.3	18.0
142151	11.9	19.9	415048	12.0	21.3												

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
129710	12.4	19.1	509109	12.4	21.0	404705	12.5	20.3	121240	12.6	18.4	31608	12.6	18.4	510871	12.7	21.5
299687	12.4	20.0	443393	12.4	19.6	315308	12.5	20.6	62257	12.6	20.1	397681	12.6	20.1	273627	12.7	20.8
350952	12.4	20.3	30097	12.4	20.7	130149	12.5	19.6	85890	12.6	18.3	509723	12.6	21.9	63110	12.7	17.5
55328	12.4	18.1	205996	12.4	20.3	131594	12.5	19.0	417991	12.6	19.6	294842	12.6	19.8	103886	12.7	19.7
359778	12.4	21.2	147685	12.4	19.1	121336	12.5	19.6	418948	12.6	20.4	123438	12.6	19.1	256625	12.7	18.8
124777	12.4	19.2	47406	12.4	19.0	498318	12.5	20.7	87795	12.6	18.9	466308	12.6	19.5	44165	12.7	18.3
349246	12.4	21.3	385244	12.4	21.3	250743	12.5	20.8	65941	12.6	18.4	38674	12.6	17.7	493596	12.7	20.8
235846	12.4	19.8	106818	12.4	19.1	175603	12.5	19.2	62050	12.6	18.2	6661	12.6	17.0	505531	12.7	20.4
69447	12.4	17.8	329222	12.4	20.4	376940	12.5	21.3	87221	12.6	19.5	309122	12.6	20.3	4589	12.7	16.7
429626	12.4	20.0	29942	12.4	17.2	371620	12.5	21.1	336135	12.6	20.6	476470	12.6	21.5	193690	12.7	19.4
70566	12.4	17.8	449999	12.4	20.6	362374	12.5	20.6	212806	12.6	20.4	254204	12.6	20.2	356409	12.7	19.3
385126	12.4	20.8	306240	12.4	19.7	296532	12.5	20.1	312748	12.6	21.1	391725	12.7	19.6	465322	12.7	20.4
427519	12.4	19.8	429695	12.4	20.1	478281	12.5	20.2	74808	12.6	17.4	512660	12.7	20.2	198292	12.8	19.9
259014	12.4	19.6	258901	12.4	21.3	505788	12.5	20.2	285808	12.6	21.0	384468	12.7	19.2	37015	12.8	18.2
471269	12.4	19.8	311117	12.4	19.8	257735	12.5	20.6	386389	12.6	19.4	167462	12.7	20.1	71055	12.8	19.1
335778	12.4	20.2	67686	12.4	18.1	455308	12.5	18.2	471257	12.6	20.7	287910	12.7	20.5	513471	12.8	20.7
396856	12.4	20.0	327669	12.4	20.5	439174	12.5	19.4	359403	12.6	20.1	128611	12.7	19.6	328897	12.8	21.3
254634	12.4	19.4	228630	12.4	20.6	257554	12.5	19.6	209541	12.6	20.0	253673	12.7	20.8	350787	12.8	20.0
205488	12.4	20.0	177450	12.4	18.7	98516	12.5	19.7	253791	12.6	20.5	294380	12.7	21.0	243171	12.8	20.3
370358	12.4	20.8	106470	12.4	19.4	107283	12.5	19.4	509097	12.6	21.5	382118	12.7	20.2	416405	12.8	21.7
5623	12.4	16.3	304238	12.4	20.2	34476	12.5	17.6	99627	12.6	19.0	134935	12.7	20.1	230100	12.8	18.9
231741	12.4	19.4	255085	12.4	19.6	180384	12.5	19.2	288084	12.6	19.4	468879	12.7	20.6	13837	12.8	18.2
294340	12.4	21.0	386997	12.4	20.1	470377	12.5	21.7	120841	12.6	18.6	139247	12.7	18.8	430459	12.8	20.9
162136	12.4	20.4	277430	12.4	20.2	479301	12.5	20.2	18654	12.6	17.9	22224	12.7	17.9	300140	12.8	20.6
130819	12.4	21.3	399909	12.4	20.8	103172	12.5	19.4	436873	12.6	21.0	299269	12.7	20.9	332178	12.8	20.9
357926	12.4	21.1	492342	12.5	20.8	184437	12.5	19.2	302251	12.6	20.2	383211	12.7	21.1	294788	12.8	19.9
409695	12.4	20.1	168134	12.5	18.5	289939	12.5	19.8	366496	12.6	19.8	393871	12.7	20.0	501087	12.8	21.3
522942	12.4	21.1	323288	12.5	20.6	135516	12.5	18.2	213231	12.6	19.8	374505	12.7	21.1	141833	12.8	19.2
437085	12.4	20.4	477941	12.5	20.9	6629	12.5	17.1	196259	12.6	19.7	12380	12.7	17.6	478343	12.8	21.0
253748	12.4	20.0	113219	12.5	19.1	446271	12.5	18.9	11817	12.6	17.5	181767	12.7	19.8	282120	12.8	20.2
356629	12.4	21.1	463679	12.5	21.1	328985	12.5	21.2	259257	12.6	19.5	478318	12.7	20.5	39227	12.8	18.4
185808	12.4	20.0	237946	12.5	19.6	23053	12.5	17.4	262268	12.6	20.0	259628	12.7	22.1	165228	12.8	20.0
390670	12.4	20.7	431015	12.5	19.2	391693	12.5	20.3	93479	12.6	19.2	38843	12.7	18.5	333679	12.8	19.3
507155	12.4	20.9	310241	12.5	20.8	115228	12.5	19.6	173927	12.6	19.6	422322	12.7	20.9	12089	12.8	16.6
517687	12.4	20.8	373613	12.5	21.1	478592	12.5	21.0	168807	12.6	19.5	342209	12.7	19.7	479054	12.8	20.8
206060	12.4	20.2	293459	12.5	20.4	392624	12.5	20.3	386992	12.6	20.4	313754	12.7	20.1	317442	12.8	19.3
487635	12.4	20.4	250918	12.5	19.4	355007	12.5	21.8	398227	12.6	20.0	475520	12.7	21.2	147264	12.8	20.3
290782	12.4	19.5	261962	12.5	19.0	512457	12.5	20.5	76599	12.6	18.4	210194	12.7	19.9	294805	12.8	19.9
386104	12.4	19.5	123044	12.5	19.9	181535	12.5	20.3	59699	12.6	18.3	211821	12.7	19.2	415772	12.8	20.6
430515	12.4	21.1	36386	12.5	18.0	304618	12.5	20.0	370354	12.6	21.0	268988	12.7	19.4	140545	12.8	19.7
266609	12.4	20.2	509750	12.5	20.1	101903	12.5	19.1	272728	12.6	20.1	324809	12.7	20.8	112445	12.8	18.3
523513	12.4	20.8	185926	12.5	20.5	187245	12.5	20.6	308485	12.6	21.6	314281	12.7	21.5	479251	12.8	20.8
25694	12.4	17.9	103591	12.5	19.8	96837	12.5	19.6	387458	12.6	20.6	270354	12.7	20.8	431850	12.8	20.0
342051	12.4	20.3	318458	12.5	19.3	5465	12.5	16.2	115442	12.6	20.0	250622	12.7	20.4	491946	12.8	22.1
102397	12.4	19.4	121408	12.5	19.5	253836	12.5	17.3	351917	12.6	21.6	246529	12.7	19.7	155246	12.8	19.5
38226	12.4	17.0	221110	12.5	19.8	324375	12.5	19.2	320527	12.6	21.4	21968	12.7	16.9	397426	12.8	20.9
114755	12.4	18.0	427749	12.5	20.6	305429	12.5	20.3	509915	12.6	22.2	153827	12.7	19.8	291586	12.8	19.9
100197	12.4	19.0	172495	12.5	19.7	319455	12.5	20.0	523111	12.6	21.8	304539	12.7	20.0	202546	12.8	19.3
199125	12.4	19.9	152444	12.5	19.7	461624	12.5	21.5	112808	12.6	18.8	396643	12.7	21.4	172216	12.8	20.0
162188	12.4	18.5	499770	12.5	21.5	234117	12.5	20.3	211967	12.6	19.8	198262	12.7	18.5	55609	12.8	19.1
508802	12.4	21.6	70973	12.5	17.7	109995	12.5	18.8	311402	12.6	20.7	357893	12.7	20.8	345961	12.8	20.6
435684	12.4	21.4	435719	12.5	20.7	429419	12.5	21.1	207849	12.6	20.6	395505	12.7	21.3	250714	12.8	20.3
25081	12.4	19.0	93704	12.5	19.1	485127	12.5	22.3	158041	12.6	19.5	503391	12.7	19.9	250937	12.8	20.6
308344	12.4	20.2	487605	12.5	19.9	344501	12.5	20.9	247109	12.6	20.8	124621	12.7	19.3	187084	12.8	20.1
392162	12.4	20.7	328218	12.5	21.0	158523	12.5	19.1	87945	12.6	18.8	105842	12.7	19.4	68194	12.8	19.4
442875	12.4	20.6	491233	12.5	19.7	436307	12.5	20.6	277722	12.6	20.1	255106	12.7	19.9	306954	12.8	20.1
334025	12.4	20.9	244737	12.5	19.0	189455	12.5	18.5	189551	12.6	18.7	355667	12.7	20.3	437597	12.8	20.5
126031	12.4	19.4	252067	12.5	20.0	3304	12.5	18.0	397752	12.6	20.1	396505	12.7	20.3	290660	12.8	19.6
255504	12.4	19.3	435364	12.5	19.9	188557	12.5	20.4	350997	12.6	18.9	285051	12.7	20.2	373596	12.8	20.7
424178	12.4	20.0	515189	12.5	22.3	53698	12.5	18.2	265215	12.6	20.6	394659	12.7	20.8	135191	12.8	19.2
398772	12.4	20.6	242020	12.5</													

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
423675	12.8	21.0	510626	12.9	20.8	209686	12.9	19.7	285743	13.0	19.3	315805	13.1	20.1	481476	13.2	21.8
205979	12.8	19.8	335833	12.9	20.2	288845	12.9	19.7	46554	13.0	18.0	174777	13.1	18.9	281614	13.2	20.4
400202	12.8	20.8	379504	12.9	21.0	107365	12.9	18.8	410315	13.0	19.9	338771	13.1	19.8	232630	13.2	19.0
485240	12.8	21.2	423727	12.9	20.8	216823	12.9	20.3	275161	13.0	19.5	310352	13.1	19.7	137836	13.2	20.4
269708	12.8	20.1	171545	12.9	19.6	429151	12.9	21.2	19109	13.0	18.9	119898	13.1	18.4	255008	13.2	19.4
379259	12.8	19.0	349474	12.9	20.6	481389	12.9	20.5	424015	13.0	21.6	126585	13.1	19.6	433205	13.2	20.5
65140	12.8	19.5	290456	12.9	19.8	201775	12.9	20.3	292963	13.1	20.1	321353	13.1	19.6	23815	13.2	18.5
341108	12.8	19.2	87938	12.9	20.0	463155	12.9	21.0	23253	13.1	18.4	482156	13.1	21.7	84622	13.2	18.8
2775	12.8	17.2	310520	12.9	20.3	413429	12.9	20.3	62456	13.1	18.5	415143	13.1	21.1	230076	13.2	20.0
191768	12.8	19.8	469025	12.9	18.7	178688	12.9	19.5	276030	13.1	20.9	309695	13.1	20.0	198681	13.2	20.0
69898	12.8	18.4	115102	12.9	19.8	26899	12.9	16.0	475119	13.1	21.4	89523	13.1	18.7	53503	13.2	17.2
220332	12.8	19.5	491315	12.9	20.4	203783	12.9	19.4	367509	13.1	18.5	237783	13.1	19.1	91125	13.2	19.1
17352	12.8	18.6	366359	12.9	21.0	268402	12.9	20.7	232136	13.1	20.9	319442	13.1	19.5	302195	13.2	20.8
484745	12.8	20.4	385007	12.9	20.1	166490	12.9	19.6	70491	13.1	17.5	206113	13.1	20.4	31086	13.2	19.8
490740	12.8	21.7	1321	12.9	13.7	398738	12.9	20.6	223284	13.1	19.3	161393	13.1	19.5	158470	13.2	20.4
478365	12.8	21.2	202239	12.9	19.1	432497	12.9	21.1	26189	13.1	22.0	420049	13.1	19.2	444088	13.2	20.9
266756	12.8	19.9	497927	12.9	22.3	379403	12.9	21.7	521272	13.1	20.8	392797	13.1	20.6	405477	13.2	21.2
206915	12.8	20.1	380614	12.9	20.8	357835	12.9	20.6	80568	13.1	19.9	145894	13.1	19.5	56449	13.2	19.3
198131	12.8	20.4	439439	12.9	21.0	471624	12.9	20.9	501027	13.1	21.2	2790	13.1	16.8	64632	13.2	19.1
176669	12.8	19.5	463156	12.9	21.5	57993	12.9	19.0	417839	13.1	19.3	472751	13.1	20.2	440924	13.2	21.3
265244	12.8	20.6	230844	12.9	19.2	243216	12.9	20.0	505728	13.1	20.3	185414	13.1	18.8	91883	13.2	19.7
358850	12.8	21.0	432391	12.9	20.5	206568	12.9	20.3	430297	13.1	20.5	250643	13.1	19.7	471651	13.2	21.0
309282	12.8	20.2	250547	12.9	19.5	15573	12.9	17.9	294721	13.1	20.1	505378	13.1	21.0	523164	13.2	20.0
294938	12.8	19.0	215563	12.9	20.0	301500	12.9	20.6	353658	13.1	19.6	67790	13.1	18.7	499746	13.2	21.5
428261	12.8	19.2	393709	12.9	20.3	311545	12.9	21.2	335117	13.1	18.8	423896	13.1	21.6	396089	13.2	19.2
397777	12.8	20.8	361125	12.9	18.9	507639	12.9	19.3	338842	13.1	21.6	102416	13.1	17.8	73186	13.2	17.8
395657	12.8	20.8	512737	12.9	21.2	37323	12.9	18.8	342346	13.1	21.0	506419	13.1	20.6	173351	13.2	19.1
269520	12.8	19.9	131521	12.9	18.8	100593	13.0	19.3	106389	13.1	19.1	224203	13.1	21.0	12762	13.2	17.7
122816	12.8	19.8	344166	12.9	20.0	339363	13.0	20.7	149155	13.1	18.4	343971	13.1	19.6	183156	13.2	20.2
156360	12.8	19.5	246997	12.9	19.7	105957	13.0	18.9	77519	13.1	18.7	502073	13.1	21.7	416305	13.2	21.0
119732	12.8	18.9	463740	12.9	21.3	429412	13.0	21.5	386098	13.1	21.4	251659	13.1	19.1	141196	13.2	19.7
276424	12.8	20.1	302432	12.9	20.9	511036	13.0	20.4	470756	13.1	19.7	497479	13.1	21.7	308451	13.2	20.4
146132	12.8	19.8	390259	12.9	21.0	261446	13.0	20.7	28396	13.1	21.7	231297	13.1	20.0	109991	13.2	20.2
294257	12.8	20.4	364157	12.9	19.0	466288	13.0	19.8	390229	13.1	20.8	33179	13.1	17.8	171559	13.2	19.5
41684	12.8	18.6	334411	12.9	20.6	508096	13.0	21.6	335179	13.1	20.7	336134	13.1	18.8	283707	13.2	20.1
355103	12.8	21.3	94813	12.9	17.7	505979	13.0	20.2	354156	13.1	20.9	258039	13.1	18.4	161373	13.2	19.7
512527	12.8	20.7	2894	12.9	17.4	62956	13.0	18.2	33609	13.1	18.3	11647	13.1	20.3	445514	13.2	18.2
207488	12.8	18.8	504978	12.9	20.4	122935	13.0	20.4	519749	13.1	21.8	441959	13.1	19.6	380580	13.2	21.3
241545	12.8	20.1	272602	12.9	21.3	521266	13.0	21.4	248964	13.1	19.9	241954	13.1	19.9	277645	13.2	20.1
505467	12.8	21.2	245748	12.9	19.6	60205	13.0	19.1	338864	13.1	21.1	233444	13.1	19.8	41743	13.2	18.9
497431	12.8	22.2	163080	12.9	19.5	106852	13.0	20.4	393913	13.1	20.9	224345	13.2	19.3	477192	13.2	20.5
504566	12.9	20.9	510463	12.9	21.4	253915	13.0	20.3	185259	13.1	21.1	270325	13.2	19.1	371637	13.2	20.9
408202	12.9	19.3	99489	12.9	19.0	399298	13.0	19.5	174704	13.1	20.5	273909	13.2	19.1	277551	13.2	20.2
94532	12.9	19.3	123625	12.9	19.0	96359	13.0	20.5	384723	13.1	18.2	467578	13.2	20.9	476364	13.2	21.4
121639	12.9	20.3	276965	12.9	20.8	349902	13.0	20.5	345500	13.1	20.1	150582	13.2	20.6	468138	13.2	21.6
430331	12.9	19.5	133699	12.9	18.8	358951	13.0	20.3	475154	13.1	20.7	431422	13.2	19.9	189559	13.2	19.5
391362	12.9	20.6	259510	12.9	20.4	209851	13.0	20.4	94435	13.1	18.1	52146	13.2	18.7	1880	13.2	15.2
60097	12.9	16.5	254479	12.9	19.2	176771	13.0	19.7	88267	13.1	23.6	510640	13.2	20.0	20548	13.2	18.8
153722	12.9	19.8	168799	12.9	19.1	467606	13.0	21.3	382946	13.1	20.8	19857	13.2	17.2	370962	13.2	21.1
10291	12.9	16.3	62554	12.9	19.0	520936	13.0	18.7	313091	13.1	20.5	482949	13.2	19.7	497029	13.2	20.7
347745	12.9	20.4	480587	12.9	20.7	237386	13.0	20.0	522877	13.1	20.5	140516	13.2	19.6	62496	13.2	18.4
430527	12.9	20.8	70621	12.9	19.9	53256	13.0	16.5	441811	13.1	19.5	16992	13.2	17.7	14776	13.2	17.3
268984	12.9	19.8	308535	12.9	20.7	248638	13.0	20.0	111126	13.1	19.3	178744	13.2	20.1	180458	13.2	20.9
442089	12.9	20.9	395634	12.9	20.7	207578	13.0	20.0	133509	13.1	19.7	478637	13.2	21.0	505881	13.2	20.9
6728	12.9	17.4	519037	12.9	19.3	435682	13.0	20.7	12892	13.1	17.3	163667	13.2	23.8	168409	13.2	19.3
44454	12.9	18.2	128464	12.9	19.0	397413	13.0	20.1	467618	13.1	21.2	224278	13.2	20.3	254312	13.2	19.9
24815	12.9	18.2	506846	12.9	21.3	423920	13.0	20.9	81685	13.1	18.2	83507	13.2	19.5	280979	13.2	20.6
305400	12.9	19.9	102854	12.9	17.2	426321	13.0	19.9	23823	13.1	17.3	397256	13.2	20.6	115267	13.3	19.3
305483	12.9	21.4	377681	12.9	20.9	272505	13.0	19.8	289704	13.1	19.0	396730	13.2	18.8	509799	13.3	20.9
357165	12.9	21.7	303842	12.9	20.2	257737	13.0	20.4	41588	13.1	15.8	461882	13.2	19.5	223273	13.3	20.1
102318	12.9	19.7	71056	12.9	19.2</td												

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

Nº	06	V	Nº	06	V												
437717	13.3	20.7	398570	13.3	20.9	257097	13.4	19.7	70967	13.5	19.0	166525	13.6	19.6	364264	13.6	19.8
216862	13.3	18.2	35223	13.3	18.6	269459	13.4	20.8	121500	13.5	18.9	512359	13.6	20.1	357951	13.6	20.8
342756	13.3	19.4	40546	13.3	19.0	499863	13.4	21.3	86383	13.5	17.9	429599	13.6	20.0	235887	13.6	20.1
507423	13.3	20.9	358937	13.3	19.4	198109	13.4	19.8	198613	13.5	20.0	442025	13.6	21.0	157598	13.6	20.9
316915	13.3	20.4	397083	13.3	20.5	169963	13.4	18.9	235838	13.5	20.2	498500	13.6	21.5	169903	13.6	19.8
501693	13.3	21.3	198125	13.3	19.1	158049	13.4	18.6	309804	13.5	19.7	198550	13.6	20.1	440235	13.6	20.0
282424	13.3	19.9	474949	13.3	21.3	274115	13.4	19.8	519434	13.5	19.6	412706	13.6	20.6	377687	13.6	20.9
229	13.3	13.6	182682	13.3	22.1	158454	13.4	18.5	168001	13.5	19.3	256511	13.6	20.7	4911661	13.6	21.3
213554	13.3	18.5	232027	13.3	19.9	152552	13.4	20.9	393048	13.5	19.3	404316	13.6	18.9	169898	13.6	18.9
231696	13.3	19.7	366728	13.3	21.0	304611	13.4	20.3	227923	13.5	19.1	523686	13.6	22.1	398886	13.6	21.0
432369	13.3	21.9	373255	13.3	19.0	162260	13.4	19.3	181466	13.5	20.9	202227	13.6	19.8	231294	13.6	19.2
513090	13.3	20.6	514304	13.3	21.1	270516	13.4	19.2	506597	13.5	21.2	429943	13.6	18.9	95299	13.6	19.8
289568	13.3	20.0	172575	13.3	19.5	85	13.4	10.7	149544	13.5	18.2	414452	13.6	20.0	438224	13.6	20.5
193563	13.3	19.5	198699	13.3	19.9	234726	13.4	19.6	467825	13.5	20.0	66527	13.6	18.4	509259	13.6	22.1
308474	13.3	19.7	390929	13.3	19.5	299675	13.4	20.2	132410	13.5	18.8	99750	13.6	19.1	437500	13.6	20.4
13703	13.3	17.4	268330	13.3	21.0	241934	13.4	19.8	92043	13.5	18.5	461451	13.6	19.9	346999	13.6	20.0
392066	13.3	21.9	327676	13.4	20.6	248911	13.4	20.7	492387	13.5	21.0	103156	13.6	19.9	136827	13.7	19.5
387209	13.3	20.4	294146	13.4	20.5	279356	13.4	19.7	66822	13.5	18.7	31235	13.6	18.3	383967	13.7	20.8
7438	13.3	17.9	127896	13.4	19.0	470403	13.4	21.1	86205	13.5	18.8	339351	13.6	20.9	341178	13.7	20.6
94304	13.3	19.6	512720	13.4	20.3	144752	13.4	19.2	377753	13.5	21.4	392085	13.6	21.1	515750	13.7	21.4
304638	13.3	20.1	78081	13.4	18.4	359439	13.4	20.2	267042	13.5	19.0	68867	13.6	18.2	140285	13.7	19.8
465058	13.3	19.5	479726	13.4	21.1	247015	13.4	19.4	18176	13.5	18.1	190555	13.6	19.9	253338	13.7	19.7
146141	13.3	18.8	347464	13.4	18.8	1007	13.4	15.1	164065	13.5	19.8	449483	13.6	20.5	369021	13.7	20.6
369687	13.3	19.5	150277	13.4	19.7	327767	13.4	21.0	53448	13.5	16.7	234256	13.6	20.7	234138	13.7	19.6
371548	13.3	20.9	336337	13.4	19.5	127137	13.4	20.6	177956	13.5	19.3	186231	13.6	22.2	424457	13.7	20.8
136583	13.3	20.1	257614	13.4	20.4	317565	13.4	19.7	518953	13.5	22.1	269601	13.6	19.6	417239	13.7	18.9
441383	13.3	20.4	468353	13.4	19.2	99741	13.4	19.2	175331	13.5	20.3	522786	13.6	19.7	305527	13.7	20.6
250800	13.3	19.3	79790	13.4	18.6	467089	13.4	20.8	445397	13.5	20.1	407796	13.6	21.9	149754	13.7	19.6
266950	13.3	20.6	211812	13.4	19.6	87229	13.4	17.5	230852	13.5	20.7	44397	13.6	18.7	508800	13.7	20.5
438017	13.3	20.7	146038	13.4	19.9	6308	13.4	18.1	480136	13.5	20.1	187284	13.6	21.2	218879	13.7	19.9
326741	13.3	21.2	36670	13.4	17.8	179690	13.4	19.4	85239	13.5	18.9	395266	13.6	19.9	200219	13.7	19.4
32963	13.3	19.0	511213	13.4	21.9	290074	13.4	20.9	466081	13.5	21.0	464856	13.6	21.5	387158	13.7	20.5
349393	13.3	20.9	63340	13.4	18.9	93488	13.4	19.5	243223	13.5	20.7	74012	13.6	17.4	86108	13.7	17.6
476301	13.3	21.8	474055	13.4	19.8	211978	13.4	19.3	304696	13.5	19.9	285351	13.6	20.3	263928	13.7	19.1
509299	13.3	21.7	61261	13.4	16.9	225842	13.4	19.5	244734	13.5	19.3	285097	13.6	20.3	338624	13.7	21.4
216739	13.3	18.6	261540	13.4	20.3	125448	13.4	16.8	521258	13.5	20.8	3208	13.6	16.4	289114	13.7	21.4
20771	13.3	17.0	75731	13.4	19.3	221143	13.4	21.3	16008	13.5	16.5	71146	13.6	18.5	336486	13.7	19.6
431994	13.3	19.9	306647	13.4	20.1	175605	13.4	19.5	93860	13.5	17.5	200305	13.6	20.5	504594	13.7	20.0
428179	13.3	20.8	444145	13.4	19.2	389859	13.4	21.1	479542	13.5	21.2	388666	13.6	20.2	98694	13.7	18.9
176049	13.3	19.1	472217	13.4	20.8	398583	13.4	21.4	84287	13.5	19.2	503899	13.6	22.1	165981	13.7	19.0
398505	13.3	20.8	394007	13.4	20.9	498419	13.4	21.1	415135	13.5	22.6	470897	13.6	21.9	243346	13.7	20.5
100711	13.3	20.1	87622	13.4	19.3	166497	13.4	19.1	326622	13.5	19.7	96641	13.6	17.6	208520	13.7	19.9
308560	13.3	21.2	416541	13.4	21.1	226376	13.5	20.0	143962	13.5	19.7	198273	13.6	19.1	111046	13.7	18.7
71978	13.3	19.9	215798	13.4	18.3	138829	13.5	19.6	427446	13.5	19.3	125985	13.6	18.2	404624	13.7	20.4
172425	13.3	20.2	211969	13.4	19.8	504003	13.5	21.7	499435	13.5	22.3	238865	13.6	19.9	4507	13.7	15.8
507462	13.3	20.9	465626	13.4	19.2	361540	13.5	19.8	509897	13.5	22.0	480851	13.6	21.4	412032	13.7	19.3
437716	13.3	20.4	378230	13.4	20.3	101524	13.5	19.4	497519	13.5	21.3	478313	13.6	20.8	77283	13.7	17.7
259371	13.3	19.0	517702	13.4	21.0	89889	13.5	19.2	32237	13.5	18.5	200294	13.6	20.1	169291	13.7	20.1
480268	13.3	19.6	476012	13.4	21.7	192369	13.5	20.3	439778	13.5	20.4	215369	13.6	20.4	437659	13.7	20.7
119901	13.3	19.2	187400	13.4	19.7	368890	13.5	21.0	455304	13.5	20.0	420961	13.6	20.6	97073	13.7	19.8
186323	13.3	20.5	369884	13.4	20.9	304054	13.5	21.4	93350	13.5	18.9	325822	13.6	21.2	153096	13.7	20.1
357622	13.3	19.9	311191	13.4	20.5	513048	13.5	20.8	440977	13.5	21.7	48465	13.6	17.6	107346	13.7	18.6
109381	13.3	19.3	2230	13.4	16.0	505485	13.5	20.2	32365	13.5	18.5	504561	13.6	22.9	347875	13.7	20.6
281438	13.3	20.8	137658	13.4	20.1	139177	13.5	18.2	190618	13.5	20.4	286042	13.6	20.7	443599	13.7	20.2
80867	13.3	19.8	485852	13.4	20.9	416573	13.5	21.8	428742	13.5	20.1	440500	13.6	21.1	132412	13.7	19.5
516300	13.3	20.3	480655	13.4	20.9	164264	13.5	19.4	436568	13.5	22.9	515738	13.6	20.7	312094	13.7	20.4
280606	13.3	20.7	507871	13.4	20.9	265530	13.5	18.9	251711	13.5	21.3	277658	13.6	19.1	222732	13.7	19.5
41575	13.3	18.8	311427	13.4	19.7	504323	13.5	21.0	256868	13.5	20.4	434757	13.6	19.8	261806	13.7	20.5
403291	13.3	22.1	509491	13.4	21.4	108749	13.5	19.4	350056	13.5	19.4	347000	13.6	20.1	257234	13.7	18.6
202071	13.3	18.9	210702	13.4	19.5	500827	13.5	19.3	393927	13.5	19.6	501780	13.6	19.8	386337	13.7	21.1
481298	13.3	21.7	92907	13.4	18.1												

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
509807	13.7	20.9	87141	13.8	18.8	497092	13.9	21.3	107196	13.9	19.3	302295	14.0	20.3	180478	14.1	19.9
347749	13.7	21.4	235333	13.8	20.0	203712	13.9	19.7	472799	13.9	20.9	310585	14.0	18.5	106510	14.1	18.9
286706	13.7	19.3	393197	13.8	20.5	343119	13.9	21.5	404649	13.9	20.9	181068	14.0	20.1	397423	14.1	20.0
390011	13.7	20.4	351915	13.8	21.2	305978	13.9	19.7	261979	13.9	19.2	146923	14.0	20.5	161388	14.1	18.7
101678	13.7	18.6	253878	13.8	21.7	279673	13.9	19.1	507572	13.9	20.8	387070	14.0	21.7	358924	14.1	20.5
141400	13.7	19.3	262136	13.8	19.3	45807	13.9	18.2	414241	13.9	21.3	294494	14.0	19.5	171350	14.1	19.2
430	13.7	16.1	121994	13.8	19.1	303875	13.9	20.2	62728	13.9	18.4	248974	14.0	19.9	290476	14.1	21.1
464499	13.7	19.8	71221	13.8	19.8	131022	13.9	18.2	342416	13.9	20.5	198856	14.0	19.3	68947	14.1	19.0
411694	13.7	20.1	126948	13.8	19.7	357859	13.9	21.7	35490	13.9	19.0	509959	14.0	21.3	330304	14.1	20.8
234740	13.7	19.7	145368	13.8	20.0	510348	13.9	22.5	156299	13.9	19.9	245764	14.0	20.8	431385	14.1	19.8
232258	13.7	19.5	302360	13.8	20.4	124224	13.9	19.1	23378	13.9	18.0	254363	14.0	20.2	169788	14.1	18.5
503957	13.7	20.4	313135	13.8	20.2	501863	13.9	21.9	325812	13.9	21.3	478126	14.0	20.7	84943	14.1	18.6
196197	13.7	19.8	309016	13.8	20.7	394281	13.9	20.6	469864	13.9	22.0	142759	14.0	19.7	467201	14.1	20.5
367094	13.7	20.1	432418	13.8	19.6	338117	13.9	20.1	250418	13.9	21.0	4629	14.0	16.5	21540	14.1	17.9
457591	13.7	19.9	336215	13.8	19.9	165297	13.9	19.6	177018	13.9	19.3	519014	14.0	21.0	504960	14.1	21.0
73669	13.7	18.1	359804	13.8	18.6	11051	13.9	17.7	477663	13.9	20.2	250541	14.0	19.7	163348	14.1	14.4
507009	13.7	20.8	427969	13.8	21.6	313772	13.9	18.6	382159	13.9	19.5	498179	14.0	20.8	410213	14.1	20.5
250784	13.7	20.7	87510	13.8	19.5	383886	13.9	19.9	254258	13.9	20.8	338052	14.0	20.4	333143	14.1	20.8
33101	13.7	18.1	163377	13.8	19.2	342559	13.9	21.4	334834	13.9	20.2	226226	14.0	20.5	279177	14.1	19.8
189546	13.7	20.7	86411	13.8	19.0	137847	13.9	20.0	261696	13.9	22.8	92621	14.0	19.3	247005	14.1	19.9
44044	13.7	18.9	216258	13.8	20.6	205624	13.9	19.5	505228	13.9	20.2	62938	14.0	18.4	143629	14.1	17.9
399178	13.7	20.2	36428	13.8	19.1	2781	13.9	16.9	150871	13.9	20.5	142240	14.0	19.3	137866	14.1	20.1
217329	13.7	18.5	215604	13.8	19.9	259329	13.9	18.7	84536	13.9	19.3	124804	14.0	19.1	105674	14.1	20.1
116010	13.7	18.1	45209	13.8	18.0	333923	13.9	20.5	384132	13.9	20.0	46308	14.0	17.9	477949	14.1	20.6
476513	13.7	20.5	419643	13.8	21.2	243764	13.9	19.7	281471	13.9	20.1	270517	14.0	19.2	41748	14.1	17.5
295147	13.7	19.6	42327	13.8	19.2	88748	13.9	18.0	5678	13.9	17.5	256033	14.0	20.5	134725	14.1	19.1
213214	13.7	19.7	137869	13.8	19.4	416102	13.9	18.3	474125	13.9	20.8	186298	14.0	19.6	365971	14.1	18.9
127920	13.7	19.5	507645	13.8	19.8	206093	13.9	20.4	203287	13.9	20.8	284446	14.0	20.5	309699	14.1	20.3
414445	13.7	19.9	220304	13.8	20.2	259083	13.9	20.8	34295	13.9	18.7	149107	14.0	20.6	416596	14.1	19.1
213508	13.7	19.2	340193	13.8	18.9	470341	13.9	20.3	105977	13.9	19.7	428297	14.0	20.3	19729	14.1	18.7
480488	13.8	20.7	97318	13.8	19.4	407759	13.9	20.9	38104	13.9	17.5	82314	14.0	17.9	505556	14.1	21.0
354117	13.8	20.2	425146	13.8	20.2	178245	13.9	20.4	518276	13.9	20.0	395232	14.0	20.0	181578	14.1	19.1
31444	13.8	17.5	148417	13.8	19.6	491591	13.9	20.6	394304	13.9	21.1	131240	14.0	18.0	520090	14.1	20.1
1304	13.8	13.0	195617	13.8	18.8	120163	13.9	19.3	98983	13.9	19.4	329525	14.0	20.8	295004	14.1	21.9
466134	13.8	21.2	5093	13.8	16.9	950	13.9	14.7	470883	13.9	21.0	358910	14.0	20.5	202285	14.1	20.1
500166	13.8	21.5	23012	13.8	17.9	74821	13.9	19.0	379289	13.9	20.4	439470	14.1	21.3	257315	14.1	19.0
501409	13.8	21.6	349470	13.8	19.0	144284	13.9	19.7	316923	13.9	21.0	261464	14.1	20.4	273950	14.1	19.9
432836	13.8	21.0	512683	13.8	21.1	67730	13.9	18.8	203770	13.9	19.2	79085	14.1	17.7	75059	14.1	17.9
4755890	13.8	22.5	57003	13.8	18.0	278545	13.9	18.8	86820	13.9	18.4	375709	14.1	18.3	35487	14.1	18.8
201725	13.8	20.1	63317	13.8	17.8	166310	13.9	19.1	509360	13.9	21.6	160172	14.1	18.6	86041	14.1	18.9
154579	13.8	20.2	224579	13.8	20.5	383899	13.9	21.0	510347	13.9	22.1	206049	14.1	20.1	363652	14.1	20.1
218990	13.8	19.6	62906	13.8	18.5	83576	13.9	19.2	504940	13.9	20.2	40885	14.1	19.5	523149	14.1	20.9
13741	13.8	17.7	440969	13.8	20.8	425561	13.9	21.4	424001	13.9	21.8	369755	14.1	19.7	57761	14.1	19.9
352480	13.8	20.1	186714	13.8	21.0	17969	13.9	17.9	507795	13.9	21.3	37019	14.1	19.0	435897	14.1	21.1
233318	13.8	21.1	342370	13.8	20.4	398629	13.9	20.5	336274	13.9	20.6	318532	14.1	21.4	291265	14.1	19.8
467124	13.8	19.5	70462	13.8	18.9	467231	13.9	20.4	161366	13.9	19.8	522964	14.1	21.3	64984	14.1	16.9
181765	13.8	20.8	433533	13.8	19.8	304441	13.9	20.3	89838	13.9	18.0	121446	14.1	19.6	242739	14.1	20.0
253713	13.8	21.1	85843	13.8	18.9	490689	13.9	21.7	369265	13.9	18.3	128372	14.1	18.3	387882	14.1	19.9
371634	13.8	20.6	279855	13.8	20.9	119005	13.9	18.9	355696	13.9	21.3	136243	14.1	20.3	471767	14.1	21.2
234289	13.8	19.8	297553	13.8	19.5	64569	13.9	18.7	255590	13.9	19.0	95589	14.1	18.7	305518	14.1	20.8
469538	13.8	20.4	309644	13.8	20.6	309102	13.9	19.8	34493	13.9	18.5	5714	14.1	16.5	193709	14.1	20.1
184902	13.8	19.8	218927	13.8	19.5	421249	13.9	19.6	410726	13.9	20.4	249447	14.1	19.6	72478	14.1	17.5
475193	13.8	21.3	196145	13.8	19.6	354789	13.9	20.5	75558	13.9	18.3	84607	14.1	18.9	351968	14.1	21.7
34878	13.8	18.9	325001	13.8	21.6	282684	13.9	20.9	391764	13.9	20.5	141854	14.1	19.5	231460	14.1	19.2
263267	13.8	20.5	162657	13.8	19.6	220959	13.9	19.9	141077	13.9	20.0	421126	14.1	19.4	289479	14.1	19.2
344399	13.8	21.2	43981	13.8	17.6	117958	13.9	20.2	240038	13.9	18.7	418247	14.1	21.9	89464	14.1	19.2
372911	13.8	20.4	105512	13.8	19.0	229708	13.9	19.7	404716	13.9	20.2	311476	14.1	22.1	365070	14.1	21.6
410184	13.8	21.3	310031	13.8	19.1	370369	13.9	20.5	246379	13.9	19.7	513156	14.1	22.2	317437	14.1	19.9
24925	13.8	18.5	229129	13.9	19.8	272444	13.9	20.8	510408	13.9	21.8	467566	14.1	21.0	205697	14.1	20.2
511559	13.8	21.3	416351	13.9	18.9	273848	13.9	20.1	20856	13.9	16.6	376884	14.1	19.7	125829	14.1	19.2
159640	13.8	20.5	274819	13.9	19.9	213790</td											

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
353586	14.2	21.4	133351	14.2	19.5	152405	14.3	19.0	500806	14.4	19.1	361110	14.5	18.7	471751	14.5	21.3
393995	14.2	19.9	354546	14.2	20.2	486667	14.3	21.3	286837	14.4	19.4	452533	14.5	20.1	177142	14.5	19.7
422991	14.2	21.3	439803	14.2	20.0	497101	14.3	21.1	109118	14.4	19.2	512852	14.5	21.4	64753	14.5	19.8
293165	14.2	21.6	81003	14.2	18.6	477714	14.3	22.2	126609	14.4	20.3	18690	14.5	17.4	17539	14.5	17.8
4691	14.2	15.7	377695	14.2	19.9	480634	14.3	20.5	242687	14.4	19.8	176241	14.5	21.0	192548	14.5	21.0
181342	14.2	20.6	174699	14.2	19.6	106832	14.3	19.4	376896	14.4	19.9	348428	14.5	20.1	192134	14.5	19.9
864047	14.2	19.6	253765	14.2	19.9	394696	14.3	21.4	281528	14.4	20.0	301503	14.5	19.4	292163	14.5	19.3
317879	14.2	20.8	138134	14.2	19.7	239932	14.3	20.8	358508	14.4	18.2	200265	14.5	20.6	110137	14.5	18.7
251569	14.2	19.3	146853	14.2	19.6	322322	14.3	20.3	136315	14.4	19.9	207075	14.5	20.0	398641	14.6	21.2
218787	14.2	18.7	423086	14.2	20.0	67224	14.3	19.2	504939	14.4	21.6	381482	14.5	20.7	4326	14.6	15.5
385574	14.2	21.5	231887	14.2	21.4	283697	14.3	20.3	338727	14.4	20.3	328186	14.5	21.6	27966	14.6	19.0
93888	14.2	19.1	185156	14.2	20.0	402336	14.3	20.7	352516	14.4	21.2	98724	14.5	19.0	304623	14.6	19.0
262372	14.2	19.8	395677	14.2	20.5	149149	14.3	19.5	332564	14.4	19.8	479884	14.5	21.1	314025	14.6	19.8
57836	14.2	19.1	215852	14.2	19.4	243180	14.3	19.8	395673	14.4	20.3	7299	14.5	18.1	344668	14.6	20.6
512064	14.2	20.5	11786	14.2	15.9	190652	14.3	20.2	58300	14.4	19.1	385770	14.5	20.4	156486	14.6	19.4
439664	14.2	21.0	285593	14.2	21.0	160925	14.3	19.2	475669	14.4	21.3	163195	14.5	19.6	291071	14.6	20.8
379971	14.2	21.1	216517	14.2	20.3	280017	14.3	18.2	316284	14.4	19.6	34578	14.5	18.6	509572	14.6	21.2
15249	14.2	16.1	4022	14.2	15.3	494423	14.3	21.1	379345	14.4	19.1	387299	14.5	20.8	192648	14.6	19.8
443128	14.2	20.0	472096	14.2	20.4	108105	14.3	19.2	289124	14.4	19.2	37904	14.5	17.4	385125	14.6	19.3
295779	14.2	20.7	364365	14.2	20.7	420527	14.3	22.0	139593	14.4	18.7	55691	14.5	18.2	419594	14.6	19.9
33300	14.2	18.0	355230	14.2	20.5	92403	14.3	17.6	25042	14.4	17.1	42778	14.5	18.5	40738	14.6	18.2
310294	14.2	19.7	18226	14.3	17.3	16688	14.3	18.5	86358	14.4	19.2	480083	14.5	19.0	132699	14.6	19.4
377890	14.2	19.8	169070	14.3	19.4	445494	14.3	19.9	196192	14.4	19.8	523718	14.5	21.8	384453	14.6	21.2
149038	14.2	20.7	19006	14.3	18.3	111563	14.3	19.3	461855	14.4	20.4	418155	14.5	20.7	479855	14.6	21.0
20177	14.2	18.2	37884	14.3	18.2	475184	14.3	21.3	363024	14.4	20.5	253145	14.5	20.2	16587	14.6	18.8
449986	14.2	20.7	359438	14.3	20.8	228612	14.3	20.5	106513	14.4	18.9	180864	14.5	18.7	278288	14.6	20.4
498323	14.2	19.9	311339	14.3	20.9	176537	14.3	19.4	370427	14.4	21.2	177733	14.5	19.1	475659	14.6	20.3
416540	14.2	21.6	508142	14.3	20.7	201561	14.3	20.6	315209	14.4	20.5	133141	14.5	18.7	157239	14.6	20.2
381487	14.2	21.3	229725	14.3	19.7	111889	14.3	18.4	37486	14.4	19.5	475292	14.5	21.2	326905	14.6	21.1
427960	14.2	20.6	475073	14.3	20.5	159798	14.3	19.6	142131	14.4	17.7	505458	14.5	21.9	488842	14.6	20.3
181749	14.2	20.3	53453	14.3	17.0	202422	14.3	19.1	445003	14.4	20.3	237937	14.5	19.9	253245	14.6	19.1
235097	14.2	19.4	103542	14.3	18.9	151842	14.3	19.0	308342	14.4	20.7	423901	14.5	20.7	112983	14.6	18.9
91177	14.2	18.8	256865	14.3	20.8	471225	14.3	21.1	321114	14.4	20.5	346480	14.5	20.9	315750	14.6	20.1
36628	14.2	18.1	247120	14.3	20.2	198397	14.3	19.7	373244	14.4	19.3	514273	14.5	20.6	247457	14.6	18.7
395620	14.2	19.9	410308	14.3	19.9	139933	14.3	18.8	111349	14.4	18.7	41570	14.5	18.1	205081	14.6	20.0
247383	14.2	20.1	376915	14.3	21.2	95692	14.3	19.0	510907	14.4	20.3	16030	14.5	16.7	5358	14.6	16.4
250860	14.2	20.0	271888	14.3	18.5	438207	14.3	21.0	399183	14.4	20.6	236418	14.5	21.0	507456	14.6	22.2
345502	14.2	19.7	132706	14.3	18.4	335585	14.3	20.7	44285	14.4	17.5	262084	14.5	21.5	147198	14.6	19.9
360958	14.2	21.3	32285	14.3	17.8	61277	14.3	19.2	297682	14.4	20.4	243523	14.5	19.0	307359	14.6	20.0
99408	14.2	17.8	215680	14.3	20.8	479829	14.3	20.2	141038	14.4	20.2	2027	14.5	16.0	409385	14.6	22.0
188975	14.2	19.4	174567	14.3	20.1	374270	14.3	19.4	350438	14.4	20.1	137855	14.5	18.7	106134	14.6	20.0
430963	14.2	20.8	17888	14.3	16.4	507747	14.3	21.0	352579	14.4	21.5	248407	14.5	19.3	27021	14.6	17.1
340989	14.2	18.7	261060	14.3	20.8	178727	14.4	20.0	500817	14.4	20.3	383932	14.5	20.4	103396	14.6	19.1
507690	14.2	20.0	447676	14.3	20.4	181630	14.4	18.6	502900	14.4	20.6	271584	14.5	18.4	176102	14.6	20.3
273828	14.2	21.1	41538	14.3	18.3	493273	14.4	22.2	85832	14.4	19.2	216261	14.5	20.1	305465	14.6	20.5
328003	14.2	19.8	396890	14.3	19.7	165174	14.4	19.7	33563	14.4	18.0	311350	14.5	21.2	505396	14.6	20.8
187686	14.2	19.4	462265	14.3	19.8	27900	14.4	18.7	420348	14.4	21.2	361003	14.5	21.4	299835	14.6	20.8
201703	14.2	19.7	194853	14.3	19.8	245777	14.4	20.0	500817	14.4	20.9	416330	14.5	21.3	214893	14.6	20.8
105250	14.2	19.0	34231	14.3	19.4	260998	14.4	20.9	48121	14.4	17.5	519405	14.5	21.9	348986	14.6	22.0
242231	14.2	20.3	118416	14.3	20.4	290187	14.4	19.8	87494	14.4	18.8	264309	14.5	19.4	396049	14.6	19.3
430795	14.2	20.6	385045	14.3	20.8	389916	14.4	21.1	481075	14.4	20.5	440554	14.5	21.7	412065	14.6	19.4
417916	14.2	21.1	471557	14.3	21.3	301859	14.4	20.0	225915	14.4	19.6	282055	14.5	20.3	6484	14.6	16.7
472831	14.2	19.9	174721	14.3	19.5	473260	14.4	21.0	39095	14.4	17.0	435213	14.5	20.3	250942	14.6	20.9
241759	14.2	20.6	35629	14.3	16.9	137403	14.4	20.6	501938	14.4	20.2	274557	14.5	19.6	409328	14.6	20.2
33152	14.2	18.1	215647	14.3	20.2	215437	14.4	18.4	312907	14.4	20.5	154537	14.5	18.8	471572	14.6	20.3
477696	14.2	22.1	384936	14.3	20.8	207814	14.4	20.4	289062	14.4	19.8	500190	14.5	20.2	10605	14.6	17.5
370408	14.2	19.9	48906	14.3	17.5	180381	14.4	20.7	431255	14.4	21.7	88236	14.5	18.6	89917	14.6	19.0
143738	14.2	19.4	472969	14.3	20.4	153728	14.4	20.6	355192	14.4	21.8	469424	14.5	20.9	442580	14.6	21.7
23611	14.2	18.7	505421	14.3	19.6	235827	14.4	19.7	252915	14.4	19.1	519723	14.5	20.9	128589	14.6	19.1
188151	14.2	19.9	422625	14.3	19.6	160192	14.4	18.7	177797	14.4	19.8	305424	14.5	20.1	498477	14.6	21.9
211947	14.2	20.2	352206	14.3	19.9</td												

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

Nº	06	V															
130069	14.6	18.5	157604	14.7	20.2	69533	14.8	18.5	482191	14.8	22.0	28199	14.9	16.8	358431	14.9	20.5
60202	14.6	17.0	2163	14.7	16.3	490713	14.8	21.9	241944	14.8	20.0	268913	14.9	20.7	509584	14.9	22.1
153199	14.6	18.5	313172	14.7	19.0	18713	14.8	17.1	207921	14.8	20.1	183505	14.9	20.5	119897	14.9	20.0
118402	14.6	19.9	504103	14.7	21.1	105673	14.8	20.1	62648	14.8	18.6	284597	14.9	20.3	503047	14.9	20.5
221031	14.6	19.9	100185	14.7	19.7	123503	14.8	19.2	468823	14.8	19.5	28367	14.9	18.3	325131	14.9	19.5
352494	14.6	20.5	129866	14.7	18.9	336381	14.8	20.0	394329	14.8	21.0	335062	14.9	19.8	184636	14.9	20.6
36241	14.6	17.6	336335	14.7	19.5	166670	14.8	20.1	275728	14.8	19.7	392164	14.9	19.0	188536	14.9	20.5
73728	14.6	19.6	127100	14.7	20.4	325417	14.8	20.7	19713	14.8	17.2	149080	14.9	20.1	512761	14.9	21.1
519639	14.6	20.7	59915	14.7	17.2	175120	14.8	19.9	349447	14.8	20.0	520344	14.9	20.5	241950	14.9	20.6
327179	14.6	19.5	429167	14.7	20.2	507705	14.8	22.3	335116	14.8	20.3	182208	14.9	19.6	280388	14.9	20.2
117829	14.6	19.7	198519	14.7	19.7	365485	14.8	19.8	401210	14.8	20.3	470680	14.9	20.3	282966	15.0	20.1
438225	14.6	21.5	243338	14.7	20.9	419783	14.8	21.4	301060	14.8	19.3	393680	14.9	19.9	103780	15.0	17.9
123269	14.6	20.1	186452	14.7	20.8	420417	14.8	21.0	174447	14.8	20.4	323684	14.9	21.3	381831	15.0	19.7
391760	14.6	20.1	597	14.7	12.7	163863	14.8	19.7	90363	14.8	18.6	499017	14.9	21.0	160705	15.0	19.1
393635	14.6	20.6	195293	14.7	19.2	58523	14.8	19.3	307077	14.8	21.0	18239	14.9	18.5	67831	15.0	17.2
253433	14.6	19.3	45187	14.7	18.2	443738	14.8	20.6	71325	14.8	18.5	33621	14.9	17.7	417522	15.0	21.2
245843	14.6	20.3	379382	14.7	21.5	342184	14.8	20.5	338797	14.8	20.4	65896	14.9	18.4	39055	15.0	19.0
513548	14.6	20.9	512716	14.7	21.3	232839	14.8	20.7	94782	14.8	18.1	22259	14.9	17.1	229575	15.0	20.6
320608	14.6	20.0	435860	14.7	21.5	52041	14.8	18.5	46697	14.8	18.9	316876	14.9	20.7	392121	15.0	19.7
234214	14.6	21.6	263546	14.7	21.2	254327	14.8	19.6	354544	14.8	20.0	121885	14.9	19.4	342791	15.0	20.8
492341	14.6	20.3	369925	14.7	20.9	437378	14.8	19.7	395898	14.8	21.3	399846	14.9	21.3	92259	15.0	19.9
147497	14.6	18.7	350901	14.7	20.1	338724	14.8	20.4	37552	14.8	18.6	330345	14.9	21.0	83457	15.0	18.9
52902	14.6	18.4	218603	14.7	18.2	432884	14.8	19.4	339411	14.8	21.1	490203	14.9	20.7	408566	15.0	19.4
112943	14.6	18.8	51444	14.7	18.0	37578	14.8	18.1	50283	14.8	18.4	1239	14.9	16.8	230053	15.0	20.9
221657	14.6	19.9	144754	14.7	19.5	355125	14.8	20.8	6064	14.8	15.2	193600	14.9	19.6	453408	15.0	19.5
505578	14.6	21.4	380190	14.7	22.0	270305	14.8	22.0	275248	14.8	21.0	27063	14.9	18.4	105770	15.0	20.4
224440	14.6	21.1	215960	14.7	19.7	251834	14.8	20.7	62776	14.8	18.5	433038	14.9	19.1	98519	15.0	18.4
91097	14.6	19.6	12315	14.7	16.7	416857	14.8	20.4	76295	14.8	19.2	195367	14.9	18.1	497384	15.0	22.1
250889	14.6	21.1	472843	14.7	18.9	59916	14.8	18.3	25447	14.8	19.4	382533	14.9	20.4	302443	15.0	21.9
2331	14.6	16.3	133696	14.7	18.7	7825	14.8	18.1	297078	14.8	20.1	171580	14.9	20.4	329959	15.0	20.0
174467	14.6	19.3	104826	14.7	18.3	166431	14.8	19.5	506964	14.9	22.1	40383	14.9	18.4	468501	15.0	19.8
100541	14.6	18.6	500873	14.7	21.2	439687	14.8	20.5	316200	14.9	20.5	59604	14.9	17.9	370173	15.0	21.1
181562	14.6	18.9	176551	14.7	18.9	288037	14.8	21.2	394218	14.9	20.9	42965	14.9	18.2	462118	15.0	20.5
515208	14.6	22.8	304631	14.7	19.9	457658	14.8	19.7	418177	14.9	20.9	8402	14.9	17.1	513285	15.0	21.7
165334	14.6	19.8	507085	14.7	21.6	417722	14.8	21.9	393127	14.9	21.0	73748	14.9	20.1	338507	15.0	19.3
58117	14.6	18.0	74817	14.7	18.2	69229	14.8	19.7	222462	14.9	19.1	427501	14.9	21.2	28423	15.0	18.1
126313	14.6	18.8	164230	14.7	18.4	514235	14.8	21.5	259912	14.9	19.9	472950	14.9	19.6	66528	15.0	18.6
489764	14.6	22.1	64999	14.7	20.5	383960	14.8	21.5	120176	14.9	20.2	264675	14.9	18.4	77760	15.0	18.2
103353	14.6	19.9	499002	14.7	20.6	88938	14.8	18.6	241109	14.9	17.8	431090	14.9	21.8	25730	15.0	17.1
2091	14.6	15.0	234687	14.7	20.3	264978	14.8	19.5	360001	14.9	19.9	68188	14.9	19.5	155958	15.0	17.6
237766	14.6	20.4	264011	14.7	18.5	71140	14.8	18.2	464882	14.9	21.1	275978	14.9	19.8	322517	15.0	20.3
231991	14.6	20.8	313928	14.7	20.2	106498	14.8	19.8	30342	14.9	18.2	494213	14.9	20.7	127727	15.0	18.3
26898	14.6	17.6	505518	14.7	21.2	333744	14.8	21.1	509540	14.9	22.2	213550	14.9	18.2	245617	15.0	19.5
352519	14.7	20.5	373130	14.7	21.5	368441	14.8	20.8	126338	14.9	20.8	384452	14.9	20.0	106279	15.0	18.8
125710	14.7	18.9	430352	14.7	20.1	508131	14.8	19.9	416808	14.9	20.1	329341	14.9	19.1	164256	15.0	19.9
254298	14.7	20.0	180178	14.7	18.9	59706	14.8	17.9	291611	14.9	20.0	117621	14.9	19.9	302394	15.0	21.3
431073	14.7	20.6	192472	14.7	19.3	430118	14.8	20.9	477721	14.9	21.0	252347	14.9	18.7	497502	15.0	20.3
144827	14.7	19.4	34092	14.7	20.0	245729	14.8	19.2	146269	14.9	19.8	499712	14.9	22.3	239591	15.0	20.0
474525	14.7	21.0	329922	14.7	20.6	347946	14.8	20.4	470402	14.9	20.7	497335	14.9	22.1	277486	15.0	19.0
79554	14.7	19.5	270415	14.7	19.7	286773	14.8	18.7	461913	14.9	19.6	75859	14.9	18.5	348195	15.0	19.2
263566	14.7	19.5	141989	14.7	18.1	111024	14.8	19.4	478882	14.9	21.3	149215	14.9	18.5	113623	15.0	19.1
288775	14.7	20.0	209949	14.7	19.2	17354	14.8	17.4	125795	14.9	20.2	63370	14.9	17.3	390747	15.0	20.5
65280	14.7	20.4	449	14.7	13.2	167	14.8	12.9	410357	14.9	21.5	156947	14.9	19.7	182817	15.0	19.5
108312	14.7	19.2	253921	14.7	20.2	157510	14.8	21.2	511792	14.9	19.7	165978	14.9	20.4	228376	15.0	19.3
250824	14.7	19.6	277219	14.7	20.4	516196	14.8	22.2	330657	14.9	21.3	475584	14.9	21.0	16997	15.0	16.0
443557	14.7	20.2	415063	14.7	21.3	118931	14.8	20.9	517192	14.9	21.1	348269	14.9	20.2	38398	15.0	18.2
101807	14.7	18.8	69846	14.7	19.3	434107	14.8	19.6	221803	14.9	19.3	322602	14.9	19.8	248479	15.0	19.9
111792	14.7	19.7	491461	14.7	21.3	356198	14.8	19.6	177285	14.9	18.9	34207	14.9	17.9	211136	15.0	17.9
475563	14.7	21.5	468163	14.7	21.7	438993	14.8	20.8	252952	14.9	20.1	401444	14.9	20.7	180129	15.0	18.8
250318	14.7	19.4	296109	14.7	20.1	336261	14.8	20.4	480835	14.9	21.3	257903	14.9	19.3	302368	15.0	21.7
1116	14.7	15.2	477034	14.7	21.3	225920	14.8										

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

Nº	06	V															
498112	15.1	21.7	363617	15.1	19.1	85638	15.2	18.5	79583	15.3	18.4	511155	15.3	19.9	338660	15.4	20.5
17044	15.1	17.5	117763	15.1	18.2	241585	15.2	20.7	181768	15.3	21.2	340440	15.3	20.2	203765	15.4	19.6
480708	15.1	19.8	437398	15.1	21.1	173727	15.2	19.6	229543	15.3	20.4	432409	15.3	21.0	510491	15.4	21.3
2659	15.1	16.3	110566	15.1	18.3	352072	15.2	21.5	482432	15.3	21.9	251807	15.3	20.9	496455	15.4	20.5
95465	15.1	18.4	64700	15.1	18.2	180485	15.2	19.0	243684	15.3	19.6	181391	15.4	21.1	312539	15.4	21.1
252808	15.1	18.6	280099	15.1	20.9	199382	15.2	19.0	378333	15.3	20.4	271353	15.4	20.6	70587	15.4	18.5
480299	15.1	20.8	239386	15.1	20.4	306727	15.2	20.7	470785	15.3	21.3	478383	15.4	20.8	222603	15.4	20.1
499178	15.1	22.7	295160	15.1	21.2	182389	15.2	18.9	471291	15.3	20.2	201641	15.4	21.1	99972	15.4	19.3
277204	15.1	20.5	457721	15.1	20.0	471277	15.2	19.8	122967	15.3	19.9	186958	15.4	19.6	333564	15.4	19.9
485714	15.1	20.7	510416	15.1	21.2	55972	15.2	18.5	309143	15.3	19.5	71942	15.4	19.5	259278	15.4	21.0
406456	15.1	21.3	87614	15.1	18.9	277652	15.2	19.2	210860	15.3	20.3	314041	15.4	21.1	64217	15.4	19.2
91955	15.1	19.9	470210	15.1	21.4	16443	15.2	16.2	250921	15.3	19.5	504184	15.4	21.7	27999	15.4	17.9
6023	15.1	17.2	134623	15.1	19.1	202425	15.2	19.8	512090	15.3	21.2	110330	15.4	19.2	109323	15.4	18.4
375952	15.1	20.9	436927	15.1	20.8	489344	15.2	21.6	423999	15.3	20.6	41267	15.4	19.2	182225	15.4	19.6
131275	15.1	19.0	338504	15.1	18.3	443527	15.2	20.8	504308	15.3	20.7	415060	15.4	21.2	341316	15.4	20.1
509845	15.1	21.9	259065	15.1	20.8	103419	15.2	19.9	200634	15.3	19.5	175863	15.4	20.2	287555	15.4	19.1
86160	15.1	18.6	508799	15.1	20.6	504795	15.2	22.3	192659	15.3	20.1	64966	15.4	18.5	121283	15.4	18.8
364608	15.1	20.5	362578	15.1	20.0	381173	15.2	19.6	219673	15.3	20.4	193282	15.4	20.1	102635	15.4	19.1
501719	15.1	21.1	430387	15.1	20.4	53	15.2	13.2	31606	15.3	19.2	283157	15.4	20.2	330274	15.4	21.6
475126	15.1	22.2	311507	15.1	21.4	290356	15.2	21.7	11555	15.3	17.2	419739	15.4	21.0	87724	15.5	16.9
277537	15.1	21.1	139850	15.1	19.1	476319	15.2	21.1	474871	15.3	20.7	490157	15.4	21.4	479144	15.5	20.5
275968	15.1	20.5	273798	15.1	21.7	275144	15.2	20.6	182697	15.3	21.2	348601	15.4	20.7	262636	15.5	20.4
253749	15.1	19.8	169583	15.1	20.0	74848	15.2	19.2	284972	15.3	20.1	211178	15.4	17.5	111221	15.5	20.0
211646	15.1	19.4	74858	15.1	18.8	81089	15.2	18.2	494166	15.3	21.6	472310	15.4	19.9	431119	15.5	19.4
373597	15.1	20.4	162691	15.2	20.1	58111	15.2	19.6	69172	15.3	20.1	107469	15.4	19.4	358396	15.5	21.0
225854	15.1	20.2	118366	15.2	19.2	41535	15.2	19.1	14330	15.3	18.9	170640	15.4	18.6	23736	15.5	16.7
161424	15.1	19.6	255871	15.2	21.7	297842	15.2	20.0	437483	15.3	21.3	166313	15.4	20.1	253880	15.5	20.5
294984	15.1	20.1	427535	15.2	19.3	305468	15.2	19.7	256837	15.3	19.9	520926	15.4	20.5	340501	15.5	20.5
27591	15.1	18.6	328245	15.2	20.8	412088	15.2	20.8	135029	15.3	18.5	232443	15.4	18.8	233528	15.5	19.3
15426	15.1	18.7	131465	15.2	19.4	314096	15.2	19.7	363163	15.3	21.5	31691	15.4	18.0	417857	15.5	20.4
357582	15.1	19.6	514443	15.2	20.9	523801	15.2	23.8	260497	15.3	20.4	442118	15.4	21.6	417942	15.5	20.4
249100	15.1	18.1	36404	15.2	17.3	98118	15.2	17.5	77094	15.3	18.5	334035	15.4	19.2	92040	15.5	18.8
514220	15.1	21.2	161800	15.2	19.9	116374	15.2	19.6	269040	15.3	19.1	237513	15.4	19.4	480713	15.5	20.6
112057	15.1	19.1	133635	15.2	19.1	1720	15.2	15.6	252069	15.3	20.3	359014	15.4	20.2	57813	15.5	18.7
21699	15.1	18.8	411171	15.2	19.4	62683	15.2	17.3	400954	15.3	20.3	221566	15.4	20.2	503925	15.5	20.4
349749	15.1	21.1	356620	15.2	21.5	291539	15.2	19.9	187180	15.3	20.1	39911	15.4	18.2	465088	15.5	19.8
72448	15.1	19.4	343580	15.2	20.7	118935	15.2	19.2	336493	15.3	20.5	112721	15.4	19.4	8500	15.5	17.5
42668	15.1	18.3	113855	15.2	18.8	52665	15.2	18.1	37845	15.3	17.2	414182	15.4	21.4	271659	15.5	19.9
504630	15.1	21.9	220286	15.2	20.3	395504	15.2	20.5	280942	15.3	20.2	311211	15.4	21.0	173038	15.5	19.7
459593	15.1	19.7	141212	15.2	19.7	470327	15.2	20.5	106555	15.3	19.5	18797	15.4	17.5	317354	15.5	19.8
518548	15.1	21.2	509262	15.2	21.6	431036	15.2	21.6	294021	15.3	19.2	467601	15.4	21.4	440048	15.5	21.2
46203	15.1	18.3	325855	15.2	21.1	507501	15.2	20.6	278874	15.3	19.6	305834	15.4	19.6	499675	15.5	21.3
349339	15.1	20.6	435864	15.2	20.8	1554	15.2	14.5	214814	15.3	19.6	505759	15.4	19.7	356676	15.5	21.0
494387	15.1	21.0	332091	15.2	20.2	250635	15.2	20.4	503944	15.3	18.6	127259	15.4	19.7	379255	15.5	20.3
491780	15.1	21.5	8920	15.2	18.2	216240	15.2	19.7	80708	15.3	19.3	357414	15.4	20.7	465096	15.5	19.6
436207	15.1	20.5	329939	15.2	20.2	38461	15.2	19.1	432458	15.3	19.4	7208	15.4	16.1	183518	15.5	20.5
346048	15.1	20.3	100888	15.2	18.4	162872	15.2	18.9	367086	15.3	20.7	1469	15.4	14.6	376206	15.5	21.4
355208	15.1	20.2	208963	15.2	20.3	239057	15.2	20.8	397085	15.3	20.5	172201	15.4	19.7	342934	15.5	21.2
288515	15.1	19.7	409340	15.2	21.1	233784	15.3	20.4	33683	15.3	18.9	353671	15.4	21.0	475254	15.5	21.1
177366	15.1	20.3	92983	15.2	20.0	179430	15.3	20.8	187302	15.3	20.7	472993	15.4	20.7	478538	15.5	21.5
423276	15.1	20.5	393047	15.2	20.3	214858	15.3	20.3	337184	15.3	20.0	504058	15.4	23.5	412499	15.5	20.9
433807	15.1	21.0	148105	15.2	19.3	5178	15.3	17.2	20695	15.3	18.1	273700	15.4	19.9	370445	15.5	20.3
397415	15.1	20.6	135856	15.2	19.2	414763	15.3	20.0	123212	15.3	19.4	308063	15.4	20.2	392996	15.5	20.2
145693	15.1	19.9	236623	15.2	18.3	397763	15.3	20.4	504881	15.3	20.6	133102	15.4	19.0	470780	15.5	21.2
345925	15.1	20.8	508081	15.2	21.0	19026	15.3	18.1	93962	15.3	18.8	210224	15.4	20.4	333621	15.5	19.2
479883	15.1	21.4	62250	15.2	18.7	148114	15.3	19.4	371517	15.3	21.7	340295	15.4	19.9	371902	15.5	21.0
264881	15.1	20.5	440288	15.2	22.7	347503	15.3	20.6	431131	15.3	20.6	392601	15.4	20.1	471186	15.5	20.1
480736	15.1	20.7	62093	15.2	18.2	6965	15.3	16.6	204068	15.3	20.8	65119	15.4	18.6	95695	15.5	18.8
386481	15.1	21.2	64637	15.2	18.2	408157	15.3	20.1	276487	15.3	19.5	422829	15.4	20.8	65755	15.5	18.8
440598	15.1	21.1	339422	15.2	20.0	348209	15.3	20.8	182762	15.3	21.3	505406	15.4	20.2	379304	15.5	20.6
222481	15.1	19.8	299876	15.2	21.7	178512											

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

Nº	06	V															
437563	15.5	20.8	497195	15.6	22.3	252105	15.7	20.7	343447	15.7	20.8	327784	15.8	20.1	418978	15.9	20.4
213038	15.5	19.4	490244	15.6	21.1	463734	15.7	20.6	373608	15.7	20.9	446038	15.8	21.3	299848	15.9	20.8
332880	15.5	21.1	391358	15.6	20.1	384897	15.7	20.3	94282	15.7	19.3	492304	15.8	20.6	323042	15.9	19.4
8191	15.5	17.9	375978	15.6	20.8	77105	15.7	19.3	194062	15.7	19.3	438662	15.8	20.6	152337	15.9	20.5
311406	15.5	20.7	479180	15.6	21.4	141202	15.7	19.9	289896	15.7	20.0	379614	15.8	19.2	19919	15.9	16.7
434072	15.5	20.7	174445	15.6	18.5	438929	15.7	19.5	128692	15.7	18.9	11502	15.8	18.2	61296	15.9	17.8
283890	15.5	20.2	285830	15.6	20.7	235211	15.7	20.5	407674	15.7	20.0	441819	15.8	19.0	205539	15.9	19.7
75502	15.5	17.8	415295	15.6	18.9	202177	15.7	20.0	392798	15.7	20.2	508825	15.8	24.1	323052	15.9	19.2
467589	15.5	21.1	100824	15.6	18.5	415057	15.7	20.9	155763	15.7	19.3	274225	15.8	21.4	38254	15.9	19.3
385796	15.5	21.5	1046	15.6	15.1	253744	15.7	18.7	416261	15.7	21.1	393921	15.8	21.1	185091	15.9	20.1
147028	15.5	18.9	380078	15.6	20.1	347842	15.7	19.6	187893	15.7	17.8	141090	15.8	19.2	232048	15.9	19.2
281570	15.5	20.0	126227	15.6	19.5	210043	15.7	20.5	329206	15.7	19.3	483154	15.8	20.2	177676	15.9	19.6
216642	15.5	19.2	295887	15.6	21.0	325025	15.7	21.4	134051	15.7	20.2	216108	15.8	19.5	496162	15.9	20.5
381815	15.5	20.6	504900	15.6	21.8	440646	15.7	22.3	427550	15.7	21.5	481304	15.8	21.4	217831	15.9	18.9
519492	15.5	21.1	142264	15.6	18.7	342928	15.7	21.1	463501	15.7	19.8	338096	15.8	20.3	384571	15.9	20.3
430993	15.5	21.1	339425	15.6	20.8	34969	15.7	18.9	248325	15.7	19.8	220256	15.8	19.9	493599	15.9	20.7
40677	15.5	18.8	278501	15.6	20.3	69678	15.7	19.4	365947	15.8	20.8	91869	15.8	18.6	50242	15.9	17.8
308733	15.5	20.3	267330	15.6	19.0	326664	15.7	19.4	410167	15.8	19.1	401107	15.8	21.3	252933	15.9	19.1
18313	15.5	16.9	387092	15.6	21.2	232102	15.7	19.8	18687	15.8	17.9	70469	15.8	18.7	38570	15.9	18.9
377767	15.5	21.1	233710	15.6	20.3	47348	15.7	18.1	304032	15.8	19.8	126880	15.8	19.6	316903	15.9	21.0
125195	15.5	19.6	137830	15.6	18.7	380891	15.7	20.3	339437	15.8	21.3	204422	15.8	20.3	98379	15.9	16.6
205944	15.5	18.9	393168	15.6	20.7	198200	15.7	20.6	91568	15.8	19.7	149455	15.8	18.7	355657	15.9	20.4
59075	15.5	18.8	433401	15.6	20.6	176391	15.7	20.6	208622	15.8	18.1	99115	15.8	19.0	389284	15.9	19.2
80711	15.5	20.2	40397	15.6	17.8	391309	15.7	19.8	207380	15.8	19.3	40837	15.8	18.2	299802	15.9	21.0
521297	15.5	21.3	170710	15.6	19.8	504783	15.7	23.3	311246	15.8	20.3	489322	15.8	20.4	149740	15.9	19.5
6532	15.5	16.7	92075	15.6	19.9	468815	15.7	19.7	70628	15.8	17.9	435204	15.8	20.4	270335	15.9	19.2
513211	15.5	22.2	435325	15.6	19.4	295126	15.7	19.7	320285	15.8	20.1	176746	15.8	19.1	304660	15.9	21.1
501638	15.5	20.3	120433	15.6	19.1	435187	15.7	20.8	437424	15.8	20.8	148499	15.8	18.5	457515	15.9	21.5
64572	15.5	19.2	242692	15.6	20.6	192811	15.7	19.4	523184	15.8	21.0	169074	15.8	18.0	391306	15.9	21.1
77566	15.5	18.5	355036	15.6	21.3	397399	15.7	21.4	202444	15.8	19.3	268905	15.8	21.2	303711	15.9	19.6
330654	15.5	20.2	213073	15.6	21.0	288796	15.7	21.2	312139	15.8	20.2	122288	15.8	19.9	200106	15.9	20.8
200798	15.5	19.4	245125	15.6	20.3	234302	15.7	22.0	394742	15.8	21.3	250986	15.8	18.4	37994	15.9	18.2
136935	15.5	19.3	1733	15.6	15.7	112154	15.7	17.9	120975	15.8	20.0	312715	15.8	20.3	285057	15.9	19.8
305363	15.5	21.0	190361	15.6	19.0	51255	15.7	17.7	394009	15.8	19.8	292367	15.8	21.5	497072	15.9	21.7
111603	15.5	20.2	290620	15.6	20.7	255434	15.7	19.3	266608	15.8	19.5	483386	15.8	21.0	63387	15.9	18.4
508868	15.5	21.7	505807	15.6	20.7	470670	15.7	21.4	239778	15.8	20.9	376935	15.8	21.0	237022	15.9	20.8
40766	15.5	18.5	493639	15.6	20.6	57824	15.7	19.2	322657	15.8	20.6	145441	15.8	20.1	308537	15.9	20.6
428721	15.5	20.6	479939	15.6	20.7	235898	15.7	19.7	288279	15.8	20.9	205152	15.8	19.6	327819	15.9	20.5
311389	15.5	21.5	172455	15.6	18.4	302269	15.7	20.4	394776	15.8	21.3	121217	15.8	19.9	263576	15.9	21.5
102105	15.6	19.9	232141	15.6	20.5	322753	15.7	19.9	430027	15.8	20.6	98286	15.8	18.7	413412	15.9	22.3
305484	15.6	20.8	257910	15.6	20.7	199533	15.7	19.7	176664	15.8	19.8	479219	15.8	20.9	80433	15.9	18.9
471276	15.6	19.6	443608	15.6	20.2	260878	15.7	21.4	354179	15.8	20.7	329288	15.8	20.2	293378	15.9	21.2
359468	15.6	19.9	349946	15.6	20.4	509384	15.7	22.7	162133	15.8	18.4	107830	15.8	18.3	299813	15.9	20.3
367927	15.6	19.7	472937	15.6	20.6	303307	15.7	20.3	74870	15.8	18.9	182706	15.8	19.9	170022	15.9	20.2
404912	15.6	21.2	129530	15.6	19.2	224515	15.7	20.0	273654	15.8	21.3	125515	15.8	18.9	224311	15.9	21.2
463238	15.6	20.0	415036	15.6	20.7	303909	15.7	20.0	405797	15.8	20.4	248051	15.8	19.8	442551	15.9	21.4
131457	15.6	18.5	43956	15.6	18.5	242618	15.7	20.0	370744	15.8	21.0	21828	15.9	18.8	107932	15.9	20.0
387364	15.6	20.6	424111	15.6	21.8	395490	15.7	20.5	67049	15.8	18.1	512072	15.9	20.5	253828	15.9	21.1
71457	15.6	17.9	320335	15.6	21.5	297238	15.7	20.1	42833	15.8	18.0	338145	15.9	20.6	158010	15.9	20.3
443442	15.6	20.9	249230	15.6	20.0	285102	15.7	20.1	405088	15.8	20.9	497860	15.9	21.8	460	15.9	14.5
513095	15.6	21.7	208564	15.6	19.3	438201	15.7	19.8	501768	15.8	19.8	479219	15.8	20.9	80433	15.9	18.9
462607	15.6	20.3	12806	15.6	18.0	289052	15.7	20.7	72172	15.8	19.0	433479	15.9	21.1	214966	15.9	20.2
191861	15.6	18.2	287690	15.6	19.5	225860	15.7	20.7	380589	15.8	20.4	232205	15.9	18.6	436187	15.9	21.2
404909	15.6	20.2	397776	15.6	20.4	303745	15.7	22.1	342820	15.8	19.2	497099	15.9	22.1	50578	15.9	19.1
430935	15.6	21.6	335034	15.6	19.7	205628	15.7	19.8	190630	15.8	20.5	216468	15.9	19.9	200300	15.9	20.8
180979	15.6	20.8	11741	15.6	17.4	123450	15.7	18.4	394058	15.8	20.6	203696	15.9	19.7	301146	15.9	20.2
378752	15.6	20.7	93708	15.6	19.1	382483	15.7	21.2	438449	15.8	20.6	21625	15.9	18.8	61692	15.9	18.5
94476	15.6	17.9	477854	15.6	19.8	384691	15.7	20.2	420474	15.8	21.1	498931	15.9	20.6	188419	15.9	19.8
262443	15.6	20.9	371587	15.7	19.8	89888	15.7	18.5	284345	15.8	20.0	398073	15.9	21.0	499535	15.9	21.3
189397	15.6	19.3	162091	15.7	20.2	38591	15.7	17.2	128028	15.8	18.2	491228	15.9	21.7	399944	15.9	21.0
155264	15.6	20.5	352570	15.7													

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

Nº	06	V															
243608	15.9	19.5	136946	16.0	18.4	175422	16.1	19.3	303945	16.1	20.3	68750	16.2	18.6	100748	16.3	18.0
144958	15.9	19.0	418178	16.0	21.2	115579	16.1	19.0	22106	16.2	17.2	206749	16.2	20.2	311377	16.3	21.1
434656	15.9	20.5	410386	16.0	22.1	75639	16.1	19.7	475532	16.2	22.0	505817	16.2	22.3	497703	16.3	21.4
140918	15.9	17.7	391688	16.0	21.5	432805	16.1	20.3	401497	16.2	20.7	349864	16.2	19.5	501718	16.3	21.4
41338	15.9	18.2	519179	16.0	20.6	448504	16.1	20.6	510024	16.2	18.5	17995	16.2	17.7	65199	16.3	19.8
300914	15.9	21.0	260467	16.0	20.0	504797	16.1	21.7	160929	16.2	19.0	216846	16.2	20.0	337009	16.3	21.0
355697	15.9	20.9	463140	16.0	20.0	294812	16.1	20.8	94100	16.2	18.1	385898	16.2	21.5	504777	16.3	21.2
440655	15.9	19.5	426095	16.0	21.1	478556	16.1	21.0	73736	16.2	19.4	406329	16.2	20.9	479037	16.3	21.0
443489	15.9	20.6	491748	16.0	22.2	494221	16.1	20.7	337980	16.2	19.3	410177	16.2	20.9	76011	16.3	18.3
214398	15.9	18.6	321359	16.0	19.6	102737	16.1	18.3	60095	16.2	18.0	172464	16.2	21.1	429822	16.3	19.5
353519	15.9	21.0	283681	16.0	19.7	14158	16.1	17.8	243806	16.2	19.9	367096	16.2	20.1	161368	16.3	19.7
393675	15.9	19.9	114582	16.0	19.8	70165	16.1	17.0	120609	16.2	18.8	402317	16.2	21.9	313168	16.3	18.5
310168	15.9	20.3	228347	16.0	20.4	141344	16.1	19.0	506987	16.2	21.1	493633	16.2	20.1	34654	16.3	18.5
26266	15.9	17.6	497997	16.0	22.3	145961	16.1	19.1	316264	16.2	19.2	424149	16.2	19.9	465586	16.3	21.6
311910	15.9	20.4	40143	16.0	17.5	179406	16.1	20.0	231927	16.2	19.6	354343	16.2	18.6	381554	16.3	20.6
49197	15.9	17.4	316585	16.0	19.8	497672	16.1	21.4	420580	16.2	20.7	335021	16.2	19.5	490334	16.3	20.8
328196	15.9	20.7	333860	16.0	20.6	338631	16.1	20.6	207884	16.2	20.2	289226	16.2	20.4	445237	16.3	20.1
510813	15.9	21.2	90878	16.0	20.4	279417	16.1	19.1	105657	16.2	18.1	393086	16.2	20.4	15341	16.3	17.6
304655	15.9	20.9	90222	16.0	19.2	118902	16.1	19.6	355894	16.2	20.7	16155	16.2	18.2	500165	16.3	21.2
221027	15.9	19.4	352387	16.0	20.4	105555	16.1	19.6	157105	16.2	18.2	221268	16.2	20.1	251919	16.3	19.6
98339	15.9	19.0	50004	16.0	19.0	343067	16.1	21.0	219625	16.2	20.0	522287	16.2	21.7	276133	16.3	20.6
235215	15.9	20.2	187321	16.0	20.4	448508	16.1	21.6	17037	16.2	16.7	513570	16.2	20.9	276401	16.3	20.4
251298	15.9	19.9	477713	16.0	21.7	430359	16.1	19.8	333473	16.2	18.5	474046	16.2	20.8	107127	16.3	19.8
498469	15.9	21.7	4294	16.0	16.8	63976	16.1	20.1	184909	16.2	19.5	260437	16.3	19.6	244169	16.3	18.5
343402	15.9	20.6	519180	16.0	20.6	271770	16.1	19.0	19354	16.2	19.2	251875	16.3	20.2	91927	16.3	18.5
313100	15.9	21.7	34810	16.0	18.4	387897	16.1	21.0	309159	16.2	20.0	320276	16.3	22.4	491905	16.3	21.6
475828	15.9	21.4	245616	16.0	20.6	86053	16.1	19.2	349332	16.2	21.4	336259	16.3	19.8	440570	16.3	20.4
75251	15.9	17.4	147108	16.0	19.8	16782	16.1	17.7	24141	16.2	17.7	472788	16.3	21.0	491559	16.3	21.6
260333	15.9	19.8	112696	16.0	18.7	111213	16.1	18.7	346863	16.2	20.1	269116	16.3	18.1	377757	16.3	21.2
189609	15.9	19.2	101796	16.0	17.8	395108	16.1	19.1	71261	16.2	18.6	32417	16.3	18.1	161590	16.3	20.1
100972	15.9	18.8	416254	16.0	20.1	485671	16.1	20.2	66798	16.2	17.9	225674	16.3	20.2	418216	16.3	21.3
67668	15.9	19.2	114302	16.0	19.8	73079	16.1	17.8	501698	16.2	21.2	398621	16.3	20.1	133375	16.3	20.2
171738	15.9	19.9	71030	16.0	17.9	351285	16.1	19.7	129678	16.2	19.0	238458	16.3	20.7	494433	16.3	20.8
246979	15.9	20.5	228394	16.0	19.9	205186	16.1	20.8	350180	16.2	20.6	155	16.3	16.5	417738	16.3	20.1
90749	15.9	20.2	501784	16.0	21.7	133242	16.1	18.2	440328	16.2	19.9	192890	16.3	19.7	303918	16.3	21.4
412033	15.9	20.3	258920	16.0	20.0	338191	16.1	20.4	519183	16.2	20.5	128847	16.3	20.0	90296	16.3	18.8
287227	15.9	21.2	23446	16.0	16.3	379408	16.1	22.0	78332	16.2	18.8	510470	16.3	20.8	326204	16.3	20.3
201638	15.9	19.6	291559	16.0	19.9	461887	16.1	20.4	371742	16.2	21.1	279123	16.3	19.1	317970	16.3	20.6
227911	15.9	20.4	89838	16.0	18.6	146352	16.1	18.4	14796	16.2	18.1	507826	16.3	21.5	377768	16.3	19.9
286418	15.9	20.8	423910	16.0	21.6	127513	16.1	18.7	394618	16.2	21.4	8449	16.3	16.3	249041	16.3	19.9
370297	15.9	20.0	342141	16.0	20.8	189531	16.1	19.2	235359	16.2	20.6	324401	16.3	20.5	89617	16.3	20.0
262692	15.9	20.5	355668	16.0	21.0	392068	16.1	21.3	480763	16.2	20.1	471635	16.3	21.1	306634	16.4	19.9
292232	15.9	20.2	51068	16.0	18.6	508328	16.1	20.5	92117	16.2	19.6	186968	16.3	19.2	249638	16.4	20.9
336149	15.9	21.1	302355	16.0	20.8	70233	16.1	19.1	47732	16.2	21.0	498599	16.3	21.2	506468	16.4	21.3
386613	15.9	19.9	32260	16.0	18.4	389554	16.1	21.3	184661	16.2	20.3	518402	16.3	20.9	415096	16.4	20.3
275685	15.9	20.5	297731	16.0	20.0	158382	16.1	19.8	24657	16.2	18.3	178537	16.3	19.1	420642	16.4	20.1
7870	15.9	17.1	175745	16.0	18.3	186778	16.1	20.7	336241	16.2	19.5	374804	16.3	20.7	158399	16.4	20.5
130597	15.9	19.5	245598	16.0	20.7	235809	16.1	21.1	500182	16.2	20.6	475992	16.3	20.0	440438	16.4	21.0
111573	15.9	18.6	380167	16.0	18.6	500861	16.1	19.3	417601	16.2	20.9	187520	16.3	20.7	289848	16.4	19.9
42393	15.9	19.9	504771	16.0	21.3	85269	16.1	19.1	242691	16.2	19.8	12694	16.3	18.5	185938	16.4	19.9
473882	15.9	20.1	140141	16.0	19.5	382471	16.1	20.3	8162	16.2	17.1	231074	16.3	19.3	320528	16.4	21.4
190022	15.9	20.0	394011	16.1	19.5	415082	16.1	19.8	498514	16.2	20.7	347425	16.3	20.5	359381	16.4	20.6
250895	15.9	19.9	334397	16.1	20.9	287173	16.1	21.3	370258	16.2	20.8	389074	16.3	20.8	485169	16.4	21.7
93638	15.9	18.8	59826	16.1	18.6	290366	16.1	19.8	510786	16.2	21.0	391313	16.3	21.1	309142	16.4	21.0
468777	15.9	20.5	496147	16.1	21.5	103149	16.1	19.2	477692	16.2	21.1	206759	16.3	20.0	179496	16.4	20.2
20915	15.9	18.4	299099	16.1	21.1	187540	16.1	19.9	43169	16.2	17.8	192467	16.3	18.6	512565	16.4	21.7
357137	15.9	20.1	29971	16.1	17.5	43666	16.1	19.0	459991	16.2	21.1	22083	16.3	17.7	123026	16.4	19.3
87505	15.9	18.6	435783	16.1	21.0	383360	16.1	20.0	322035	16.2	19.4	307198	16.3	21.7	91122	16.4	19.1
470932	15.9	20.9	75406	16.1	19.4	311511	16.1	20.8	351981	16.2	21.9	467616	16.3	20.8	106666	16.4	19.5
68478	15.9	19.0	344692	16.1	20.7	254605	16.1	19.7	440927	16.2	20.0	89794	16.3	17.5	80242	16.4	19.9
229921	15.9	20.4	109806	16.1	18.8	12480											

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

Nº	06	V															
179292	16.4	20.9	251770	16.5	19.6	443399	16.5	20.2	334709	16.6	19.2	182929	16.7	19.4	442132	16.7	20.1
206861	16.4	19.8	308463	16.5	19.9	311353	16.5	19.6	314160	16.6	20.6	93646	16.7	19.6	288080	16.7	21.4
446606	16.4	20.2	268016	16.5	19.3	21728	16.5	18.1	309129	16.6	19.8	302281	16.7	20.4	479181	16.7	20.5
340422	16.4	19.0	358391	16.5	21.5	185569	16.5	19.5	28916	16.6	17.6	488335	16.7	22.4	359410	16.7	19.6
346692	16.4	19.9	380290	16.5	20.4	112587	16.5	19.2	255780	16.6	20.3	74372	16.7	19.6	179520	16.7	19.1
478172	16.4	21.3	5526	16.5	16.4	278268	16.5	19.4	342821	16.6	20.4	434336	16.7	19.4	47833	16.7	18.1
364585	16.4	20.3	70971	16.5	18.5	342487	16.5	19.1	106447	16.6	19.2	178804	16.7	20.4	327779	16.7	20.7
337113	16.4	21.9	164069	16.5	19.8	356385	16.5	20.4	33559	16.6	17.9	357322	16.7	19.5	374439	16.7	21.9
105407	16.4	18.8	173172	16.5	19.8	352528	16.5	20.1	506914	16.6	21.6	229894	16.7	20.3	89396	16.7	17.9
95343	16.4	19.3	17088	16.5	18.0	39138	16.5	18.0	182921	16.6	19.9	65519	16.7	18.1	375728	16.7	20.8
419733	16.4	20.7	427502	16.5	20.8	475976	16.5	20.0	181740	16.6	20.5	441364	16.7	19.7	282060	16.7	19.5
509784	16.4	21.4	93230	16.5	19.4	354810	16.5	20.7	438971	16.6	20.9	485907	16.7	20.5	134936	16.8	19.7
433993	16.4	17.6	479783	16.5	20.1	214125	16.5	20.1	34143	16.6	18.1	426711	16.7	20.6	275216	16.8	19.6
514556	16.4	21.0	90044	16.5	18.1	379235	16.5	21.6	239569	16.6	20.8	408851	16.7	20.4	362758	16.8	19.6
93757	16.4	18.3	210192	16.5	19.6	440533	16.5	21.7	519062	16.6	20.2	244493	16.7	19.4	225054	16.8	20.4
262930	16.4	20.2	501735	16.5	20.5	436848	16.5	20.8	292664	16.6	20.1	247365	16.7	20.1	447349	16.8	21.5
330634	16.4	21.0	157337	16.5	18.6	478886	16.6	21.0	396119	16.6	21.0	198507	16.7	18.8	124964	16.8	20.0
505486	16.4	21.5	191220	16.5	20.1	18827	16.6	16.3	282307	16.6	20.4	49290	16.7	18.5	361432	16.8	20.3
129626	16.4	19.1	215446	16.5	19.2	129955	16.6	19.5	385568	16.6	20.7	420492	16.7	21.7	358815	16.8	21.3
373556	16.4	21.3	221804	16.5	18.9	355200	16.6	21.7	426343	16.6	18.8	418199	16.7	20.9	9176	16.8	17.4
252899	16.4	20.0	410344	16.5	21.3	211137	16.6	20.2	137061	16.6	20.2	280279	16.7	20.8	218594	16.8	19.9
294382	16.4	20.8	393565	16.5	21.6	170478	16.6	19.2	299521	16.6	20.1	504878	16.7	19.9	276104	16.8	19.5
387954	16.4	21.1	506891	16.5	20.7	435903	16.6	20.8	352068	16.6	20.6	427906	16.7	21.9	281625	16.8	19.5
353623	16.4	19.9	50093	16.5	18.0	523028	16.6	21.6	344708	16.6	20.0	492399	16.7	20.8	336197	16.8	21.4
438194	16.4	21.5	2557	16.5	15.8	21131	16.6	18.7	184392	16.6	19.0	508940	16.7	22.0	507068	16.8	21.8
494321	16.4	19.5	428037	16.5	19.9	309163	16.6	20.8	127081	16.6	18.3	510829	16.7	20.6	348173	16.8	19.0
137811	16.4	19.9	338756	16.5	20.5	106827	16.6	19.9	312989	16.6	20.9	336364	16.7	21.1	260952	16.8	19.8
474319	16.4	22.1	334694	16.5	20.9	75209	16.6	17.8	313927	16.6	19.6	344994	16.7	20.7	398193	16.8	20.5
504950	16.4	20.4	149902	16.5	19.9	48703	16.6	18.9	218350	16.6	19.1	522815	16.7	20.0	206464	16.8	19.5
335107	16.4	20.9	474981	16.5	20.7	393947	16.6	21.1	114537	16.6	19.0	308154	16.7	20.8	317190	16.8	21.8
217413	16.4	21.1	507109	16.5	20.8	336652	16.6	20.8	390076	16.6	20.3	262366	16.7	20.3	158380	16.8	19.1
264352	16.4	20.5	391738	16.5	20.9	209928	16.6	18.4	432871	16.6	20.1	369746	16.7	21.4	336242	16.8	21.2
425594	16.4	19.2	53333	16.5	18.1	204752	16.6	20.6	479931	16.6	20.3	244250	16.7	18.6	31172	16.8	19.0
390728	16.4	20.4	178500	16.5	20.0	49171	16.6	19.4	32783	16.6	17.3	312100	16.7	18.6	393981	16.8	20.7
349358	16.4	19.4	120819	16.5	19.0	432718	16.6	21.9	162564	16.6	17.6	416663	16.7	21.6	131621	16.8	18.6
86831	16.4	17.6	318453	16.5	19.5	246935	16.6	20.5	439640	16.6	20.4	357961	16.7	20.9	134602	16.8	19.1
99495	16.4	20.1	145230	16.5	18.5	48229	16.6	17.9	368381	16.6	21.2	333362	16.7	19.2	444751	16.8	19.9
258848	16.4	19.3	406323	16.5	19.3	198790	16.6	20.3	353887	16.6	21.1	118479	16.7	19.0	286366	16.8	20.3
480566	16.4	21.4	283728	16.5	19.8	475002	16.6	21.1	384943	16.6	20.0	332892	16.7	20.6	183089	16.8	20.4
384569	16.4	20.3	476911	16.5	20.6	471267	16.6	20.3	107511	16.6	19.2	48601	16.7	17.2	351931	16.8	20.5
476365	16.4	20.8	328100	16.5	21.3	448518	16.6	21.0	357737	16.6	21.8	445273	16.7	21.0	9293	16.8	16.7
308461	16.4	20.0	100371	16.5	18.6	64518	16.6	18.2	147583	16.6	18.4	67650	16.7	17.4	335037	16.8	19.4
9231	16.4	15.9	506478	16.5	20.3	338545	16.6	21.1	496431	16.6	20.6	153876	16.7	20.5	167473	16.8	19.8
79456	16.4	20.1	292188	16.5	21.5	135607	16.6	18.4	373591	16.6	21.4	247010	16.7	20.3	69255	16.8	19.1
88189	16.4	18.9	491412	16.5	21.5	434726	16.6	21.6	15693	16.6	16.1	50263	16.7	18.7	37568	16.8	17.2
182226	16.4	21.1	1009	16.5	18.9	357795	16.6	21.0	518241	16.6	20.4	438248	16.7	21.7	471136	16.8	21.3
46651	16.4	18.1	273266	16.5	19.8	437194	16.6	20.9	254577	16.6	19.1	384565	16.7	20.7	306430	16.8	19.6
376821	16.4	20.8	497088	16.5	21.7	70582	16.6	17.8	318204	16.6	20.4	179889	16.7	19.2	478200	16.8	21.9
97400	16.4	19.2	267275	16.5	20.2	406445	16.6	20.6	25524	16.6	18.8	299841	16.7	21.6	293384	16.8	20.7
377607	16.4	18.8	179825	16.5	19.5	504406	16.6	21.3	185649	16.6	20.8	143525	16.7	19.6	349451	16.8	19.6
500119	16.4	22.2	253108	16.5	19.7	329244	16.6	19.4	476229	16.7	21.2	213230	16.7	19.7	479252	16.8	21.2
192943	16.4	21.8	127751	16.5	18.7	52660	16.6	19.3	175350	16.7	19.8	69668	16.7	19.1	64233	16.8	18.5
235882	16.4	20.9	173531	16.5	19.7	62720	16.6	18.9	53277	16.7	16.9	509792	16.7	21.5	311230	16.8	20.7
70878	16.4	19.4	143756	16.5	20.5	299773	16.6	19.9	295231	16.7	20.4	311236	16.7	20.8	478700	16.8	22.1
129978	16.4	18.9	470728	16.5	20.5	418112	16.6	20.4	155762	16.7	19.3	402395	16.7	19.9	294662	16.8	21.5
374888	16.4	21.9	349791	16.5	20.7	440323	16.6	21.1	275543	16.7	20.0	255208	16.7	19.2	100409	16.8	19.7
241535	16.4	19.0	172445	16.5	19.7	325080	16.6	20.5	425745	16.7	21.7	295783	16.7	20.9	357538	16.8	20.5
290039	16.4	20.2	241334	16.5	20.0	395883	16.6	20.5	302835	16.7	21.0	161502	16.7	20.2	37242	16.8	17.6
507653	16.4	20.0	214176	16.5	19.5	396847	16.6	20.1	33804	16.7	18.6	68865	16.7	18.4	490875	16.8	21.0
520308	16.4	19.9	478610	16.5	20.7	230274	16.6	21.2	20401	16.7	17.9	479533	16.7	20.0	368358	16.8	20.6
463114	16.4	22.0	148273	16.5	1												

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
388684	16.8	20.9	321322	16.9	20.6	328237	16.9	20.0	424430	17.0	22.1	495829	17.1	20.6	508060	17.2	20.8
489393	16.8	21.4	382529	16.9	22.9	509281	16.9	21.3	164261	17.0	19.2	394310	17.1	20.8	509145	17.2	21.8
372774	16.8	21.3	396553	16.9	19.6	65110	16.9	18.2	181643	17.0	19.8	288043	17.1	20.2	246981	17.2	20.2
182814	16.8	20.5	266581	16.9	20.0	14779	16.9	16.9	128228	17.0	18.7	368916	17.1	19.9	71785	17.2	17.7
286434	16.8	21.0	318463	16.9	20.3	319872	16.9	19.1	490066	17.0	21.6	477707	17.1	20.9	121324	17.2	19.6
41959	16.8	18.2	362010	16.9	21.0	58859	16.9	18.3	423952	17.0	20.2	388727	17.1	20.9	124781	17.2	19.0
66745	16.8	18.4	260664	16.9	19.3	393998	16.9	19.9	9831	17.0	17.9	479974	17.1	21.1	381704	17.2	20.0
311169	16.8	20.3	161067	16.9	18.4	201799	16.9	19.5	42374	17.0	17.2	125615	17.1	19.4	207313	17.2	20.2
64445	16.8	18.6	206123	16.9	19.8	441426	16.9	19.9	472234	17.0	21.2	322072	17.1	20.2	73025	17.2	17.7
302802	16.8	20.6	489036	16.9	22.1	465876	16.9	21.3	236399	17.0	20.7	147347	17.1	19.3	509533	17.2	21.2
141988	16.8	20.2	256073	16.9	19.8	475821	16.9	21.3	387977	17.0	19.1	504278	17.1	21.6	373570	17.2	22.0
131550	16.8	19.3	159933	16.9	19.8	471626	16.9	20.2	284971	17.0	19.7	444085	17.1	20.7	73507	17.2	18.9
288180	16.8	20.8	37145	16.9	18.6	17764	16.9	18.3	127832	17.0	19.2	325823	17.1	21.2	65260	17.2	18.3
521494	16.8	21.1	439669	16.9	20.5	275944	16.9	22.0	161941	17.0	18.7	74225	17.1	19.0	66482	17.2	19.1
373188	16.8	20.4	198378	16.9	20.2	347084	16.9	20.7	471731	17.0	20.7	195999	17.1	20.8	367753	17.2	20.0
156174	16.8	19.9	181714	16.9	18.7	340505	16.9	20.3	474759	17.0	20.7	324985	17.1	19.6	411641	17.2	21.5
335166	16.8	19.3	41315	16.9	19.2	315335	16.9	20.7	37674	17.0	19.7	393852	17.1	20.4	39494	17.2	18.5
60400	16.8	18.1	517602	16.9	21.4	393883	16.9	20.3	480542	17.0	20.4	110697	17.1	18.8	216763	17.2	20.4
73901	16.8	19.4	311480	16.9	20.9	12463	16.9	16.2	356361	17.0	19.9	507406	17.1	20.4	55350	17.2	18.6
502067	16.8	20.6	174589	16.9	19.5	504087	16.9	21.4	383176	17.0	21.6	350140	17.1	20.8	225789	17.2	21.0
291834	16.8	18.9	509834	16.9	21.8	311360	16.9	19.7	216594	17.0	19.4	454443	17.1	16.8	341064	17.2	19.1
489717	16.8	21.8	235843	16.9	20.5	23825	16.9	17.6	344051	17.0	20.8	97989	17.1	19.3	502004	17.2	21.2
433981	16.8	20.6	427233	16.9	21.9	305455	16.9	20.7	237518	17.0	18.7	147857	17.1	20.1	35033	17.2	20.3
511998	16.8	19.6	131504	16.9	19.8	126540	16.9	20.6	137027	17.1	18.8	488283	17.1	20.7	287962	17.2	20.3
206605	16.8	20.2	468688	16.9	20.8	100144	16.9	20.1	246411	17.1	19.0	29949	17.1	17.2	183625	17.2	20.9
255283	16.8	20.4	26686	16.9	17.8	109299	16.9	19.3	483361	17.1	20.7	221022	17.1	20.8	377755	17.2	22.5
474057	16.9	19.7	106316	16.9	19.0	257303	16.9	20.0	520469	17.1	21.4	499444	17.1	21.7	20162	17.2	17.9
145413	16.9	20.0	497868	16.9	20.4	426229	16.9	19.4	228644	17.1	21.5	241156	17.1	21.0	369247	17.2	19.8
381131	16.9	20.0	95801	16.9	18.9	442135	16.9	20.1	144197	17.1	20.6	176703	17.1	18.7	374476	17.2	20.1
112601	16.9	18.7	177690	16.9	19.7	379152	16.9	20.0	339199	17.1	20.3	248534	17.1	21.2	504041	17.2	21.1
384521	16.9	21.8	307074	16.9	20.2	146828	16.9	19.0	205729	17.1	19.2	172526	17.1	20.8	253469	17.2	19.2
11185	16.9	18.1	362806	16.9	21.2	191738	16.9	19.1	264465	17.1	19.9	477681	17.1	21.1	480427	17.2	20.6
29708	16.9	17.9	74167	16.9	17.3	316648	16.9	20.5	47360	17.1	19.6	104225	17.1	19.6	386428	17.2	20.8
72590	16.9	19.4	512979	16.9	19.6	170880	16.9	18.6	391605	17.1	21.4	3336	17.1	17.2	511646	17.2	20.9
500842	16.9	21.2	415699	16.9	20.8	43342	16.9	17.5	429567	17.1	21.4	499782	17.1	21.4	131497	17.2	20.4
383226	16.9	21.6	427273	16.9	21.8	75717	16.9	19.7	304586	17.1	21.0	314390	17.1	21.1	125417	17.2	19.6
129021	16.9	19.3	410243	16.9	21.3	510066	16.9	20.4	433846	17.1	21.0	393844	17.1	20.8	84917	17.2	19.4
270503	16.9	19.9	400494	16.9	20.8	480521	16.9	20.3	374458	17.1	20.8	501612	17.1	21.7	200396	17.2	19.2
347031	16.9	20.6	19021	16.9	19.1	231901	16.9	20.3	210266	17.1	19.8	97337	17.1	19.3	93110	17.2	20.6
308504	16.9	20.8	102790	16.9	20.4	183647	16.9	21.1	317706	17.1	19.8	137114	17.1	18.8	302154	17.2	19.6
389200	16.9	21.8	467213	16.9	20.7	389020	16.9	21.2	373582	17.1	21.3	513017	17.1	21.2	102796	17.2	20.4
301242	16.9	20.9	206091	16.9	20.1	78331	16.9	18.9	225956	17.1	20.5	474175	17.1	21.1	429522	17.2	20.3
215522	16.9	19.4	49097	16.9	18.7	142085	16.9	20.3	149145	17.1	20.8	497910	17.1	21.4	7744	17.2	17.1
505566	16.9	21.1	161115	16.9	18.4	157879	16.9	18.1	344135	17.1	20.6	399911	17.1	20.5	393834	17.2	20.3
467621	16.9	20.7	41589	16.9	16.7	276473	16.9	19.5	480493	17.1	20.4	360149	17.1	20.2	253672	17.2	21.1
232855	16.9	20.5	261037	16.9	20.6	274818	16.9	20.0	135560	17.1	18.4	125706	17.1	17.7	204539	17.2	20.3
263434	16.9	19.3	93649	16.9	17.9	494289	16.9	21.2	232806	17.1	21.7	462225	17.1	19.8	504858	17.2	20.6
442056	16.9	21.0	35975	16.9	16.5	342254	16.9	20.3	20464	17.1	18.9	274152	17.1	20.6	34657	17.2	18.1
445379	16.9	21.2	507905	16.9	20.8	37664	16.9	19.6	44939	17.1	17.5	67830	17.1	19.7	126253	17.2	19.5
335039	16.9	20.1	434124	16.9	20.4	470686	16.9	20.1	335164	17.1	19.7	3693	17.1	16.5	44600	17.2	17.1
100374	16.9	20.1	468300	16.9	19.1	341715	16.9	21.3	101165	17.1	19.5	377469	17.1	21.3	369496	17.2	21.7
137914	16.9	19.2	350152	16.9	19.5	196917	16.9	21.0	475006	17.1	21.8	367741	17.1	19.4	504704	17.2	21.1
38822	16.9	17.6	333302	16.9	19.0	407771	16.9	21.0	187548	17.1	19.6	144498	17.1	20.7	465548	17.2	21.4
512120	16.9	21.1	86242	16.9	19.3	274137	16.9	18.5	202009	17.1	19.0	419958	17.1	20.3	176602	17.2	18.5
141926	16.9	19.4	436167	16.9	21.3	442104	16.9	21.7	266254	17.1	20.1	41833	17.1	18.7	152857	17.2	19.2
77456	16.9	17.9	126960	16.9	18.8	248845	16.9	20.4	224469	17.1	19.0	498119	17.1	21.6	270207	17.2	20.8
168439	16.9	19.1	434743	16.9	21.9	271691	16.9	20.5	92340	17.1	18.4	315214	17.1	20.0	102577	17.2	18.5
263705	16.9	19.4	302164	16.9	20.6	285155	16.9	19.3	167205	17.1	19.3	418158	17.1	22.1	158514	17.2	19.9
75362	16.9	19.6	19101	16.9	18.2	294110	16.9	20.4	391898	17.1	21.3	423122	17.1	21.7	440352	17.2	20.2
257564	16.9	20.5	509461	16.9	20.7	257290	16.9	19.2	302314	17.1	21.4	117302	17.1	18.3	49001	17.2	18.2
497663	16.9	21.6	64514	16.9	19.4</												

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
404725	17.2	20.5	491513	17.3	20.5	397793	17.4	20.4	482958	17.5	20.8	119899	17.5	19.9	200514	17.6	19.3
209380	17.2	19.3	476097	17.3	20.6	381873	17.4	20.5	455416	17.5	21.4	113672	17.5	19.3	494202	17.6	20.4
505749	17.2	19.5	78934	17.3	19.7	139832	17.4	19.8	281931	17.5	20.1	116267	17.5	19.3	259809	17.6	21.5
347389	17.2	20.3	474054	17.3	19.8	93161	17.4	19.2	488457	17.5	21.8	89364	17.5	19.3	505803	17.6	21.0
8426	17.2	17.7	92059	17.3	19.5	480608	17.4	20.4	294449	17.5	20.4	398920	17.5	20.7	257909	17.6	20.0
337116	17.2	18.6	514452	17.3	20.6	251455	17.4	18.9	75277	17.5	18.4	35281	17.5	18.2	475364	17.6	19.7
211928	17.2	20.0	27985	17.3	17.4	64677	17.4	18.1	18952	17.5	16.2	155290	17.5	19.6	403227	17.6	19.5
104311	17.3	19.7	247862	17.3	18.6	253701	17.4	21.0	423053	17.5	21.2	509827	17.5	21.2	345931	17.6	20.8
331925	17.3	19.9	379149	17.3	19.5	468063	17.4	20.1	304760	17.5	21.2	89941	17.5	18.8	295594	17.6	20.1
107313	17.3	19.8	517276	17.3	20.6	362009	17.4	21.6	15281	17.5	17.0	89921	17.5	18.4	50733	17.6	19.0
474907	17.3	20.2	380550	17.3	19.3	391866	17.4	21.3	51754	17.5	19.0	346681	17.5	21.5	74659	17.6	18.8
115024	17.3	19.8	31644	17.3	17.3	424690	17.4	19.3	212647	17.5	20.2	43022	17.5	17.6	251908	17.6	21.2
394351	17.3	20.0	478191	17.3	21.0	66826	17.4	18.4	395238	17.5	20.6	423975	17.5	21.7	315995	17.6	19.9
342383	17.3	20.5	373975	17.3	20.8	99042	17.4	18.6	388191	17.5	20.9	91370	17.5	18.6	61711	17.6	19.2
174555	17.3	20.4	34152	17.3	18.4	311205	17.4	19.9	12309	17.5	18.2	380317	17.5	20.0	380881	17.6	20.0
37682	17.3	16.8	308538	17.3	20.7	414148	17.4	21.9	440295	17.5	21.1	272812	17.5	19.8	207450	17.6	19.1
310612	17.3	20.1	310592	17.3	20.9	432721	17.4	22.2	502006	17.5	21.9	314012	17.5	19.5	476663	17.6	20.2
15976	17.3	18.1	333300	17.3	19.8	141548	17.4	20.5	204955	17.5	20.0	119067	17.6	22.7	495511	17.6	19.0
333466	17.3	19.3	41012	17.3	18.5	421648	17.4	19.5	443784	17.5	20.3	114619	17.6	20.4	278388	17.6	19.0
294659	17.3	21.2	183332	17.3	20.6	187327	17.4	19.7	64386	17.5	20.8	141980	17.6	19.4	106414	17.7	19.0
500800	17.3	20.8	213833	17.3	19.7	504054	17.4	22.4	163491	17.5	20.2	98269	17.6	19.9	75688	17.7	19.5
307141	17.3	19.9	308636	17.3	20.6	217389	17.4	19.9	18039	17.5	17.8	206095	17.6	19.8	414075	17.7	21.8
137895	17.3	20.6	369476	17.3	20.7	371577	17.4	21.2	200116	17.5	20.1	385014	17.6	20.4	508503	17.7	20.2
91180	17.3	18.7	117	17.3	12.5	336663	17.4	19.9	62381	17.5	17.8	162551	17.6	20.5	427773	17.7	20.8
294466	17.3	19.3	304100	17.3	21.4	251533	17.4	20.2	87513	17.5	19.3	188819	17.6	20.4	188861	17.7	20.0
151544	17.3	20.4	73108	17.3	19.2	399839	17.4	20.4	321108	17.5	20.8	193387	17.6	20.3	250014	17.7	20.0
361479	17.3	22.0	236643	17.3	20.6	435286	17.4	19.3	207523	17.5	19.0	56774	17.6	18.1	90877	17.7	19.8
469575	17.3	21.6	984	17.3	13.0	291160	17.4	20.5	6579	17.5	17.2	182949	17.6	19.9	522869	17.7	21.4
365059	17.3	20.5	470532	17.3	20.6	33367	17.4	17.5	254162	17.5	19.9	507749	17.6	21.4	234296	17.7	21.1
91849	17.3	17.7	319064	17.3	20.4	443535	17.4	20.4	179491	17.5	19.2	107367	17.6	18.7	56251	17.7	16.9
312777	17.3	20.0	411773	17.3	21.1	250180	17.4	18.8	66642	17.5	17.9	406333	17.6	21.1	394731	17.7	20.8
310347	17.3	21.0	425865	17.3	19.8	334024	17.4	20.5	2662	17.5	17.8	152482	17.6	20.1	358922	17.7	20.8
138911	17.3	17.4	376612	17.3	20.6	499692	17.4	21.8	302369	17.5	20.8	273945	17.6	18.9	20735	17.7	17.2
316335	17.3	20.9	470798	17.3	21.0	113359	17.4	19.1	17018	17.5	16.7	519114	17.6	20.9	123687	17.7	19.6
213097	17.3	18.9	465285	17.3	20.5	118987	17.4	19.9	389056	17.5	21.0	253389	17.6	21.1	191670	17.7	18.8
182749	17.3	20.4	199691	17.3	21.1	506971	17.4	21.6	24198	17.5	17.9	300973	17.6	20.6	350902	17.7	21.2
394622	17.3	22.4	497071	17.3	21.7	200492	17.4	19.3	150333	17.5	20.5	312839	17.6	20.0	478751	17.7	20.7
152002	17.3	19.2	356723	17.4	20.9	145955	17.4	19.6	147033	17.5	19.2	390017	17.6	22.0	279573	17.7	19.4
213302	17.3	20.0	214250	17.4	19.3	94771	17.4	19.1	359398	17.5	19.9	394325	17.6	21.2	470720	17.7	20.4
489318	17.3	20.6	240544	17.4	18.8	380844	17.4	22.0	435865	17.5	20.3	198347	17.6	19.7	241327	17.7	20.3
99994	17.3	18.0	119517	17.4	18.3	51793	17.4	16.9	512887	17.5	22.0	357319	17.6	18.3	329952	17.7	19.9
394714	17.3	21.1	113517	17.4	19.6	352563	17.4	22.3	478081	17.5	21.7	337059	17.6	20.5	316043	17.7	20.6
119621	17.3	19.9	398195	17.4	21.0	263178	17.4	21.4	376851	17.5	19.7	35795	17.6	18.3	478113	17.7	20.4
494434	17.3	20.3	507684	17.4	20.7	276050	17.4	21.3	240415	17.5	20.9	261286	17.6	20.2	59510	17.7	18.4
298304	17.3	20.4	272703	17.4	21.1	49452	17.4	19.1	77153	17.5	20.0	179232	17.6	21.8	111807	17.7	19.1
154462	17.3	19.5	45501	17.4	18.5	38277	17.4	18.7	147744	17.5	20.4	258996	17.6	20.5	313352	17.7	20.2
166589	17.3	20.2	66216	17.4	18.4	175188	17.4	21.0	305886	17.5	19.3	187785	17.6	19.8	382969	17.7	20.7
242157	17.3	20.2	41059	17.4	19.0	408355	17.4	20.2	80130	17.5	17.6	481105	17.6	21.4	265366	17.7	19.8
101376	17.3	20.3	376910	17.4	21.2	417958	17.4	21.8	468038	17.5	20.7	522802	17.6	20.3	346259	17.7	21.9
24191	17.3	18.4	347696	17.4	20.7	52182	17.4	18.1	33548	17.5	17.2	512559	17.6	21.1	470344	17.7	21.4
126127	17.3	19.8	479248	17.4	21.5	39407	17.4	20.2	2646	17.5	15.9	446602	17.6	20.2	417757	17.7	21.0
130911	17.3	18.3	174048	17.4	17.0	59062	17.4	19.2	124811	17.5	18.3	281579	17.6	20.0	204103	17.7	20.0
478101	17.3	21.8	253861	17.4	20.7	499422	17.4	21.2	65108	17.5	18.9	88333	17.6	19.6	439189	17.7	20.1
395682	17.3	20.7	275887	17.4	20.0	256490	17.4	20.4	69488	17.5	19.7	392677	17.6	21.0	213552	17.7	18.5
93171	17.3	18.8	267406	17.4	20.1	468464	17.5	20.0	342806	17.5	21.3	513672	17.6	21.1	199627	17.7	20.5
106794	17.3	19.7	22136	17.4	17.8	296271	17.5	19.4	508087	17.5	20.9	476273	17.6	21.4	438577	17.7	21.0
356646	17.3	20.3	95939	17.4	19.6	314056	17.5	21.0	30427	17.5	17.8	89850	17.6	18.9	49122	17.7	19.0
235325	17.3	20.9	392823	17.4	21.6	384053	17.5	21.4	177112	17.5	20.1	188553	17.6	18.9	475506	17.7	21.5
520089	17.3	21.1	480683	17.4	20.5	134674	17.5	19.9	482209	17.5	20.2	386165	17.6	20.2	6531	17.7	18.3
31752	17.3	18.2	463905	17.4	20.8	65396	17.5	19.3	29933	17.5	18.0	354770	17.6	19.9	289389	17.7	20.6
91321	17.3	18.6	258651	17.4	20.6	471720	17.5</td										

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

Nº	06	V															
470178	17.7	21.2	249168	17.8	20.5	491786	17.8	21.0	134599	17.9	19.9	272699	17.9	20.4	375879	18.1	20.2
120555	17.7	19.6	433447	17.8	21.4	423842	17.8	20.5	41657	17.9	18.5	469997	17.9	20.3	75404	18.1	17.9
423643	17.7	20.6	316907	17.8	19.6	114200	17.8	19.8	42933	17.9	18.5	502099	17.9	21.1	334425	18.1	20.2
70003	17.7	19.2	439722	17.8	20.3	175581	17.8	20.6	41758	17.9	18.7	119066	17.9	23.0	134559	18.1	19.6
129528	17.7	19.1	105937	17.8	20.9	106229	17.8	19.9	335072	17.9	20.8	158494	17.9	19.9	392089	18.1	21.4
36690	17.7	18.4	432688	17.8	21.8	385778	17.8	20.0	350131	17.9	21.2	197970	17.9	21.9	344401	18.1	20.4
432773	17.7	22.3	14419	17.8	16.7	501729	17.8	21.3	470351	17.9	21.3	63052	17.9	18.1	121427	18.1	19.7
471744	17.7	20.1	164255	17.8	19.0	230854	17.8	20.9	184797	17.9	20.0	389797	17.9	19.7	483179	18.1	21.1
126103	17.7	19.7	149224	17.8	20.9	474388	17.8	21.4	304744	17.9	21.1	311418	17.9	20.8	182911	18.1	20.8
310334	17.7	20.1	291811	17.8	20.5	255421	17.9	19.5	389689	17.9	20.2	440848	17.9	21.1	342476	18.1	20.6
260629	17.7	19.3	199546	17.8	20.4	59023	17.9	19.4	276468	17.9	21.3	8434	17.9	18.8	253719	18.1	20.5
185755	17.7	20.7	476158	17.8	20.5	239560	17.9	21.2	386330	17.9	21.7	470465	17.9	21.1	55606	18.1	17.4
146825	17.7	20.0	144094	17.8	19.5	137958	17.9	20.4	323021	17.9	20.7	511743	17.9	19.6	397773	18.1	19.9
253718	17.7	20.6	446613	17.8	20.7	5599	17.9	16.6	470742	17.9	20.7	226948	18.0	19.5	22805	18.1	17.7
364810	17.7	20.1	156178	17.8	20.4	324366	17.9	19.0	488675	17.9	20.7	312760	18.0	21.1	230881	18.1	21.4
311416	17.7	20.4	145796	17.8	19.2	145689	17.9	18.5	498214	17.9	19.9	398902	18.0	21.4	66067	18.1	19.4
414134	17.7	20.8	326914	17.8	22.4	241750	17.9	20.3	121329	17.9	19.1	181138	18.0	18.5	444648	18.1	20.1
342536	17.7	20.5	220308	17.8	20.1	117248	17.9	18.4	502432	17.9	21.4	85151	18.0	18.7	155529	18.1	20.5
308450	17.7	20.9	335114	17.8	20.4	158080	17.9	20.2	259364	17.9	20.3	195357	18.0	19.6	347761	18.1	20.3
130216	17.7	17.0	147812	17.8	20.2	334001	17.9	20.9	186383	17.9	19.3	106725	18.0	19.8	77383	18.1	18.9
504082	17.7	20.5	480007	17.8	21.2	342691	17.9	20.4	43125	17.9	17.9	372976	18.0	21.2	464115	18.1	19.5
264468	17.7	19.6	399444	17.8	21.3	420344	17.9	21.1	156471	17.9	19.5	357761	18.0	21.6	114737	18.1	18.1
510611	17.7	21.6	32914	17.8	17.2	35008	17.9	17.9	320587	17.9	20.7	396031	18.0	20.9	509081	18.1	22.7
502984	17.7	22.4	243773	17.8	19.1	498436	17.9	20.9	128905	17.9	20.4	418153	18.0	21.5	23019	18.1	19.0
312722	17.7	19.9	279650	17.8	20.0	338810	17.9	21.1	127748	17.9	19.3	326184	18.0	20.6	337039	18.1	21.0
98521	17.7	18.7	441372	17.8	20.4	86155	17.9	19.0	100601	17.9	18.0	212052	18.0	18.8	393654	18.1	20.0
290125	17.7	19.5	262188	17.8	21.0	168957	17.9	19.6	289271	17.9	20.8	432981	18.0	20.5	514678	18.1	22.6
395273	17.7	20.7	315850	17.8	20.7	173584	17.9	19.8	41397	17.9	17.6	209889	18.0	19.2	278963	18.1	19.5
114690	17.7	18.0	497150	17.8	21.6	146956	17.9	19.6	84927	17.9	19.1	275233	18.0	20.2	134618	18.1	20.6
40014	17.7	18.9	135126	17.8	19.1	419717	17.9	20.8	82672	17.9	19.0	293109	18.0	20.2	118819	18.1	18.7
233844	17.7	18.9	432996	17.8	20.1	508605	17.9	20.7	238698	17.9	20.3	304598	18.0	22.1	58206	18.1	19.4
469546	17.7	21.3	99535	17.8	18.8	511404	17.9	21.2	358357	17.9	21.0	434244	18.0	20.5	298298	18.1	20.4
422514	17.7	21.0	235881	17.8	20.3	381096	17.9	20.6	193539	17.9	19.3	124454	18.0	19.4	62915	18.1	18.5
501687	17.7	21.8	405761	17.8	20.8	385147	17.9	19.7	300818	17.9	21.3	503624	18.0	21.1	359675	18.1	21.3
207049	17.7	19.7	284628	17.8	21.2	198477	17.9	19.8	228604	17.9	21.1	335151	18.0	21.4	81112	18.1	18.3
24387	17.7	19.4	178554	17.8	20.4	190668	17.9	20.5	116138	17.9	20.2	398983	18.0	21.3	311209	18.1	21.1
74168	17.7	19.2	433951	17.8	19.0	98120	17.9	18.3	391512	17.9	21.7	262594	18.0	21.2	130555	18.1	17.9
35773	17.7	17.3	110598	17.8	18.5	250568	17.9	19.9	62943	17.9	18.1	27250	18.0	17.7	351982	18.1	20.6
75035	17.7	18.7	396627	17.8	19.7	514207	17.9	20.2	497646	17.9	21.6	438521	18.0	20.6	243602	18.1	20.1
75583	17.7	19.7	396050	17.8	20.4	305924	17.9	20.2	333476	17.9	20.7	234229	18.0	21.1	344100	18.1	19.4
98301	17.7	18.3	360936	17.8	21.8	374423	17.9	20.8	318563	17.9	19.5	72510	18.0	18.9	513053	18.1	21.3
92126	17.7	18.9	113455	17.8	19.7	150626	17.9	19.7	499421	17.9	22.0	150627	18.0	20.6	91937	18.1	18.4
346470	17.8	20.3	68741	17.8	17.8	355603	17.9	19.8	215224	17.9	20.2	429580	18.0	21.7	42407	18.1	17.5
41559	17.8	18.5	471845	17.8	20.9	384828	17.9	20.5	406562	17.9	21.2	152116	18.0	19.5	477640	18.1	20.4
350812	17.8	20.1	446587	17.8	21.1	373557	17.9	20.6	255320	17.9	20.4	21406	18.0	16.8	180608	18.1	19.9
216872	17.8	20.7	414065	17.8	21.0	414068	17.9	22.0	366705	17.9	20.6	53323	18.0	17.7	190293	18.1	20.3
18501	17.8	17.4	168877	17.8	20.2	33115	17.9	18.1	86201	17.9	18.6	315984	18.0	19.5	12253	18.1	17.7
478849	17.8	21.3	33747	17.8	18.2	218606	17.9	19.2	85599	17.9	18.6	468655	18.0	20.6	190591	18.1	20.5
148446	17.8	20.2	99481	17.8	19.9	275905	17.9	21.5	426341	17.9	19.6	470269	18.0	20.8	479245	18.1	20.4
498423	17.8	21.7	328262	17.8	21.6	105781	17.9	19.7	498502	17.9	21.4	250722	18.0	20.3	346772	18.1	21.2
154910	17.8	19.7	320568	17.8	19.8	481213	17.9	21.8	472071	17.9	20.0	117509	18.0	18.8	488787	18.1	21.9
338814	17.8	19.0	255626	17.8	19.3	304600	17.9	20.9	504874	17.9	21.0	336979	18.0	20.2	45142	18.1	18.9
125743	17.8	19.7	97379	17.8	18.9	240529	17.9	18.9	506186	17.9	20.3	302146	18.0	20.7	440564	18.1	21.9
32453	17.8	17.9	121634	17.8	19.7	442915	17.9	21.2	500126	17.9	20.4	463705	18.0	21.3	507343	18.1	22.4
48095	17.8	18.0	216929	17.8	19.9	291786	17.9	19.8	197947	17.9	20.2	422977	18.0	20.2	146790	18.1	20.2
121602	17.8	20.0	136729	17.8	20.5	344457	17.9	18.0	566363	17.9	19.1	299899	18.0	20.6	509547	18.1	22.7
107228	17.8	19.9	287819	17.8	21.1	57297	17.9	18.8	94678	17.9	19.2	174822	18.0	20.8	367070	18.1	19.8
386604	17.8	19.6	138050	17.8	20.7	410392	17.9	21.3	466644	17.9	20.3	20326	18.0	18.1	207770	18.1	19.2
1101	17.8	15.2	26052	17.8	19.1	191756	17.9	19.8	102222	17.9	18.4	403248	18.0	21.6	436372	18.1	18.7
489085	17.8	21.6	241923	17.8	20.8	433934	17.9	20.4	146321	17.9	18.7	389881	18.0	20.7	232835	18.1	21.9
330633	17.8	20.4	338716	17.8	20.												

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
308503	18.1	20.7	71648	18.2	19.8	391254	18.3	21.1	282641	18.3	21.0	120359	18.4	19.5	501203	18.5	21.6
146958	18.1	19.2	259626	18.2	21.1	393274	18.3	20.9	34019	18.3	18.2	508238	18.4	20.6	214722	18.5	20.6
59917	18.1	18.5	401239	18.2	21.4	336808	18.3	19.9	122030	18.3	18.5	346649	18.4	20.8	387635	18.5	20.2
204920	18.1	20.7	415079	18.2	20.3	45284	18.3	18.8	353341	18.3	20.0	107960	18.4	18.8	443618	18.5	21.1
75068	18.1	19.1	400504	18.2	21.8	398366	18.3	21.0	147826	18.3	19.4	302212	18.4	19.7	374268	18.5	20.7
358323	18.1	21.7	399208	18.2	20.4	368677	18.3	20.0	252186	18.3	20.5	315317	18.4	21.3	364636	18.5	19.4
367286	18.1	21.0	91668	18.2	18.7	61813	18.3	18.9	58518	18.3	18.6	71824	18.4	17.8	105604	18.5	19.0
136594	18.1	18.4	512929	18.2	21.4	112090	18.3	19.3	277373	18.3	19.3	479265	18.4	21.0	118831	18.5	19.8
8966	18.1	18.6	112813	18.2	19.4	422348	18.3	20.2	511607	18.3	20.9	367298	18.4	18.8	22090	18.5	18.8
175688	18.1	20.4	12559	18.2	16.1	262181	18.3	19.9	287256	18.3	19.6	89738	18.4	18.7	106161	18.5	20.2
440948	18.2	20.6	177107	18.2	19.2	136175	18.3	18.6	387221	18.3	20.5	141164	18.4	20.6	418083	18.5	19.4
180972	18.2	18.9	469157	18.2	20.8	137748	18.3	20.5	63045	18.3	17.9	64915	18.4	20.5	303739	18.5	19.3
149024	18.2	20.0	322439	18.2	21.8	233730	18.3	20.9	89428	18.4	18.8	367769	18.4	21.3	501776	18.5	21.8
444933	18.2	19.1	45231	18.2	18.8	253638	18.3	19.0	63399	18.4	17.2	502144	18.4	20.6	208951	18.5	19.8
376159	18.2	21.7	382976	18.2	21.1	499010	18.3	20.3	207879	18.4	20.4	127892	18.4	18.6	373550	18.5	20.3
473005	18.2	21.0	146829	18.2	17.2	410271	18.3	19.9	177855	18.4	20.1	8116	18.4	16.6	17447	18.5	16.5
128482	18.2	19.8	171850	18.2	17.9	335534	18.3	20.4	104805	18.4	19.6	61890	18.4	17.6	479240	18.5	20.8
84081	18.2	20.1	199367	18.2	19.4	443819	18.3	20.6	105820	18.4	18.9	185158	18.4	20.7	301512	18.5	19.3
239724	18.2	19.9	472634	18.2	20.2	303790	18.3	20.2	303922	18.4	21.0	383968	18.4	20.8	42039	18.5	18.0
418125	18.2	20.9	29501	18.2	17.7	92995	18.3	19.2	263514	18.4	19.2	321259	18.4	20.2	295770	18.5	20.6
469320	18.2	20.4	371561	18.2	21.6	17195	18.3	19.2	502698	18.4	21.2	250542	18.4	20.0	376684	18.5	20.6
439686	18.2	20.7	93447	18.2	18.7	14242	18.3	19.0	253526	18.4	18.9	250774	18.4	20.3	75189	18.5	20.1
426924	18.2	20.4	136568	18.2	18.9	479080	18.3	21.3	9410	18.4	17.6	33014	18.4	18.4	398236	18.5	20.4
269963	18.2	18.2	206635	18.2	20.9	201556	18.3	20.2	502167	18.4	21.9	437418	18.4	20.8	480576	18.5	20.3
425590	18.2	21.6	442470	18.2	20.6	488784	18.3	20.7	521367	18.4	20.1	211818	18.4	19.9	293332	18.5	21.1
248059	18.2	19.9	394337	18.2	20.5	1357	18.3	15.6	126606	18.4	18.4	338738	18.4	20.8	423902	18.5	21.7
310875	18.2	18.7	41914	18.2	19.0	103853	18.3	17.9	471875	18.4	21.2	439666	18.4	20.0	34387	18.5	18.1
24196	18.2	19.1	336151	18.2	20.6	515363	18.3	22.4	35192	18.4	17.5	46979	18.4	19.7	269666	18.5	19.7
174787	18.2	20.5	256684	18.2	21.9	75063	18.3	18.6	384099	18.4	20.7	433901	18.4	20.6	328981	18.5	20.9
387217	18.2	20.7	371873	18.2	20.5	219580	18.3	22.0	436171	18.4	21.5	374849	18.4	19.9	508692	18.5	21.8
16367	18.2	18.2	318416	18.2	21.0	387224	18.3	20.8	120764	18.4	19.7	143939	18.4	21.1	352585	18.5	20.9
166025	18.2	19.9	357828	18.2	21.0	143398	18.3	19.6	429622	18.4	20.6	167441	18.4	19.4	92906	18.5	19.1
121289	18.2	20.3	86115	18.2	18.7	70666	18.3	19.4	331790	18.4	18.1	29901	18.4	21.2	383707	18.5	20.0
357851	18.2	20.6	392808	18.2	21.0	386347	18.3	21.3	151788	18.4	19.3	472126	18.4	21.1	437557	18.5	20.1
251375	18.2	19.3	386443	18.2	21.2	349434	18.3	20.8	394874	18.4	21.4	31386	18.4	16.7	476417	18.5	20.3
427597	18.2	21.8	386463	18.2	21.4	259611	18.3	21.2	294576	18.4	19.8	393799	18.4	21.0	143982	18.5	21.0
164578	18.2	19.3	311199	18.2	20.2	184862	18.3	19.7	20441	18.4	17.7	342174	18.4	20.2	246247	18.5	19.9
414097	18.2	21.2	479048	18.2	21.4	406894	18.3	21.0	279139	18.4	20.2	118996	18.4	19.2	502896	18.5	21.0
320491	18.2	20.6	218258	18.2	20.1	269984	18.3	19.1	92327	18.4	17.9	501746	18.4	20.2	246244	18.5	20.9
519111	18.2	20.5	123025	18.2	19.3	52747	18.3	24.2	16122	18.4	19.1	131968	18.4	18.7	83713	18.5	19.1
462809	18.2	19.9	380585	18.2	19.6	222072	18.3	18.6	143412	18.4	20.1	418143	18.4	20.3	94448	18.5	19.1
153143	18.2	20.0	231526	18.2	19.5	236744	18.3	18.4	71260	18.4	18.9	254593	18.4	19.3	173715	18.5	20.7
438189	18.2	21.3	123462	18.2	19.6	432347	18.3	20.7	104426	18.4	18.4	369895	18.4	19.8	440442	18.5	20.4
127530	18.2	17.9	286739	18.2	19.5	16784	18.3	17.6	28674	18.4	18.0	480366	18.4	20.8	336208	18.5	21.0
279454	18.2	20.5	42247	18.2	18.6	34979	18.3	18.2	276045	18.4	18.3	512047	18.5	20.4	386122	18.5	20.9
250892	18.2	19.5	2430	18.2	15.0	17824	18.3	17.6	332446	18.4	20.5	111971	18.5	18.8	243700	18.5	21.3
420789	18.2	20.0	4911309	18.2	20.7	181830	18.3	18.1	299677	18.4	19.9	250048	18.5	20.3	351815	18.5	20.7
83565	18.2	19.0	503768	18.2	20.2	443479	18.3	20.6	182298	18.4	18.6	290613	18.5	20.9	143597	18.5	20.5
19742	18.2	19.3	429409	18.3	20.6	75349	18.3	19.0	380623	18.4	20.9	511885	18.5	20.7	75883	18.5	18.1
281427	18.2	21.0	329131	18.3	20.0	144595	18.3	19.9	417910	18.4	19.7	18416	18.5	17.9	276082	18.5	21.0
501817	18.2	20.4	69824	18.3	19.2	294573	18.3	20.5	479826	18.4	20.9	38508	18.5	18.3	208698	18.5	18.8
321159	18.2	20.1	255181	18.3	20.1	511793	18.3	20.6	384058	18.4	20.0	301244	18.5	20.9	61176	18.5	18.4
351985	18.2	21.2	153203	18.3	20.8	206763	18.3	19.8	127363	18.4	19.3	428008	18.5	20.0	132639	18.5	19.3
469288	18.2	19.8	23403	18.3	19.3	287790	18.3	18.8	397438	18.4	21.4	393929	18.5	20.2	34163	18.5	18.1
60929	18.2	18.4	90207	18.3	18.9	133670	18.3	20.3	480705	18.4	21.0	430017	18.5	21.7	255726	18.5	20.2
121594	18.2	19.9	420519	18.3	21.5	251643	18.3	19.9	434786	18.4	21.3	2860	18.5	16.8	6288	18.5	18.1
39854	18.2	18.3	176359	18.3	19.5	262696	18.3	20.3	7691	18.4	18.1	395546	18.5	20.6	370443	18.5	20.7
431977	18.2	21.2	202669	18.3	19.4	39222	18.3	18.5	369528	18.4	20.2	455296	18.5	20.5	57965	18.5	18.9
441339	18.2	20.5	114604	18.3	19.4	338202	18.3	20.5	484730	18.4	20.0	156616	18.5	20.1	270320	18.5	21.0
4927	18.2	17.3	262273	18.3	20.2	383307	18.3	20.6	213093	18.4	21.0	46408	18.5	17.9	258526	18.5	19.3
215862	18.2	19.7	509091	18.3	21.8	369553	18										

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
200287	18.6	20.1	311497	18.7	20.8	309793	18.7	20.7	474381	18.8	20.6	251909	18.9	19.1	235166	18.9	20.3
46848	18.6	18.5	312701	18.7	19.8	409343	18.7	21.2	415118	18.8	22.2	327744	18.9	21.1	251706	18.9	19.4
140226	18.6	20.8	182735	18.7	20.7	70580	18.7	19.4	474778	18.8	20.9	103133	18.9	19.6	250531	18.9	20.7
476457	18.6	20.9	17951	18.7	16.9	180348	18.7	20.1	29016	18.8	18.4	308497	18.9	19.8	178722	18.9	19.7
106242	18.6	19.5	85267	18.7	18.3	89412	18.7	19.1	170363	18.8	18.6	214854	18.9	19.6	47688	18.9	18.2
330270	18.6	21.4	286386	18.7	20.7	432331	18.7	21.6	48105	18.8	18.1	160676	18.9	19.7	161811	18.9	20.9
32249	18.6	17.4	111635	18.7	18.9	304596	18.7	21.2	315405	18.8	19.8	307542	18.9	20.3	256425	18.9	20.5
326330	18.6	20.4	140896	18.7	19.2	424602	18.7	21.6	206312	18.8	19.1	102270	18.9	19.9	438150	18.9	20.8
175589	18.6	20.5	101972	18.7	18.2	282402	18.7	19.7	126663	18.8	20.4	438159	18.9	21.1	239921	18.9	20.6
291940	18.6	20.5	313698	18.7	19.7	332804	18.7	19.8	44224	18.8	17.8	424660	18.9	20.6	398259	18.9	20.9
499622	18.6	21.6	369632	18.7	20.5	290146	18.7	21.7	446277	18.8	20.8	393828	18.9	20.6	423980	18.9	21.1
390689	18.6	21.9	47045	18.7	18.7	286502	18.7	19.2	427108	18.8	21.2	501310	18.9	22.8	9778	18.9	18.0
417618	18.6	20.4	368884	18.7	20.9	404634	18.7	21.3	155078	18.8	20.7	162128	18.9	20.0	166454	18.9	19.7
150017	18.6	19.1	357950	18.7	19.8	428147	18.7	21.8	62731	18.8	18.6	251902	18.9	21.2	463569	18.9	20.1
442101	18.6	20.7	387490	18.7	21.3	6727	18.7	18.0	129336	18.8	19.4	471841	18.9	21.0	263580	18.9	21.3
384472	18.6	20.7	147722	18.7	18.4	249608	18.7	20.9	86303	18.8	18.9	272392	18.9	21.4	318661	18.9	20.0
49040	18.6	19.4	333854	18.7	20.8	8498	18.7	17.3	191	18.8	13.5	357529	18.9	20.8	30254	18.9	18.8
395362	18.6	21.6	263236	18.7	20.0	437909	18.7	19.9	50818	18.8	18.7	42398	18.9	18.5	133498	18.9	19.9
228525	18.6	21.0	17098	18.7	16.7	413013	18.7	19.1	115460	18.8	19.5	75111	18.9	19.9	468826	18.9	18.7
502213	18.6	20.2	62510	18.7	18.2	238654	18.7	20.8	475533	18.8	21.3	132197	18.9	20.3	472797	18.9	20.6
250567	18.6	20.2	26037	18.7	19.2	374494	18.7	21.6	305371	18.8	20.0	57859	18.9	18.6	51511	18.9	17.6
242332	18.6	20.5	87410	18.7	18.4	475662	18.7	20.0	476441	18.8	21.5	133235	18.9	19.5	90755	18.9	19.3
336243	18.6	21.2	16906	18.7	18.9	481986	18.7	21.7	91022	18.8	18.1	56831	18.9	18.3	49858	18.9	17.5
25029	18.6	18.6	1624	18.7	16.0	298251	18.7	19.4	396806	18.8	20.0	200433	18.9	19.5	118148	18.9	21.3
74194	18.6	18.4	356670	18.7	21.0	14137	18.7	19.3	137473	18.8	20.5	160845	18.9	19.1	493617	18.9	20.5
465877	18.6	21.1	327773	18.7	20.4	478211	18.7	22.0	424578	18.8	21.4	438048	18.9	19.4	374989	18.9	21.4
263145	18.6	19.8	31299	18.7	19.7	219128	18.7	18.9	414039	18.8	21.0	150591	18.9	20.3	22615	18.9	17.4
457774	18.6	20.3	390120	18.7	20.9	9646	18.7	17.4	377870	18.8	21.0	362419	18.9	20.4	419590	18.9	21.7
348378	18.6	19.8	364357	18.7	21.6	47160	18.7	16.3	393018	18.8	19.3	511952	18.9	20.7	479999	18.9	20.8
461516	18.6	19.1	226230	18.7	20.5	146795	18.7	19.3	134566	18.8	19.3	236455	18.9	19.6	374806	18.9	20.4
355678	18.6	20.3	213192	18.7	20.0	271617	18.7	20.2	478311	18.8	20.5	499174	18.9	22.4	251301	18.9	20.3
309116	18.6	21.5	163724	18.7	18.3	385153	18.7	20.8	250108	18.8	18.7	95626	18.9	19.4	355730	18.9	21.5
318444	18.6	21.1	259035	18.7	20.5	192337	18.7	20.4	133747	18.8	19.8	349416	18.9	20.6	121802	18.9	19.1
309042	18.6	21.1	310940	18.7	20.6	152397	18.7	19.4	474320	18.8	21.6	26131	18.9	18.7	185030	18.9	20.8
371570	18.6	21.2	262941	18.7	20.0	146920	18.7	20.2	231573	18.8	19.9	254237	18.9	19.8	210916	18.9	20.3
409154	18.6	21.2	100082	18.7	20.0	414439	18.7	21.2	328276	18.8	20.0	198427	18.9	21.4	474270	18.9	21.1
283722	18.6	19.5	41796	18.7	19.1	336245	18.7	20.5	99047	18.8	17.3	49198	18.9	19.9	42963	18.9	17.7
139313	18.6	18.6	381881	18.7	20.6	241904	18.7	20.6	208349	18.8	19.5	502725	18.9	21.1	250805	18.9	20.5
211835	18.6	19.3	248963	18.7	20.1	163076	18.8	18.6	141497	18.8	20.0	264930	18.9	20.3	244772	18.9	19.0
424445	18.6	21.5	469191	18.7	22.2	334261	18.8	21.1	311144	18.8	20.8	462207	18.9	20.5	2932	18.9	16.8
150598	18.6	20.9	302826	18.7	20.1	46740	18.8	19.1	479258	18.8	20.5	380649	18.9	20.7	420155	18.9	20.0
383166	18.6	19.6	319076	18.7	20.8	115407	18.8	19.4	428323	18.8	20.1	387001	18.9	21.1	168780	18.9	19.8
43090	18.6	17.2	300847	18.7	20.6	106514	18.8	19.0	328072	18.8	21.7	107756	18.9	20.4	23985	18.9	17.8
270363	18.6	21.4	303788	18.7	21.0	216331	18.8	20.4	121807	18.9	20.7	32218	18.9	16.9	494280	18.9	21.1
335111	18.6	20.9	395275	18.7	20.4	250911	18.8	19.8	357861	18.9	20.3	377682	18.9	21.4	507142	18.9	22.0
342188	18.6	20.7	357813	18.7	21.0	419612	18.8	21.9	283371	18.9	20.6	475613	18.9	21.9	41671	18.9	18.7
385065	18.6	20.6	32426	18.7	16.6	278583	18.8	20.2	418097	18.9	20.9	137677	18.9	19.6	231747	18.9	19.2
91966	18.6	20.1	160394	18.7	19.9	170987	18.8	20.1	420011	18.9	20.8	311218	18.9	20.2	356822	18.9	21.6
345020	18.6	20.8	2073	18.7	17.1	443572	18.8	20.9	69136	18.9	19.4	509688	18.9	20.8	253566	18.9	20.8
510717	18.6	19.4	427964	18.7	20.4	195567	18.8	19.0	523068	18.9	20.6	41175	18.9	18.9	36929	18.9	19.1
522936	18.6	22.0	3505363	18.7	20.0	32660	18.8	18.8	433841	18.9	19.5	483173	18.9	20.0	318471	18.9	19.4
284444	18.6	21.8	461807	18.7	21.3	371504	18.8	20.8	368360	18.9	20.1	415799	18.9	19.0	210692	18.9	19.7
243005	18.6	19.6	66675	18.7	19.2	380277	18.8	19.6	142737	18.9	19.7	105312	18.9	19.6	37866	18.9	18.3
468374	18.6	19.0	263727	18.7	20.7	10845	18.8	18.1	314021	18.9	21.1	17211	18.9	18.3	97392	18.9	19.3
341287	18.6	20.2	428282	18.7	20.8	57939	18.8	18.8	377774	18.9	21.6	501704	18.9	21.2	106881	18.9	19.9
31087	18.6	18.6	314090	18.7	19.9	503632	18.8	19.7	514468	18.9	21.3	395683	18.9	20.5	57359	18.9	18.1
375556	18.6	16.2	478349	18.7	21.2	442841	18.8	20.6	134579	18.9	20.5	315270	18.9	20.1	14177	18.9	17.8
102348	18.6	20.4	175640	18.7	20.4	93911	18.8	18.2	64120	18.9	17.4	203051	18.9	19.1	307309	18.9	19.9
514025	18.6	20.6	169760	18.7	18.2	32880	18.8	18.3	106961	18.9	18.9	225837	18.9	21.5	205665	18.9	20.1
20997	18.6	17.1	199710	18.7	20.2	44332	18.8	19.0	130458	18.9	19.1	174733	18.9	19.9	311197	18.9	18.0
196231	18.6	20.0	146181	18.7	19.6	123187											

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

Nº	06	V	Nº	06	V												
172579	19.0	19.4	259773	19.1	20.6	59965	19.2	18.7	385542	19.2	21.4	417932	19.3	21.4	501943	19.4	21.9
91892	19.0	20.5	107011	19.1	20.1	176364	19.2	19.7	420865	19.2	19.2	1895	19.3	17.3	270466	19.4	19.9
161658	19.0	20.6	455649	19.1	20.7	392150	19.2	21.9	38772	19.2	18.3	416436	19.3	19.9	491313	19.4	20.8
228229	19.0	20.1	398493	19.1	21.5	186964	19.2	19.6	338563	19.2	20.3	2198	19.3	18.5	358428	19.4	20.8
443597	19.0	20.7	484781	19.1	21.0	250987	19.2	19.4	73052	19.2	18.3	99054	19.3	16.9	263500	19.4	21.1
134380	19.0	20.0	145760	19.1	19.6	54975	19.2	18.2	23228	19.2	17.5	298678	19.3	20.5	140992	19.4	20.7
379347	19.0	21.1	348276	19.1	20.6	379439	19.2	21.5	519083	19.2	20.6	124922	19.3	19.6	385232	19.4	21.2
106473	19.0	19.0	418004	19.1	20.4	177854	19.2	19.8	348089	19.2	19.0	501457	19.3	22.2	446355	19.4	20.1
170523	19.0	20.0	352332	19.1	20.4	247121	19.2	21.4	308362	19.2	20.9	341085	19.3	19.6	237062	19.4	20.9
119464	19.0	20.6	42397	19.1	18.8	22194	19.2	19.5	260222	19.2	20.7	49355	19.3	17.9	337340	19.4	18.5
306448	19.0	20.5	377711	19.1	20.3	62127	19.2	19.1	422879	19.2	19.8	279476	19.3	19.6	485160	19.4	21.6
94447	19.0	19.3	228652	19.1	21.1	506389	19.2	19.6	112935	19.2	19.0	202577	19.3	19.6	320585	19.4	19.9
303270	19.0	19.2	99714	19.1	17.5	380573	19.2	21.6	380865	19.2	21.5	394671	19.3	21.5	328494	19.4	18.8
330827	19.0	21.1	517994	19.1	20.8	480630	19.2	21.3	499272	19.2	22.2	137881	19.3	19.5	498335	19.4	21.3
307589	19.0	19.5	440509	19.1	21.1	353933	19.2	20.8	510358	19.2	21.1	380258	19.3	20.9	285029	19.4	21.8
302264	19.0	20.3	232844	19.1	21.1	322361	19.2	19.4	14892	19.2	15.9	253813	19.3	21.1	508828	19.4	21.7
434637	19.0	22.2	116358	19.1	20.3	364454	19.2	20.5	195282	19.2	19.9	208765	19.3	19.1	165973	19.4	18.6
368896	19.0	19.1	308097	19.1	19.3	123659	19.2	20.4	252211	19.2	18.6	163955	19.3	18.4	4577	19.4	16.9
336316	19.0	21.0	251815	19.1	19.9	507076	19.2	21.7	142147	19.2	18.4	504591	19.3	21.7	181045	19.4	19.9
334026	19.0	21.2	131551	19.1	19.4	94790	19.2	18.4	68205	19.2	18.4	415091	19.3	21.3	238565	19.4	20.9
67209	19.0	19.8	314610	19.1	21.0	254132	19.2	20.1	414259	19.2	21.9	333420	19.3	19.9	461849	19.4	20.0
90740	19.0	20.3	264859	19.1	20.6	107019	19.2	19.5	32851	19.3	16.8	344781	19.3	20.9	471738	19.4	21.1
64623	19.0	18.7	137871	19.1	20.1	168824	19.2	19.1	185571	19.3	20.1	317037	19.3	20.5	39634	19.4	18.5
149957	19.0	20.0	362735	19.1	20.4	110068	19.2	19.7	160662	19.3	19.8	377643	19.3	21.2	2255889	19.4	20.0
336318	19.0	20.1	268293	19.1	19.5	22843	19.2	17.5	88140	19.3	18.1	392793	19.3	22.0	345306	19.4	20.3
111296	19.0	20.0	87213	19.1	18.5	196914	19.2	20.2	52710	19.3	17.6	290811	19.3	19.8	508490	19.4	20.5
127109	19.0	19.5	436522	19.1	20.0	182806	19.2	20.5	398437	19.3	21.6	481249	19.3	22.0	504927	19.4	22.1
375015	19.0	20.1	398066	19.1	21.0	499564	19.2	21.7	304733	19.3	20.8	12379	19.3	17.7	431106	19.4	19.6
106891	19.0	20.1	315400	19.1	20.0	99382	19.2	19.4	407657	19.3	20.6	352490	19.3	21.9	214682	19.4	19.9
357719	19.0	21.3	207613	19.1	19.7	479802	19.2	20.3	163251	19.3	20.7	323394	19.3	21.3	161296	19.4	18.2
131770	19.0	18.5	480638	19.1	20.8	479729	19.2	20.9	160922	19.3	19.2	210900	19.3	18.8	294307	19.4	19.3
470792	19.0	20.3	441341	19.1	20.2	497031	19.2	20.6	471647	19.3	22.2	140377	19.3	19.4	12928	19.4	17.7
168207	19.0	19.6	289494	19.1	20.2	92999	19.2	18.7	119757	19.3	19.4	289426	19.3	20.5	347931	19.4	20.4
278329	19.0	19.6	221017	19.1	19.0	521420	19.2	21.6	18123	19.3	17.4	17596	19.3	17.2	136694	19.4	19.3
295883	19.0	20.0	264571	19.1	19.6	39454	19.2	17.9	305516	19.3	21.0	432382	19.3	22.6	367954	19.4	21.1
355193	19.0	21.5	435770	19.1	20.9	349127	19.2	18.4	263977	19.3	18.8	39126	19.3	18.9	261223	19.4	21.3
357877	19.0	20.9	93217	19.1	17.6	266541	19.2	21.1	235249	19.3	20.4	384865	19.3	20.8	286327	19.4	20.3
143494	19.0	20.7	345892	19.1	20.8	305509	19.2	20.6	274124	19.3	19.6	109820	19.3	18.3	212671	19.4	19.9
145875	19.0	20.5	102528	19.1	19.5	368385	19.2	21.1	246482	19.3	20.5	479978	19.3	20.3	124668	19.4	21.0
279063	19.0	19.0	181920	19.1	20.0	496928	19.2	20.9	237212	19.3	20.5	89824	19.3	18.4	479916	19.4	20.2
95961	19.0	19.4	250890	19.1	19.7	314478	19.2	21.3	205989	19.3	20.6	277594	19.3	21.2	64249	19.4	18.8
395693	19.0	20.2	497166	19.1	20.9	226370	19.2	20.1	137976	19.3	19.5	254472	19.3	19.3	54881	19.4	17.7
487591	19.0	20.7	485157	19.1	20.3	472073	19.2	21.5	390441	19.3	20.8	131313	19.3	18.3	378670	19.4	21.0
45340	19.1	17.4	65477	19.1	18.6	409696	19.2	19.7	37122	19.3	17.6	480800	19.3	19.6	42276	19.4	18.6
471734	19.1	20.8	453319	19.1	20.4	134065	19.2	20.0	363730	19.3	20.0	382973	19.3	20.5	348109	19.4	20.6
327717	19.1	20.3	298300	19.1	21.2	130930	19.2	18.6	27298	19.3	17.4	55370	19.4	18.8	16953	19.4	17.4
123727	19.1	19.0	115511	19.1	20.7	247110	19.2	19.3	114747	19.3	19.3	467939	19.4	21.9	75198	19.4	20.6
270342	19.1	20.2	477972	19.1	20.2	190573	19.2	19.5	333297	19.3	19.2	2473	19.4	16.4	23344	19.4	19.1
240627	19.1	20.0	217403	19.1	18.5	425459	19.2	20.1	479189	19.3	22.1	247137	19.4	20.2	231569	19.4	19.1
140481	19.1	18.9	33141	19.1	19.4	295092	19.2	20.8	53350	19.3	18.7	82827	19.4	20.1	482320	19.4	20.4
383188	19.1	20.3	474174	19.1	21.2	82988	19.2	18.9	437593	19.2	20.5	215661	19.4	20.0	346025	19.4	21.1
140739	19.1	19.6	62687	19.1	18.7	345933	19.2	20.6	1948	19.3	15.6	292595	19.4	21.1	209287	19.4	20.3
68084	19.1	18.8	322535	19.1	21.4	188917	19.2	20.2	88142	19.3	18.5	204826	19.4	19.3	137342	19.4	21.1
522770	19.1	20.2	478154	19.1	21.5	508811	19.2	20.8	443343	19.3	21.0	38717	19.4	18.8	297771	19.4	20.9
256806	19.1	21.1	498387	19.1	21.9	311893	19.2	20.5	438246	19.3	20.8	274178	19.4	19.6	32274	19.4	17.5
352004	19.1	20.4	92123	19.1	19.4	492280	19.2	20.5	122020	19.3	19.6	321740	19.4	19.8	204032	19.4	19.6
65813	19.1	18.3	443162	19.1	21.0	504964	19.2	20.6	48878	19.3	18.3	20973	19.4	17.8	344638	19.4	19.5
489314	19.1	20.1	325410	19.1	20.1	177144	19.2	19.6	57483	19.3	19.5	421189	19.4	19.7	176465	19.4	19.6
478647	19.1	20.9	395887	19.1	21.4	200525	19.2	19.5	400866	19.3	20.6	461864	19.4	20.6	158477	19.4	20.7
39530	19.1	18.8	464637	19.1	20.3	220750	19.2	20.1	226684	19.3	20.7	249650	19.4	20.9	335076	19.4	18.9
62336	19.1	19.4	133677	19.1	20.0												

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

Nº	06	V															
272610	19.5	20.5	182185	19.5	19.8	20866	19.6	16.8	333888	19.7	23.0	250072	19.8	19.4	382111	19.8	20.6
79417	19.5	19.3	37229	19.6	18.9	364578	19.6	18.9	194869	19.7	19.4	497944	19.8	22.2	342247	19.8	19.5
313070	19.5	20.8	470870	19.6	22.4	37803	19.6	17.4	136414	19.7	19.5	510584	19.8	20.2	20925	19.8	19.9
462840	19.5	19.8	498504	19.6	22.2	479100	19.6	21.3	416220	19.7	21.0	174607	19.8	18.9	111841	19.8	18.7
190566	19.5	20.6	16936	19.6	16.8	365875	19.6	20.9	245639	19.7	21.2	230349	19.8	20.0	387183	19.8	20.7
398844	19.5	21.6	435650	19.6	21.6	95865	19.6	18.3	353846	19.7	20.5	38622	19.8	18.3	94501	19.8	19.0
250370	19.5	20.5	236637	19.6	19.0	121681	19.6	19.9	147407	19.7	19.1	72112	19.8	19.6	463213	19.8	21.6
431414	19.5	19.0	61484	19.6	19.5	113320	19.6	18.5	282646	19.7	20.4	338572	19.8	21.2	277183	19.8	20.2
229856	19.5	20.1	36488	19.6	19.2	350374	19.6	19.9	168801	19.7	19.7	468385	19.8	21.7	362791	19.8	20.3
296799	19.5	20.9	327192	19.6	20.3	244369	19.6	20.4	181699	19.7	19.0	37473	19.8	17.6	3746	19.8	16.3
142188	19.5	18.8	484780	19.6	21.6	466062	19.6	22.1	371901	19.7	19.7	262213	19.8	21.0	91196	19.8	18.8
344701	19.5	20.8	83657	19.6	17.9	398622	19.6	20.1	18055	19.7	17.3	358184	19.8	20.5	259686	19.8	20.8
224919	19.5	20.1	122760	19.6	19.8	446004	19.6	20.6	178232	19.7	20.1	363406	19.8	19.2	506169	19.8	19.9
430976	19.5	19.6	412507	19.6	19.4	1771	19.6	15.4	263263	19.7	20.7	182819	19.8	21.8	111327	19.8	19.2
107182	19.5	19.6	47718	19.6	19.5	21790	19.6	18.3	504215	19.7	21.6	407685	19.8	21.2	366463	19.8	22.1
414415	19.5	21.4	504296	19.6	20.1	359467	19.6	20.6	167737	19.7	19.8	327851	19.8	19.6	523171	19.8	20.8
247031	19.5	20.8	350385	19.6	20.5	323715	19.6	19.6	31640	19.7	17.9	192741	19.8	19.6	396288	19.8	21.7
446018	19.5	20.9	431060	19.6	20.5	354125	19.6	20.5	510815	19.7	20.5	182808	19.8	19.7	378267	19.8	20.5
503534	19.5	19.7	18317	19.6	18.4	216453	19.6	20.4	248093	19.7	19.2	33283	19.8	18.2	143500	19.8	19.9
335152	19.5	20.5	386398	19.6	20.5	134578	19.6	20.4	97097	19.7	20.3	512853	19.8	21.1	289107	19.9	20.0
16505	19.5	17.2	304297	19.6	21.5	468392	19.6	21.4	499653	19.7	21.8	222031	19.8	20.4	506189	19.9	20.4
336693	19.5	20.5	48171	19.6	19.4	487618	19.6	21.6	183099	19.7	20.3	306743	19.8	21.1	257572	19.9	19.8
523022	19.5	21.5	166920	19.6	18.3	352506	19.6	21.5	385956	19.7	21.6	239671	19.8	20.4	68559	19.9	16.7
488790	19.5	21.6	456307	19.6	21.5	356452	19.6	20.6	449224	19.7	20.8	88342	19.8	18.7	396639	19.9	20.9
337517	19.5	20.5	345428	19.6	21.3	498936	19.6	20.1	99633	19.7	19.7	247887	19.8	20.7	309806	19.9	20.6
83995	19.5	19.4	468060	19.6	20.3	428211	19.6	21.6	202439	19.7	20.5	191743	19.8	20.6	397791	19.9	20.2
376922	19.5	21.4	61348	19.6	17.9	191636	19.6	19.4	479014	19.7	20.9	470431	19.8	20.8	115394	19.9	19.8
68095	19.5	17.8	94886	19.6	19.1	486706	19.6	20.4	441449	19.7	20.1	23812	19.8	18.1	64542	19.9	20.1
152089	19.5	19.4	182843	19.6	19.7	342186	19.6	21.0	352500	19.7	19.4	335836	19.8	19.5	158476	19.9	19.9
354708	19.5	20.2	75049	19.6	17.5	513558	19.6	21.5	521127	19.7	20.9	11618	19.8	17.8	117500	19.9	19.1
232090	19.5	20.9	499354	19.6	21.5	148940	19.6	21.2	62347	19.7	18.3	506467	19.8	21.2	102325	19.9	19.5
5331	19.5	16.9	346160	19.6	21.6	235349	19.6	19.5	184524	19.7	19.6	363239	19.8	20.5	519155	19.9	19.7
62388	19.5	18.2	431014	19.6	21.8	521216	19.6	21.7	319400	19.7	20.2	386998	19.8	19.5	260250	19.9	19.9
198959	19.5	21.1	302455	19.6	21.3	267054	19.6	20.3	235788	19.7	20.6	342659	19.8	20.2	91396	19.9	18.9
191133	19.5	19.0	41312	19.6	18.0	53392	19.6	18.3	424852	19.7	20.4	92101	19.8	19.5	13169	19.9	18.3
417178	19.5	21.5	377658	19.6	21.5	164686	19.6	20.1	209291	19.7	19.7	439620	19.8	20.0	389116	19.9	20.7
256689	19.5	19.8	84134	19.6	19.0	19069	19.6	18.1	99374	19.7	19.2	181997	19.8	20.4	16657	19.9	21.1
195102	19.5	19.4	392825	19.6	21.1	200794	19.7	20.4	56290	19.7	18.6	450047	19.8	20.5	70161	19.9	17.5
264203	19.5	18.8	21872	19.6	18.4	425933	19.7	20.5	276903	19.7	20.2	248506	19.8	21.5	225818	19.9	19.3
106636	19.5	19.3	495304	19.6	19.6	518208	19.7	20.5	191699	19.7	19.5	81726	19.8	17.4	147492	19.9	20.5
344778	19.5	21.0	66029	19.6	18.3	392981	19.7	19.5	361477	19.7	21.3	475994	19.8	20.0	217375	19.9	19.2
277179	19.5	19.7	45441	19.6	18.9	191986	19.7	20.3	151180	19.7	19.8	24093	19.8	19.1	394301	19.9	21.3
440696	19.5	19.5	267840	19.6	20.2	416501	19.7	19.3	104935	19.7	18.2	503864	19.8	21.9	207808	19.9	19.2
379271	19.5	21.0	493657	19.6	20.8	439709	19.7	20.5	359546	19.7	20.8	106552	19.8	18.9	172441	19.9	19.9
395819	19.5	20.9	510391	19.6	21.4	249602	19.7	20.8	432851	19.7	20.2	102494	19.8	18.3	281017	19.9	20.5
268106	19.5	19.7	231523	19.6	19.3	309757	19.7	20.9	167724	19.7	19.8	76952	19.8	18.4	438991	19.9	20.8
345956	19.5	20.7	430181	19.6	20.7	504257	19.7	21.3	476057	19.7	21.5	279456	19.8	21.6	338672	19.9	19.5
115145	19.5	19.3	230054	19.6	20.1	112719	19.7	19.0	25253	19.7	17.1	173587	19.8	21.1	447075	19.9	20.7
27359	19.5	18.0	477190	19.6	21.0	227946	19.7	19.7	16117	19.7	18.7	216837	19.8	19.9	401782	19.9	20.1
260756	19.5	20.6	66849	19.6	19.2	390847	19.7	19.9	217213	19.7	20.2	90412	19.8	20.1	64080	19.9	19.4
275073	19.5	19.9	286529	19.6	20.1	247188	19.7	19.2	57276	19.7	17.0	14917	19.8	17.0	72306	19.9	19.3
193474	19.5	20.4	252913	19.6	18.6	89833	19.7	18.9	161339	19.7	19.9	263512	19.8	20.4	70509	19.9	19.1
247709	19.5	19.4	181152	19.6	20.8	114602	19.7	18.9	37534	19.7	18.1	72214	19.8	19.4	110149	19.9	19.9
91657	19.5	19.2	121736	19.6	19.2	263667	19.7	21.2	212684	19.7	20.1	179511	19.8	19.3	102563	19.9	19.1
305524	19.5	20.9	59901	19.6	18.7	371507	19.7	19.5	299693	19.7	20.3	19377	19.8	17.8	47852	19.9	18.5
519755	19.5	22.7	509639	19.6	20.5	210403	19.7	19.7	397786	19.7	21.6	253779	19.8	19.1	386376	19.9	20.5
349456	19.5	20.5	177958	19.6	18.8	245209	19.7	20.3	20825	19.7	18.5	101080	19.8	20.2	498454	19.9	21.6
502763	19.5	21.6	152748	19.6	20.1	461627	19.7	20.4	499685	19.7	21.2	512134	19.8	20.9	100268	19.9	19.0
374393	19.5	21.8	74860	19.6	19.8	214543	19.7	19.2	79310	19.8	20.0	184700	19.8	20.2	501700	19.9	21.3
475477	19.5	20.8	235142	19.6	20.0	236967	19.7	20.2	14610	19.8	18.8	320757	19.8	19.7	36039	19.9	17.7
241848	19.5	19.3	477664	19.6	21.4	360959											

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

Nº	06	V															
65773	19.9	19.5	142171	19.9	19.0	148110	20.1	19.9	314320	20.2	20.7	511866	20.2	20.8	42043	20.3	18.8
80666	19.9	19.4	497748	19.9	21.8	279330	20.1	20.5	95548	20.2	19.5	427976	20.2	21.2	449923	20.3	21.0
94088	19.9	18.6	342194	19.9	21.0	428172	20.1	21.2	260851	20.2	20.1	106210	20.2	19.8	125839	20.3	20.5
349211	19.9	21.0	297627	19.9	19.4	426082	20.1	21.0	91099	20.2	18.2	39051	20.2	17.6	260101	20.3	18.5
429478	19.9	21.8	157727	20.0	19.9	507844	20.1	20.6	128208	20.2	18.9	357011	20.2	20.5	198383	20.3	19.5
475519	19.9	21.4	156581	20.0	20.5	22094	20.1	18.3	371864	20.2	19.6	171804	20.2	19.6	259958	20.3	19.0
185254	19.9	21.7	180462	20.0	20.6	67103	20.1	19.6	352003	20.2	21.1	352070	20.2	20.0	315223	20.3	20.8
336417	19.9	20.7	107921	20.0	20.1	179391	20.1	20.3	472338	20.2	19.8	311412	20.2	20.3	17146	20.3	17.3
144107	19.9	20.1	512484	20.0	20.3	225094	20.1	19.3	425866	20.2	19.8	315147	20.2	21.1	272620	20.3	20.6
502471	19.9	21.5	93504	20.0	19.1	102439	20.1	19.7	281901	20.2	20.3	424769	20.2	20.7	48525	20.3	16.5
19992	19.9	17.8	270314	20.0	21.3	115610	20.1	18.5	136872	20.2	17.6	177211	20.2	19.5	189232	20.3	17.4
475044	19.9	22.5	472473	20.0	20.2	483159	20.1	19.9	475462	20.2	21.9	507802	20.2	21.3	350841	20.3	19.9
439433	19.9	21.7	497179	20.0	21.4	342522	20.1	19.8	308111	20.2	20.0	211192	20.3	18.8	27515	20.3	18.2
44748	19.9	19.4	10902	20.0	15.3	134745	20.1	19.6	431379	20.2	21.1	115011	20.3	19.7	48016	20.3	18.0
143951	19.9	19.5	475797	20.0	21.9	131874	20.1	19.4	501417	20.2	20.6	315356	20.3	20.2	371436	20.3	18.4
56571	19.9	18.0	55976	20.0	17.2	399204	20.1	19.8	82897	20.2	18.2	200644	20.3	20.4	198221	20.3	20.5
91472	19.9	18.6	182689	20.0	19.3	171491	20.1	20.0	499080	20.2	20.4	17868	20.3	16.6	28747	20.3	18.9
299999	19.9	20.1	216770	20.0	19.8	521386	20.1	20.1	507851	20.2	20.7	231931	20.3	19.9	95114	20.3	17.9
250308	19.9	19.2	60706	20.0	18.3	318815	20.1	21.1	310144	20.2	19.0	503541	20.3	21.5	211124	20.3	20.1
309153	19.9	20.6	491792	20.0	21.5	210426	20.1	19.8	131478	20.2	19.9	175713	20.3	19.9	463774	20.3	20.9
214782	19.9	19.5	72487	20.0	19.2	177100	20.1	19.6	72411	20.2	19.0	472716	20.3	20.7	250809	20.3	20.7
20057	19.9	16.4	503927	20.0	21.7	193735	20.1	18.9	237926	20.2	20.3	179340	20.3	20.0	255806	20.3	21.1
27374	19.9	18.0	479379	20.0	19.6	98988	20.1	17.9	316961	20.2	19.4	318299	20.3	21.7	512786	20.3	20.6
159122	19.9	19.1	503905	20.0	20.8	21061	20.1	15.8	284807	20.2	20.3	48765	20.3	18.0	38552	20.3	18.0
57449	19.9	18.8	285377	20.0	20.2	175802	20.1	18.4	400502	20.2	20.7	430081	20.3	20.5	249098	20.3	20.0
257323	19.9	19.7	318434	20.0	19.0	56238	20.1	17.4	149428	20.2	20.1	370316	20.3	20.8	471140	20.3	20.0
184813	19.9	20.9	35141	20.0	17.6	502680	20.1	21.1	508561	20.2	20.6	482113	20.3	20.7	124960	20.3	19.0
101871	19.9	17.9	30447	20.0	17.5	311524	20.1	20.6	161342	20.2	19.1	229190	20.3	19.1	95037	20.3	19.3
122930	19.9	20.3	251735	20.0	19.5	53405	20.1	18.2	504770	20.2	20.2	440396	20.3	20.0	184022	20.3	19.5
349992	19.9	19.7	2028	20.0	16.7	397034	20.1	20.3	351987	20.2	20.1	74526	20.3	19.0	475865	20.3	21.3
393838	19.9	20.5	388844	20.0	20.4	4439	20.1	18.6	21811	20.2	19.0	292639	20.3	21.3	241483	20.3	20.4
321953	19.9	20.3	46176	20.0	18.7	415777	20.1	21.4	118876	20.2	19.7	386987	20.3	19.8	297778	20.3	19.9
216979	19.9	20.0	259946	20.0	20.4	82335	20.1	18.3	394001	20.2	21.3	297783	20.3	20.8	386366	20.3	20.9
238043	19.9	20.3	501628	20.0	20.4	509541	20.1	20.9	181345	20.2	20.5	398823	20.3	20.8	428314	20.3	20.1
504748	19.9	21.9	390272	20.0	20.6	22135	20.1	15.5	65678	20.2	18.2	338639	20.3	20.0	370313	20.3	20.4
96919	19.9	19.9	426696	20.0	20.3	150339	20.1	19.7	4301	20.2	16.9	140878	20.3	20.0	152512	20.3	19.5
328151	19.9	21.6	186536	20.0	19.4	374477	20.1	21.5	139833	20.2	19.5	265682	20.3	20.6	332968	20.3	19.7
384389	19.9	20.2	162461	20.0	18.4	95020	20.1	19.5	262655	20.2	19.1	475799	20.3	21.3	332702	20.3	19.9
261509	19.9	20.6	510382	20.0	22.2	344468	20.1	19.4	355133	20.2	20.9	20962	20.3	17.1	216487	20.3	18.2
341193	19.9	19.7	480596	20.0	21.0	476462	20.1	20.2	266894	20.2	20.7	128879	20.3	19.4	122252	20.3	17.7
385015	19.9	20.6	279436	20.0	19.3	86332	20.1	18.5	55537	20.2	18.5	442076	20.3	20.4	211119	20.3	19.8
110198	19.9	19.2	84971	20.0	19.3	86161	20.1	18.3	437463	20.2	20.7	176421	20.3	19.6	342301	20.3	20.7
396047	19.9	21.0	159903	20.0	18.5	180358	20.1	19.9	370914	20.2	19.4	265326	20.3	19.0	314232	20.3	21.1
508585	19.9	19.7	314427	20.0	20.5	19141	20.1	18.1	245134	20.2	19.5	279698	20.3	18.0	53667	20.3	18.8
146940	19.9	20.4	234269	20.0	20.8	250627	20.1	20.0	96321	20.2	19.4	326229	20.3	19.5	224426	20.3	19.9
370300	19.9	20.5	175882	20.0	19.7	403205	20.1	21.3	17202	20.2	16.6	377779	20.3	19.4	224253	20.3	19.8
85568	19.9	19.1	181442	20.0	21.1	305234	20.1	19.9	183554	20.2	19.7	308496	20.3	21.4	176050	20.3	19.5
90720	19.9	18.7	233324	20.0	20.3	201582	20.1	20.4	532807	20.2	20.5	472812	20.3	20.1	14991	20.3	17.1
294569	19.9	20.9	42458	20.0	18.4	512383	20.1	21.1	515263	20.2	21.7	321767	20.3	20.6	37890	20.3	18.5
243673	19.9	20.6	122731	20.0	18.8	493593	20.1	20.0	231918	20.2	19.2	442553	20.3	20.5	345460	20.3	19.8
26283	19.9	16.4	296660	20.0	20.0	385442	20.1	18.2	180138	20.2	19.5	166492	20.3	19.7	429240	20.4	20.0
60053	19.9	18.3	341323	20.0	19.9	152478	20.1	20.0	59470	20.2	18.8	125742	20.3	16.0	329760	20.4	20.8
3658	19.9	16.3	369510	20.1	21.3	64116	20.1	19.0	64959	20.2	21.3	470311	20.3	18.2	342492	20.4	19.6
54921	19.9	18.6	322394	20.1	20.4	476940	20.1	21.8	111850	20.2	19.8	142751	20.3	19.3	80450	20.4	19.0
379282	19.9	20.0	301426	20.1	19.7	183809	20.1	20.9	178733	20.2	18.8	402841	20.3	20.5	465361	20.4	20.9
59071	19.9	19.4	218922	20.1	20.9	35984	20.1	17.8	188517	20.2	19.8	482345	20.3	21.1	90286	20.4	18.1
76125	19.9	19.8	507154	20.1	20.3	381884	20.1	19.1	208513	20.2	19.9	342732	20.3	19.8	116809	20.4	18.8
206134	19.9	20.1	478595	20.1	20.6	449922	20.1	20.5	172965	20.2	19.0	38858	20.3	17.8	498275	20.4	22.0
185092	19.9	21.2	24217	20.1	18.0	3531	20.1	17.1	65081	20.2	18.4	243243	20.3	20.1	514375	20.4	22.0
430003	19.9	21.7	192898	20.1	19.1	198377	20.1	19.9	387464	20.2	20.0	144883	20.3	20.0	278286	20.4	20.9
31655	19.9	17.9	237995	20.1	19.6	212451											

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
202568	20.4	19.7	273973	20.5	19.6	50764	20.5	19.2	243645	20.6	19.7	514350	20.7	21.6	288789	20.7	19.5
1908	20.4	14.9	398950	20.5	20.8	300943	20.5	20.4	371599	20.6	20.8	326922	20.7	21.6	86528	20.7	18.5
141598	20.4	18.6	40360	20.5	18.1	348687	20.5	19.0	21035	20.6	18.2	112452	20.7	19.7	12429	20.7	17.9
462211	20.4	20.9	490198	20.5	21.5	307102	20.5	21.2	235771	20.6	20.3	10893	20.7	18.0	19388	20.7	19.2
103328	20.4	18.7	92472	20.5	18.2	389225	20.5	20.1	215849	20.6	18.7	153029	20.7	18.5	30721	20.7	18.0
129967	20.4	19.1	105754	20.5	19.0	242718	20.5	19.1	25798	20.6	17.5	356200	20.7	19.2	231490	20.7	20.7
172569	20.4	20.8	268083	20.5	19.0	362583	20.5	20.2	410723	20.6	21.2	262606	20.7	21.2	38566	20.7	16.7
1566941	20.4	18.5	395643	20.5	20.5	427740	20.5	20.1	389186	20.6	20.8	382565	20.7	20.8	391105	20.7	18.9
107344	20.4	18.8	34406	20.5	16.7	231886	20.5	21.5	105783	20.6	19.8	183424	20.7	20.5	261462	20.7	20.2
471614	20.4	19.8	387056	20.5	20.4	297146	20.5	18.4	411619	20.6	22.0	20777	20.7	18.2	235797	20.7	20.0
292930	20.4	20.4	106065	20.5	19.7	271052	20.5	19.3	461478	20.6	19.6	314043	20.7	20.7	481114	20.7	21.3
422461	20.4	20.2	37175	20.5	18.2	235184	20.5	19.6	87616	20.6	18.0	251867	20.7	20.7	429606	20.8	20.5
257311	20.4	19.4	112457	20.5	17.7	359491	20.5	19.9	485137	20.6	22.6	203044	20.7	19.9	480010	20.8	20.3
359518	20.4	20.2	423859	20.5	20.4	395635	20.5	21.1	248616	20.6	18.4	45057	20.7	18.2	435713	20.8	19.9
504871	20.4	20.2	128553	20.5	18.7	294931	20.6	20.0	62200	20.6	18.8	39819	20.7	18.0	470749	20.8	20.2
73465	20.4	18.2	308004	20.5	20.4	477837	20.6	20.0	476060	20.6	21.5	100869	20.7	18.7	43528	20.8	18.5
505656	20.4	19.9	193270	20.5	19.4	303828	20.6	20.6	290674	20.6	19.9	110238	20.7	19.5	397384	20.8	20.6
228601	20.4	20.6	475296	20.5	21.3	335093	20.6	21.0	34820	20.6	17.4	37592	20.7	18.5	248457	20.8	21.0
253591	20.4	21.0	303900	20.5	20.8	195031	20.6	18.1	31362	20.6	16.7	509204	20.7	19.8	297904	20.8	20.2
121046	20.4	19.6	434220	20.5	20.5	455700	20.6	20.4	313061	20.6	20.5	55909	20.7	18.7	65264	20.8	19.6
171767	20.4	18.8	6583	20.5	16.8	250080	20.6	19.1	490715	20.6	20.4	306669	20.7	20.1	129512	20.8	19.5
271081	20.4	19.7	191660	20.5	20.1	381664	20.6	20.3	441763	20.6	20.9	211872	20.7	20.0	503514	20.8	19.7
320495	20.4	20.7	479286	20.5	20.9	116640	20.6	17.8	433030	20.6	20.4	257936	20.7	20.3	236663	20.8	18.9
407719	20.4	20.3	392512	20.5	20.7	349312	20.6	20.9	307114	20.6	20.3	493600	20.7	20.9	29601	20.8	18.4
175705	20.4	20.2	422284	20.5	20.3	190658	20.6	20.2	47271	20.6	17.1	172591	20.7	20.2	485623	20.8	20.5
43407	20.4	18.1	475009	20.5	21.1	136862	20.6	18.6	391963	20.6	20.5	211153	20.7	19.3	342552	20.8	20.2
389934	20.4	21.1	477181	20.5	21.0	129789	20.6	18.4	85809	20.6	18.2	285366	20.7	20.6	346124	20.8	19.9
106346	20.4	20.1	232939	20.5	19.5	35229	20.6	16.6	274395	20.6	19.7	123222	20.7	19.6	327828	20.8	20.6
309671	20.4	20.2	177335	20.5	19.9	119879	20.6	20.4	178244	20.6	19.0	403530	20.7	21.0	144590	20.8	20.1
235573	20.4	17.9	425945	20.5	20.5	472511	20.6	20.5	439270	20.6	20.9	275687	20.7	20.2	118314	20.8	19.4
316619	20.4	20.0	39555	20.5	18.5	156418	20.6	19.5	479216	20.6	21.7	208687	20.7	17.9	489619	20.8	21.9
343413	20.4	20.7	116756	20.5	19.5	397721	20.6	20.2	321329	20.6	19.7	519583	20.7	21.0	17717	20.8	17.6
337194	20.4	20.6	446079	20.5	21.2	514246	20.6	20.3	482406	20.6	21.3	510630	20.7	21.7	253746	20.8	20.0
299375	20.4	19.5	290807	20.5	20.9	29552	20.6	17.4	253804	20.6	20.2	190075	20.7	19.9	177838	20.8	19.8
439859	20.4	21.8	281563	20.5	20.3	478729	20.6	20.3	315229	20.6	21.2	423956	20.7	20.6	416269	20.8	20.4
470330	20.4	20.9	308434	20.5	20.5	477708	20.6	21.1	438197	20.6	21.3	477879	20.7	19.8	20745	20.8	16.2
59793	20.4	18.5	523816	20.5	24.3	479094	20.6	20.7	264834	20.6	20.1	168956	20.7	19.9	435952	20.8	21.7
195609	20.4	19.3	333472	20.5	20.1	419737	20.6	19.8	384572	20.6	20.8	182743	20.7	19.9	476395	20.8	20.1
510845	20.4	21.5	359027	20.5	20.7	509771	20.6	21.9	244726	20.6	18.4	443403	20.7	20.5	128687	20.8	18.7
464388	20.4	20.4	435881	20.5	21.0	172541	20.6	19.6	354724	20.6	20.8	203519	20.7	20.0	468909	20.8	21.7
244168	20.4	20.4	101511	20.5	19.3	125321	20.6	19.0	36092	20.6	17.6	342228	20.7	19.9	425042	20.8	19.2
324482	20.4	20.1	31171	20.5	18.8	428763	20.6	19.1	310512	20.6	20.9	522357	20.7	20.2	280116	20.8	20.4
59709	20.4	17.9	267435	20.5	19.0	251776	20.6	19.7	111655	20.6	19.2	308426	20.7	21.5	221923	20.8	19.5
216475	20.4	18.7	435928	20.5	20.7	80572	20.6	19.4	106176	20.6	19.3	474351	20.7	19.7	34413	20.8	16.8
119908	20.4	19.5	87360	20.5	18.3	92611	20.6	17.6	193581	20.6	20.4	370177	20.7	22.4	196534	20.8	19.3
443115	20.4	20.3	187487	20.5	20.3	63795	20.6	19.0	343263	20.6	20.7	504073	20.7	21.4	512066	20.8	20.2
254377	20.4	19.3	35662	20.5	16.9	65964	20.6	18.0	230365	20.6	19.7	87649	20.7	17.6	239064	20.8	20.9
15565	20.4	17.8	413153	20.5	20.3	35928	20.6	18.1	96380	20.6	19.5	475631	20.7	18.7	346712	20.8	20.3
389552	20.4	20.2	254562	20.5	19.5	6233	20.6	18.2	103506	20.6	19.7	214209	20.7	18.9	177645	20.8	18.9
75666	20.4	19.1	476982	20.5	21.3	7178	20.6	15.8	153152	20.6	18.3	133216	20.7	18.7	200183	20.8	20.1
509606	20.4	21.3	162108	20.5	19.7	153101	20.6	18.7	272645	20.6	21.0	379796	20.7	21.1	161833	20.8	20.2
132506	20.4	17.5	86085	20.5	18.6	324993	20.6	21.3	503201	20.7	20.1	438850	20.7	20.2	200258	20.8	20.7
350968	20.4	20.7	295905	20.5	21.1	390853	20.6	18.8	148752	20.7	18.8	177683	20.7	19.8	68169	20.8	19.5
306878	20.4	19.8	343302	20.5	20.5	105934	20.6	19.5	76185	20.7	18.1	122642	20.7	19.7	72871	20.8	18.4
257788	20.4	19.8	169226	20.5	20.4	379678	20.6	20.0	370455	20.7	21.0	15762	20.7	15.9	74680	20.8	17.8
40517	20.4	18.5	499510	20.5	20.4	93381	20.6	17.9	67458	20.7	18.7	376321	20.7	20.2	293265	20.8	20.0
234928	20.4	20.2	397410	20.5	19.7	155296	20.6	20.0	505857	20.7	21.3	192720	20.7	19.6	498658	20.8	21.0
316222	20.4	20.2	22951	20.5	17.7	143568	20.6	18.9	33464	20.7	18.2	204650	20.7	19.5	482121	20.8	21.2
510839	20.4	21.6	198468	20.5	19.6	40935	20.6	19.4	318534	20.7	20.8	46817	20.7	19.0	138109	20.8	19.7
515972	20.4	20.7	312020	20.5	20.1	290449	20.6	20.2	136197	20.7	18.7	358393	20.7	21.3	69695	20.8	18.7
276516	20.4	19.1	310490	20.5	20.3												

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

Nº	06	V															
395902	20.8	20.8	188922	20.9	20.1	262355	20.9	20.5	92927	21.0	19.9	358326	21.1	20.9	334729	21.2	18.1
178309	20.8	18.6	64529	20.9	17.3	218221	20.9	19.6	250990	21.0	19.2	145673	21.1	19.6	23789	21.2	18.7
90381	20.8	17.9	343581	20.9	20.4	503977	20.9	21.3	346068	21.0	20.4	263277	21.1	19.9	21783	21.2	18.5
199325	20.8	20.5	394700	20.9	20.8	50546	20.9	18.0	411681	21.0	20.2	19091	21.1	16.5	43849	21.2	19.1
128243	20.8	20.3	376794	20.9	20.2	62605	20.9	18.0	42603	21.0	17.3	499623	21.1	21.3	27572	21.2	18.5
428178	20.8	21.0	359388	20.9	20.8	413473	20.9	21.1	43203	21.0	18.3	38457	21.1	17.3	219000	21.2	19.8
522823	20.8	20.8	38562	20.9	18.2	136833	20.9	19.6	5938	21.0	16.5	320715	21.1	19.7	479244	21.2	21.1
505563	20.8	22.0	61787	20.9	19.2	418117	20.9	20.5	41482	21.0	18.5	31768	21.1	18.2	170911	21.2	18.6
512920	20.8	20.3	494450	20.9	21.5	65347	20.9	18.5	86295	21.0	19.3	206474	21.1	20.0	315262	21.2	19.6
504477	20.8	21.2	64021	20.9	18.9	259348	20.9	19.9	522760	21.0	20.8	468891	21.1	19.9	89817	21.2	18.6
435579	20.8	21.7	105677	20.9	19.7	12898	20.9	17.0	338098	21.0	20.0	508934	21.1	20.9	170971	21.2	19.1
501653	20.8	22.0	204730	20.9	20.2	286527	20.9	20.3	150038	21.0	18.5	332128	21.1	20.5	497706	21.2	21.7
52650	20.8	16.7	208592	20.9	20.3	352006	20.9	20.8	38087	21.0	17.7	257502	21.1	21.1	192090	21.2	18.8
348782	20.8	20.3	24061	20.9	18.6	261010	20.9	20.2	411644	21.0	20.5	429517	21.1	20.5	86281	21.2	17.5
168787	20.8	19.9	501624	20.9	21.7	479186	20.9	20.3	259775	21.0	20.0	344900	21.1	20.5	23181	21.2	17.2
86497	20.8	18.1	396008	20.9	20.0	442123	20.9	19.8	10576	21.0	17.1	113316	21.1	19.8	493231	21.2	21.6
510697	20.8	21.2	114958	20.9	20.0	342602	20.9	19.2	398615	21.0	20.5	149152	21.1	19.5	360161	21.2	19.6
187697	20.8	19.9	35483	20.9	20.4	374286	20.9	21.0	396433	21.0	19.3	93139	21.1	19.6	141953	21.2	18.5
387155	20.8	20.4	40831	20.9	17.9	445389	20.9	20.8	296823	21.0	19.5	480322	21.1	20.0	111471	21.2	19.5
176361	20.8	19.3	128855	20.9	19.7	342777	20.9	20.9	161249	21.0	18.1	513135	21.1	20.7	480676	21.2	20.8
283089	20.8	20.0	308588	20.9	19.4	250891	20.9	20.0	450922	21.0	19.9	111426	21.1	18.8	273772	21.2	20.0
263488	20.8	19.6	331727	20.9	20.4	41944	20.9	19.5	404864	21.0	20.0	494341	21.1	20.9	302500	21.2	21.5
504924	20.8	20.3	102410	20.9	19.3	286934	20.9	18.1	356969	21.0	19.4	413160	21.1	20.1	304588	21.2	20.1
252881	20.8	18.1	63214	20.9	19.4	353109	20.9	19.7	143868	21.0	20.2	507466	21.1	21.6	20509	21.2	18.5
434713	20.8	21.2	305361	20.9	21.4	398929	20.9	20.8	165647	21.0	19.4	414434	21.1	20.1	460822	21.2	19.2
476913	20.8	20.0	375702	20.9	19.9	505753	20.9	21.7	352608	21.0	20.1	463165	21.1	20.4	119905	21.2	20.6
363175	20.8	20.0	218385	20.9	19.0	63943	20.9	18.3	476182	21.0	21.1	251333	21.1	20.6	376185	21.2	19.8
405445	20.8	20.7	107170	20.9	19.6	81015	20.9	20.9	510806	21.1	23.0	362762	21.1	21.6	258854	21.2	18.9
304462	20.8	20.2	107560	20.9	18.6	311442	20.9	20.2	354692	21.1	19.4	327735	21.1	20.8	296141	21.2	19.7
240558	20.8	21.1	504292	20.9	21.8	508256	20.9	21.3	69171	21.1	18.0	380653	21.1	20.5	70450	21.2	17.7
256674	20.8	19.9	156155	20.9	20.3	294901	20.9	19.9	9944	21.1	17.2	326631	21.1	20.8	179571	21.2	19.5
113568	20.8	18.6	106333	20.9	19.6	366304	20.9	20.6	472747	21.1	19.8	321926	21.1	20.6	243865	21.2	19.7
466092	20.8	20.4	367068	20.9	20.5	467824	20.9	20.0	130424	21.1	17.7	347328	21.1	20.8	356682	21.2	20.5
33462	20.9	17.5	62263	20.9	18.5	386412	20.9	21.0	390393	21.1	18.7	205182	21.1	20.4	39574	21.2	18.6
326158	20.9	19.2	36458	20.9	18.4	204451	20.9	19.4	179300	21.1	20.3	54014	21.1	17.5	379824	21.2	20.2
12729	20.9	16.7	205534	20.9	19.9	180780	20.9	18.9	384093	21.1	19.9	192718	21.1	20.3	318173	21.2	21.0
260221	20.9	18.9	81983	20.9	17.8	13630	20.9	18.1	431835	21.1	20.8	145792	21.1	18.1	369068	21.2	20.4
334720	20.9	20.7	1491	20.9	16.5	79053	20.9	19.2	317556	21.1	20.5	298693	21.1	19.0	95427	21.2	18.8
512912	20.9	20.5	463529	20.9	19.0	446599	20.9	20.9	247779	21.1	20.5	319211	21.1	20.2	131614	21.2	19.2
261280	20.9	20.8	247088	20.9	19.5	4018	20.9	17.3	62590	21.1	19.7	338636	21.1	19.6	439658	21.2	21.0
294697	20.9	20.0	350463	20.9	20.7	348767	20.9	20.3	2957	21.1	14.5	215388	21.1	19.6	75544	21.2	17.6
17854	20.9	17.3	469673	20.9	20.9	476354	20.9	21.3	122202	21.1	17.6	114081	21.1	19.7	485756	21.2	21.2
242068	20.9	18.0	237467	20.9	19.6	278069	20.9	21.1	438011	21.1	20.2	334040	21.1	20.7	298286	21.2	19.4
249077	20.9	20.2	305287	20.9	19.8	87179	20.9	17.3	435161	21.1	19.3	476384	21.1	20.8	277007	21.2	19.1
267346	20.9	20.4	342446	20.9	20.0	479902	20.9	20.3	234806	21.1	19.7	193659	21.1	21.1	150589	21.2	19.9
371877	20.9	19.5	115821	20.9	19.3	470671	20.9	21.2	480574	21.1	20.5	420833	21.1	19.6	140903	21.2	19.1
364629	20.9	18.9	216042	20.9	20.8	430317	20.9	19.4	3854	21.1	17.4	393278	21.1	21.0	465627	21.2	20.1
187718	20.9	20.4	441395	20.9	20.2	111468	20.9	20.0	10348	21.1	15.7	382774	21.1	20.4	227463	21.2	19.8
326314	20.9	20.5	398829	20.9	20.5	156918	20.9	20.3	155176	21.1	18.8	130089	21.1	20.1	397053	21.2	20.4
178415	20.9	18.7	90635	20.9	19.5	376190	20.9	20.5	508960	21.1	21.4	422682	21.1	22.1	425806	21.2	20.6
40759	20.9	20.0	350463	20.9	20.7	348767	20.9	20.3	2957	21.1	14.5	215388	21.1	19.6	75544	21.2	17.6
17854	20.9	17.3	469673	20.9	20.9	476354	20.9	21.3	122202	21.1	17.6	114081	21.1	19.7	485756	21.2	21.2
242068	20.9	18.0	237467	20.9	19.6	278069	20.9	21.1	438011	21.1	20.2	334040	21.1	20.7	298286	21.2	19.4
249077	20.9	20.2	305287	20.9	19.8	87179	20.9	17.3	435161	21.1	19.3	476384	21.1	20.8	277007	21.2	19.1
267346	20.9	20.4	342446	20.9	20.0	479902	20.9	20.3	234806	21.1	19.7	193659	21.1	21.1	150589	21.2	19.9
371877	20.9	19.5	115821	20.9	19.3	470671	20.9	21.2	480574	21.1	20.5	420833	21.1	19.6	140903	21.2	19.1
364629	20.9	18.9	216042	20.9	20.8	430317	20.9	19.4	3854	21.1	17.4	393278	21.1	21.0	465627	21.2	20.1
187718	20.9	20.4	441395	20.9	20.2	111468	20.9	20.0	10348	21.1	15.7	382774	21.1	20.4	227463	21.2	19.8
326314	20.9	20.5	398829	20.9	20.5	156918	20.9	20.3	155176	21.1	18.8	130089	21.1	20.1	397053	21.2	20.4
178415	20.9	18.7	90635	20.9	19.5	376190	20.9	20.5	508960	21.1	21.4	422682	21.1	22.1	425806	21.2	20.6
40759	20.9	17.8	427561	20.9	21.5	312552											

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
134555	21.3	19.5	215026	21.3	19.7	313916	21.4	19.4	141449	21.5	19.7	217009	21.6	20.0	197987	21.6	20.0
214502	21.3	19.0	169905	21.3	20.0	175831	21.4	19.8	268451	21.5	20.0	45239	21.6	18.6	230335	21.6	21.3
330524	21.3	20.7	212518	21.3	20.2	302290	21.4	20.2	346391	21.5	20.8	4328	21.6	16.1	167753	21.6	19.2
510415	21.3	21.6	25978	21.3	17.9	130472	21.4	18.9	497086	21.5	22.0	325032	21.6	20.4	360110	21.6	21.4
163825	21.3	18.6	513678	21.3	22.3	330255	21.4	21.0	137816	21.5	19.3	86072	21.6	18.5	174851	21.6	20.0
336251	21.3	20.4	207942	21.3	20.4	382893	21.4	22.0	108663	21.5	19.5	237199	21.6	20.2	395633	21.6	21.0
387317	21.3	21.0	386328	21.3	20.9	463222	21.4	19.9	141223	21.5	19.6	312728	21.6	21.3	159416	21.6	17.3
95066	21.3	18.2	467547	21.3	21.3	319392	21.4	19.6	37539	21.5	17.9	75750	21.6	19.8	187401	21.6	20.1
509318	21.3	21.5	276009	21.3	19.9	509875	21.4	20.6	29940	21.5	18.0	416486	21.6	21.2	213213	21.6	19.3
287892	21.3	20.7	137920	21.3	19.8	56212	21.4	18.4	333470	21.5	18.7	207819	21.6	19.6	177881	21.6	19.2
523554	21.3	20.4	79597	21.3	18.7	61596	21.4	17.3	125284	21.5	20.2	503569	21.6	19.9	343557	21.6	20.5
479234	21.3	20.7	309161	21.3	20.2	5487	21.4	15.9	173504	21.5	18.7	187403	21.6	20.7	85919	21.6	18.3
94058	21.3	18.6	315515	21.3	19.7	201669	21.4	19.3	510312	21.5	19.6	393846	21.6	20.5	231930	21.6	19.3
508551	21.3	20.4	235760	21.3	20.7	396489	21.4	19.5	221806	21.5	19.0	91710	21.6	18.8	253620	21.7	19.1
419586	21.3	21.5	182124	21.3	21.1	355655	21.4	20.6	423052	21.5	21.1	399283	21.6	18.8	257694	21.7	20.9
44263	21.3	18.5	210215	21.3	18.8	24295	21.4	16.9	373739	21.5	20.1	500854	21.6	20.4	47227	21.7	18.9
255425	21.3	20.6	49255	21.3	19.6	349335	21.4	20.4	169977	21.5	20.1	201676	21.6	19.6	174656	21.7	19.4
472341	21.3	20.3	316703	21.3	19.4	476492	21.4	21.5	172138	21.5	18.3	411733	21.6	20.3	201735	21.7	20.3
69762	21.3	18.8	502296	21.3	19.9	342086	21.4	20.2	468032	21.5	20.1	274084	21.6	19.4	294926	21.7	20.7
479839	21.3	20.3	397601	21.3	19.5	231289	21.4	21.1	188937	21.5	20.0	242529	21.6	19.2	190672	21.7	20.8
177309	21.3	20.4	319126	21.3	21.5	508286	21.4	20.2	390786	21.5	21.6	414104	21.6	21.4	423074	21.7	21.5
121497	21.3	18.5	171443	21.3	19.4	257877	21.4	20.5	53505	21.5	17.1	276113	21.6	20.8	234792	21.7	19.4
163412	21.3	21.5	247116	21.3	20.3	483081	21.4	20.8	121545	21.5	20.2	98065	21.6	19.3	11181	21.7	16.4
116788	21.3	17.3	92124	21.3	19.8	89845	21.4	19.7	110	21.5	11.2	433560	21.6	20.6	370241	21.7	20.1
12294	21.3	16.8	333944	21.3	21.3	16074	21.4	18.2	412078	21.5	20.3	355567	21.6	21.8	496535	21.7	19.6
210630	21.3	20.8	318167	21.3	19.3	145810	21.4	18.5	432460	21.5	20.4	350230	21.6	19.3	414047	21.7	20.4
502816	21.3	21.9	171754	21.3	19.0	184784	21.4	19.7	416236	21.5	19.3	72552	21.6	17.4	398307	21.7	19.9
138155	21.3	20.8	52005	21.3	16.7	273833	21.4	20.5	128768	21.5	19.2	367893	21.6	19.9	204036	21.7	19.1
425279	21.3	20.6	352620	21.3	21.1	103420	21.4	19.5	409847	21.5	21.0	80707	21.6	19.0	22498	21.7	18.5
24930	21.3	17.1	344150	21.4	20.7	90288	21.4	18.6	109943	21.5	19.4	499032	21.6	20.6	167156	21.7	19.4
499880	21.3	20.8	521035	21.4	20.8	185252	21.4	19.7	511204	21.5	22.1	390699	21.6	21.2	387520	21.7	21.2
307127	21.3	21.2	499644	21.4	22.0	219669	21.4	19.7	93109	21.5	18.9	239330	21.6	20.4	426510	21.7	19.6
53289	21.3	18.0	346727	21.4	20.5	225997	21.4	20.5	478715	21.5	21.6	1353	21.6	13.8	125379	21.7	19.1
512638	21.3	21.1	397899	21.4	21.0	478138	21.4	21.2	17682	21.5	17.8	459563	21.6	19.9	503851	21.7	21.8
45322	21.3	18.0	256966	21.4	19.6	16084	21.4	18.6	320362	21.5	21.1	344702	21.6	20.7	106281	21.7	19.0
99412	21.3	17.9	417565	21.4	20.5	22938	21.4	20.0	500164	21.5	20.5	504717	21.6	21.8	324470	21.7	19.7
433637	21.3	20.7	522920	21.4	21.0	390040	21.4	20.0	437237	21.5	20.3	415923	21.6	21.9	479840	21.7	20.8
384470	21.3	20.3	93985	21.4	17.9	393637	21.4	19.4	391500	21.5	20.1	419541	21.6	19.5	82292	21.7	18.5
353958	21.3	20.7	508559	21.4	21.1	231926	21.4	19.7	99700	21.5	19.4	95932	21.6	18.0	190651	21.7	19.9
153523	21.3	19.9	104006	21.4	19.0	358879	21.5	21.3	438801	21.5	20.9	18609	21.6	16.6	46126	21.7	18.2
111060	21.3	19.2	312434	21.4	20.3	129571	21.5	18.3	414028	21.5	19.6	72281	21.6	18.3	438958	21.7	20.7
508041	21.3	21.0	393555	21.4	21.0	304684	21.5	20.5	5109	21.5	15.9	123804	21.6	18.9	254013	21.7	20.9
227991	21.3	19.3	8497	21.4	18.2	198299	21.5	19.8	72199	21.5	18.9	281000	21.6	20.3	282392	21.7	19.9
250350	21.3	20.0	467091	21.4	20.9	72693	21.5	18.2	507049	21.5	21.9	156310	21.6	19.2	106515	21.7	19.1
45016	21.3	18.3	360084	21.4	19.9	438192	21.5	21.2	469517	21.5	20.6	19928	21.6	17.5	312543	21.7	21.6
383094	21.3	18.9	254436	21.4	20.2	325770	21.5	21.2	94290	21.5	19.3	301768	21.6	20.2	130197	21.7	18.3
435796	21.3	20.4	479193	21.4	20.7	149887	21.5	19.1	164050	21.5	18.7	251859	21.6	19.9	509045	21.7	21.6
388712	21.3	21.6	286518	21.4	19.4	474018	21.5	19.5	252803	21.5	19.9	489937	21.6	21.7	372076	21.7	21.3
40707	21.3	18.2	18965	21.4	17.7	501710	21.5	20.0	398579	21.5	21.9	39468	21.6	17.9	34006	21.7	17.2
518400	21.3	20.8	10644	21.4	16.8	427406	21.5	20.8	398207	21.5	19.5	115426	21.6	19.5	165362	21.7	20.3
304389	21.3	20.9	520929	21.4	20.4	40590	21.5	17.9	236241	21.5	18.6	256491	21.6	20.7	499367	21.7	22.4
86323	21.3	18.3	501717	21.4	21.3	398254	21.5	20.9	114799	21.5	17.2	229631	21.6	20.6	385491	21.7	21.4
266259	21.3	20.1	286775	21.4	19.7	65417	21.5	17.9	371503	21.5	21.4	462541	21.6	21.6	418182	21.7	21.2
359514	21.3	20.6	300992	21.4	21.0	59601	21.5	17.6	505681	21.5	20.7	410688	21.6	19.7	290750	21.7	20.1
364955	21.3	20.6	265528	21.4	18.4	512379	21.5	20.6	405189	21.5	20.7	374314	21.6	20.5	69829	21.7	18.8
42390	21.3	19.6	389997	21.4	20.7	122975	21.5	20.1	326666	21.5	19.4	144111	21.6	19.6	974	21.7	13.6
424119	21.3	20.8	249639	21.4	20.2	12675	21.5	17.0	182891	21.5	19.7	46825	21.6	17.4	168190	21.7	20.5
440226	21.3	20.6	519745	21.4	22.0	500075	21.5	21.5	475559	21.5	21.8	94600	21.6	18.8	227390	21.7	20.5
26337	21.3	16.7	162869	21.4	19.3	503240	21.5	21.7	404261	21.5	19.9	114835	21.6	20.0	47816	21.7	18.6
411648	21.3	20.8	108826	21.4	19.0	252846	21.5	19.3	383279	21.5	20.5	103416	21.6	20.0	153590	21.7	20.2
510100	21.3	20.8	155925	21.4	18.8	41807</											

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

Nº	06	V															
309796	21.7	19.8	374282	21.8	20.3	394675	21.9	20.4	287245	21.9	20.8	23595	22.0	16.7	62196	22.1	19.1
443503	21.7	20.0	342491	21.8	18.6	381676	21.9	19.5	443587	21.9	19.6	127108	22.0	19.7	344691	22.1	19.6
438645	21.7	21.1	208534	21.8	19.1	478977	21.9	20.2	360929	21.9	20.4	64	22.0	11.5	374265	22.1	19.2
510402	21.7	22.1	189236	21.8	17.6	442071	21.9	21.4	371443	21.9	20.9	439310	22.0	20.9	204527	22.1	19.0
272952	21.7	18.9	395068	21.8	20.6	396974	21.9	21.4	24751	21.9	18.0	485785	22.0	20.5	255628	22.1	19.3
165988	21.7	18.9	482131	21.8	20.1	96835	21.9	18.5	132012	21.9	18.8	259488	22.0	20.1	85584	22.1	19.5
395143	21.7	20.7	316351	21.8	19.6	506570	21.9	22.5	370439	21.9	20.7	362866	22.0	20.2	137802	22.1	19.1
384028	21.7	20.1	271602	21.8	19.0	35030	21.9	20.8	282293	21.9	19.0	444065	22.0	21.4	392160	22.1	20.8
506921	21.7	21.3	183836	21.8	20.3	250992	21.9	19.5	287426	21.9	20.0	315263	22.0	19.8	206071	22.1	19.8
475804	21.7	22.8	461812	21.8	21.6	505843	21.9	20.6	293764	21.9	20.3	118449	22.0	19.4	333364	22.1	19.3
520972	21.7	20.0	184045	21.8	20.7	231487	21.9	19.4	114866	21.9	19.6	442794	22.0	20.3	512492	22.1	20.3
182941	21.7	20.5	443536	21.8	20.3	355511	21.9	21.4	501765	21.9	19.6	106341	22.0	18.7	435145	22.1	19.0
27134	21.7	17.2	311340	21.8	19.8	382439	21.9	21.5	197375	21.9	18.9	280991	22.0	20.2	290790	22.1	20.8
376945	21.7	21.0	371538	21.8	20.8	150645	21.9	19.0	44566	21.9	17.1	304606	22.0	19.7	189470	22.1	19.4
178481	21.7	20.4	244787	21.8	21.2	520357	21.9	20.8	204967	21.9	19.5	346085	22.0	20.2	311115	22.1	19.4
376450	21.7	19.7	14429	21.8	18.8	164022	21.9	19.3	107746	21.9	19.4	302159	22.0	19.8	244260	22.1	20.8
11875	21.7	16.3	244066	21.8	19.6	275698	21.9	19.9	204909	21.9	18.7	46450	22.0	19.0	415276	22.1	19.4
280115	21.7	20.0	519144	21.8	19.8	418170	21.9	21.5	70072	21.9	17.8	395699	22.0	22.4	101467	22.1	18.7
314093	21.7	21.2	358835	21.8	19.9	99905	21.9	19.9	283708	21.9	19.7	482738	22.0	20.6	57031	22.1	17.8
164206	21.7	21.0	302380	21.8	21.7	324463	21.9	19.7	384734	21.9	20.6	215789	22.0	19.3	53430	22.1	20.2
140873	21.7	19.5	173634	21.8	20.0	201610	21.9	19.2	470574	21.9	20.5	488639	22.0	20.5	189244	22.1	18.7
393163	21.7	20.6	413774	21.8	19.9	388375	21.9	20.9	66649	21.9	17.3	77570	22.0	18.9	158421	22.1	20.2
221604	21.7	20.5	521177	21.8	21.1	450426	21.9	20.5	445779	21.9	21.1	439739	22.0	19.3	373604	22.1	21.1
376954	21.7	20.9	129859	21.8	19.1	404911	21.9	19.7	258755	21.9	20.9	191064	22.0	19.9	457729	22.1	20.3
330650	21.7	21.8	266233	21.8	21.0	496869	21.9	23.2	506993	21.9	21.4	118258	22.0	19.5	429722	22.1	19.5
100159	21.7	18.4	305466	21.8	20.3	44460	21.9	18.8	62345	21.9	18.7	14215	22.0	17.6	149130	22.1	19.0
7026	21.7	15.9	507036	21.8	21.4	397179	21.9	19.7	460197	21.9	20.0	57292	22.0	18.5	215125	22.1	19.9
159677	21.7	22.8	174526	21.8	18.5	253876	21.9	20.1	512520	21.9	20.8	242520	22.0	19.9	325829	22.1	20.1
108225	21.7	18.9	313470	21.8	19.3	471255	21.9	20.2	295638	21.9	19.5	12130	22.0	17.6	326203	22.1	20.1
310152	21.8	19.2	412321	21.8	20.2	466648	21.9	20.3	44904	21.9	19.0	302080	22.0	20.6	198813	22.1	20.4
259967	21.8	21.3	80482	21.8	19.2	433367	21.9	20.7	107338	21.9	19.3	468662	22.0	19.9	214737	22.1	20.2
401900	21.8	21.1	359595	21.8	19.9	504052	21.9	21.0	118287	21.9	18.6	475049	22.0	21.5	35888	22.1	17.2
523091	21.8	20.3	120621	21.8	20.1	28118	21.9	17.7	356741	21.9	19.6	508709	22.0	21.3	350907	22.1	19.9
141143	21.8	19.3	269977	21.8	18.9	174965	21.9	19.6	282276	21.9	19.8	480569	22.0	20.7	416416	22.1	19.9
93181	21.8	20.1	512112	21.8	20.5	427161	21.9	21.2	267212	21.9	19.0	476542	22.0	20.2	211052	22.1	20.0
288857	21.8	20.0	471118	21.8	20.6	61375	21.9	17.3	254349	21.9	21.1	1233	22.0	14.4	284114	22.1	21.1
95946	21.8	18.7	176772	21.8	20.2	287937	21.9	19.9	294688	21.9	21.1	349780	22.0	20.3	252145	22.1	20.3
56124	21.8	19.4	384476	21.8	20.7	450032	21.9	21.0	32427	21.9	18.8	505145	22.0	19.2	363158	22.1	20.4
66253	21.8	19.3	276066	21.8	20.0	313931	21.9	20.1	352836	21.9	21.3	25083	22.0	18.2	177013	22.1	20.1
9569	21.8	16.9	208648	21.8	19.7	359741	21.9	20.8	89520	21.9	19.1	214097	22.0	18.5	476144	22.1	20.6
341236	21.8	20.8	251965	21.8	20.8	463113	21.9	20.9	519994	21.9	21.0	285274	22.0	20.0	460656	22.1	19.1
136120	21.8	23.6	819494	21.8	18.3	332729	21.9	20.8	326264	21.9	20.0	503464	22.0	19.7	476626	22.1	20.5
259752	21.8	21.0	352565	21.8	19.9	505573	21.9	21.3	72720	21.9	19.2	480584	22.0	21.4	183047	22.1	20.1
502231	21.8	21.5	178310	21.8	19.9	464640	21.9	20.0	310246	21.9	19.6	288582	22.0	21.0	201464	22.1	19.3
395895	21.8	21.1	472705	21.8	19.8	386354	21.9	21.5	111559	21.9	19.3	177035	22.0	18.5	380802	22.1	22.1
123199	21.8	20.0	515934	21.8	20.3	412482	21.9	19.5	425250	21.9	22.1	346673	22.0	19.8	62978	22.1	17.0
429437	21.8	21.5	210953	21.8	20.0	27180	21.9	18.4	444372	21.9	20.2	514488	22.0	20.5	456055	22.1	20.7
140057	21.8	20.2	210280	21.8	20.2	34811	21.9	17.9	1611	21.9	15.4	159379	22.0	20.4	291798	22.1	18.1
237583	21.8	21.0	342583	21.8	19.5	80978	21.9	20.3	353458	21.9	20.3	181801	22.0	19.4	247144	22.1	19.1
316320	21.8	19.9	354783	21.8	20.5	443452	21.9	19.9	272126	21.9	20.3	38545	22.0	17.9	195268	22.1	20.3
219519	21.8	20.5	250725	21.8	20.1	387873	21.9	20.4	321134	21.9	20.4	53084	22.0	16.4	286276	22.1	20.0
350948	21.8	19.7	264926	21.8	20.0	89457	21.9	18.7	176617	21.9	19.3	92090	22.0	19.4	456226	22.1	19.5
142130	21.8	19.0	59050	21.8	17.5	417917	21.9	19.3	309628	21.9	19.3	80877	22.0	20.7	504183	22.1	20.3
339450	21.8	21.0	304317	21.8	21.6	303960	21.9	20.0	247372	21.9	20.2	472758	22.0	20.5	362338	22.1	20.5
290557	21.8	20.1	318548	21.8	21.3	301040	21.9	20.1	85400	21.9	19.0	338855	22.0	21.2	183000	22.1	18.1
39862	21.8	18.8	197475	21.8	19.4	249231	21.9	19.6	339348	21.9	20.5	358367	22.0	21.3	513663	22.1	22.1
118448	21.8	20.0	479958	21.8	19.9	136592	21.9	19.3	102510	21.9	17.6	58123	22.0	18.7	198055	22.1	19.2
510805	21.8	20.1	191790	21.8	20.2	297944	21.9	21.6	42447	21.9	19.1	368435	22.1	21.8	188569	22.1	19.3
133238	21.8	17.3	357768	21.8	21.0	490790	21.9	20.3	342221	21.9	19.4	231607	22.1	19.6	356470	22.1	21.0
63224	21.8	18.4	471127	21.8	21.2	41625	21.9	18.5	393249	21.9	20.2	384707	22.1	19.6	513176	22.1	21.5
267354	21.8	20.6	89469	21.8	1												

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

Nº	06	V															
143899	22.2	19.6	150837	22.2	19.5	106400	22.3	18.5	58223	22.4	18.2	189569	22.4	20.2	183678	22.5	21.2
191748	22.2	18.1	211949	22.2	20.6	383294	22.3	22.0	196613	22.4	19.6	428731	22.4	20.6	296585	22.5	19.0
506601	22.2	22.7	237076	22.2	20.2	355726	22.3	21.4	498164	22.4	20.7	386895	22.4	19.2	224257	22.5	21.1
267744	22.2	21.2	139264	22.2	19.1	386764	22.3	19.7	255736	22.4	19.4	304627	22.5	20.0	150310	22.5	20.2
345984	22.2	21.0	199966	22.2	19.1	430208	22.3	20.9	175992	22.4	19.3	141174	22.5	19.7	198744	22.5	20.6
301955	22.2	18.4	43063	22.2	17.3	468989	22.3	20.3	523052	22.4	20.7	98228	22.5	18.2	79044	22.5	20.0
505688	22.2	19.6	433122	22.2	20.2	324571	22.3	18.8	302421	22.4	21.3	368095	22.5	20.8	405839	22.5	20.8
444757	22.2	20.2	352518	22.2	20.6	470747	22.3	21.2	356963	22.4	20.5	443486	22.5	19.2	228635	22.5	20.5
426360	22.2	20.6	467747	22.2	20.4	904	22.3	15.3	215772	22.4	19.7	102782	22.5	19.3	99190	22.5	18.4
512864	22.2	19.6	178477	22.2	19.0	7599	22.3	18.1	310579	22.4	20.3	182881	22.5	20.3	376912	22.5	20.4
142226	22.2	19.4	7341	22.2	20.1	247456	22.3	18.5	436175	22.4	20.3	333118	22.5	20.1	40734	22.6	19.2
1253	22.2	16.7	449908	22.2	19.3	13139	22.3	18.4	387075	22.4	20.8	354049	22.5	19.6	12114	22.6	18.3
250787	22.2	20.2	359502	22.2	20.1	89536	22.3	19.2	113042	22.4	17.9	298287	22.5	20.3	491574	22.6	20.1
488868	22.2	20.9	304743	22.2	21.5	102935	22.3	15.9	374315	22.4	20.5	263551	22.5	20.9	231932	22.6	20.0
222585	22.2	20.6	275888	22.2	19.6	20676	22.3	17.6	509636	22.4	21.8	372373	22.5	19.3	23316	22.6	18.0
466302	22.2	19.0	60718	22.2	19.4	342217	22.3	21.1	63159	22.4	18.5	449677	22.5	19.5	63954	22.6	18.4
155245	22.2	20.4	499652	22.2	22.0	439399	22.3	18.9	347111	22.4	19.9	173249	22.5	19.0	28360	22.6	17.3
517565	22.2	21.9	440315	22.2	20.9	479871	22.3	20.8	286360	22.4	19.7	503968	22.5	18.8	510696	22.6	21.3
66439	22.2	17.8	278831	22.2	19.5	192765	22.3	19.3	420832	22.4	19.7	252131	22.5	19.6	455024	22.6	18.4
437534	22.2	20.6	74773	22.2	18.9	267336	22.3	21.2	465591	22.4	21.3	204854	22.5	19.8	115221	22.6	19.6
211120	22.2	19.0	43395	22.2	18.4	44219	22.3	18.4	121298	22.4	19.3	483157	22.5	20.5	170812	22.6	19.3
439241	22.2	21.2	377985	22.2	19.4	357836	22.3	20.6	135861	22.4	19.2	96129	22.5	19.2	98600	22.6	16.4
183987	22.2	18.9	345978	22.2	22.1	476206	22.3	21.2	285426	22.4	20.1	31243	22.5	18.2	440280	22.6	21.2
170983	22.2	20.3	473092	22.2	19.6	207211	22.3	20.3	317941	22.4	20.1	305362	22.5	21.3	306051	22.6	19.0
255856	22.2	18.7	191298	22.3	19.3	310523	22.3	20.1	394729	22.4	21.2	488380	22.5	20.3	320614	22.6	19.2
360040	22.2	19.2	317131	22.3	19.2	147457	22.3	19.5	251400	22.4	20.5	269047	22.5	20.8	389129	22.6	21.8
112493	22.2	19.6	114751	22.3	16.9	478794	22.3	21.1	141696	22.4	18.4	163054	22.5	19.5	377686	22.6	20.8
201322	22.2	19.4	497392	22.3	22.2	71863	22.3	18.4	212252	22.4	20.5	103190	22.5	18.9	40962	22.6	19.0
362921	22.2	20.8	435215	22.3	19.8	9999	22.3	16.4	500154	22.4	20.6	209919	22.5	19.2	87730	22.6	18.9
41973	22.2	18.3	35588	22.3	18.5	349419	22.3	21.2	368298	22.4	19.3	342225	22.5	19.4	177200	22.6	19.9
94687	22.2	17.9	470681	22.3	19.3	206665	22.3	20.9	205641	22.4	19.6	263342	22.5	20.2	209054	22.6	19.3
40136	22.2	19.2	341547	22.3	20.3	156195	22.3	20.8	38565	22.4	17.3	382049	22.5	19.7	70384	22.6	18.6
248970	22.2	19.8	386380	22.3	21.3	57346	22.3	18.4	19313	22.4	17.9	185132	22.5	20.8	168932	22.6	20.4
85815	22.2	19.3	31352	22.3	17.0	379743	22.3	20.4	58272	22.4	19.9	279428	22.5	19.9	417911	22.6	19.1
155760	22.2	19.7	3905	22.3	17.4	512874	22.3	21.7	204049	22.4	19.8	9446	22.5	16.7	6879	22.6	17.4
336165	22.2	19.4	393570	22.3	20.8	344704	22.3	20.5	471120	22.4	20.4	198614	22.5	20.1	304572	22.6	20.0
253511	22.2	18.2	394047	22.3	20.5	481153	22.3	21.7	396153	22.4	21.1	497904	22.5	21.9	319899	22.6	20.5
34593	22.2	17.8	34477	22.3	18.8	41547	22.3	18.1	283711	22.4	20.3	417941	22.5	20.5	55072	22.6	18.2
198436	22.2	18.0	517704	22.3	20.3	432832	22.3	20.4	64960	22.4	19.7	498108	22.5	21.0	16651	22.6	17.3
519208	22.2	20.7	394789	22.3	19.8	438283	22.3	20.9	469656	22.4	20.9	269006	22.5	20.5	159574	22.6	19.8
376914	22.2	21.6	17788	22.3	17.0	378995	22.3	19.9	278343	22.4	20.0	418122	22.5	20.5	123397	22.6	18.0
295648	22.2	21.0	435809	22.3	20.9	93296	22.3	20.1	237042	22.4	20.9	276146	22.5	18.3	398233	22.6	21.2
96281	22.2	20.2	313354	22.3	20.2	363641	22.3	22.0	149744	22.4	18.9	273964	22.5	19.5	413843	22.6	21.4
23715	22.2	17.3	374348	22.3	20.8	245583	22.3	20.3	151350	22.4	20.4	289250	22.5	20.3	182864	22.6	21.0
304727	22.2	20.0	309647	22.3	21.0	433468	22.3	21.5	326939	22.4	20.6	230911	22.5	20.3	157552	22.6	19.9
498032	22.2	21.8	40348	22.3	17.9	439876	22.3	22.0	356383	22.4	20.2	287921	22.5	19.8	53715	22.6	18.6
105655	22.2	18.9	368287	22.3	19.9	92025	22.3	17.1	236100	22.4	19.3	306324	22.5	20.3	398828	22.6	19.5
91189	22.2	18.6	440304	22.3	20.1	365489	22.3	19.9	15304	22.4	18.4	170432	22.5	18.9	236698	22.6	21.0
395470	22.2	21.0	387192	22.3	20.8	279305	22.3	20.9	260359	22.4	19.7	316098	22.5	19.7	493007	22.6	21.0
442070	22.2	21.0	275524	22.3	20.7	514347	22.3	20.7	24762	22.4	16.8	379306	22.5	21.4	368939	22.6	20.9
115293	22.2	18.4	465607	22.3	21.0	462525	22.3	21.0	441953	22.4	20.8	464247	22.5	19.9	89831	22.6	18.7
523024	22.2	22.3	392907	22.3	19.9	140664	22.3	19.3	437151	22.4	20.7	420902	22.5	18.5	197972	22.6	20.5
250047	22.2	19.3	291310	22.3	19.4	438251	22.3	21.2	434382	22.4	20.6	253580	22.5	21.5	32563	22.6	18.8
389182	22.2	20.6	135277	22.3	19.2	387930	22.3	21.2	333636	22.4	20.6	101911	22.5	19.3	275998	22.6	19.1
254271	22.2	20.8	326059	22.3	21.0	340358	22.3	20.0	398083	22.4	21.1	11262	22.5	18.2	410701	22.6	20.6
386291	22.2	21.0	498326	22.3	21.4	427219	22.3	20.0	340292	22.4	20.0	84778	22.5	17.6	208355	22.6	19.2
316702	22.2	20.0	413450	22.3	21.5	196182	22.3	19.8	159181	22.4	20.5	394017	22.5	19.3	520118	22.6	20.2
211180	22.2	19.1	163302	22.3	18.1	478078	22.3	21.7	321233	22.4	20.9	345923	22.5	20.8	255722	22.6	20.6
465276	22.2	20.7	252966	22.3	19.9	130921	22.4	19.8	253702	22.4	20.0	515215	22.5	21.4	315201	22.6	19.2
76873	22.2	18.3	319401	22.3	19.4	476065	22.4	20.1	280275	22.4	20.0	237127	22.5	19.5	394678	22.6	21.3
158044	22.2	19.2	512754	22.3	20.4	71											

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

Nº	06	V															
312439	22.6	21.0	264957	22.7	20.1	385836	22.8	20.4	359827	22.8	21.2	355631	22.9	20.0	229526	23.0	20.2
444972	22.6	19.9	399134	22.7	20.5	253899	22.8	20.9	104029	22.8	19.4	6322	22.9	21.7	355635	23.0	19.3
55710	22.6	18.8	363674	22.7	20.4	168819	22.8	19.4	380837	22.8	21.3	321735	22.9	21.4	187402	23.0	19.5
368431	22.6	21.2	417982	22.7	21.1	422831	22.8	20.1	364583	22.8	19.4	508113	22.9	21.1	437388	23.0	21.3
6037	22.6	19.6	428302	22.7	22.1	256644	22.8	20.6	375965	22.8	21.6	252990	22.9	20.0	424539	23.0	20.7
124300	22.6	18.2	312843	22.7	19.9	304728	22.8	20.5	346830	22.8	19.9	302852	22.9	19.2	36209	23.0	18.6
359914	22.6	21.1	78971	22.7	19.7	1210	22.8	13.7	523563	22.8	20.2	159882	22.9	17.9	93192	23.0	19.5
93615	22.6	18.0	173665	22.7	18.6	183560	22.8	17.8	250934	22.8	21.2	103006	22.9	19.0	2556	23.0	15.6
338587	22.6	19.1	308343	22.7	20.0	240998	22.8	19.8	514653	22.8	22.4	137548	22.9	19.1	222569	23.0	20.6
179298	22.6	20.0	374384	22.7	19.0	268977	22.8	20.7	46079	22.8	18.7	34083	22.9	18.6	476264	23.0	21.2
115700	22.6	19.1	277499	22.7	21.2	212751	22.8	20.3	155624	22.8	18.6	467936	22.9	21.5	336517	23.0	20.0
328098	22.6	21.7	144742	22.7	19.5	168542	22.8	19.4	277572	22.8	18.4	39601	22.9	19.8	241971	23.0	20.9
396448	22.6	21.6	157222	22.7	18.7	37689	22.8	18.8	61907	22.8	19.1	473187	22.9	20.7	45094	23.0	18.1
336951	22.6	19.1	491284	22.7	21.3	395642	22.8	21.2	444982	22.8	20.1	5478	22.9	16.6	275495	23.0	21.2
372440	22.6	21.6	72167	22.7	17.3	373558	22.8	21.1	313491	22.8	20.6	137416	22.9	19.5	206374	23.0	18.8
161579	22.6	19.5	242707	22.7	19.1	392441	22.8	19.7	251676	22.8	19.4	297858	22.9	20.9	381506	23.0	21.1
287410	22.6	19.9	300415	22.7	20.2	275364	22.8	21.1	393945	22.8	20.4	415149	22.9	21.4	237011	23.0	20.5
367684	22.6	21.5	391719	22.7	19.9	506873	22.8	21.5	287384	22.9	19.6	420410	22.9	20.2	434046	23.0	21.5
203705	22.6	20.3	444073	22.7	22.0	21954	22.8	17.8	82774	22.9	18.1	381960	22.9	22.5	174807	23.0	19.7
177857	22.6	19.7	227465	22.7	19.7	486808	22.8	20.4	268298	22.9	20.4	509758	22.9	21.1	215418	23.0	19.8
199594	22.6	19.9	7800	22.7	15.6	394331	22.8	20.6	316087	22.9	19.6	92119	22.9	18.8	422321	23.0	21.4
48225	22.6	17.8	242275	22.7	19.5	500915	22.8	20.9	47596	22.9	17.7	469303	22.9	20.0	432378	23.0	21.4
255676	22.6	20.0	478315	22.7	21.7	289571	22.8	18.6	510577	22.9	20.8	346058	22.9	20.5	3917	23.0	16.5
274109	22.6	19.8	418941	22.7	19.1	244421	22.8	19.0	355239	22.9	20.4	47546	22.9	18.6	257991	23.0	19.7
357785	22.6	20.6	1082	22.7	14.1	295556	22.8	20.4	247963	22.9	19.5	361449	22.9	21.1	114515	23.0	18.9
127888	22.6	18.3	419725	22.7	21.7	361050	22.8	19.8	480582	22.9	21.6	389111	22.9	20.8	162208	23.0	19.5
66686	22.6	18.6	501750	22.7	20.7	437980	22.8	21.2	262263	22.9	21.6	59702	22.9	18.2	39666	23.0	18.2
374438	22.7	19.7	399851	22.7	20.9	250525	22.8	20.5	254283	22.9	19.4	519753	22.9	21.8	45202	23.0	18.5
61676	22.7	18.0	312917	22.7	19.9	396091	22.8	20.6	501293	22.9	21.9	470765	22.9	19.2	500846	23.0	20.1
41952	22.7	18.4	24418	22.7	16.5	314023	22.8	20.8	55253	22.9	18.4	131972	22.9	19.6	95410	23.0	18.9
363354	22.7	19.7	404686	22.7	19.9	41128	22.8	19.4	165653	22.9	18.1	42143	22.9	17.9	70122	23.0	17.8
47216	22.7	17.7	115287	22.7	19.1	508734	22.8	20.5	295264	22.9	20.3	143557	22.9	19.5	303881	23.0	19.3
116521	22.7	17.9	291779	22.7	20.3	342833	22.8	19.6	429630	22.9	19.4	474959	22.9	21.0	40271	23.0	16.6
202927	22.7	20.1	284894	22.7	20.4	505655	22.8	20.0	92179	22.9	18.7	520227	22.9	20.0	160952	23.0	19.0
276636	22.7	20.3	362770	22.7	20.1	159186	22.8	20.0	507516	22.9	21.1	257052	22.9	20.1	210372	23.0	19.8
511084	22.7	21.0	237114	22.7	19.4	40150	22.8	17.3	355178	22.9	20.5	437049	22.9	20.0	13393	23.0	16.6
65960	22.7	17.8	273328	22.7	20.1	287106	22.8	19.8	273931	22.9	20.3	439176	22.9	20.2	176048	23.0	19.7
518244	22.7	20.7	436188	22.7	20.9	503099	22.8	20.6	33281	22.9	17.8	106010	22.9	19.6	35756	23.0	16.2
429661	22.7	20.1	308192	22.7	19.5	427934	22.8	21.5	201066	22.9	20.2	358931	22.9	21.3	470313	23.0	19.5
293982	22.7	19.2	54453	22.7	18.1	464600	22.8	19.8	77512	22.9	17.1	390467	22.9	20.9	446600	23.0	20.7
12609	22.7	17.7	228619	22.7	20.3	245259	22.8	20.3	367700	22.9	21.0	204509	22.9	20.4	119491	23.0	18.9
111567	22.7	19.7	61484	22.7	19.2	423979	22.8	20.0	417986	22.9	21.9	72284	22.9	18.7	520408	23.0	20.5
17290	22.7	17.3	440353	22.7	22.0	286782	22.8	20.1	169731	22.9	19.4	186481	22.9	20.5	137347	23.0	19.7
175870	22.7	19.8	513116	22.7	20.5	235610	22.8	20.0	222615	22.9	20.4	251621	22.9	20.1	480621	23.0	20.5
130044	22.7	19.4	501642	22.7	19.2	35610	22.8	19.0	397430	22.9	20.3	48814	22.9	18.4	75427	23.0	18.4
53827	22.7	18.2	457594	22.7	21.0	140741	22.8	20.0	300061	22.9	20.3	426283	22.9	19.4	119616	23.0	19.3
187127	22.7	19.5	170934	22.7	19.7	511463	22.8	20.5	218083	22.9	19.4	222562	22.9	21.1	305472	23.1	20.5
186358	22.7	17.7	283364	22.7	20.4	107957	22.8	18.6	242681	22.9	20.4	506670	22.9	19.8	202937	23.1	19.9
257422	22.7	18.8	182809	22.7	19.8	499861	22.8	19.9	359884	22.9	20.2	472888	22.9	19.7	373607	23.1	20.6
250026	22.7	19.4	54441	22.7	16.1	256840	22.8	20.6	9197	22.9	16.6	437175	22.9	20.8	60036	23.1	17.5
392597	22.7	20.0	140688	22.7	20.3	153720	22.8	20.1	395603	22.9	21.8	132200	22.9	18.6	508216	23.1	19.8
352510	22.7	21.3	31264	22.7	18.4	105207	22.8	18.1	35202	22.9	19.3	217017	22.9	20.1	136847	23.1	20.1
282780	22.7	19.7	439243	22.7	20.2	115044	22.8	19.0	471093	22.9	20.4	328273	22.9	19.8	365327	23.1	20.6
399185	22.7	20.0	335792	22.7	18.5	156375	22.8	20.0	245083	22.9	19.2	500972	22.9	21.4	92791	23.1	18.4
199350	22.7	18.8	316226	22.7	20.3	231882	22.8	20.4	392999	22.9	20.4	359008	22.9	19.7	167955	23.1	19.8
385594	22.7	21.3	50294	22.7	19.4	17542	22.8	18.3	176981	22.9	20.4	12443	22.9	17.8	393964	23.1	19.7
312256	22.7	20.2	256166	22.7	20.4	377263	22.8	20.6	216854	22.9	18.2	115153	22.9	20.2	470793	23.1	20.2
215993	22.7	19.8	523097	22.7	20.8	18914	22.8	17.7	523057	22.9	21.6	53422	22.9	17.9	369968	23.1	20.3
89777	22.7	18.8	375174	22.7	19.4	418063	22.8	21.1	402478	22.9	20.8	190535	22.9	18.6	39083	23.1	19.6
503580	22.7	19.8	146781	22.8	19.8	388048	22.8	18.3	101388	22.9	16.9	329403	22.9	20.4	366691	23.1	19.9
410804	22.7	20.2	523007	22.8	20.4	370440											

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

Nº	06	V															
9164	23.1	17.7	501649	23.2	20.4	198487	23.3	19.5	14994	23.3	17.3	231876	23.4	20.9	392447	23.5	20.9
510598	23.1	21.6	177019	23.2	20.6	166535	23.3	19.5	442793	23.3	19.7	158457	23.4	20.5	367909	23.5	19.2
244402	23.1	19.9	128008	23.2	18.9	97092	23.3	19.4	136271	23.3	18.5	87496	23.4	18.3	18714	23.5	17.4
492383	23.1	20.4	392976	23.2	19.4	299663	23.3	19.5	248080	23.3	20.3	361051	23.4	20.5	174584	23.5	19.8
390464	23.1	20.2	263664	23.2	20.2	477870	23.3	19.6	217534	23.3	18.9	261851	23.4	20.9	101490	23.5	19.6
205208	23.1	19.5	93061	23.2	20.0	505432	23.3	20.4	478088	23.3	21.4	45852	23.4	18.4	343089	23.5	19.8
336822	23.1	19.8	309908	23.2	21.0	412273	23.3	20.0	437758	23.3	19.8	242531	23.4	20.8	107051	23.5	21.0
3547	23.1	16.8	522200	23.2	20.8	184219	23.3	19.8	54539	23.3	19.1	103257	23.4	18.3	213811	23.5	18.4
325050	23.1	21.1	441988	23.2	20.4	213420	23.3	19.7	269043	23.3	18.6	446731	23.4	20.5	477218	23.5	20.6
205712	23.1	20.4	480070	23.2	19.9	364570	23.3	20.1	103785	23.3	19.7	472080	23.4	21.1	123453	23.5	18.1
326385	23.1	18.3	477174	23.2	19.0	169066	23.3	19.2	53889	23.3	18.9	331473	23.4	20.7	297625	23.5	19.9
502071	23.1	21.0	481179	23.2	20.9	9606	23.3	17.8	117079	23.3	17.7	435262	23.4	20.8	97838	23.5	18.3
141606	23.1	18.4	480583	23.2	20.1	139701	23.3	19.5	123333	23.3	19.8	304597	23.4	20.5	184848	23.5	18.9
303820	23.1	21.5	28287	23.2	17.8	24028	23.3	19.9	370421	23.3	18.7	9172	23.4	17.9	507146	23.5	20.1
166391	23.1	17.7	257751	23.2	19.2	460953	23.3	19.3	395230	23.3	20.3	510049	23.4	21.9	503087	23.5	20.6
479241	23.1	21.5	125096	23.2	19.7	7648	23.3	17.1	480413	23.3	20.4	349245	23.4	20.7	58299	23.5	18.5
437235	23.1	19.7	115467	23.2	18.8	182943	23.3	20.1	475911	23.3	21.0	507864	23.4	21.1	387925	23.5	20.2
383861	23.1	20.5	239917	23.2	19.6	241747	23.3	20.7	445399	23.3	20.8	414096	23.4	21.5	403196	23.5	19.9
167302	23.1	19.8	437802	23.2	20.8	255101	23.3	19.9	396808	23.3	20.3	293144	23.4	20.8	429406	23.5	22.8
469571	23.1	21.7	220449	23.2	19.3	186037	23.3	19.5	363639	23.3	20.4	491774	23.4	20.6	75248	23.5	19.2
245612	23.1	20.2	52663	23.2	18.2	481308	23.3	22.1	275529	23.3	20.7	227524	23.4	20.0	341498	23.5	20.0
156629	23.1	20.4	338627	23.2	19.8	423054	23.3	20.4	106749	23.3	18.6	510931	23.4	21.8	316209	23.5	20.8
123484	23.1	19.9	19783	23.2	18.2	172370	23.3	19.0	6514	23.3	16.3	373105	23.4	20.5	329787	23.5	19.6
383214	23.1	20.5	27601	23.2	18.3	5541	23.3	17.2	477976	23.3	21.8	470301	23.4	19.5	248092	23.5	19.0
422982	23.1	20.4	186309	23.2	20.4	306955	23.3	21.1	77360	23.3	18.5	188556	23.4	20.0	63816	23.5	17.8
121635	23.1	19.6	7579	23.2	16.2	107811	23.3	19.2	42745	23.3	18.7	67795	23.4	16.8	431125	23.5	20.4
366259	23.1	20.5	438930	23.2	20.5	254977	23.3	19.8	213758	23.3	19.9	66853	23.4	17.1	215102	23.5	19.9
290637	23.1	19.7	49232	23.2	18.6	84905	23.3	19.1	283044	23.3	19.3	428246	23.4	22.1	261698	23.5	19.6
56657	23.1	18.4	508064	23.2	20.9	311355	23.3	21.1	490202	23.3	21.7	480192	23.4	19.4	396065	23.5	20.4
440979	23.1	20.8	34516	23.2	18.4	322234	23.3	20.9	440949	23.3	21.0	442888	23.4	21.1	94200	23.5	19.5
472112	23.1	20.7	514209	23.2	20.8	301025	23.3	20.3	67900	23.3	17.8	161497	23.4	19.9	335127	23.5	20.7
283688	23.1	20.1	400208	23.2	20.6	420534	23.3	21.6	434715	23.3	19.6	384020	23.4	20.5	512077	23.5	19.9
181838	23.1	19.2	253715	23.2	20.8	512826	23.3	20.2	150985	23.3	19.4	431053	23.4	20.8	169504	23.5	18.1
249794	23.1	20.7	11120	23.2	16.9	401346	23.3	21.3	119248	23.4	19.2	471669	23.4	20.9	475442	23.5	21.0
206650	23.1	20.2	167895	23.2	18.8	95172	23.3	20.1	275686	23.4	20.2	23107	23.4	19.3	181437	23.5	21.1
100847	23.1	19.0	244307	23.2	20.5	342622	23.3	19.9	397778	23.4	20.3	146957	23.4	18.6	201744	23.5	18.6
128838	23.1	18.8	202236	23.2	19.2	321337	23.3	18.8	236289	23.4	18.5	395690	23.4	19.5	344394	23.5	20.0
177106	23.1	20.0	292958	23.2	21.5	26794	23.3	17.4	319096	23.4	20.6	276107	23.4	19.1	106702	23.5	20.0
102075	23.1	19.2	483171	23.2	19.6	342528	23.3	19.9	205719	23.4	19.5	409293	23.4	20.4	412438	23.5	22.1
289889	23.1	19.6	173885	23.2	19.9	145491	23.3	20.0	192923	23.4	20.7	213041	23.4	19.5	327802	23.5	20.5
158431	23.1	19.6	420307	23.2	21.7	357116	23.3	21.7	156911	23.4	18.6	68078	23.4	18.3	207803	23.5	18.6
51423	23.1	17.8	520487	23.2	21.0	183241	23.3	20.1	120908	23.4	19.8	335157	23.4	20.8	481220	23.5	21.6
398255	23.1	20.9	203968	23.2	19.8	164057	23.3	19.6	388553	23.4	19.1	205630	23.4	19.7	303763	23.5	19.5
97798	23.1	16.9	345481	23.2	19.7	212977	23.3	18.6	104012	23.4	19.8	193408	23.4	19.2	441423	23.5	20.0
36125	23.1	18.1	362430	23.2	20.0	437070	23.3	20.1	90002	23.4	18.3	99486	23.4	19.2	58394	23.5	18.1
349477	23.1	21.6	139983	23.2	20.3	427493	23.3	20.4	22170	23.4	17.1	445343	23.4	21.0	356978	23.5	21.4
164154	23.1	20.3	203325	23.2	20.0	61660	23.3	19.1	356673	23.4	20.4	475151	23.4	21.2	368914	23.5	19.7
345871	23.1	19.3	128811	23.2	19.0	336227	23.3	20.7	334696	23.4	20.4	129429	23.4	20.5	342543	23.5	20.4
123321	23.1	20.3	154532	23.2	20.4	434601	23.3	22.6	482095	23.4	20.4	373617	23.4	20.6	214100	23.5	17.9
190265	23.1	19.9	159151	23.2	18.6	11529	23.3	18.6	115990	23.4	19.5	237818	23.4	20.8	497938	23.5	22.0
187481	23.1	21.1	302338	23.2	21.1	491173	23.3	21.2	309150	23.4	20.6	203024	23.4	21.1	34045	23.5	18.8
338707	23.1	19.3	152496	23.2	19.9	512089	23.3	21.1	70126	23.4	16.8	255175	23.4	19.8	297610	23.5	20.4
287047	23.1	20.5	155206	23.2	20.0	114341	23.3	19.6	221045	23.4	18.9	504301	23.4	21.0	305219	23.5	20.3
115505	23.1	19.4	312866	23.2	20.5	439584	23.3	20.6	241164	23.4	20.3	428315	23.4	20.5	311518	23.5	19.0
286231	23.1	20.5	342317	23.2	21.3	263239	23.3	20.1	260315	23.4	20.5	50495	23.4	16.3	102402	23.5	19.3
490725	23.1	21.1	370361	23.2	20.4	505409	23.3	20.0	269096	23.4	18.8	288847	23.4	19.2	398072	23.5	19.4
521393	23.1	20.6	86149	23.2	18.9	203692	23.3	19.3	385658	23.4	20.7	420892	23.4	19.3	250307	23.5	18.8
374392	23.1	21.3	274465	23.2	20.2	362486	23.3	20.6	167906	23.4	19.5	384442	23.4	20.8	392691	23.5	20.1
302152	23.1	21.7	452194	23.2	20.2	489635	23.3	21.2	367437	23.4	20.6	478144	23.4	21.3	102027	23.5	19.0
506572	23.1	21.0	386452	23.2	20.0	392184	23.3	20.8	353152	23.4	20.3	479217	23.4	20.5	523649	23.5	23.0
80926	23.1	17.4	192863	23.2													

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
169851	23.5	18.7	293369	23.6	20.7	257691	23.7	19.9	76016	23.8	18.9	146119	23.8	19.4	57841	23.9	17.0
75642	23.5	18.6	342500	23.6	18.8	212033	23.7	20.2	478247	23.8	20.6	59839	23.8	16.9	336448	23.9	20.8
233200	23.5	17.7	477016	23.6	21.2	369885	23.7	20.2	23208	23.8	18.1	181156	23.8	18.0	514465	23.9	21.4
167808	23.5	19.2	308593	23.6	21.4	86193	23.7	18.6	479637	23.8	19.8	367693	23.8	20.6	483114	23.9	20.7
371514	23.5	21.3	412037	23.6	19.2	217350	23.7	20.1	184237	23.8	19.1	203316	23.8	19.8	83235	23.9	19.1
316230	23.5	20.8	92215	23.6	17.5	253753	23.7	19.7	499368	23.8	22.4	184232	23.8	19.4	234282	23.9	21.0
442960	23.5	21.6	167765	23.6	20.1	336894	23.7	19.7	270413	23.8	20.0	442053	23.8	20.8	425892	23.9	20.6
159579	23.5	20.1	498341	23.6	21.8	205196	23.7	20.3	174760	23.8	19.4	357506	23.8	18.7	283721	23.9	19.1
318288	23.5	20.7	384062	23.6	20.9	163988	23.7	18.8	184714	23.8	20.3	476617	23.8	19.9	350985	23.9	21.0
173620	23.5	19.0	377583	23.6	21.0	383269	23.7	21.5	359442	23.8	21.3	3126	23.8	16.5	162440	23.9	20.6
308549	23.5	20.5	188177	23.6	19.7	4028	23.7	16.9	507032	23.8	23.2	305207	23.8	20.1	218281	23.9	21.0
283696	23.5	20.9	281	23.6	14.9	503278	23.7	20.3	340490	23.8	20.3	428208	23.8	21.5	394771	23.9	20.2
42693	23.5	17.4	195033	23.6	19.5	146686	23.7	18.9	115503	23.8	20.1	266780	23.8	19.6	150772	23.9	18.9
467952	23.5	20.4	131955	23.6	19.2	73445	23.7	19.6	161693	23.8	17.2	504100	23.8	20.8	316044	23.9	20.8
32588	23.5	17.9	32351	23.6	18.7	25025	23.7	19.0	123655	23.8	19.2	361068	23.8	21.2	352066	23.9	20.7
426868	23.5	20.4	90294	23.6	18.8	61946	23.7	19.3	503623	23.8	20.5	272494	23.8	21.4	482163	23.9	21.8
496728	23.5	21.2	318440	23.6	20.2	112777	23.7	19.2	4332	23.8	16.2	277559	23.8	21.3	104165	23.9	18.3
442566	23.6	20.8	250868	23.6	20.7	4490	23.7	15.9	330838	23.8	18.5	39416	23.8	18.7	237468	23.9	18.8
391645	23.6	21.3	342633	23.6	20.0	155242	23.7	19.9	472188	23.8	20.9	506957	23.8	20.7	387774	23.9	21.2
257043	23.6	20.3	152840	23.6	20.6	95002	23.7	17.9	389430	23.8	20.3	283036	23.8	19.5	71829	23.9	18.0
438176	23.6	21.0	24899	23.6	17.8	237063	23.7	20.4	276018	23.8	20.2	335471	23.8	20.0	389580	23.9	19.7
514475	23.6	22.5	23220	23.6	18.3	275957	23.7	20.4	288366	23.8	19.4	124463	23.8	20.1	389679	23.9	20.4
208855	23.6	21.0	505729	23.6	21.3	479264	23.7	20.8	320701	23.8	19.9	225898	23.8	20.8	162543	23.9	19.1
286469	23.6	20.4	140353	23.6	19.4	228641	23.7	19.5	10737	23.8	16.9	100187	23.8	20.5	308521	23.9	21.0
212990	23.6	19.4	240398	23.6	20.4	316787	23.7	21.4	515845	23.8	20.8	510892	23.9	20.6	375689	23.9	19.4
102588	23.6	19.0	36550	23.6	18.2	244498	23.7	19.4	444404	23.8	21.2	147824	23.9	19.9	389955	23.9	21.0
106365	23.6	18.7	46131	23.6	18.4	90897	23.7	18.8	177043	23.8	20.7	463233	23.9	21.0	175664	23.9	18.5
168861	23.6	19.8	251816	23.6	22.2	491773	23.7	20.0	384977	23.8	20.2	475834	23.9	21.7	13186	23.9	17.3
507683	23.6	21.6	25121	23.6	18.4	26409	23.7	17.1	136537	23.8	18.4	438913	23.9	21.6	395076	23.9	20.9
304553	23.6	20.3	32988	23.6	18.2	512017	23.7	20.7	164768	23.8	20.6	70868	23.9	18.7	193546	23.9	20.2
141858	23.6	19.7	330314	23.6	21.0	186285	23.7	20.5	321623	23.8	19.9	522743	23.9	20.5	146196	23.9	20.7
323409	23.6	19.9	443525	23.6	20.4	279401	23.7	20.8	342162	23.8	20.8	167806	23.9	19.9	175346	23.9	19.0
38827	23.6	18.7	387086	23.6	20.9	128109	23.7	18.1	262722	23.8	20.8	83653	23.9	19.2	122900	23.9	18.9
422990	23.6	20.9	468555	23.6	21.8	129160	23.7	19.7	62800	23.8	19.7	442979	23.9	20.8	1473	23.9	14.7
385470	23.6	20.0	140982	23.6	20.1	436571	23.7	20.9	372919	23.8	20.5	440572	23.9	21.8	270328	23.9	20.5
178327	23.6	21.2	186538	23.6	19.4	72618	23.7	19.0	33456	23.8	17.0	309103	23.9	20.3	341209	23.9	20.6
475578	23.6	21.4	44290	23.6	18.4	205157	23.7	20.7	277406	23.8	21.0	237955	23.9	19.5	61895	23.9	17.4
259050	23.6	19.3	260572	23.6	20.7	221117	23.7	21.4	69320	23.8	17.5	250936	23.9	20.3	152066	23.9	18.3
253707	23.6	19.2	120657	23.6	20.1	15205	23.7	18.8	263958	23.8	20.0	243140	23.9	20.1	178371	23.9	20.5
340544	23.6	18.8	91985	23.6	18.1	144540	23.7	20.1	478193	23.8	21.3	310026	23.9	19.8	63360	23.9	17.7
425599	23.6	20.7	199344	23.6	20.7	376720	23.7	22.6	376946	23.8	21.1	234113	23.9	20.2	473269	23.9	21.1
95377	23.6	19.0	315133	23.7	20.9	423776	23.7	20.3	115751	23.8	16.9	474775	23.9	20.8	29907	23.9	17.1
446369	23.6	20.3	21177	23.7	19.2	330562	23.7	20.9	349027	23.8	20.2	388685	23.9	20.6	210773	23.9	19.2
183347	23.6	19.2	350321	23.7	20.5	438122	23.7	21.6	441407	23.8	19.6	214593	23.9	18.7	479948	23.9	20.4
39945	23.6	17.4	508024	23.7	19.9	475039	23.7	21.7	167710	23.8	20.2	358869	23.9	20.2	168821	23.9	20.4
7147	23.6	16.9	160860	23.7	19.2	198068	23.7	19.3	166013	23.8	20.0	16577	23.9	16.9	491615	23.9	20.8
442062	23.6	20.4	105463	23.7	19.4	4361	23.7	17.4	352369	23.8	20.6	178685	23.9	20.4	353745	23.9	20.5
259828	23.6	20.5	123549	23.7	18.1	365547	23.7	21.3	379370	23.8	20.0	78199	23.9	19.3	13783	23.9	17.0
511454	23.6	20.0	393639	23.7	20.2	316062	23.7	19.7	351460	23.8	20.1	516381	23.9	20.9	182155	23.9	20.1
94555	23.6	17.4	512553	23.7	19.5	393874	23.7	20.3	56977	23.8	16.9	123719	23.9	19.2	8781	23.9	17.1
512632	23.6	21.4	5145	23.7	21.7	11999	23.7	18.6	27018	23.8	21.5	205541	23.9	20.3	437844	23.9	17.8
93326	23.6	19.1	511426	23.7	20.9	108047	23.7	18.9	127631	23.8	18.8	139764	23.9	19.2	237943	23.9	20.3
100270	23.6	19.3	437255	23.7	20.9	480684	23.7	19.9	111574	23.8	19.2	335784	23.9	19.8	274902	23.9	20.3
466105	23.6	20.7	297599	23.7	20.8	476550	23.7	20.8	39030	23.8	18.8	120790	23.9	20.0	156991	23.9	19.6
254188	23.6	19.5	215346	23.7	20.3	477728	23.7	21.4	151390	23.8	19.6	355169	23.9	21.7	191061	23.9	20.5
425957	23.6	20.1	436312	23.7	20.6	20163	23.7	17.8	366638	23.8	20.3	180220	23.9	19.6	392915	23.9	20.0
114629	23.6	19.1	302244	23.7	20.9	84529	23.7	19.9	86055	23.8	18.8	475264	23.9	21.5	14145	23.9	18.2
248960	23.6	20.1	209888	23.7	19.7	252180	23.7	20.7	389216	23.8	21.5	249785	23.9	19.0	512992	23.9	20.5
397080	23.6	20.7	269010	23.7	20.6	111663	23.7	19.6	226001	23.8	19.9	324901	23.9	21.1	203023	23.9	19.8
106922	23.6	18.9	153772	23.7	19.4	285972	23.7	19.9	377831	23.8	19.9	114984	23.9	20.3	69365	23.9	19.9
159410	23.6	18.8	168792	23.7	19.6	15726</td											

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

Nº	06	V															
156485	23.9	19.8	472771	24.0	20.1	498023	24.1	20.6	508161	24.2	21.0	190039	24.3	19.3	208598	24.4	18.9
50099	23.9	18.2	110067	24.0	19.0	508204	24.1	20.7	130922	24.2	20.7	139860	24.3	18.9	217359	24.4	19.8
431667	23.9	20.6	481121	24.0	22.5	218865	24.1	18.5	170084	24.2	20.0	239353	24.3	20.0	410750	24.4	21.7
340354	23.9	20.3	103341	24.0	19.7	275596	24.1	20.9	66257	24.2	16.6	413742	24.3	19.2	192946	24.4	20.8
358858	23.9	22.2	241952	24.0	20.1	144853	24.1	19.3	179549	24.2	19.5	313094	24.3	20.2	520384	24.4	20.0
100877	23.9	18.5	444772	24.1	20.7	509692	24.1	20.4	233214	24.2	20.3	46163	24.3	17.8	476949	24.4	20.9
98648	23.9	20.2	334757	24.1	19.1	504992	24.1	21.4	65923	24.2	19.7	47728	24.3	18.7	16924	24.4	16.1
321268	23.9	19.1	513668	24.1	21.3	146840	24.1	20.8	168356	24.2	19.6	301210	24.3	20.7	95132	24.4	19.1
390991	23.9	20.4	130114	24.1	20.1	263535	24.1	19.1	133177	24.2	19.4	237835	24.3	20.1	261062	24.4	20.4
479842	23.9	20.6	397148	24.1	20.3	434756	24.1	20.4	327810	24.2	19.2	273774	24.3	19.0	335158	24.4	20.7
320438	23.9	20.6	241902	24.1	19.2	47401	24.1	17.4	164752	24.2	19.8	394318	24.3	21.5	111714	24.4	19.0
329574	23.9	20.8	122435	24.1	19.2	24179	24.1	17.8	50010	24.2	18.5	289362	24.3	20.7	236808	24.4	20.0
256960	23.9	19.8	480052	24.1	19.4	473204	24.2	21.0	227346	24.2	21.4	475609	24.3	21.4	440535	24.4	20.7
390181	23.9	21.1	40927	24.1	17.2	201144	24.2	19.3	284988	24.2	20.7	208621	24.3	18.7	189372	24.4	19.5
200276	23.9	19.6	26245	24.1	18.7	418921	24.2	19.3	132766	24.2	18.3	116043	24.3	20.0	437528	24.4	21.0
62549	23.9	18.7	283894	24.1	20.4	311371	24.2	21.1	207233	24.2	20.7	471799	24.3	21.7	288726	24.4	20.6
269093	23.9	19.3	436319	24.1	21.1	449592	24.2	19.2	287079	24.2	19.6	368907	24.3	20.0	56855	24.4	18.5
131190	23.9	18.7	237093	24.1	20.7	144020	24.2	19.5	478930	24.2	21.5	308351	24.3	20.1	181354	24.4	20.7
396508	23.9	20.2	301001	24.1	21.2	479172	24.2	21.1	201529	24.2	19.0	519703	24.3	21.2	308464	24.4	20.1
258673	23.9	21.0	183150	24.1	20.9	321335	24.2	19.9	286713	24.2	20.3	471769	24.3	21.0	193521	24.4	19.6
435803	23.9	20.5	271820	24.1	19.5	258881	24.2	19.7	304465	24.2	20.3	308385	24.3	20.0	344901	24.4	20.9
5883	23.9	17.3	38886	24.1	21.5	132445	24.2	18.5	95462	24.2	18.7	357578	24.3	19.8	187224	24.4	20.9
240470	23.9	19.3	442031	24.1	20.4	500049	24.2	20.6	382390	24.2	18.9	121476	24.3	19.4	102754	24.4	18.9
106100	23.9	19.4	507075	24.1	21.9	478215	24.2	20.6	4109	24.2	15.2	168784	24.3	19.4	208974	24.4	19.8
282976	23.9	19.1	40892	24.1	19.9	172121	24.2	18.2	394357	24.2	19.8	227406	24.3	20.0	504861	24.4	21.0
102506	23.9	17.9	215599	24.1	17.6	374918	24.2	21.7	432389	24.2	20.7	1846	24.3	17.3	199195	24.4	19.3
329773	23.9	19.8	100265	24.1	20.1	492321	24.2	21.3	390169	24.2	21.0	185604	24.3	20.2	379653	24.4	20.2
34658	23.9	16.7	499503	24.1	20.8	175507	24.2	18.5	42440	24.2	19.7	482931	24.3	20.1	289498	24.4	20.5
66311	23.9	18.0	280111	24.1	19.7	253126	24.2	18.8	148047	24.2	20.8	356834	24.3	21.2	40878	24.4	18.9
367077	23.9	18.8	51384	24.1	17.1	94232	24.2	19.6	3037	24.2	16.4	515211	24.3	22.5	93659	24.4	18.4
259835	23.9	19.8	477161	24.1	21.1	239979	24.2	19.8	350685	24.2	19.7	384562	24.3	20.8	227387	24.4	21.5
13720	23.9	17.8	277251	24.1	18.9	291638	24.2	20.6	431329	24.2	21.7	49103	24.3	17.0	60669	24.4	16.7
142391	23.9	19.2	3637	24.1	14.5	255651	24.2	20.6	158061	24.2	19.6	384042	24.3	21.2	201292	24.4	18.6
31296	23.9	17.3	66825	24.1	19.7	440299	24.2	21.4	37924	24.2	17.7	415044	24.3	20.4	155386	24.4	19.5
258660	23.9	20.6	314005	24.1	21.3	398421	24.2	19.9	86037	24.3	17.0	390508	24.3	19.6	438984	24.4	19.7
165138	23.9	18.2	475741	24.1	22.7	366807	24.2	20.8	208590	24.3	20.1	278244	24.3	20.7	296457	24.4	18.7
97277	23.9	18.0	339394	24.1	20.7	521413	24.2	21.3	216812	24.3	20.9	176159	24.3	18.8	320629	24.4	19.7
30517	23.9	17.9	347703	24.1	20.5	461617	24.2	20.3	443573	24.3	20.8	130901	24.3	20.4	507079	24.4	22.1
234188	24.0	20.4	18857	24.1	17.6	497765	24.2	21.9	180741	24.3	20.8	238758	24.3	20.5	520217	24.4	21.2
438205	24.0	20.9	271667	24.1	19.5	390194	24.2	20.3	432762	24.3	20.0	332522	24.3	20.8	355352	24.4	20.9
213873	24.0	19.8	335496	24.1	19.7	365313	24.2	20.4	282406	24.3	19.5	461359	24.3	20.7	179537	24.4	19.5
308389	24.0	19.9	288318	24.1	20.8	248439	24.2	20.4	430547	24.3	20.8	244483	24.3	20.3	339158	24.4	20.7
394269	24.0	20.7	245551	24.1	20.9	59463	24.2	18.1	36142	24.3	17.6	350603	24.3	20.1	474376	24.4	21.2
509685	24.0	21.0	234858	24.1	18.9	283706	24.2	20.8	156465	24.3	19.5	307101	24.3	19.9	394056	24.4	19.9
253576	24.0	20.3	122799	24.1	19.8	111749	24.2	19.3	416690	24.3	20.9	169929	24.3	19.1	280579	24.4	20.8
64129	24.0	19.1	360332	24.1	18.7	130379	24.2	18.5	234526	24.3	18.7	317402	24.3	18.9	377690	24.4	18.9
34193	24.0	18.9	478224	24.1	21.2	397113	24.2	20.4	92618	24.3	18.5	443600	24.3	20.0	406839	24.4	21.1
508594	24.0	21.1	34018	24.1	17.6	250324	24.2	19.4	167508	24.3	20.0	479069	24.3	20.5	423096	24.4	20.3
168951	24.0	20.1	248061	24.1	18.7	11010	24.2	17.2	475817	24.3	19.9	61686	24.3	19.1	471379	24.4	20.7
67994	24.0	17.5	80387	24.1	18.9	41501	24.2	18.7	258079	24.3	18.9	474547	24.3	21.9	201757	24.4	18.9
502973	24.0	20.8	446743	24.1	20.0	205052	24.2	19.8	1848	24.3	14.6	117400	24.3	19.6	61026	24.4	17.8
230849	24.0	20.1	165456	24.1	18.3	173557	24.2	19.5	376550	24.3	19.7	166122	24.3	20.2	126835	24.4	19.4
118788	24.0	19.0	158957	24.1	19.1	318169	24.2	19.2	112115	24.3	19.5	480664	24.3	20.8	396837	24.4	20.9
475880	24.0	20.8	4744	24.1	15.8	516177	24.2	22.4	344648	24.3	19.0	75572	24.3	18.2	183289	24.4	19.8
293300	24.0	21.0	504523	24.1	21.3	38247	24.2	17.4	84229	24.3	18.5	475918	24.3	21.2	233369	24.4	19.8
138727	24.0	23.7	153730	24.1	19.3	21299	24.2	19.4	432511	24.3	20.5	137873	24.3	20.2	438175	24.4	20.8
464389	24.0	20.1	168115	24.1	19.1	477650	24.2	21.8	221094	24.3	19.5	428207	24.3	21.5	78434	24.4	19.4
359503	24.0	18.7	478897	24.1	20.7	309824	24.2	21.6	338505	24.3	19.1	316220	24.3	20.4	245881	24.4	19.6
478333	24.0	20.3	65492	24.1	18.3	335180	24.2	20.4	364098	24.3	21.0	380863	24.3	21.3	295707	24.4	21.0
189779	24.0	19.8	169047	24.1	19.8	307573	24.2	19.4	308206	24.3	19.0	440332	24.4	21.5	317849	24.4	20.4
483416	24.0	22.7	440943	24.1	20.7												

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

Nº	06	V															
107822	24.4	18.7	186588	24.5	19.7	325990	24.6	20.5	17900	24.7	17.7	342091	24.7	21.4	211088	24.8	20.4
361637	24.4	19.0	32943	24.5	18.3	276964	24.6	19.6	237334	24.7	19.3	192762	24.7	20.5	153472	24.8	17.7
355536	24.4	20.4	91750	24.5	18.2	120456	24.6	16.7	158318	24.7	20.2	502376	24.7	21.3	293173	24.8	19.7
431965	24.4	19.7	110119	24.5	19.1	48157	24.6	17.7	291880	24.7	19.7	891	24.7	14.0	402488	24.8	20.8
127648	24.4	20.0	256866	24.5	21.1	6151	24.6	16.5	405107	24.7	21.1	198384	24.7	20.1	109034	24.8	18.8
229574	24.4	20.5	355568	24.5	21.2	160040	24.6	19.1	400190	24.7	20.3	259128	24.7	18.1	443564	24.8	20.7
126364	24.4	18.6	91807	24.5	18.6	248984	24.6	19.8	350965	24.7	21.2	276086	24.7	20.3	214159	24.8	18.7
205672	24.4	19.5	51739	24.5	17.7	519470	24.6	20.9	400430	24.7	19.7	504876	24.7	20.5	389165	24.8	20.6
61172	24.5	16.9	140030	24.5	19.5	348381	24.6	20.9	282300	24.7	19.8	361453	24.7	21.8	171235	24.8	20.3
394698	24.5	21.3	32824	24.5	18.6	471562	24.6	21.2	416635	24.7	20.5	143518	24.7	19.9	135678	24.8	18.8
499523	24.5	19.4	67724	24.5	17.6	217487	24.6	19.5	384815	24.7	21.1	233673	24.7	21.1	181180	24.8	20.3
255330	24.5	19.7	436587	24.5	20.6	11998	24.6	17.7	146172	24.7	19.6	198025	24.8	19.9	426701	24.8	19.9
294506	24.5	20.9	245432	24.5	20.0	107576	24.6	19.3	168620	24.7	20.2	47484	24.8	18.3	361993	24.8	20.4
89516	24.5	17.4	342038	24.5	19.4	489928	24.6	21.5	479995	24.7	20.3	254042	24.8	19.2	102457	24.8	18.2
103117	24.5	20.0	470819	24.5	21.4	77145	24.6	19.3	420848	24.7	19.6	361486	24.8	20.4	104470	24.8	18.4
438164	24.5	20.9	519541	24.5	20.0	303888	24.6	20.6	4071	24.7	16.7	303972	24.8	20.3	214915	24.8	20.1
320429	24.5	20.8	154491	24.5	20.2	472057	24.6	21.2	168616	24.7	18.8	34108	24.8	18.5	116620	24.8	18.4
2542	24.5	15.9	438203	24.5	21.1	254159	24.6	19.4	15519	24.7	17.4	440513	24.8	21.9	389136	24.8	21.1
160231	24.5	17.8	315303	24.5	20.3	175106	24.6	19.5	98124	24.7	19.3	509628	24.8	20.2	102556	24.9	18.0
508475	24.5	20.7	255368	24.5	20.7	393881	24.6	20.4	479966	24.7	20.0	71183	24.8	19.8	326952	24.9	20.0
257781	24.5	21.2	132103	24.5	19.6	72358	24.6	18.1	280313	24.7	19.7	268334	24.8	20.5	503369	24.9	18.8
506433	24.5	21.0	279633	24.5	20.5	440193	24.6	20.3	512688	24.7	22.1	237999	24.8	19.3	350133	24.9	21.4
510115	24.5	21.1	523103	24.5	21.2	488458	24.6	21.2	148638	24.7	19.1	381953	24.8	19.7	217974	24.9	19.6
35594	24.5	17.2	469532	24.5	20.2	250782	24.6	21.2	364630	24.7	19.3	402134	24.8	20.4	405044	24.9	22.1
348300	24.5	19.7	446617	24.5	21.7	355734	24.6	21.3	577556	24.7	18.9	480652	24.8	20.1	183996	24.9	21.1
500913	24.5	20.2	185242	24.5	20.0	244334	24.6	19.6	142328	24.7	18.8	283562	24.8	19.1	330131	24.9	20.7
462581	24.5	20.0	19097	24.5	17.9	382991	24.6	21.3	92792	24.7	19.1	264301	24.8	21.7	324440	24.9	20.8
365157	24.5	20.3	234107	24.5	20.6	362713	24.6	22.5	105821	24.7	18.9	211739	24.8	21.1	266548	24.9	19.8
483379	24.5	21.7	18419	24.5	16.7	466100	24.6	21.1	255534	24.7	18.8	320954	24.8	19.7	346010	24.9	21.3
352380	24.5	20.6	418234	24.5	21.5	416309	24.6	20.9	131183	24.7	19.5	186548	24.8	20.6	250906	24.9	19.8
470396	24.5	21.1	434207	24.5	20.4	13585	24.6	17.8	470783	24.7	21.2	491585	24.8	21.1	429618	24.9	20.4
104692	24.5	18.4	136857	24.5	20.0	23676	24.6	16.4	102241	24.7	18.6	291984	24.8	19.5	4083	24.9	16.6
250045	24.5	20.4	353871	24.5	20.5	303977	24.6	19.6	397735	24.7	20.5	196823	24.8	20.3	330341	24.9	19.9
20192	24.5	17.5	263378	24.5	19.7	215330	24.6	20.6	320321	24.7	21.7	478473	24.8	20.0	144240	24.9	19.8
519920	24.5	21.3	478251	24.5	21.4	25139	24.6	18.1	522516	24.7	20.9	504583	24.8	22.3	142051	24.9	19.2
84328	24.5	18.6	408628	24.5	20.3	382226	24.6	19.2	209857	24.7	20.6	406520	24.8	21.8	16858	24.9	17.7
470866	24.5	22.0	456112	24.5	21.3	257894	24.6	18.6	320541	24.7	20.4	170171	24.8	19.7	216714	24.9	20.3
355196	24.5	21.4	472297	24.5	21.3	384431	24.6	21.1	447121	24.7	19.8	295183	24.8	19.3	523002	24.9	20.5
126661	24.5	18.0	45211	24.5	18.8	176029	24.6	19.3	17805	24.7	18.8	137997	24.8	20.0	186795	24.9	19.4
260430	24.5	20.6	37488	24.5	18.8	433349	24.6	21.4	150620	24.7	20.7	481166	24.8	22.2	176549	24.9	19.4
510413	24.5	20.3	377655	24.5	21.3	107885	24.6	18.4	2494	24.7	15.2	343694	24.8	18.8	478321	24.9	20.9
348544	24.5	20.3	168302	24.6	20.2	501336	24.6	21.3	212838	24.7	19.7	159404	24.8	18.4	248225	24.9	20.1
263302	24.5	20.8	253615	24.6	19.4	452729	24.6	22.0	141121	24.7	20.4	94315	24.8	18.8	106269	24.9	19.9
328175	24.5	21.5	165141	24.6	18.1	195503	24.6	20.1	184932	24.7	19.6	117008	24.8	19.5	296868	24.9	19.9
234080	24.5	19.9	225676	24.6	19.8	62858	24.6	17.9	503881	24.7	22.5	471653	24.8	20.7	504053	24.9	21.6
81882	24.5	19.1	360674	24.6	20.1	468625	24.6	19.7	126437	24.7	20.0	275915	24.8	19.4	14629	24.9	17.1
13092	24.5	17.4	230048	24.6	20.7	47622	24.6	18.8	442131	24.7	20.4	522954	24.8	21.5	291266	24.9	18.8
152283	24.5	20.2	112607	24.6	19.2	234349	24.6	20.2	467950	24.7	20.9	416527	24.8	21.3	287961	24.9	20.6
274338	24.5	20.2	440627	24.6	20.7	434115	24.6	20.1	101659	24.7	18.0	60509	24.8	19.4	434240	24.9	20.6
89835	24.5	19.7	354827	24.6	19.4	237535	24.6	19.6	324434	24.7	20.9	410247	24.8	21.0	452240	24.9	19.1
371592	24.5	21.8	509564	24.6	21.7	359433	24.6	19.7	515251	24.7	21.7	384081	24.8	21.9	331374	24.9	19.8
393069	24.5	20.8	261867	24.6	19.2	479903	24.6	21.7	323087	24.7	19.3	172822	24.8	20.2	499617	24.9	21.3
164785	24.5	19.9	424419	24.6	20.7	331620	24.6	20.3	57661	24.7	19.0	79690	24.8	18.7	42478	24.9	17.0
334710	24.5	19.3	88155	24.6	18.8	473288	24.6	20.5	280944	24.7	19.0	503351	24.8	21.2	42938	24.9	18.0
38188	24.5	17.0	379385	24.6	20.9	507530	24.6	22.0	72123	24.7	17.9	258570	24.8	19.6	467934	24.9	21.7
472127	24.5	21.4	404672	24.6	19.6	511165	24.6	20.0	396424	24.7	20.3	214401	24.8	19.4	218912	24.9	19.1
465606	24.5	19.7	482343	24.6	20.5	389453	24.6	20.1	359863	24.7	20.6	427917	24.8	22.0	46750	24.9	17.6
310410	24.5	21.7	50000	24.6	18.7	373602	24.6	21.5	311125	24.7	19.3	122381	24.8	20.5	394246	24.9	20.4
509702	24.5	21.4	511015	24.6	19.9	230367	24.6	19.8	397049	24.7	19.4	319588	24.8	19.3	183954	24.9	20.3
499789	24.5	19.3	347840	24.6	20.3	257712	24.6	20.5	438596	24.7	20.8	480112	24.8	19.2	250366	24.9	20.2
411860	24.5	21.2	184867	24.6													

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

Nº	06	V															
19301	24.9	18.3	344999	24.9	20.5	387071	25.0	20.5	185840	25.1	19.2	201589	25.2	20.1	91108	25.3	19.1
366819	24.9	21.0	388582	24.9	22.0	255083	25.1	19.7	490791	25.1	22.0	211051	25.2	18.9	221955	25.3	21.4
38887	24.9	19.6	330531	24.9	20.7	498125	25.1	23.4	480553	25.1	20.7	262896	25.2	19.9	235755	25.3	19.2
27026	24.9	18.2	40208	24.9	17.9	207403	25.1	19.8	482134	25.1	20.5	212650	25.2	19.9	256824	25.3	20.6
433042	24.9	20.3	189241	24.9	20.3	177282	25.1	20.1	73398	25.2	18.1	144866	25.2	18.2	519200	25.3	21.8
149576	24.9	20.3	187665	24.9	19.5	355649	25.1	19.7	433505	25.2	21.2	343955	25.2	20.1	141086	25.3	19.5
380284	24.9	20.0	230945	24.9	19.8	247411	25.1	19.5	109465	25.2	19.2	100802	25.2	20.0	398586	25.3	20.5
192653	24.9	18.6	342613	24.9	21.0	488690	25.1	20.8	386344	25.2	20.3	221540	25.2	18.8	479106	25.3	21.9
369551	24.9	21.4	434076	24.9	21.1	36482	25.1	18.1	226707	25.2	18.9	38020	25.2	17.3	254347	25.3	19.9
38223	24.9	16.7	22700	24.9	17.7	184181	25.1	19.6	68687	25.2	18.6	141166	25.2	20.1	478738	25.3	21.6
438816	24.9	20.3	138016	25.0	20.7	503947	25.1	20.8	50865	25.2	17.7	216304	25.2	19.9	74153	25.3	19.9
106517	24.9	19.2	415113	25.0	20.8	228842	25.1	19.0	20756	25.2	18.5	330344	25.2	20.8	102147	25.3	19.2
120766	24.9	18.9	7351	25.0	16.6	157742	25.1	19.9	106244	25.2	18.6	446675	25.2	19.5	12174	25.3	17.5
511308	24.9	20.3	100210	25.0	17.3	47503	25.1	19.2	81900	25.2	18.9	379863	25.2	20.3	272210	25.3	19.6
103520	24.9	19.6	343300	25.0	20.0	467839	25.1	21.2	36037	25.2	19.5	407923	25.2	20.8	369514	25.3	21.4
263131	24.9	20.8	490656	25.0	21.0	121654	25.1	19.8	119443	25.2	19.5	405728	25.2	21.3	511055	25.3	20.8
166258	24.9	18.9	72518	25.0	18.7	191290	25.1	18.2	113097	25.2	19.3	17944	25.2	17.2	46166	25.3	17.9
125927	24.9	19.6	269078	25.0	20.0	279788	25.1	19.6	245423	25.2	20.4	7600	25.2	17.2	333254	25.3	20.2
255878	24.9	21.0	112881	25.0	18.5	404812	25.1	20.4	523648	25.2	21.5	185784	25.2	19.9	19216	25.3	18.1
145426	24.9	17.4	130651	25.0	20.6	512471	25.1	20.4	8251	25.2	18.5	307071	25.2	19.3	295355	25.3	20.5
342504	24.9	20.4	13904	25.0	18.9	308429	25.1	20.9	47454	25.2	16.9	368928	25.2	21.5	6520	25.3	15.3
75296	24.9	18.9	423981	25.0	21.0	17891	25.1	16.7	385419	25.2	20.0	494273	25.2	20.4	356775	25.3	20.4
340405	24.9	20.0	59383	25.0	19.5	12358	25.1	17.4	31233	25.2	18.5	147045	25.2	18.9	71641	25.3	18.9
504137	24.9	19.8	115675	25.0	19.6	431897	25.1	20.4	395270	25.2	19.6	375717	25.2	19.6	373546	25.3	20.7
78377	24.9	18.9	53928	25.0	19.7	308397	25.1	21.3	134405	25.2	20.0	346019	25.2	20.6	218933	25.3	19.2
269751	24.9	20.9	6675	25.0	19.4	470667	25.1	21.0	185305	25.2	20.5	73894	25.2	19.5	346783	25.3	20.3
90295	24.9	18.7	328677	25.0	19.6	239184	25.1	21.0	76104	25.2	18.3	36232	25.2	17.3	258952	25.3	19.0
513222	24.9	21.6	360963	25.0	20.9	356718	25.1	20.1	368310	25.2	19.1	379206	25.2	21.2	151767	25.3	19.0
106685	24.9	19.7	118859	25.0	18.4	31289	25.1	18.2	20186	25.2	18.7	499527	25.2	20.9	394677	25.3	19.9
310717	24.9	20.1	342332	25.0	19.9	437178	25.1	19.2	315796	25.2	20.3	51338	25.2	17.6	133314	25.3	20.3
183665	24.9	20.7	266317	25.0	20.3	440639	25.1	20.5	225291	25.2	20.0	357756	25.2	21.0	31731	25.3	18.5
45580	24.9	18.6	381461	25.0	20.6	200414	25.1	20.4	481185	25.2	21.1	98122	25.2	17.7	209336	25.3	20.2
343522	24.9	20.6	305542	25.0	21.5	511100	25.1	20.2	166024	25.2	19.4	26753	25.2	18.5	416733	25.3	20.3
437391	24.9	21.4	253716	25.0	19.2	172858	25.1	20.1	338843	25.2	21.0	496912	25.2	20.5	130027	25.3	19.3
11216	24.9	17.6	320482	25.0	20.3	338046	25.1	20.0	406801	25.2	20.7	289642	25.2	19.9	435379	25.3	20.3
107119	24.9	20.9	344633	25.0	19.1	134628	25.1	18.4	368375	25.2	20.1	263075	25.2	19.2	3444	25.3	17.2
57930	24.9	19.0	211106	25.0	19.8	336231	25.1	20.6	146907	25.2	19.9	304406	25.2	20.2	196594	25.3	19.0
437604	24.9	20.5	137764	25.0	19.6	152307	25.1	19.8	504951	25.2	21.5	350036	25.2	20.8	295990	25.3	21.4
429581	24.9	20.4	174716	25.0	19.5	433512	25.1	20.9	190240	25.2	19.4	425852	25.3	20.9	12031	25.3	16.9
300655	24.9	20.4	42084	25.0	18.9	445477	25.1	20.7	78952	25.2	19.7	309098	25.3	20.2	522518	25.3	20.2
503945	24.9	21.6	53427	25.0	18.1	250900	25.1	20.7	23609	25.2	18.8	166176	25.3	19.9	387069	25.3	20.2
43594	24.9	18.1	347886	25.0	20.2	475164	25.1	21.1	480478	25.2	19.4	35280	25.3	18.5	386414	25.3	21.2
428176	24.9	21.7	398630	25.0	21.1	455694	25.1	19.4	95424	25.2	19.4	165503	25.3	19.6	34214	25.3	17.2
1883	24.9	16.6	57555	25.0	18.2	24690	25.1	18.8	344611	25.2	21.1	205059	25.3	19.5	137612	25.3	19.3
278575	24.9	19.2	123752	25.0	18.0	43026	25.1	17.4	300159	25.2	20.8	205918	25.3	20.0	487604	25.3	21.6
65971	24.9	19.0	214504	25.0	19.5	26873	25.1	18.4	273893	25.2	19.9	435795	25.3	20.8	352557	25.3	20.6
205016	24.9	20.4	364186	25.0	19.6	512598	25.1	21.4	521283	25.2	20.3	263529	25.3	19.2	160206	25.3	18.6
497573	24.9	22.1	136822	25.0	19.3	513159	25.1	20.4	168804	25.2	19.9	463653	25.3	19.2	32392	25.3	18.1
301019	24.9	21.6	501323	25.0	21.9	88248	25.1	18.7	161909	25.2	19.6	342112	25.3	19.7	326877	25.3	21.9
100098	24.9	19.1	195838	25.0	20.9	312445	25.1	19.6	159907	25.2	18.6	207192	25.3	19.8	164740	25.3	19.6
443508	24.9	20.7	431069	25.0	20.7	138590	25.1	20.2	37368	25.2	19.3	330847	25.3	19.8	98681	25.3	18.8
390399	24.9	18.3	52098	25.0	18.5	33422	25.1	18.7	172106	25.2	18.4	426455	25.3	21.1	478125	25.3	21.7
46424	24.9	18.5	341225	25.0	19.8	252891	25.1	19.6	272674	25.2	20.8	12412	25.3	16.9	90433	25.3	18.8
508888	24.9	21.8	60933	25.0	18.3	210965	25.1	19.3	277189	25.2	19.6	311342	25.3	21.0	479032	25.3	21.7
13826	24.9	18.4	241450	25.0	20.5	357775	25.1	20.7	69599	25.2	17.8	252158	25.3	19.5	334005	25.3	20.7
74781	24.9	18.7	258496	25.0	20.4	303860	25.1	20.3	433061	25.2	20.5	251501	25.3	20.3	392985	25.3	21.4
482189	24.9	20.4	168166	25.0	19.9	381990	25.1	20.9	397688	25.2	21.2	380262	25.3	21.7	6549	25.3	16.2
443602	24.9	20.2	21045	25.0	17.3	470840	25.1	19.9	21542	25.2	17.4	309073	25.3	20.1	386433	25.3	19.8
108532	24.9	16.2	245137	25.0	19.4	504525	25.1	21.6	393574	25.2	19.9	448039	25.3	19.1	212760	25.3	19.2
423011	24.9	20.4	418306	25.0	21.1	336294	25.1	20.1	121186	25.2	18.0	386707	25.3	20.4	512388	25.3	19.3
316809	24.9	21.1	107100	25.0	19.2	271681	25.										

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

Nº	06	V															
76272	25.4	19.3	236495	25.4	19.5	331733	25.5	19.9	290681	25.6	19.9	519863	25.6	19.9	21457	25.7	19.0
469625	25.4	19.6	60129	25.4	19.1	183612	25.5	19.8	256315	25.6	18.7	469967	25.6	21.0	387610	25.7	20.9
349838	25.4	20.3	89753	25.4	18.8	432405	25.5	20.3	343969	25.6	20.0	479233	25.6	20.8	401496	25.7	20.6
325431	25.4	19.2	399872	25.4	21.5	13749	25.5	17.4	134561	25.6	19.8	136307	25.6	20.3	47000	25.7	19.1
67628	25.4	18.6	46829	25.4	17.8	247479	25.5	19.5	397065	25.6	20.1	253300	25.6	18.8	38708	25.7	18.2
379618	25.4	19.6	448012	25.4	20.5	437637	25.5	20.9	23468	25.6	18.1	126258	25.6	19.6	398406	25.7	20.1
121506	25.4	18.0	329198	25.4	21.5	521408	25.5	19.5	187130	25.6	20.7	344675	25.6	20.7	316825	25.7	19.8
13840	25.4	18.1	342415	25.4	19.6	284390	25.5	19.9	443565	25.6	20.6	145593	25.6	19.9	22548	25.7	16.3
279279	25.4	20.6	278078	25.4	20.4	473881	25.5	20.9	95497	25.6	19.3	91209	25.6	19.3	353377	25.7	20.7
432696	25.4	20.8	502327	25.4	19.6	175374	25.5	20.1	390688	25.6	20.3	437588	25.6	20.6	81103	25.7	17.6
344669	25.4	20.7	341352	25.4	21.6	386319	25.5	21.2	358322	25.6	20.5	352548	25.6	19.8	93673	25.7	18.5
63309	25.4	18.4	121763	25.4	19.3	477704	25.5	21.3	21469	25.6	17.7	396956	25.6	20.2	511185	25.7	20.6
491724	25.4	21.4	24194	25.4	18.9	68035	25.5	19.1	492276	25.6	22.2	342568	25.6	19.9	48046	25.7	18.8
95528	25.4	19.1	388275	25.4	20.4	184222	25.5	19.3	477723	25.6	21.9	65395	25.6	18.0	516681	25.7	21.6
89635	25.4	18.9	183335	25.4	18.6	346797	25.5	20.8	383986	25.6	21.2	114406	25.6	19.8	343367	25.7	19.4
117569	25.4	17.9	207718	25.4	19.8	473029	25.5	20.4	514392	25.6	21.4	429684	25.7	20.2	237103	25.7	21.0
383054	25.4	20.2	296460	25.5	19.6	209083	25.5	19.7	215451	25.6	17.1	428229	25.7	21.5	345947	25.7	20.5
395492	25.4	20.9	119498	25.5	18.3	922	25.5	15.0	211173	25.6	19.1	440524	25.7	20.7	198395	25.7	20.2
288592	25.4	21.0	251842	25.5	20.5	193587	25.5	20.9	54543	25.6	17.8	321859	25.7	21.7	398088	25.7	19.4
430571	25.4	19.2	97052	25.5	19.6	392436	25.5	19.6	519584	25.6	21.2	108064	25.7	18.6	316041	25.7	20.8
441952	25.4	23.2	462564	25.5	19.2	59380	25.5	18.0	66726	25.6	18.0	509902	25.7	21.0	512850	25.7	21.1
236103	25.4	19.5	46977	25.5	18.2	50058	25.5	19.4	403824	25.6	20.5	501727	25.7	21.5	430964	25.7	21.7
511279	25.4	21.9	100517	25.5	19.4	17186	25.5	19.0	418991	25.6	19.1	68070	25.7	18.3	65403	25.7	18.4
396099	25.4	20.1	507138	25.5	21.8	434780	25.5	20.9	213342	25.6	19.8	95232	25.7	18.2	248113	25.7	19.7
191802	25.4	20.0	107388	25.5	17.7	167400	25.5	20.1	522850	25.6	21.2	20922	25.7	18.7	162003	25.7	19.5
62297	25.4	18.6	168152	25.5	19.2	455577	25.5	19.1	130867	25.6	20.8	184507	25.7	20.0	381996	25.7	19.7
115254	25.4	19.6	20354	25.5	17.6	201624	25.5	20.6	383006	25.6	19.1	475055	25.7	21.8	363176	25.7	20.4
472205	25.4	21.5	319597	25.5	18.9	432504	25.5	21.0	289437	25.6	20.0	438815	25.7	21.1	333198	25.7	19.5
392367	25.4	19.7	398202	25.5	20.7	515216	25.5	22.2	192398	25.6	21.2	111933	25.7	19.6	433052	25.7	20.8
523179	25.4	20.8	387287	25.5	20.6	511424	25.5	20.9	507666	25.6	21.6	64804	25.7	19.4	260140	25.7	18.9
475415	25.4	20.0	311483	25.5	21.8	158471	25.5	20.4	439091	25.6	19.9	211134	25.7	20.3	470613	25.7	20.5
314033	25.4	20.0	134682	25.5	19.6	118080	25.5	19.0	398302	25.6	20.1	167924	25.7	19.3	250400	25.7	20.4
346063	25.4	20.2	96924	25.5	20.7	317471	25.5	20.0	7362	25.6	17.9	34025	25.7	17.5	290599	25.7	20.6
427936	25.4	21.4	483704	25.5	21.3	18556	25.5	17.9	145807	25.6	19.3	32355	25.7	16.4	403286	25.7	20.6
376960	25.4	20.2	365837	25.5	20.7	300086	25.5	20.8	511061	25.6	19.7	393967	25.7	20.7	498473	25.7	20.9
375695	25.4	19.0	523182	25.5	21.0	440207	25.5	19.6	286394	25.6	20.2	441962	25.7	20.8	456473	25.7	21.4
181908	25.4	20.9	159080	25.5	19.5	378274	25.5	20.3	465625	25.6	20.8	486273	25.7	20.4	45356	25.7	18.0
491918	25.4	21.1	371969	25.5	20.4	507784	25.5	21.7	396827	25.6	20.2	504071	25.7	21.9	325802	25.7	20.8
204020	25.4	20.2	425705	25.5	21.2	202130	25.5	19.3	201834	25.6	19.8	314035	25.7	19.9	159387	25.7	18.0
248599	25.4	20.8	12945	25.5	16.6	95603	25.5	19.1	46018	25.6	18.9	359880	25.7	21.2	74147	25.8	17.3
370162	25.4	20.9	96186	25.5	18.8	16588	25.5	19.5	355168	25.6	20.0	163342	25.7	18.4	37049	25.8	19.6
5318	25.4	16.3	479063	25.5	21.4	364634	25.5	19.1	153235	25.6	21.7	422665	25.7	19.7	468851	25.8	20.7
66468	25.4	19.3	51420	25.5	18.1	520341	25.5	20.1	83427	25.6	18.0	398612	25.7	21.2	183109	25.8	19.7
62545	25.4	18.2	296541	25.5	20.3	208928	25.5	20.0	261167	25.6	20.0	128898	25.7	19.4	159053	25.8	18.8
471589	25.4	20.4	504273	25.5	21.6	253595	25.5	21.2	85087	25.6	19.9	327800	25.7	19.7	88376	25.8	18.8
48989	25.4	18.3	476988	25.5	21.7	295878	25.5	21.1	208219	25.6	18.3	443006	25.7	19.7	55693	25.8	18.0
17513	25.4	17.4	309176	25.5	19.0	509159	25.5	22.0	222458	25.6	20.6	404221	25.7	20.7	511994	25.8	19.6
336179	25.4	20.6	480551	25.5	20.4	309663	25.5	20.6	62989	25.6	18.2	420423	25.7	21.2	470845	25.8	21.1
503669	25.4	19.9	269035	25.5	20.1	60001	25.5	18.4	297609	25.6	19.9	285680	25.7	20.3	227909	25.8	20.0
6828	25.4	17.3	211423	25.5	17.8	254514	25.5	20.2	152141	25.6	18.8	469956	25.7	21.0	389256	25.8	21.0
140904	25.4	20.4	245728	25.5	18.5	205683	25.5	20.1	199381	25.6	21.2	268889	25.7	20.5	302815	25.8	19.7
176109	25.4	19.6	16350	25.5	19.3	232897	25.5	20.5	174720	25.6	21.0	234353	25.7	19.1	70135	25.8	19.0
268963	25.4	20.3	12142	25.5	19.2	26138	25.5	18.7	211971	25.6	20.1	443396	25.7	20.9	12179	25.8	17.2
223247	25.4	20.0	166031	25.5	20.0	269023	25.5	20.2	6659	25.6	16.5	395922	25.7	21.1	37709	25.8	18.6
377872	25.4	20.4	288453	25.5	20.4	411654	25.5	19.5	136176	25.6	19.4	512697	25.7	20.6	310151	25.8	18.8
463231	25.4	20.6	519360	25.5	20.5	438198	25.5	20.7	141034	25.6	19.4	398205	25.7	20.7	141947	25.8	18.7
94165	25.4	19.8	367709	25.5	21.0	513041	25.5	20.0	306792	25.6	22.6	425607	25.7	20.9	225929	25.8	19.7
397757	25.4	20.3	438963	25.5	19.2	248378	25.5	20.7	496891	25.6	20.2	471772	25.7	21.0	20160	25.8	17.3
440527	25.4	21.7	370457	25.5	20.7	364933	25.5	19.9	156327	25.6	19.7	62314	25.7	18.6	91982	25.8	19.9
49852	25.4	19.3	25226	25.5	17.1	270841	25.5	20.3	508538	25.6	21.0	450308	25.7	19.7	387806	25.8	21.3
288688	25.4	20.4	336278	25.5	21.3	44308	25										

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

Nº	06	V															
255019	25.8	21.6	36349	25.9	17.9	86363	25.9	17.9	437040	26.0	20.3	187177	26.1	21.1	508112	26.2	21.1
470713	25.8	21.2	523129	25.9	21.7	96751	25.9	18.7	514188	26.0	21.1	106453	26.1	19.2	255467	26.2	20.7
337686	25.8	20.3	8074	25.9	17.6	305564	25.9	20.2	46083	26.0	16.1	512722	26.1	20.7	521032	26.2	21.4
91811	25.8	18.6	22239	25.9	18.6	430018	25.9	20.8	507862	26.0	20.2	472549	26.1	20.0	153905	26.2	20.4
428107	25.8	21.2	474020	25.9	19.9	435777	25.9	21.2	367302	26.0	20.0	25086	26.1	18.8	3158	26.2	16.5
263414	25.8	20.5	347915	25.9	20.2	519221	25.9	21.6	102148	26.0	18.9	51216	26.1	17.1	105877	26.2	19.7
356631	25.8	21.1	309708	25.9	20.7	453	25.9	12.5	478646	26.0	20.8	9016	26.1	18.0	92789	26.2	17.9
360665	25.8	19.7	161947	25.9	17.7	294319	25.9	20.4	326284	26.0	21.9	171176	26.1	19.3	295309	26.2	19.9
93386	25.8	19.2	342571	25.9	19.9	90022	25.9	19.4	307155	26.0	19.9	362698	26.1	21.1	184835	26.2	20.0
336253	25.8	19.0	275171	25.9	19.2	192747	25.9	18.6	247744	26.0	18.1	362408	26.1	18.8	60403	26.2	19.2
336658	25.8	20.6	292629	25.9	20.8	377761	25.9	20.8	180148	26.0	18.2	398577	26.1	19.0	163140	26.2	19.4
489704	25.8	21.6	357865	25.9	21.2	250903	25.9	19.9	44891	26.0	19.7	335097	26.1	19.8	413282	26.2	21.0
334393	25.8	20.4	514917	25.9	22.0	377715	25.9	18.7	50175	26.0	18.8	346580	26.1	20.0	494287	26.2	20.9
338598	25.8	19.3	121905	25.9	17.8	209639	25.9	20.0	277471	26.0	20.8	413122	26.1	21.0	66148	26.2	19.1
281253	25.8	18.6	137525	25.9	20.3	700	25.9	13.4	276014	26.0	20.0	181731	26.1	21.6	412447	26.2	19.7
90547	25.8	18.7	60142	25.9	18.5	89788	25.9	18.1	121265	26.0	20.2	463269	26.1	20.4	22021	26.2	18.0
276407	25.8	20.7	240427	25.9	19.8	253093	25.9	19.5	13977	26.0	15.1	50144	26.1	17.8	381445	26.2	20.3
149081	25.8	19.5	175491	25.9	19.9	246206	25.9	19.7	163945	26.0	19.0	204524	26.1	20.3	146872	26.2	20.0
393090	25.8	20.2	472865	25.9	19.3	257433	25.9	19.2	501736	26.0	22.2	479049	26.1	21.3	385413	26.2	20.2
300730	25.8	20.5	183222	25.9	19.0	466467	25.9	19.2	201228	26.0	20.4	195325	26.1	19.7	519017	26.2	19.6
282270	25.8	18.9	74954	25.9	19.0	40974	25.9	19.0	478141	26.0	21.6	123840	26.1	20.0	394790	26.2	19.9
111817	25.8	19.4	367479	25.9	20.9	60327	25.9	18.5	395555	26.0	20.3	309702	26.1	20.9	336392	26.2	20.5
319437	25.8	19.8	92427	25.9	17.6	364137	25.9	20.9	283119	26.0	20.6	118408	26.1	19.5	368938	26.2	19.3
163117	25.8	20.4	249249	25.9	18.4	218585	25.9	18.5	415736	26.0	20.6	508183	26.1	20.3	81081	26.2	19.8
35724	25.8	19.2	366774	25.9	20.2	147220	25.9	20.5	101064	26.0	19.2	83327	26.1	19.5	387682	26.2	20.6
379737	25.8	20.0	346693	25.9	20.5	347301	25.9	20.1	467143	26.0	21.1	213414	26.1	19.5	436200	26.2	19.7
473892	25.8	20.2	258967	25.9	20.7	416793	25.9	21.1	408153	26.0	21.0	173052	26.1	19.8	278739	26.2	19.8
449982	25.8	20.7	62275	25.9	18.8	102329	25.9	18.9	311519	26.0	20.4	326954	26.1	19.7	508213	26.2	22.2
310675	25.8	20.1	371900	25.9	20.9	56908	25.9	17.9	478521	26.0	20.5	221169	26.1	21.2	508492	26.2	21.4
455963	25.8	20.5	498467	25.9	21.5	70884	25.9	19.4	172764	26.0	19.1	397747	26.1	20.8	128581	26.2	20.0
2427	25.8	16.8	21069	25.9	17.6	260321	25.9	21.5	75337	26.0	19.0	309086	26.1	19.6	368943	26.2	20.6
483506	25.8	21.1	393974	25.9	20.3	439708	25.9	20.4	284538	26.0	19.8	478680	26.1	20.9	166922	26.2	19.2
500855	25.8	21.7	462212	25.9	20.0	172120	25.9	19.2	416398	26.0	21.4	506753	26.1	21.9	440939	26.2	20.5
239824	25.8	20.0	334396	25.9	20.8	86920	25.9	18.1	202561	26.0	20.6	3244	26.1	16.8	318545	26.2	21.4
415059	25.8	20.6	281613	25.9	20.4	335469	25.9	19.7	480852	26.1	23.2	378327	26.1	20.8	292431	26.2	21.7
342822	25.8	19.8	374361	25.9	22.0	87356	25.9	18.9	367328	26.1	21.2	262843	26.1	19.9	245324	26.2	20.3
192734	25.8	19.1	66630	25.9	18.1	332858	25.9	21.2	250299	26.1	19.6	58574	26.1	17.7	92702	26.2	19.6
143930	25.8	20.3	164026	25.9	19.5	484643	25.9	20.8	295776	26.1	19.5	279228	26.1	21.2	363038	26.2	20.7
272786	25.8	20.9	63258	25.9	19.9	515440	25.9	20.2	376716	26.1	21.9	439192	26.1	20.6	392822	26.2	21.0
259665	25.8	20.5	126885	25.9	19.8	229504	25.9	21.0	500216	26.1	19.6	110877	26.1	20.3	18325	26.2	17.5
52340	25.8	22.1	438271	25.9	20.7	432833	25.9	19.5	396115	26.1	20.3	394003	26.1	20.8	448555	26.2	20.8
76066	25.8	18.1	508474	25.9	20.1	383277	25.9	21.3	394646	26.1	20.9	179436	26.1	20.5	331750	26.2	19.5
92695	25.8	19.8	228515	25.9	19.9	165218	25.9	19.7	296801	26.1	21.4	174159	26.1	19.2	335524	26.2	19.0
513903	25.8	20.5	58851	25.9	19.7	425639	25.9	20.4	338551	26.1	18.7	491425	26.1	20.8	442027	26.2	20.7
225908	25.8	20.3	41182	25.9	18.8	383169	25.9	20.3	306937	26.1	19.9	438659	26.1	21.3	96461	26.2	17.9
210663	25.8	19.8	482933	25.9	20.1	307533	25.9	20.0	374482	26.1	22.0	182840	26.1	20.7	309836	26.2	20.9
198401	25.8	19.9	387013	25.9	19.8	154484	25.9	18.7	102988	26.1	18.7	66034	26.1	18.7	141607	26.2	18.8
119911	25.8	19.5	148584	25.9	19.4	78814	25.9	19.6	93594	26.1	19.5	31649	26.1	17.6	244031	26.2	20.0
87925	25.8	16.6	237470	25.9	20.0	174556	25.9	20.1	81137	26.1	19.2	464549	26.1	20.1	170979	26.2	20.4
371598	25.8	21.0	507662	25.9	20.6	159892	25.9	20.6	182924	26.1	19.7	476040	26.1	20.4	488346	26.2	21.1
321376	25.8	20.1	216286	25.9	19.2	320339	25.9	21.3	203386	26.1	19.7	432686	26.1	21.3	148639	26.2	19.7
396118	25.8	21.2	119865	25.9	18.6	178507	25.9	18.9	506933	26.1	20.9	186872	26.1	19.3	442845	26.2	20.6
49715	25.8	16.5	123813	25.9	20.0	58715	25.9	19.9	324971	26.1	20.8	94975	26.1	18.3	439252	26.2	21.0
19092	25.8	17.2	20011	25.9	17.8	389080	25.9	21.0	279124	26.1	19.9	469992	26.1	21.1	250775	26.2	19.8
510376	25.8	21.7	501838	25.9	21.8	349314	25.9	20.8	121159	26.1	18.1	61932	26.1	18.7	93557	26.2	19.9
190623	25.8	20.3	254946	25.9	18.9	158983	25.9	19.4	287854	26.1	20.7	472430	26.1	21.2	276371	26.2	20.8
382920	25.8	21.3	68422	25.9	18.5	5326	25.9	15.8	237215	26.1	20.5	346514	26.1	19.8	518156	26.2	21.1
390491	25.8	21.5	387486	25.9	20.4	57125	25.9	17.3	184904	26.1	20.1	368900	26.1	20.2	324932	26.2	21.4
371457	25.8	21.6	405789	25.9	20.2	281687	25.9	20.2	163045	26.1	19.6	74127	26.1	18.7	477741	26.2	21.3
496048	25.8	20.0	4415	25.9	18.2	314091	25.9	19.8	159648	26.1	20.4	350989	26.1	20.3	136441	26.2	19.0
142203	25.8	20.3	106738	25.9	19.3	363220											

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

Nº	06	V															
128509	26.2	18.8	231840	26.3	19.4	500797	26.4	20.0	154542	26.5	19.1	93056	26.6	18.6	222610	26.6	21.1
423002	26.2	20.7	232469	26.3	19.6	352442	26.4	21.3	280947	26.5	21.1	175860	26.6	20.6	38653	26.6	18.0
101028	26.2	18.9	289497	26.3	20.6	189391	26.4	19.6	308371	26.5	20.8	283092	26.6	20.2	161543	26.6	17.8
141946	26.2	18.8	213308	26.3	19.9	438174	26.4	20.4	394773	26.5	19.9	225911	26.6	20.8	320396	26.6	21.6
167249	26.2	21.0	505418	26.3	20.7	217223	26.4	20.0	456211	26.5	19.9	363709	26.6	20.4	83387	26.6	19.2
123439	26.2	19.5	512438	26.3	22.0	7148	26.4	16.2	414063	26.5	21.2	115155	26.6	18.9	346686	26.6	20.9
205381	26.2	19.5	126688	26.3	18.4	59309	26.4	18.5	305317	26.5	20.4	203684	26.6	18.0	438244	26.6	21.3
476245	26.2	21.1	204112	26.3	20.0	180152	26.4	18.8	333277	26.5	19.8	174506	26.6	19.8	249651	26.6	20.1
279729	26.2	18.4	121732	26.3	19.0	499817	26.4	21.7	17326	26.5	18.7	18366	26.6	18.6	311956	26.6	21.0
362364	26.3	20.9	513666	26.3	22.6	396095	26.4	19.8	293656	26.5	19.7	237502	26.6	20.0	192668	26.6	18.6
471893	26.3	21.3	151385	26.3	20.4	41092	26.4	19.5	10132	26.5	16.2	96401	26.6	19.6	81171	26.6	18.2
87351	26.3	18.4	35163	26.3	17.8	344798	26.4	20.7	336673	26.5	19.3	475316	26.6	21.9	314439	26.6	21.5
44421	26.3	17.5	133973	26.3	20.5	480595	26.4	20.2	475029	26.5	21.3	501812	26.6	20.3	48965	26.6	19.0
94585	26.3	19.0	211838	26.3	19.8	522976	26.4	21.1	401443	26.5	20.0	449657	26.6	20.4	377805	26.6	20.3
130980	26.3	19.4	495311	26.3	20.7	126743	26.4	19.3	406750	26.5	20.2	152137	26.6	19.1	489144	26.7	22.4
128277	26.3	17.8	166685	26.3	18.1	281826	26.4	20.5	119006	26.5	19.3	379228	26.6	20.4	475046	26.7	21.8
436932	26.3	21.1	234280	26.3	20.2	446276	26.4	21.0	511829	26.5	20.4	368684	26.6	19.8	379711	26.7	21.5
342883	26.3	20.9	410753	26.3	21.2	211121	26.4	20.2	161412	26.5	19.8	280095	26.6	20.1	297274	26.7	21.1
48777	26.3	18.9	296995	26.3	19.0	318348	26.4	19.9	500177	26.5	20.1	141780	26.6	18.7	468758	26.7	20.0
13343	26.3	18.1	446758	26.3	20.4	46449	26.4	18.6	314100	26.5	20.2	260486	26.6	21.0	146204	26.7	20.9
395623	26.3	21.2	416341	26.3	21.1	125906	26.4	20.6	2741	26.5	14.5	500057	26.6	19.8	261420	26.7	19.8
217127	26.3	19.6	330608	26.3	19.8	92145	26.4	18.9	478852	26.5	20.7	119068	26.6	22.4	121252	26.7	19.6
470855	26.3	21.2	214984	26.3	20.7	394323	26.4	20.4	436304	26.5	20.1	229476	26.6	20.6	477103	26.7	20.4
242551	26.3	20.4	112488	26.3	18.0	290358	26.4	20.1	172221	26.5	19.5	521278	26.6	21.4	296921	26.7	21.8
270352	26.3	20.6	521490	26.3	21.2	208901	26.4	17.6	497859	26.5	22.2	114452	26.6	18.2	266973	26.7	21.2
139806	26.3	19.4	481268	26.3	20.9	284537	26.4	20.4	416318	26.5	20.1	182639	26.6	21.3	519088	26.7	21.1
475824	26.3	21.4	26607	26.3	17.3	139194	26.4	19.1	401200	26.5	20.2	370263	26.6	20.7	129178	26.7	19.3
469588	26.3	20.1	521365	26.3	21.6	281572	26.4	20.3	154576	26.5	17.8	92911	26.6	19.1	136230	26.7	19.4
101681	26.3	18.1	331427	26.3	19.7	101959	26.4	18.5	389892	26.5	20.9	227393	26.6	20.1	6810	26.7	15.9
450245	26.3	20.7	476290	26.3	20.7	384512	26.4	20.2	442926	26.5	20.5	204937	26.6	20.7	282678	26.7	20.1
285517	26.3	19.6	502581	26.3	21.0	164603	26.4	19.8	432781	26.5	19.4	260133	26.6	19.3	129570	26.7	18.5
31265	26.3	17.5	253849	26.4	20.9	390444	26.4	20.6	146237	26.5	19.4	261122	26.6	21.3	504055	26.7	22.3
207301	26.3	20.5	942	26.4	15.7	501802	26.4	20.3	466123	26.5	20.0	207649	26.6	20.4	465843	26.7	19.7
243630	26.3	18.8	300002	26.4	20.3	494241	26.4	20.8	225691	26.5	19.2	121531	26.6	19.9	160891	26.7	18.1
390463	26.3	20.9	176341	26.4	19.6	502991	26.4	21.8	382972	26.5	21.0	490052	26.6	20.9	143471	26.7	19.4
258642	26.3	20.2	111511	26.4	19.8	434343	26.4	19.6	426272	26.5	18.7	408350	26.6	19.0	411621	26.7	21.0
349843	26.3	20.8	66486	26.4	19.5	100220	26.4	18.9	399873	26.5	21.5	189579	26.6	19.3	366217	26.7	19.7
344517	26.3	20.9	175969	26.4	20.4	380184	26.4	21.4	295005	26.5	19.4	505579	26.6	21.7	228634	26.7	21.3
259099	26.3	19.7	429422	26.4	21.6	481448	26.4	22.7	254559	26.5	18.7	67269	26.6	18.4	52453	26.7	17.0
33405	26.3	19.3	107173	26.4	18.9	399665	26.4	21.2	189290	26.5	20.9	146817	26.6	19.4	255777	26.7	19.3
256788	26.3	20.5	507945	26.4	19.5	129028	26.4	18.6	340541	26.5	20.0	128594	26.6	19.2	162143	26.7	19.3
199767	26.3	20.3	477722	26.4	21.6	239133	26.4	20.0	47528	26.5	18.8	203892	26.6	19.3	292712	26.7	21.9
356147	26.3	20.4	491648	26.4	21.3	62844	26.4	19.1	66671	26.5	20.5	429177	26.6	19.9	234268	26.7	21.3
371645	26.3	21.1	157891	26.4	17.8	347067	26.4	20.7	342327	26.5	20.8	58991	26.6	19.5	99958	26.7	19.9
109196	26.3	19.3	58298	26.4	18.7	235207	26.4	20.3	50473	26.5	19.4	50605	26.6	18.4	29191	26.7	18.8
323410	26.3	19.8	240772	26.4	19.9	147003	26.4	19.7	172832	26.5	19.2	158393	26.6	20.9	376893	26.7	21.5
478839	26.3	20.7	322313	26.4	19.8	504580	26.4	22.1	480605	26.5	20.3	494417	26.6	21.1	469530	26.7	21.6
164496	26.3	17.4	147115	26.4	20.2	295935	26.5	20.3	97091	26.5	19.4	120772	26.6	19.2	118820	26.7	18.7
280119	26.3	18.0	188275	26.4	20.2	31769	26.5	17.5	255787	26.5	19.9	88211	26.6	19.4	294127	26.7	20.7
336205	26.3	21.1	146235	26.4	20.7	509552	26.5	19.9	474559	26.5	22.0	313326	26.6	20.8	187688	26.7	18.7
348899	26.3	20.6	40059	26.4	17.1	184924	26.5	20.0	11108	26.5	17.3	443345	26.6	20.2	98474	26.7	18.8
85275	26.3	16.4	323215	26.4	20.4	509083	26.5	19.8	220908	26.5	20.1	362406	26.6	20.5	91159	26.7	19.5
46966	26.3	18.1	170879	26.4	18.6	440628	26.5	19.5	429832	26.5	20.9	368413	26.6	20.2	34566	26.7	17.9
434134	26.3	20.8	349218	26.4	20.7	252858	26.5	20.1	367743	26.5	20.0	112905	26.6	19.2	353524	26.7	21.6
303673	26.3	20.1	189530	26.4	19.4	342669	26.5	20.8	105749	26.5	19.4	382239	26.6	19.7	341374	26.7	20.5
169637	26.3	18.9	250883	26.4	20.2	216484	26.5	19.1	508192	26.5	20.7	31548	26.6	16.5	397396	26.7	21.9
192034	26.3	20.3	498399	26.4	21.1	133489	26.5	19.2	225615	26.5	20.4	171319	26.6	19.8	497551	26.7	21.8
36177	26.3	18.0	212695	26.4	19.4	510395	26.5	20.3	298827	26.5	20.2	275724	26.6	19.0	384413	26.7	21.2
192782	26.3	20.5	174469	26.4	19.0	471569	26.5	20.6	220994	26.5	19.4	477029	26.6	21.2	28784	26.7	18.1
504823	26.3	20.9	497977	26.4	21.9	156504	26.5	19.9	9386	26.5	18.3	292205	26.6	19.7	70609	26.7	18.5
2439	26.3	16.9	142407	26.4													

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
463151	26.7	20.5	125094	26.8	18.3	501715	26.8	21.6	375446	26.9	18.6	433713	26.9	20.8	395981	27.1	20.0
155506	26.7	17.5	342808	26.8	19.4	109137	26.8	18.9	339330	26.9	20.5	470339	26.9	20.7	63684	27.1	18.2
296353	26.7	19.3	56921	26.8	17.9	428071	26.8	21.3	46512	26.9	19.1	513407	26.9	22.1	11183	27.1	16.1
208365	26.7	19.5	173535	26.8	20.1	111001	26.8	19.8	314378	26.9	20.2	208585	26.9	20.0	58914	27.1	18.0
250073	26.7	18.5	473290	26.8	20.1	53324	26.8	17.4	499350	26.9	22.2	384103	26.9	20.8	513158	27.1	20.5
368417	26.7	20.9	266806	26.8	21.4	8896	26.8	15.9	102864	26.9	18.2	358983	26.9	20.4	70754	27.1	18.3
11445	26.7	17.9	470817	26.8	21.6	141508	26.8	19.8	175271	26.9	20.0	181271	26.9	20.0	1923	27.1	17.1
63908	26.7	18.5	237814	26.8	21.0	263136	26.8	20.5	45242	26.9	19.1	203802	26.9	19.7	123360	27.1	20.0
371857	26.7	20.4	113363	26.8	19.6	63348	26.8	18.6	193476	26.9	20.0	324956	26.9	20.0	498398	27.1	22.4
363194	26.7	20.5	392903	26.8	21.3	359461	26.9	21.0	172953	26.9	20.2	237135	26.9	20.2	34994	27.1	18.7
118459	26.7	19.6	250881	26.8	19.3	497861	26.9	21.0	404875	26.9	19.6	510709	26.9	20.3	420093	27.1	20.8
36653	26.7	19.2	67722	26.8	19.1	181155	26.9	20.2	394706	26.9	20.4	460109	26.9	20.9	436212	27.1	20.0
45110	26.7	18.8	440455	26.8	20.9	101603	26.9	18.7	393051	26.9	19.6	431044	26.9	20.9	311130	27.1	19.7
218876	26.7	20.8	198160	26.8	21.1	227383	26.9	20.3	475679	26.9	21.7	117596	26.9	19.7	192009	27.1	19.2
68026	26.7	18.1	184498	26.8	19.0	243632	26.9	20.8	9624	26.9	16.8	493598	26.9	20.2	469521	27.1	20.3
91623	26.7	21.0	320461	26.8	20.9	77357	26.9	18.3	387921	26.9	21.4	255151	26.9	20.2	253498	27.1	20.1
442610	26.7	19.5	89582	26.8	17.5	513042	26.9	21.4	340447	26.9	21.0	443576	26.9	20.7	283679	27.1	20.2
476695	26.7	20.1	34222	26.8	19.5	8616	26.9	17.1	38100	26.9	18.0	327190	26.9	18.9	177250	27.1	20.4
1122	26.7	15.6	504578	26.8	21.9	201742	26.9	19.4	37244	26.9	19.2	244856	26.9	20.4	87302	27.1	18.3
32550	26.7	17.8	478855	26.8	20.8	108631	26.9	18.8	94825	26.9	19.4	498392	26.9	21.1	469553	27.1	20.9
1664496	26.7	20.3	184824	26.8	19.9	346575	26.9	20.3	370323	26.9	21.1	175830	26.9	19.7	36966	27.1	18.3
70615	26.7	19.0	3967	26.8	19.2	472930	26.9	20.7	133451	26.9	20.1	513676	26.9	21.9	272417	27.1	18.6
264512	26.7	19.7	126275	26.8	18.7	355097	26.9	22.0	243358	26.9	20.0	211092	27.0	18.9	394685	27.1	20.8
90859	26.7	18.9	78495	26.8	18.6	74818	26.9	19.3	81961	26.9	18.0	113530	27.0	19.9	62697	27.1	20.5
290462	26.7	20.6	307052	26.8	20.5	166565	26.9	19.9	306947	26.9	20.4	383239	27.0	21.1	470401	27.1	21.3
124253	26.7	18.2	473065	26.8	20.3	121930	26.9	18.9	387160	26.9	21.4	41926	27.0	18.8	395572	27.1	20.3
322397	26.7	20.1	398560	26.8	21.2	265696	26.9	19.3	412419	26.9	21.0	78156	27.0	18.9	314590	27.1	20.8
327722	26.7	21.3	387200	26.8	19.7	114611	26.9	19.4	213084	26.9	18.2	522779	27.0	20.0	23855	27.1	18.5
69818	26.7	19.6	385002	26.8	20.3	314575	26.9	20.9	509820	26.9	21.8	326932	27.0	21.0	42314	27.1	18.6
325848	26.7	20.4	229531	26.8	19.6	292218	26.9	19.3	263648	26.9	19.9	170961	27.0	19.7	184061	27.1	21.4
183940	26.7	21.1	219516	26.8	19.3	42071	26.9	18.5	311235	26.9	21.0	510978	27.0	21.0	136531	27.1	19.3
367478	26.7	19.0	216288	26.8	19.8	470427	26.9	20.6	439614	26.9	21.5	413094	27.0	20.2	472738	27.1	20.6
512836	26.7	20.6	372916	26.8	21.3	87228	26.9	17.8	91363	26.9	18.5	228626	27.0	20.0	335727	27.1	19.6
309145	26.7	20.5	504792	26.8	21.3	521279	26.9	20.9	467953	26.9	19.0	380118	27.0	20.0	256775	27.1	20.5
439751	26.7	19.7	512554	26.8	20.0	492322	26.9	20.9	497186	26.9	20.3	350682	27.0	21.1	470744	27.1	20.5
87408	26.7	18.8	96950	26.8	20.2	5201	26.9	20.6	441354	26.9	21.2	98522	27.0	18.6	248131	27.1	20.8
357834	26.7	20.3	467127	26.8	20.7	200245	26.9	20.5	60713	26.9	18.7	396173	27.0	21.0	379286	27.1	22.1
428342	26.7	19.1	488672	26.8	21.2	393914	26.9	20.0	275632	26.9	19.1	439183	27.0	20.0	146209	27.1	20.4
424572	26.7	19.9	482120	26.8	21.1	508645	26.9	22.0	150580	26.9	20.4	13282	27.0	18.3	521400	27.1	20.7
316381	26.7	21.2	93514	26.8	20.0	154878	26.9	20.8	43610	26.9	18.2	239925	27.0	20.3	476059	27.1	21.2
311362	26.7	20.7	217246	26.8	19.8	32973	26.9	17.6	440267	26.9	20.4	489526	27.0	20.8	444311	27.1	20.6
60476	26.7	19.4	9404	26.8	17.7	271807	26.9	20.4	262340	26.9	20.8	70825	27.0	19.0	489495	27.1	20.9
344801	26.7	21.1	470305	26.8	19.6	253358	26.9	19.9	127937	26.9	19.0	125238	27.0	19.5	352598	27.1	21.1
193394	26.7	20.4	429374	26.8	18.9	43747	26.9	17.8	11069	26.9	17.1	245413	27.0	20.2	152374	27.1	19.3
127935	26.7	17.7	509110	26.8	21.0	404647	26.9	20.1	364661	26.9	19.8	401626	27.0	21.0	9340	27.1	16.8
330856	26.7	20.1	343105	26.8	20.8	509825	26.9	21.4	94000	26.9	18.2	512128	27.0	20.3	494335	27.1	20.1
342725	26.7	20.4	512687	26.8	20.6	433639	26.9	20.5	125586	26.9	18.6	502612	27.0	22.1	205014	27.1	19.5
156367	26.7	20.0	143626	26.8	19.9	384541	26.9	19.9	255075	26.9	19.6	275938	27.0	20.5	86279	27.1	17.8
220481	26.7	18.6	415165	26.8	21.2	134536	26.9	19.0	53773	26.9	17.9	382126	27.0	21.3	348815	27.1	19.2
317054	26.7	20.9	132833	26.8	18.3	5669	26.9	16.2	210888	26.9	19.6	161370	27.0	19.2	49246	27.1	18.3
271818	26.7	19.3	299787	26.8	21.3	76141	26.9	19.3	33757	26.9	18.8	443617	27.0	20.4	94429	27.1	19.2
249206	26.7	18.4	522754	26.8	20.8	63417	26.9	18.1	238554	26.9	19.7	200275	27.0	20.1	92168	27.1	19.3
335545	26.7	20.5	510436	26.8	20.6	158472	26.9	18.9	512701	26.9	20.9	117518	27.0	18.8	34952	27.1	18.6
188183	26.7	20.1	152260	26.8	20.7	210876	26.9	20.1	15906	26.9	17.8	216252	27.0	19.9	362807	27.1	22.1
432780	26.7	20.4	513679	26.8	21.9	471652	26.9	20.2	142165	26.9	19.0	457769	27.0	20.3	10826	27.1	14.7
323426	26.7	18.3	475630	26.8	21.4	188950	26.9	19.6	191730	26.9	19.7	193686	27.0	20.2	34185	27.1	18.5
137814	26.7	19.6	70107	26.8	17.8	123125	26.9	20.6	5222	26.9	15.9	164539	27.0	20.6	514395	27.1	22.3
120130	26.7	20.2	423865	26.8	20.2	65504	26.9	17.5	360386	26.9	20.6	300709	27.0	20.0	195420	27.1	19.4
437581	26.7	20.4	512654	26.8	20.6	199899	26.9	19.3	14766	26.9	18.5	158490	27.0	19.6	382112	27.1	18.6
68668	26.7	18.7	505831	26.8	22.3	157182	26.9	19.8	35800	26.9	18.3	513639	27.0	21.0	217905	27.1	17.9
491730	26.7	21.3	486825	26.8	19.6	85790	26.9										

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
428284	27.1	21.6	512641	27.2	20.4	94148	27.3	17.3	60242	27.4	18.1	177146	27.4	17.6	443057	27.5	19.8
292482	27.1	21.8	437128	27.2	21.0	102353	27.3	19.4	522735	27.4	19.4	489630	27.4	20.0	335807	27.5	19.5
393084	27.1	19.7	503242	27.2	20.9	314313	27.3	21.6	388701	27.4	21.1	210332	27.4	19.9	481241	27.5	21.9
341755	27.1	20.5	218984	27.2	19.5	520049	27.3	21.6	58760	27.4	18.1	498819	27.4	21.0	393930	27.5	21.2
281916	27.1	19.2	343614	27.2	20.0	112018	27.3	18.7	172247	27.4	19.8	409365	27.4	21.5	404837	27.5	18.8
216405	27.1	20.7	342770	27.2	19.3	389759	27.3	20.1	107690	27.4	19.1	214408	27.4	20.1	58407	27.5	19.3
405590	27.1	20.8	341071	27.2	19.4	6559	27.3	15.5	504212	27.4	20.7	32319	27.4	17.6	471632	27.5	20.1
57078	27.1	18.8	221000	27.2	21.0	397444	27.3	21.1	244420	27.4	19.5	47998	27.5	18.0	307182	27.5	19.8
127876	27.1	18.8	377810	27.2	21.1	85101	27.3	19.2	503204	27.4	21.2	507286	27.5	20.0	285809	27.5	20.1
446041	27.1	19.4	111606	27.2	19.1	464844	27.3	21.2	511915	27.4	20.2	418185	27.5	21.1	218775	27.5	19.7
63852	27.1	19.1	131076	27.2	20.0	17862	27.3	17.8	129606	27.4	20.0	298008	27.5	19.4	151807	27.5	19.0
66806	27.1	18.7	182935	27.2	20.1	475421	27.3	20.8	430362	27.4	19.9	272740	27.5	20.0	360459	27.5	20.4
469685	27.1	21.2	417881	27.2	19.8	257794	27.3	21.0	299793	27.4	20.7	371440	27.5	19.6	446779	27.5	20.0
433609	27.1	20.6	404700	27.2	20.3	340145	27.3	18.3	388909	27.4	22.2	245597	27.5	19.5	195446	27.5	19.8
215234	27.1	18.0	111629	27.2	18.7	478249	27.3	22.0	130707	27.4	20.0	386321	27.5	21.7	112617	27.5	17.7
491576	27.1	20.6	358753	27.2	21.0	520097	27.3	21.0	318183	27.4	21.5	521268	27.5	20.5	510657	27.5	21.4
418136	27.1	21.4	366320	27.2	20.0	198363	27.3	19.5	89554	27.4	19.1	346834	27.5	20.5	128438	27.5	18.4
198094	27.1	18.6	516305	27.2	21.4	309146	27.3	19.2	432733	27.4	19.7	258937	27.5	19.8	9444	27.5	17.6
251503	27.1	19.9	297756	27.2	20.7	193533	27.3	19.5	500954	27.4	21.4	468149	27.5	21.1	101913	27.5	19.6
91184	27.1	19.1	201004	27.2	19.9	391757	27.3	19.9	167897	27.4	19.9	215837	27.5	19.8	39857	27.5	18.3
269048	27.1	20.1	347051	27.2	20.5	439667	27.3	21.2	400454	27.4	20.2	358368	27.5	22.0	83456	27.5	18.6
362001	27.2	21.2	238209	27.2	20.3	153542	27.3	21.7	286101	27.4	19.6	180096	27.5	20.3	235766	27.5	20.4
43248	27.2	17.2	47704	27.2	18.3	335486	27.3	18.9	151846	27.4	19.2	479835	27.5	20.5	27780	27.5	18.1
47452	27.2	17.7	351990	27.2	20.8	386350	27.3	21.0	97724	27.4	18.8	56366	27.5	18.8	263672	27.5	21.2
113150	27.2	19.4	163396	27.2	19.6	179510	27.3	20.3	398488	27.4	21.0	438241	27.5	20.7	480775	27.5	19.4
434577	27.2	21.3	5170	27.2	17.1	190624	27.3	18.3	144338	27.4	19.1	386993	27.5	21.7	501690	27.5	21.3
150050	27.2	19.9	287367	27.2	20.6	461613	27.3	21.2	273743	27.4	19.8	348383	27.5	20.5	109662	27.5	19.0
322428	27.2	20.6	115963	27.2	19.3	434684	27.3	20.7	178568	27.4	20.7	7196	27.5	17.5	357505	27.5	20.0
255302	27.2	18.3	329909	27.2	20.3	465611	27.3	21.0	53692	27.4	18.3	39880	27.5	18.7	334364	27.5	20.2
67942	27.2	19.2	5442	27.2	16.7	179341	27.3	19.8	475765	27.4	20.9	375035	27.5	19.8	448623	27.5	21.3
43553	27.2	18.1	346664	27.2	20.1	505422	27.3	20.7	470635	27.4	20.7	31376	27.5	18.5	59487	27.5	18.3
468820	27.2	20.6	475587	27.2	21.3	337942	27.3	20.0	120580	27.4	19.9	117558	27.5	19.0	8422	27.5	17.4
150297	27.2	19.6	21902	27.2	19.1	513178	27.3	21.4	251335	27.4	20.8	489118	27.5	20.1	192680	27.6	19.4
167431	27.2	20.1	481281	27.2	21.0	437568	27.3	21.8	397027	27.4	19.7	256709	27.5	20.6	471595	27.6	21.4
474511	27.2	20.4	357743	27.2	20.6	513750	27.3	20.0	441058	27.4	20.9	241308	27.5	19.3	371521	27.6	19.4
296680	27.2	21.0	13269	27.2	17.1	389807	27.3	20.2	267352	27.4	20.4	51130	27.5	19.1	59750	27.6	17.1
482104	27.2	20.3	234099	27.2	21.0	437362	27.3	20.7	163413	27.4	19.5	259052	27.5	21.4	444276	27.6	18.7
430398	27.2	20.2	262009	27.2	18.8	6756	27.3	17.1	122669	27.4	18.9	374473	27.5	20.6	338859	27.6	20.9
61969	27.2	17.8	137172	27.2	18.9	303984	27.3	20.9	126849	27.4	19.9	266188	27.5	21.4	302439	27.6	20.6
352438	27.2	21.1	105532	27.2	19.5	112316	27.3	18.4	329267	27.4	19.1	304526	27.5	21.0	478532	27.6	20.9
69676	27.2	19.0	520211	27.3	20.6	177351	27.3	19.7	81497	27.4	18.7	246201	27.5	19.2	353861	27.6	19.4
395884	27.2	21.2	260584	27.3	19.4	440191	27.3	20.8	189049	27.4	18.6	490793	27.5	20.5	433358	27.6	21.3
304358	27.2	21.1	86666	27.3	20.1	433781	27.3	19.9	249735	27.4	20.3	372668	27.5	20.9	41573	27.6	19.6
277553	27.2	20.3	398290	27.3	20.4	189776	27.3	20.0	512111	27.4	20.7	100796	27.5	18.3	121789	27.6	19.8
497836	27.2	21.2	237919	27.3	19.4	6871	27.3	17.3	18484	27.4	18.6	165223	27.5	19.5	271724	27.6	20.1
390312	27.2	18.6	357515	27.3	19.9	150741	27.3	19.7	87347	27.4	18.9	470324	27.5	20.4	148476	27.6	19.0
353895	27.2	20.2	362510	27.3	21.5	141467	27.3	18.7	335578	27.4	20.2	336408	27.5	20.5	212755	27.6	18.7
435354	27.2	19.6	470359	27.3	20.6	36801	27.3	18.6	309048	27.4	20.5	225974	27.5	20.6	80591	27.6	19.0
356725	27.2	21.7	351484	27.3	20.3	400989	27.3	20.8	446711	27.4	20.7	228655	27.5	20.5	504138	27.6	21.4
440614	27.2	21.3	472998	27.3	20.6	177093	27.3	19.1	171752	27.4	19.7	347822	27.5	20.1	474432	27.6	20.7
126096	27.2	19.0	157253	27.3	19.3	254230	27.3	19.6	3527	27.4	15.1	254034	27.5	21.0	108582	27.6	18.6
126358	27.2	19.6	5337	27.3	15.7	232545	27.3	19.6	315451	27.4	20.7	150042	27.5	19.3	393957	27.6	19.9
39492	27.2	18.6	181124	27.3	20.2	305416	27.3	20.5	149055	27.4	19.6	227410	27.5	18.7	176437	27.6	20.0
440214	27.2	19.5	177262	27.3	20.7	35586	27.3	18.1	501316	27.4	20.2	311533	27.5	20.6	148458	27.6	20.3
11077	27.2	16.3	398061	27.3	20.2	311341	27.3	21.0	519170	27.4	20.6	18769	27.5	16.0	497905	27.6	21.5
348370	27.2	21.1	496437	27.3	20.6	393117	27.3	19.2	32687	27.4	17.8	224991	27.5	20.9	376897	27.6	21.5
100709	27.2	19.3	141877	27.3	20.1	510582	27.3	20.8	404866	27.4	20.8	187821	27.5	20.4	64873	27.6	19.2
141957	27.2	18.9	384910	27.3	20.0	73939	27.3	19.4	335569	27.4	21.0	235168	27.5	20.4	132710	27.6	18.5
242218	27.2	19.8	103787	27.3	18.5	127193	27.3	19.5	237289	27.4	20.3	277516	27.5	20.5	440551	27.6	20.9
49911	27.2	18.2	120867	27.3	18.9	242550	27.3	20.2	461378	27.4	20.2	268947	27.5	18.7	317448	27.6	20.4
95415	27.2	20.3	297594	27.3	20.5</td												

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

Nº	06	V															
200379	27.6	19.8	142228	27.7	18.0	257098	27.7	19.2	350058	27.8	19.6	371583	27.9	21.1	7	27.9	9.1
102096	27.6	18.1	250609	27.7	20.8	152256	27.7	20.9	17341	27.8	19.3	260314	27.9	19.6	19095	27.9	19.3
274576	27.6	20.0	270404	27.7	19.6	354341	27.7	19.5	213779	27.8	19.8	502230	27.9	20.0	349334	27.9	21.2
253782	27.6	19.6	335143	27.7	19.7	332535	27.8	20.0	443398	27.8	20.7	63023	27.9	17.3	352169	27.9	20.7
478551	27.6	21.2	417585	27.7	20.9	294374	27.8	20.8	408919	27.8	21.0	111725	27.9	19.5	384713	27.9	20.5
277548	27.6	21.0	305548	27.7	20.5	423819	27.8	19.2	196452	27.8	18.3	188608	27.9	19.2	474370	27.9	22.8
495186	27.6	20.7	290953	27.7	19.7	300647	27.8	20.4	320666	27.8	20.2	1211	27.9	14.7	480430	27.9	20.9
469412	27.6	22.2	88282	27.7	18.6	382129	27.8	20.9	474955	27.8	21.4	306650	27.9	19.4	340468	27.9	18.6
499202	27.6	20.7	122525	27.7	20.8	71985	27.8	20.0	19555	27.8	17.1	361525	27.9	21.8	427415	27.9	21.8
208521	27.6	19.8	269442	27.7	20.2	195193	27.8	19.9	262208	27.8	21.1	86327	27.9	19.8	101178	27.9	19.7
494271	27.6	20.7	479125	27.7	22.2	487643	27.8	20.3	511798	27.8	20.9	230259	27.9	21.3	67553	27.9	18.5
85976	27.6	18.6	398456	27.7	21.0	259931	27.8	20.5	20844	27.8	17.6	269020	27.9	21.1	478684	27.9	21.1
231904	27.6	20.4	242690	27.7	19.3	206037	27.8	19.9	437115	27.8	20.4	485229	27.9	21.2	79297	27.9	20.6
350044	27.6	19.4	272992	27.7	20.5	507027	27.8	22.1	397052	27.8	20.7	289748	27.9	20.4	189234	27.9	18.4
480452	27.6	20.3	394276	27.7	21.3	377625	27.8	20.9	128081	27.8	19.5	259576	27.9	19.9	335517	27.9	20.5
214495	27.6	20.4	442547	27.7	20.1	374462	27.8	20.0	397087	27.8	20.5	100017	27.9	20.1	164608	27.9	18.5
248089	27.6	21.6	129563	27.7	21.1	408896	27.8	21.3	434391	27.8	19.6	512725	27.9	22.0	88340	27.9	19.0
443627	27.6	20.5	17275	27.7	17.0	478525	27.8	20.1	211985	27.8	19.2	358386	27.9	21.8	513294	27.9	21.3
63040	27.6	18.6	14684	27.7	17.1	468606	27.8	19.7	427582	27.8	20.0	255197	27.9	21.0	475276	27.9	22.0
159445	27.6	18.0	456968	27.7	19.9	190272	27.8	18.8	383271	27.8	21.1	512132	27.9	20.6	315251	27.9	19.5
350233	27.6	20.9	289213	27.7	19.4	511898	27.8	19.8	400919	27.8	20.3	412166	27.9	19.1	85359	27.9	18.8
387947	27.6	21.1	242863	27.7	17.8	37739	27.8	19.5	288877	27.8	21.9	380899	27.9	21.9	271922	27.9	18.2
101794	27.6	18.8	417465	27.7	21.4	255361	27.8	20.6	99553	27.8	18.3	87640	27.9	18.3	23392	27.9	17.6
510782	27.6	21.9	114620	27.7	19.6	307023	27.8	20.6	371603	27.8	21.4	51259	27.9	17.8	436896	27.9	20.9
257643	27.6	19.8	509104	27.7	23.0	185118	27.8	19.2	277590	27.8	20.0	363235	27.9	19.8	85016	27.9	18.8
308665	27.6	20.4	326131	27.7	20.9	61594	27.8	16.6	417912	27.8	18.7	313104	27.9	21.2	463124	27.9	21.6
232832	27.6	21.2	519122	27.7	21.6	293400	27.8	20.1	145484	27.8	19.7	497902	27.9	21.6	280113	27.9	20.5
285543	27.6	20.2	315194	27.7	19.8	368249	27.8	20.9	106816	27.8	19.5	234252	27.9	20.6	459588	27.9	19.8
12434	27.6	18.8	33392	27.7	16.8	258839	27.8	19.8	433986	27.8	20.3	442271	27.9	20.0	9961	27.9	17.0
304593	27.6	19.1	101125	27.7	18.2	195456	27.8	19.9	521	27.8	12.7	160517	27.9	19.7	395741	27.9	20.0
365453	27.6	21.8	311194	27.7	19.5	356890	27.8	20.0	60213	27.8	18.4	7080	27.9	16.8	311210	27.9	18.8
436894	27.6	20.7	43379	27.7	18.4	398659	27.8	21.0	309781	27.8	21.4	338496	27.9	20.1	235770	27.9	21.2
259147	27.6	18.9	423696	27.7	20.1	126009	27.8	19.2	431061	27.8	19.8	218231	27.9	19.9	41036	27.9	18.7
9247	27.6	16.8	292730	27.7	20.0	446100	27.8	20.6	362380	27.8	20.5	52573	27.9	17.9	239665	27.9	19.9
494809	27.6	20.9	333188	27.7	20.6	406791	27.8	21.6	418269	27.8	21.1	191081	27.9	19.5	440562	27.9	21.5
376318	27.6	20.6	203042	27.7	19.8	248115	27.8	18.9	509046	27.8	21.0	432302	27.9	21.9	475917	27.9	21.6
276489	27.6	19.3	92786	27.7	19.4	239485	27.8	20.0	91171	27.8	18.8	417827	27.9	20.0	338144	27.9	20.0
213557	27.6	18.8	320260	27.7	20.2	119612	27.8	19.0	248989	27.8	19.7	9296	27.9	17.1	259298	27.9	18.8
481161	27.6	20.8	227919	27.7	21.0	357168	27.8	21.0	1651	27.8	14.7	43896	27.9	16.5	281663	27.9	20.4
226307	27.6	18.9	208571	27.7	19.4	7977	27.8	17.8	123914	27.8	20.2	395241	27.9	20.7	320383	27.9	19.9
395687	27.6	20.5	102381	27.7	19.0	430026	27.8	21.3	343411	27.8	20.1	150077	27.9	19.2	147412	27.9	19.2
354725	27.6	20.8	507211	27.7	21.8	281507	27.8	19.8	380259	27.8	20.8	422988	27.9	22.3	401595	27.9	20.9
29639	27.6	18.6	248613	27.7	21.1	2209	27.8	15.3	285790	27.9	19.6	142317	27.9	19.4	356384	27.9	19.8
179559	27.6	20.3	305533	27.7	20.8	155185	27.8	20.3	471730	27.9	21.4	141092	27.9	20.0	355243	27.9	20.0
388984	27.6	21.3	199668	27.7	18.6	328156	27.8	21.2	251387	27.9	20.3	434148	27.9	20.7	386807	27.9	20.8
506619	27.6	22.0	503064	27.7	21.4	347926	27.8	21.6	436268	27.9	20.7	508265	27.9	20.9	93199	27.9	18.8
410415	27.6	21.5	427500	27.7	20.8	237163	27.8	20.1	372842	27.9	21.6	150268	27.9	20.0	200188	27.9	19.5
380758	27.6	20.3	277035	27.7	19.7	243353	27.8	20.6	126371	27.9	19.3	230833	27.9	20.6	61818	28.0	17.7
474002	27.6	20.5	361452	27.7	20.9	8675	27.8	16.9	506793	27.9	19.9	393013	27.9	21.1	469046	28.0	21.1
314064	27.6	19.9	362525	27.7	21.2	100674	27.8	18.0	43844	27.9	19.0	268343	27.9	20.8	214932	28.0	20.5
75670	27.6	17.9	432803	27.7	21.4	88006	27.8	18.7	103449	27.9	19.8	41469	27.9	19.2	207696	28.0	19.7
316096	27.6	19.3	504113	27.7	20.6	278961	27.8	19.4	317335	27.9	19.9	488658	27.9	20.4	510351	28.0	20.7
516208	27.6	21.3	356203	27.7	19.1	512747	27.8	19.8	425944	27.9	20.3	217367	27.9	19.2	28090	28.0	19.2
476228	27.6	21.2	499854	27.7	21.2	320423	27.8	21.6	204737	27.9	20.5	3164	27.9	17.4	206690	28.0	19.6
326648	27.6	19.3	102697	27.7	19.1	96484	27.8	17.7	20498	27.9	19.7	371458	27.9	21.1	197382	28.0	20.3
210376	27.6	18.6	425954	27.7	20.8	430524	27.8	20.7	316763	27.9	21.9	254006	27.9	20.4	436570	28.0	19.8
493635	27.6	21.7	508557	27.7	20.3	102087	27.8	20.0	440581	27.9	20.6	113886	27.9	17.6	370312	28.0	19.7
139144	27.6	17.8	506719	27.7	21.5	428072	27.8	19.2	3796	27.9	14.6	374951	27.9	20.2	268283	28.0	20.5
307026	27.7	19.6	324348	27.7	19.8	162834	27.8	19.0	119149	27.9	19.9	511458	27.9	20.8	253681	28.0	20.3
512446	27.7	21.4	483212	27.7	20.1	436843	27.8	20.8	297821	27.9	19.9	285645	27.9	20.4	313965	28.0	20.0
398597	27.7	21.3	490698	27.7	20.7	2											

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

Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V	Nº	06	V
471308	28.0	19.6	439674	28.1	19.7	512265	28.2	19.8	253936	28.3	20.3	111935	28.3	19.8	140954	28.4	21.4
106146	28.0	19.2	304763	28.1	21.1	520938	28.2	19.9	203979	28.3	19.0	118463	28.3	19.2	128740	28.4	19.0
151153	28.0	18.1	62414	28.1	17.7	390694	28.2	20.0	206006	28.3	18.8	479230	28.3	21.2	201747	28.4	19.8
229957	28.0	18.3	320506	28.1	21.0	356415	28.2	20.7	8871	28.3	17.3	188162	28.3	20.2	147624	28.4	18.5
148085	28.0	19.3	36766	28.1	18.2	501596	28.2	22.3	311532	28.3	21.4	113256	28.3	18.9	132190	28.4	20.9
68609	28.0	18.0	255709	28.1	19.3	302084	28.2	20.9	488648	28.3	20.6	35014	28.3	19.0	230343	28.4	20.0
249422	28.0	19.4	168885	28.1	20.1	425600	28.2	20.8	216392	28.3	19.3	416238	28.3	19.6	88424	28.4	18.5
46135	28.0	17.3	435780	28.1	20.4	256658	28.2	20.0	89323	28.3	19.0	138760	28.3	19.7	401170	28.4	20.8
231525	28.0	20.6	173644	28.1	19.0	51050	28.2	18.2	318575	28.3	19.2	140799	28.3	19.8	97134	28.4	18.9
19669	28.0	17.5	284056	28.1	20.1	46016	28.2	18.1	364410	28.3	22.8	482975	28.3	20.4	35872	28.4	18.9
316675	28.0	20.2	469969	28.1	20.9	272408	28.2	19.8	476317	28.3	20.5	404868	28.3	20.5	260692	28.4	19.8
346624	28.0	21.0	60871	28.1	18.9	106310	28.2	19.2	55723	28.3	18.7	513433	28.3	22.3	475529	28.4	19.9
354151	28.0	20.7	66789	28.1	18.2	513796	28.2	20.9	143564	28.3	18.9	182299	28.3	18.8	126314	28.4	19.5
507779	28.0	21.5	509813	28.1	21.7	355627	28.2	21.2	398984	28.3	21.0	288673	28.3	20.3	16047	28.4	17.0
113416	28.0	18.4	295704	28.1	20.1	420183	28.2	19.9	470425	28.3	20.1	251462	28.3	18.9	283680	28.4	20.6
401441	28.0	20.9	478634	28.1	20.3	338597	28.2	20.7	355869	28.3	20.3	283731	28.3	20.9	424272	28.4	20.1
376482	28.0	19.5	483192	28.1	21.5	248124	28.2	19.4	69820	28.3	18.7	276080	28.3	20.4	323395	28.4	20.8
512888	28.0	20.5	323774	28.1	18.6	342869	28.2	20.6	72115	28.3	17.8	508948	28.3	21.2	235864	28.4	20.1
231296	28.0	20.9	56728	28.1	18.5	24677	28.2	19.0	101946	28.3	19.3	288268	28.3	21.4	251971	28.4	19.4
103625	28.0	18.9	312850	28.1	20.1	436851	28.2	20.1	257895	28.3	18.9	394653	28.3	21.3	502623	28.4	21.7
169574	28.0	20.3	382904	28.1	21.8	335069	28.2	20.3	290686	28.3	20.2	294759	28.3	20.9	482180	28.4	21.0
331160	28.0	21.8	377598	28.1	21.5	252842	28.2	19.3	188152	28.3	21.3	128537	28.3	19.2	299807	28.4	20.0
183830	28.0	20.7	410775	28.1	20.6	442410	28.2	20.1	311182	28.3	20.5	173348	28.3	19.2	156547	28.4	20.7
231928	28.0	19.8	261492	28.1	20.6	386362	28.2	21.0	514470	28.3	20.9	250528	28.3	19.7	161595	28.4	19.0
288731	28.0	19.4	162101	28.1	19.5	262379	28.2	21.0	387789	28.3	20.8	279700	28.4	19.6	519342	28.4	21.4
390148	28.0	20.9	263590	28.1	20.3	385128	28.2	18.9	475860	28.3	20.8	442015	28.4	20.6	433528	28.4	20.1
257862	28.0	20.7	43731	28.1	19.4	55525	28.2	18.8	506694	28.3	21.4	172885	28.3	21.3	391348	28.4	19.8
73519	28.0	19.2	155366	28.1	19.3	55588	28.2	18.6	178687	28.3	19.8	294220	28.4	19.9	378649	28.4	19.9
311394	28.0	21.3	393812	28.1	20.7	41290	28.2	18.7	415171	28.3	21.4	349228	28.4	21.2	321295	28.4	20.5
280924	28.0	19.4	371371	28.1	19.1	251332	28.2	20.2	514563	28.3	21.4	439501	28.4	21.1	23258	28.4	16.6
309172	28.0	20.5	242899	28.1	20.5	150045	28.2	19.5	3771	28.3	16.8	307025	28.4	19.0	208506	28.4	20.3
416680	28.1	19.5	38402	28.1	18.5	506669	28.2	20.9	102885	28.3	19.1	10677	28.4	17.1	428055	28.4	19.9
256687	28.1	20.9	188170	28.1	19.1	70181	28.2	17.7	433355	28.3	21.2	190619	28.4	19.8	174554	28.4	19.4
130117	28.1	18.8	151452	28.1	20.2	18308	28.2	18.0	87196	28.3	19.3	180463	28.4	20.7	213540	28.4	18.3
286446	28.1	20.1	263213	28.1	20.7	105793	28.2	20.2	177065	28.3	20.3	511334	28.4	21.9	365536	28.4	19.9
32087	28.1	18.0	158424	28.1	20.5	285308	28.2	20.8	336723	28.3	19.9	357220	28.4	20.3	204096	28.4	19.4
438981	28.1	20.4	473010	28.1	20.8	128754	28.2	19.1	346139	28.3	20.0	107450	28.4	19.9	9203	28.4	16.4
361266	28.1	20.9	128457	28.1	19.1	108026	28.2	20.1	152362	28.3	19.5	138043	28.4	20.8	314580	28.4	20.9
282059	28.1	20.5	218940	28.1	18.7	99822	28.2	18.9	209304	28.3	20.8	83654	28.4	19.1	346818	28.4	21.1
434768	28.1	20.2	510637	28.1	21.6	424097	28.2	21.3	239659	28.3	20.4	444226	28.4	19.4	439717	28.4	19.2
32995	28.1	18.9	490001	28.1	21.9	114973	28.2	18.1	96378	28.3	18.9	498280	28.4	21.7	327208	28.4	19.3
407754	28.1	20.9	520361	28.1	21.0	42020	28.2	18.3	150877	28.3	19.0	27098	28.4	17.1	321367	28.4	19.0
397716	28.1	21.2	98919	28.2	19.1	494415	28.2	21.3	450859	28.3	20.1	340453	28.4	20.8	136789	28.4	18.2
402439	28.1	20.8	250355	28.2	19.9	148107	28.2	19.2	336326	28.3	20.7	161389	28.4	17.8	342753	28.4	20.6
379309	28.1	21.1	123322	28.2	18.9	186985	28.2	19.6	130715	28.3	18.1	6513	28.4	17.3	282729	28.4	20.9
476474	28.1	21.1	230923	28.2	19.1	133499	28.2	20.3	334198	28.3	20.1	401183	28.4	19.8	272628	28.4	21.6
349243	28.1	20.2	246156	28.2	19.2	443775	28.2	19.5	428205	28.3	21.6	247094	28.4	19.5	214990	28.4	20.2
206441	28.1	20.4	325777	28.2	20.5	504737	28.2	22.0	306095	28.3	20.4	106109	28.4	18.5	405806	28.4	20.8
23027	28.1	18.0	46965	28.1	28.7	199224	28.2	18.6	393667	28.3	20.1	205102	28.4	20.2	290703	28.4	19.9
74925	28.1	19.1	394774	28.2	21.4	124630	28.2	18.9	64323	28.3	19.1	326265	28.4	19.6	126387	28.4	19.4
3299501	28.1	21.3	182247	28.2	20.2	435703	28.2	19.9	110997	28.3	20.3	402432	28.4	21.2	3021	28.4	17.9
439300	28.1	21.3	99132	28.2	18.8	160017	28.2	18.4	394008	28.3	20.3	356862	28.4	20.7	399248	28.4	21.0
228878	28.1	18.1	60905	28.2	17.7	72276	28.2	18.5	471819	28.3	21.5	481196	28.4	21.6	96043	28.4	19.1
472545	28.1	20.2	438022	28.2	20.5	407894	28.2	20.8	107348	28.3	19.2	262424	28.4	21.0	375163	28.4	19.7
133893	28.1	20.3	511595	28.2	21.7	8727	28.2	17.3	331346	28.3	21.4	308507	28.4	19.7	94177	28.4	19.0
211503	28.1	19.0	510514	28.2	22.1	57875	28.2	17.3	192487	28.3	19.4	323217	28.4	19.5	355238	28.4	19.9
111504	28.1	18.9	380007	28.2	20.6	375905	28.2	19.5	499699	28.3	21.9	390165	28.4	20.8	68153	28.4	18.6
150051	28.1	19.2	33494	28.2	18.2	429238	28.2	21.1	381851	28.3	19.6	35846	28.4	16.7	274101	28.4	19.9
456660	28.1	19.4	215828	28.2	21.2	85921	28.2	18.5	249588	28.3	19.0	289214	28.4	20.3	6902	28.5	16.5
280109	28.1	20.3	343495	28.2	20.2	442114	28.2	21.2	312393	28.3	19.4	470710	28.4	20.9	172845	28.5	19.9
395949	28.1	19.6	502894	28.2	20.												

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

Nº	06	V															
161365	28.5	18.8	293834	28.6	19.9	491896	28.6	21.2	398618	28.7	20.4	260778	28.8	20.0	503713	28.8	21.1
236603	28.5	20.7	64352	28.6	19.2	236475	28.6	20.9	245572	28.7	20.6	231314	28.8	20.4	111287	28.8	18.8
103696	28.5	20.6	472965	28.6	19.6	150334	28.6	19.9	233855	28.7	18.9	280985	28.8	20.1	83397	28.9	19.0
417215	28.5	20.3	386827	28.6	20.6	380299	28.6	20.9	360989	28.7	20.3	299820	28.8	21.6	401806	28.9	18.9
84415	28.5	19.4	198447	28.6	19.8	356943	28.6	20.3	424547	28.7	22.0	134897	28.8	18.0	336618	28.9	20.0
504856	28.5	21.0	166444	28.6	20.1	435707	28.6	21.6	68038	28.7	18.7	408883	28.8	21.6	99244	28.9	17.1
346789	28.5	21.1	270333	28.6	18.1	469439	28.6	20.7	251	28.7	14.9	306393	28.8	20.1	61768	28.9	19.1
430112	28.5	20.6	99163	28.6	19.8	14259	28.6	18.1	287198	28.7	20.0	85725	28.8	19.2	39912	28.9	17.7
281805	28.5	20.3	471640	28.6	21.0	107229	28.6	19.5	218878	28.7	20.3	286020	28.8	19.0	126576	28.9	20.1
113323	28.5	18.7	74991	28.6	19.3	86130	28.6	17.9	305322	28.7	21.4	477701	28.8	20.9	321985	28.9	20.4
416354	28.5	22.3	471941	28.6	20.1	5021	28.6	17.6	211247	28.7	20.9	354111	28.8	20.5	479139	28.9	21.0
21850	28.5	18.9	347911	28.6	20.8	39094	28.6	19.2	429675	28.7	19.0	512994	28.8	21.0	177290	28.9	20.0
501742	28.5	20.5	207872	28.6	20.0	103740	28.6	19.2	442167	28.7	21.5	108185	28.8	18.9	153429	28.9	19.4
401052	28.5	20.9	478347	28.6	21.6	417485	28.6	20.5	250278	28.7	21.0	202003	28.8	19.7	399877	28.9	20.4
253781	28.5	21.0	254295	28.6	20.3	340471	28.6	19.7	508847	28.7	21.0	475851	28.8	21.2	152102	28.9	20.3
62580	28.5	18.8	50023	28.6	17.4	439187	28.6	21.1	276882	28.7	20.6	472707	28.8	20.8	457595	28.9	21.8
330363	28.5	21.0	467829	28.6	20.7	47355	28.6	19.0	473326	28.7	20.1	356958	28.8	20.3	302126	28.9	20.5
16633	28.5	17.8	476386	28.6	20.1	317821	28.6	19.5	394711	28.7	20.7	103009	28.8	19.2	53772	28.9	18.3
510435	28.5	20.7	174549	28.6	20.0	362520	28.6	20.4	338839	28.7	19.8	438803	28.8	19.6	129913	28.9	18.3
431344	28.5	21.7	34608	28.6	18.2	58367	28.6	17.8	258557	28.7	19.6	471094	28.8	21.1	150320	28.9	19.0
210879	28.5	19.7	441950	28.6	19.7	474168	28.6	21.1	432408	28.7	21.1	387081	28.8	20.9	180173	28.9	19.3
370422	28.5	21.4	499383	28.6	22.3	185744	28.6	21.1	311536	28.7	19.9	142200	28.8	19.8	257535	28.9	20.4
494437	28.5	21.3	16832	28.6	17.9	352067	28.6	21.2	104765	28.7	18.7	160683	28.8	20.6	16562	28.9	16.8
99821	28.5	18.2	337996	28.6	19.1	147734	28.6	19.3	199823	28.7	18.9	49220	28.8	20.0	150106	28.9	19.8
523119	28.5	21.2	509148	28.6	22.7	443640	28.6	20.2	235288	28.7	19.9	499601	28.8	20.9	244875	28.9	20.9
276654	28.5	19.3	146257	28.6	20.4	475077	28.6	22.2	283335	28.7	20.4	47971	28.8	20.1	158451	28.9	20.4
342851	28.5	20.5	87524	28.6	18.4	138102	28.6	19.9	299861	28.7	19.4	362752	28.8	21.6	342662	28.9	19.0
500086	28.5	20.7	94268	28.6	19.6	314417	28.6	20.6	419770	28.7	19.3	48251	28.8	18.4	277766	28.9	20.1
35805	28.5	17.0	523144	28.6	21.2	469974	28.7	20.3	511432	28.7	19.6	521227	28.8	21.6	174930	28.9	19.6
247062	28.5	20.0	124044	28.6	18.0	126484	28.7	20.2	273984	28.7	20.0	196824	28.8	20.1	460484	28.9	19.6
127292	28.5	19.3	225909	28.6	20.5	469949	28.7	20.3	554448	28.7	17.2	112136	28.8	19.4	326925	28.9	19.1
308120	28.5	20.8	509095	28.6	22.1	150208	28.7	19.9	359497	28.7	18.0	376911	28.8	20.1	154921	28.9	18.8
383236	28.5	21.3	53120	28.6	18.6	398267	28.7	20.4	204513	28.7	20.3	55928	28.8	18.5	101000	28.9	18.1
22062	28.5	17.3	353306	28.6	19.0	299220	28.7	19.6	86086	28.7	19.4	294912	28.8	19.2	36217	28.9	18.3
114495	28.5	19.4	512143	28.6	21.6	351441	28.7	21.4	398960	28.7	20.9	48416	28.8	18.7	355025	28.9	20.7
518933	28.5	21.0	348174	28.6	18.9	353836	28.7	21.0	252037	28.7	20.3	38548	28.8	16.1	190569	28.9	18.7
255852	28.5	20.8	128058	28.6	18.7	39389	28.7	18.7	318539	28.7	20.0	118129	28.8	20.2	291215	28.9	20.5
168123	28.5	18.4	276499	28.6	18.9	64294	28.7	19.3	5658	28.7	17.0	470395	28.8	19.4	281449	28.9	20.0
101251	28.5	18.9	355721	28.6	20.8	283703	28.7	20.8	75493	28.7	18.5	71085	28.8	19.2	332093	28.9	19.6
338035	28.5	18.6	277527	28.6	20.7	476407	28.7	21.3	482909	28.7	19.5	250544	28.8	19.0	73930	28.9	18.5
322982	28.5	19.7	5616	28.6	18.3	117674	28.7	20.1	290718	28.7	19.5	311455	28.8	19.6	509033	28.9	20.2
187842	28.5	21.0	155752	28.6	18.7	382779	28.7	20.8	101475	28.7	19.8	350217	28.8	20.2	342809	28.9	21.2
103273	28.5	19.6	59658	28.6	17.0	491432	28.7	21.3	199462	28.7	20.7	435310	28.8	20.2	56363	28.9	19.6
293311	28.5	20.8	75064	28.6	18.4	255979	28.7	20.3	98608	28.8	19.7	432786	28.8	21.8	23874	28.9	17.7
24623	28.5	18.3	491749	28.6	20.9	46048	28.7	17.0	429571	28.8	20.6	172705	28.8	20.1	352159	28.9	20.6
380858	28.5	21.5	285858	28.6	19.0	481731	28.7	20.0	231854	28.8	18.7	152225	28.8	20.7	431096	28.9	20.6
311931	28.5	20.1	399250	28.6	20.7	92070	28.7	19.2	404839	28.8	20.6	369966	28.8	19.9	496850	28.9	21.9
134589	28.5	20.1	147841	28.6	19.9	215007	28.7	19.9	431949	28.8	20.0	396840	28.8	20.2	277523	28.9	21.2
320152	28.5	20.3	230894	28.6	19.1	160400	28.7	18.1	484905	28.8	21.0	313986	28.8	20.1	437060	28.9	20.5
165049	28.5	19.4	458243	28.6	19.9	65648	28.7	18.8	160396	28.8	19.0	66876	28.8	19.1	394334	28.9	20.7
170433	28.5	20.1	62429	28.6	16.6	180544	28.7	20.3	445351	28.8	21.6	399940	28.8	20.8	459870	28.9	20.8
166032	28.5	18.3	311570	28.6	19.4	172863	28.7	20.7	293836	28.8	20.7	370929	28.8	20.5	232863	28.9	20.5
478364	28.5	21.9	260845	28.6	20.3	85754	28.7	19.6	247462	28.8	18.9	203904	28.8	19.1	16134	28.9	18.2
11993	28.5	17.3	466122	28.6	20.1	490682	28.7	20.6	471646	28.8	20.9	304735	28.8	21.0	65263	28.9	17.7
176535	28.5	19.5	475376	28.6	20.5	398904	28.7	19.8	303210	28.8	20.0	428694	28.8	21.9	222472	28.9	20.0
57367	28.5	19.6	313703	28.6	18.5	149110	28.7	20.5	123356	28.8	18.8	519643	28.8	20.1	505621	28.9	20.3
275550	28.5	20.3	442578	28.6	22.2	490842	28.7	19.7	387093	28.8	21.3	386435	28.8	20.8	181094	28.9	19.4
164749	28.5	18.3	442150	28.6	20.3	41769	28.7	18.3	129896	28.8	19.6	242726	28.8	19.9	139238	28.9	18.4
423969	28.5	21.7	328187	28.6	19.8	491607	28.7	21.2	358412	28.8	20.7	355873	28.8	20.3	503997	28.9	22.3
279843	28.5	20.2	501479	28.6	19.4	144204	28.7	19.6	216920	28.8	20.4	392018	28.8	21.1	19277	28.9	19.0
167579	28.5	19.5	163124	28.6	20												

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

Nº	06	V															
156634	28.9	18.9	69148	29.0	19.8	232184	29.1	19.0	350814	29.2	20.7	246861	29.2	20.1	131083	29.3	19.9
393342	28.9	19.1	478580	29.0	20.0	106055	29.1	18.7	29355	29.2	17.6	94255	29.2	19.5	141518	29.3	19.3
170830	28.9	20.8	277036	29.0	21.1	182022	29.1	20.5	70879	29.2	18.9	231873	29.2	21.1	129887	29.3	19.8
260630	28.9	19.3	475623	29.0	20.1	398981	29.1	20.2	93314	29.2	18.1	202218	29.2	20.6	237080	29.3	20.3
316237	28.9	19.6	506668	29.0	20.3	348294	29.1	19.2	480006	29.2	20.8	347033	29.2	20.6	278551	29.3	20.1
267460	28.9	19.1	313080	29.0	20.6	477511	29.1	21.6	437530	29.2	20.5	414143	29.2	21.9	169009	29.3	20.1
152104	28.9	20.2	137644	29.0	18.0	167484	29.1	19.3	7063	29.2	17.9	438289	29.2	20.8	509882	29.3	21.7
178576	28.9	20.6	15854	29.0	17.3	2094	29.1	14.7	178373	29.2	19.5	234823	29.2	18.6	202781	29.3	17.8
167870	28.9	19.4	137365	29.0	20.2	75739	29.1	19.0	419943	29.2	19.7	436270	29.2	20.4	519044	29.3	20.8
8889	28.9	16.7	349436	29.0	20.9	442562	29.1	20.7	158988	29.2	20.0	133332	29.2	18.6	106823	29.3	18.8
167412	28.9	20.9	361010	29.0	20.7	180481	29.1	19.8	172597	29.2	20.0	376262	29.2	20.6	162879	29.3	19.6
289355	28.9	21.0	338556	29.0	20.1	26402	29.1	18.7	366328	29.2	20.2	64851	29.2	17.2	350252	29.3	20.4
244269	28.9	19.1	231253	29.0	19.8	311521	29.1	21.2	379790	29.2	21.2	443330	29.2	19.4	405860	29.3	19.8
110911	28.9	20.0	459513	29.0	19.1	305425	29.1	21.3	27150	29.2	18.5	162195	29.2	21.3	285620	29.3	19.9
440529	28.9	21.5	356183	29.0	20.4	64808	29.1	18.0	387352	29.2	19.4	310681	29.2	20.6	21724	29.3	17.7
380861	28.9	21.7	316	29.0	15.2	404588	29.1	19.6	72117	29.2	19.0	290998	29.2	20.7	299701	29.3	20.8
12383	28.9	17.5	10782	29.0	18.4	296130	29.1	20.9	123234	29.2	19.8	22702	29.3	17.9	160199	29.3	20.6
423068	28.9	21.4	351962	29.0	20.7	263397	29.1	19.9	172497	29.2	19.3	512571	29.3	20.7	434385	29.3	21.6
506591	28.9	22.0	320334	29.0	19.6	27957	29.1	16.7	362487	29.2	21.6	523194	29.3	20.5	425991	29.3	20.9
50296	28.9	18.0	479911	29.0	21.0	440279	29.1	20.0	306939	29.2	19.5	247150	29.3	20.2	392418	29.3	20.1
424510	28.9	21.0	298302	29.0	21.2	24514	29.1	17.2	373749	29.2	20.4	98019	29.3	18.8	59385	29.3	18.4
9690	28.9	17.5	193621	29.0	20.4	296423	29.1	20.0	282394	29.2	20.1	74026	29.3	18.1	23607	29.3	17.6
118908	28.9	19.5	510601	29.0	21.1	22768	29.1	18.4	442964	29.2	20.8	312758	29.3	20.2	253909	29.3	21.4
510900	28.9	20.7	256507	29.0	21.0	64435	29.1	20.0	388913	29.2	22.5	355153	29.3	21.5	201528	29.3	19.3
189453	28.9	19.1	501786	29.0	21.7	192249	29.1	20.5	390594	29.2	20.4	229660	29.3	20.5	117233	29.3	17.8
380848	28.9	20.3	101723	29.0	19.8	281056	29.1	20.9	434687	29.2	20.6	302279	29.3	19.8	74839	29.3	17.2
290737	28.9	19.9	476347	29.0	20.9	242299	29.1	20.2	436162	29.2	22.1	283659	29.3	20.7	305430	29.4	20.6
309858	28.9	20.3	53306	29.0	18.2	218952	29.1	19.0	502727	29.2	21.3	446596	29.3	19.8	514020	29.4	20.9
512752	28.9	20.8	358310	29.0	22.6	231606	29.1	20.1	281720	29.2	19.6	209031	29.3	19.9	504287	29.4	21.3
374864	28.9	21.0	225849	29.0	19.5	179543	29.1	19.2	138588	29.2	18.7	462193	29.3	19.8	369266	29.4	19.6
274083	28.9	20.2	37097	29.0	18.4	510925	29.1	21.5	250335	29.2	20.6	437936	29.3	20.0	397737	29.4	20.2
354185	28.9	21.9	387971	29.0	21.0	95008	29.1	17.8	512048	29.2	20.3	7391	29.3	18.9	439824	29.4	20.5
63304	28.9	18.4	494223	29.0	20.9	482733	29.1	21.0	211650	29.2	17.8	71394	29.3	18.9	136591	29.4	19.3
399626	28.9	19.9	265622	29.0	18.6	385038	29.1	20.8	72421	29.2	18.8	432413	29.3	19.9	68068	29.4	18.4
50592	28.9	18.7	258924	29.0	19.6	438455	29.1	21.0	168899	29.2	20.2	511627	29.3	20.2	416757	29.4	20.7
306926	28.9	19.3	50666	29.0	18.0	127254	29.1	19.9	361442	29.2	22.1	145027	29.3	20.1	269812	29.4	19.0
433578	28.9	20.0	305359	29.0	20.4	504304	29.1	21.3	427306	29.2	21.1	166406	29.3	19.7	360977	29.4	21.6
480624	28.9	20.2	133526	29.0	19.2	439647	29.1	20.7	216397	29.2	20.6	22529	29.3	18.3	345523	29.4	20.8
258495	28.9	20.8	106122	29.0	19.2	468129	29.1	21.7	76453	29.2	19.1	80728	29.3	18.8	114249	29.4	17.5
282010	28.9	18.5	384021	29.0	21.3	263093	29.1	20.3	311408	29.2	20.8	159475	29.3	19.7	256998	29.4	20.0
308550	28.9	20.8	320595	29.0	20.2	1687	29.1	15.3	252792	29.2	19.9	504555	29.3	21.6	285859	29.4	21.0
17460	28.9	18.8	486824	29.0	20.3	442608	29.1	20.2	103870	29.2	19.4	395243	29.3	20.3	364576	29.4	19.6
500874	28.9	19.9	178048	29.0	19.2	352334	29.1	20.5	118906	29.2	19.5	410195	29.3	23.1	512115	29.4	20.5
470361	28.9	21.2	146146	29.0	19.4	435759	29.1	20.0	321702	29.2	20.4	185450	29.3	19.5	370335	29.4	21.0
130461	28.9	18.1	178703	29.0	20.3	207399	29.1	20.2	297746	29.2	20.5	84833	29.3	17.2	62816	29.4	18.5
393965	28.9	20.4	490389	29.0	19.8	498464	29.1	21.8	260147	29.2	20.0	146078	29.3	20.2	125477	29.4	20.3
184748	28.9	20.3	82542	29.0	18.2	159960	29.1	18.7	320762	29.2	20.0	350275	29.3	21.2	350158	29.4	20.5
222687	28.9	20.8	494511	29.0	20.2	266186	29.1	21.1	332495	29.2	20.8	185728	29.3	19.9	151344	29.4	19.5
346663	28.9	21.8	250912	29.0	20.2	487644	29.1	20.2	1832	29.2	16.1	442007	29.3	21.2	376899	29.4	21.5
180204	28.9	20.1	311525	29.0	21.2	339053	29.1	19.1	246401	29.2	20.4	438282	29.3	21.0	13598	29.4	17.3
188169	28.9	21.5	34802	29.1	19.1	380820	29.1	20.8	3962	29.2	17.2	507010	29.3	22.5	11054	29.4	20.6
68510	28.9	18.5	262065	29.1	21.8	103186	29.1	19.0	189553	29.2	18.7	468869	29.3	21.1	115845	29.4	20.4
117663	28.9	19.5	428504	29.1	20.7	263354	29.1	19.9	442840	29.2	20.3	326331	29.3	19.8	198178	29.4	19.3
360141	28.9	20.6	31270	29.1	18.0	499394	29.1	22.2	287067	29.2	19.6	24197	29.3	18.4	79308	29.4	19.4
90437	28.9	20.7	464848	29.1	20.9	342545	29.1	20.5	81422	29.2	18.8	5995	29.3	16.2	475998	29.4	20.6
174566	28.9	18.3	253563	29.1	20.7	244746	29.1	19.0	282282	29.2	20.0	515244	29.3	21.4	299920	29.4	20.2
503934	28.9	21.6	109062	29.1	19.0	478042	29.1	19.9	483339	29.2	21.0	380100	29.3	19.8	23199	29.4	18.8
370123	28.9	21.6	349355	29.1	20.5	469741	29.1	20.1	296104	29.2	20.8	340496	29.3	20.0	65386	29.4	19.5
214377	28.9	20.1	476280	29.1	20.3	31990	29.1	17.3	164458	29.2	19.0	307194	29.3	19.3	62772	29.4	19.1
434269	28.9	20.3	476454	29.1	21.4	121413	29.1	18.6	522887	29.2	20.9	503612	29.3	20.1	20100	29.4	19.2
33434	28.9	18.3	246881	29.1	19.5	520209											

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

Nº	06	V															
106087	29.4	19.2	392020	29.5	19.7	213232	29.6	19.9	250922	29.6	20.8	306230	29.7	19.1	33487	29.8	18.5
341198	29.4	20.2	476132	29.5	20.8	93730	29.6	17.2	168571	29.6	18.7	259792	29.7	21.1	473253	29.8	20.4
117576	29.4	18.3	508409	29.5	19.9	314367	29.6	20.8	215866	29.6	19.5	101370	29.7	18.1	126206	29.8	19.9
96440	29.4	19.0	399875	29.5	20.7	255169	29.6	20.8	181315	29.6	20.6	497943	29.7	22.0	215566	29.8	19.2
297548	29.4	19.9	122539	29.5	19.7	93613	29.6	18.6	136711	29.6	18.8	365822	29.7	21.0	305933	29.8	19.6
515796	29.4	20.3	371551	29.5	20.0	40680	29.6	16.2	25105	29.6	18.3	434763	29.7	20.5	373581	29.8	21.9
189613	29.4	18.9	187634	29.5	21.3	220314	29.6	19.6	19980	29.6	18.7	105598	29.7	19.0	382482	29.8	20.6
248406	29.4	20.0	116444	29.5	18.3	43924	29.6	18.7	179475	29.6	19.9	476255	29.7	20.9	357732	29.8	20.4
86592	29.4	18.3	358870	29.5	20.0	353167	29.6	19.8	64358	29.6	19.1	283674	29.7	20.1	295324	29.8	20.1
183506	29.4	19.2	207728	29.5	20.8	285870	29.6	18.5	511589	29.6	21.2	444333	29.7	21.9	302178	29.8	19.8
356634	29.4	20.6	193695	29.5	20.4	478792	29.6	21.4	513665	29.6	22.2	387024	29.7	21.3	114660	29.8	19.8
353884	29.4	20.3	371613	29.5	21.5	441374	29.6	20.5	181237	29.6	19.4	256317	29.7	19.4	517686	29.8	19.8
1144	29.4	15.4	396110	29.5	20.7	362259	29.6	20.7	393317	29.6	20.6	2575	29.7	14.7	48592	29.8	18.0
241094	29.4	19.2	297788	29.5	21.4	35660	29.6	17.3	224232	29.6	21.2	397767	29.7	20.5	121715	29.8	20.1
179501	29.4	20.0	504621	29.5	22.1	422689	29.6	21.8	98281	29.7	19.7	192930	29.7	20.4	279243	29.8	19.8
519549	29.4	20.0	383907	29.5	20.3	509422	29.6	21.9	510372	29.7	21.4	91990	29.7	18.4	440704	29.8	21.0
166301	29.4	19.5	284066	29.5	20.3	41708	29.6	18.9	508445	29.7	20.2	98256	29.7	18.8	290544	29.8	21.6
256637	29.4	18.9	514554	29.5	20.5	340430	29.6	20.5	436911	29.7	20.2	308084	29.7	21.8	469352	29.8	20.0
243530	29.4	19.7	520336	29.5	21.3	504774	29.6	20.3	308475	29.7	19.9	393120	29.7	20.3	108206	29.8	20.0
62025	29.4	18.4	428210	29.5	22.1	44536	29.6	19.3	213070	29.7	19.3	291054	29.7	19.3	130935	29.8	21.2
62822	29.4	19.0	88807	29.5	20.1	296852	29.6	17.9	499998	29.7	22.4	198097	29.7	19.7	506420	29.8	21.3
249216	29.4	19.6	432042	29.5	19.8	373603	29.6	20.3	34631	29.7	18.5	1433	29.7	16.1	20782	29.8	17.9
449965	29.4	21.2	474275	29.5	22.7	11634	29.6	18.1	308594	29.7	19.5	327805	29.7	20.4	444682	29.8	21.1
272579	29.4	20.9	288914	29.5	22.2	89739	29.6	19.1	389521	29.7	19.4	4789	29.7	16.4	119557	29.8	18.4
285084	29.4	20.1	88089	29.5	19.2	371559	29.6	21.2	516831	29.7	20.5	128078	29.7	19.1	175540	29.8	19.5
202988	29.4	19.7	506280	29.5	20.3	521110	29.6	20.3	326929	29.7	20.2	172861	29.7	20.9	123163	29.8	20.2
154515	29.4	19.8	93367	29.5	20.3	106610	29.6	18.9	34082	29.7	18.4	54669	29.7	18.0	141932	29.8	18.7
121249	29.5	19.1	488429	29.5	20.5	7666	29.6	17.1	244382	29.7	19.3	298353	29.7	20.3	107697	29.8	18.3
253903	29.5	21.2	256742	29.5	21.3	182855	29.6	20.5	250813	29.7	20.8	343587	29.7	20.0	136402	29.8	19.9
316607	29.5	19.8	122751	29.5	20.2	13578	29.6	15.5	476188	29.7	20.7	318550	29.7	20.4	345872	29.8	18.7
355545	29.5	21.5	86132	29.5	18.4	20667	29.6	18.8	497074	29.7	21.6	144717	29.7	19.2	3212	29.8	16.8
38756	29.5	19.9	397127	29.5	20.6	192361	29.6	21.5	130926	29.7	19.7	517233	29.7	20.9	290639	29.8	19.6
387059	29.5	21.4	489386	29.5	20.4	12527	29.6	16.3	10165	29.7	18.8	404870	29.7	19.4	508959	29.8	21.8
438725	29.5	21.0	49738	29.5	17.7	439826	29.6	19.2	369036	29.7	20.4	23278	29.7	18.2	260225	29.8	20.1
139798	29.5	19.6	506409	29.5	19.1	207411	29.6	20.1	436637	29.7	20.1	58838	29.7	19.0	399070	29.8	21.0
307275	29.5	18.6	100460	29.5	19.2	38221	29.6	17.8	193443	29.7	18.2	473223	29.8	20.8	476538	29.8	20.6
164094	29.5	20.5	193505	29.5	20.0	66247	29.6	17.4	131771	29.7	18.5	515080	29.8	20.8	279146	29.8	20.0
304306	29.5	20.3	251530	29.5	21.1	391538	29.6	20.5	23436	29.7	18.6	64211	29.8	19.0	39778	29.8	17.6
471282	29.5	20.2	162644	29.5	18.3	512962	29.6	20.9	182815	29.7	19.2	250553	29.8	18.4	347005	29.8	20.2
395858	29.5	21.3	350984	29.5	21.2	314515	29.6	20.3	513083	29.7	21.3	186980	29.8	19.9	380829	29.8	21.5
249649	29.5	20.2	148439	29.5	19.7	442944	29.6	20.7	446644	29.7	20.9	66631	29.8	18.8	313118	29.8	20.2
190563	29.5	19.3	167826	29.5	20.0	346133	29.6	20.7	43517	29.7	18.6	387969	29.8	20.7	326238	29.9	20.7
376246	29.5	21.5	442133	29.5	19.9	184189	29.6	19.3	87879	29.7	18.6	522807	29.8	21.0	177732	29.9	19.8
222636	29.5	20.9	164744	29.5	20.2	243650	29.6	20.4	513122	29.7	21.2	27777	29.8	18.7	445517	29.9	20.2
89907	29.5	18.6	510449	29.5	21.7	335122	29.6	20.3	191225	29.7	19.2	386279	29.8	21.5	183704	29.9	17.9
397151	29.5	20.1	122707	29.5	20.4	261124	29.6	20.5	47395	29.7	19.1	307004	29.8	19.8	238558	29.9	21.6
502759	29.5	22.3	408252	29.5	20.9	207489	29.6	19.2	481310	29.7	20.4	200299	29.8	20.6	172865	29.9	19.6
158081	29.5	19.5	364216	29.5	19.3	419560	29.6	20.4	60133	29.7	18.9	431010	29.8	20.1	156240	29.9	20.8
195586	29.5	19.9	423065	29.5	21.8	521147	29.6	20.8	54083	29.7	18.2	386757	29.8	20.8	389538	29.9	21.3
506507	29.5	21.8	140744	29.5	20.1	319322	29.6	20.2	95373	29.7	20.0	86144	29.8	19.2	355471	29.9	21.2
398217	29.5	20.8	356710	29.5	19.7	442944	29.6	20.7	446644	29.7	20.9	66631	29.8	18.8	313118	29.8	20.2
118944	29.5	19.0	501363	29.6	20.9	145028	29.6	19.1	212981	29.7	21.3	235033	29.8	20.2	385579	29.9	21.5
299825	29.5	22.0	498059	29.6	20.0	15365	29.6	17.6	94338	29.7	19.1	321170	29.8	20.6	151303	29.9	20.7
135385	29.5	19.5	433346	29.6	21.1	437595	29.6	20.2	45848	29.7	18.1	380292	29.8	21.8	373599	29.9	21.0
176744	29.5	18.5	394271	29.6	20.4	243633	29.6	20.8	318940	29.7	20.8	340477	29.8	19.4	161305	29.9	17.9
324959	29.5	21.8	280143	29.6	19.7	48144	29.6	19.0	358352	29.7	22.3	339165	29.8	19.5	225802	29.9	20.3
293214	29.5	22.4	434769	29.6	20.7	297222	29.6	20.2	417973	29.7	20.5	355605	29.8	21.5	208728	29.9	19.3
144877	29.5	19.6	409352	29.6	21.8	77268	29.6	19.3	478325	29.7	22.0	51510	29.8	17.5	122783	29.9	20.6
501785	29.5	20.9	509029	29.6	21.2	411693	29.6	21.0	449463	29.7	20.6	263486	29.8	20.7	192247	29.9	20.0
124717	29.5	18.4	398483	29.6	21.3	355584	29.6	20.0	139893	29.7	18.2	202416	29.8	20.1	329572	29.9	20.5
71792	29.5	17.6	321659	29.6	19.9												

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

Nº	06	V															
120510	29.9	19.8	79735	29.9	19.2	217007	30.1	20.2	176317	30.1	19.9	62738	30.2	18.7	138273	30.3	19.8
386368	29.9	21.3	237541	29.9	21.7	503920	30.1	21.2	522649	30.1	20.3	364609	30.2	19.4	257157	30.3	19.6
434723	29.9	20.9	126834	29.9	19.6	419708	30.1	20.9	344678	30.1	18.9	141387	30.2	19.2	346657	30.3	20.4
425581	29.9	22.4	138808	29.9	19.8	462568	30.1	21.1	338605	30.1	19.7	471630	30.2	20.2	422643	30.3	20.3
173556	29.9	20.1	60186	29.9	18.4	361938	30.1	21.4	387107	30.1	20.3	197951	30.2	20.0	257153	30.3	20.5
294253	29.9	21.1	167743	29.9	20.0	23680	30.1	17.5	333299	30.1	19.5	299680	30.2	20.2	518188	30.3	21.1
342159	29.9	20.1	74007	29.9	18.0	181266	30.1	18.7	439373	30.1	19.8	323390	30.2	20.7	123371	30.3	19.2
31592	29.9	18.4	317850	29.9	19.4	141797	30.1	17.9	220734	30.1	19.4	168757	30.2	18.9	371933	30.3	21.0
508694	29.9	20.4	251789	29.9	19.5	480812	30.1	21.4	369988	30.1	21.5	93401	30.2	18.7	509393	30.3	21.6
365111	29.9	20.7	28971	29.9	17.7	146996	30.1	18.9	171755	30.1	20.5	124141	30.2	17.9	376132	30.3	20.3
112809	29.9	19.0	213087	29.9	18.9	261408	30.1	20.9	510464	30.1	21.7	149377	30.2	19.8	517013	30.3	21.4
196512	29.9	18.7	475270	29.9	22.2	356739	30.1	21.0	153603	30.1	20.6	49325	30.2	16.9	273737	30.3	20.3
70441	29.9	19.1	510022	29.9	22.1	127154	30.1	19.4	428310	30.1	19.3	427282	30.2	20.6	49017	30.3	19.0
374725	29.9	20.4	16943	29.9	16.8	441971	30.1	20.9	254264	30.1	19.6	478676	30.2	21.7	112958	30.3	18.1
102465	29.9	18.7	400874	29.9	20.4	498479	30.1	21.1	483381	30.1	20.0	469975	30.2	21.3	94241	30.3	19.1
342625	29.9	20.1	391641	29.9	20.7	405804	30.1	20.2	286612	30.1	21.1	84282	30.2	19.0	493753	30.3	20.8
410679	29.9	21.4	465613	29.9	20.9	316530	30.1	19.1	323523	30.1	19.1	160963	30.2	18.6	138943	30.3	19.4
440310	29.9	20.0	19670	29.9	17.2	500168	30.1	21.8	131249	30.1	19.7	368134	30.2	19.2	34466	30.3	17.9
9964	29.9	15.9	502819	29.9	21.7	79742	30.1	18.6	64195	30.1	19.0	11814	30.2	18.4	480716	30.3	20.0
161616	29.9	19.7	213083	29.9	19.3	342399	30.1	19.9	215425	30.1	19.3	34184	30.2	19.4	381433	30.3	20.7
242694	29.9	21.0	440649	29.9	20.8	254409	30.1	20.6	354765	30.1	20.2	249612	30.2	19.8	95061	30.3	18.5
292908	29.9	20.6	392714	29.9	20.3	444967	30.1	21.1	41794	30.1	17.3	394662	30.2	20.6	441068	30.3	19.9
309711	29.9	20.7	406807	29.9	21.3	25518	30.1	18.1	227206	30.1	20.3	142334	30.2	19.5	468039	30.3	19.7
345915	29.9	20.4	5837	29.9	16.8	192495	30.1	19.6	168603	30.1	17.7	356979	30.2	21.3	498386	30.3	21.0
317714	29.9	19.1	478290	29.9	21.2	508564	30.1	20.5	263443	30.1	20.5	472727	30.2	19.6	217835	30.3	17.8
313133	29.9	18.2	78061	30.0	17.1	479110	30.1	21.1	435874	30.1	19.5	352530	30.2	21.0	503999	30.3	22.6
131743	29.9	19.9	333742	30.0	19.1	443012	30.1	20.7	504791	30.1	21.0	347399	30.2	20.3	496873	30.3	22.1
308710	29.9	21.0	183882	30.0	20.1	27247	30.1	16.7	322256	30.1	19.8	186542	30.2	19.5	134	30.3	12.7
433107	29.9	20.0	59524	30.0	17.9	158389	30.1	20.4	151460	30.1	20.6	313356	30.2	19.7	311885	30.3	20.3
263655	29.9	20.7	327822	30.0	20.1	207978	30.1	20.3	512153	30.1	20.2	71682	30.2	19.1	203343	30.3	19.3
93689	29.9	19.2	111896	30.0	18.2	305499	30.1	20.1	245291	30.1	20.0	302225	30.2	20.1	183537	30.3	19.4
26890	29.9	18.2	22978	30.0	17.3	474213	30.1	21.4	435772	30.1	21.2	352601	30.2	20.8	437389	30.3	20.7
382956	29.9	20.9	242478	30.0	19.1	220295	30.1	19.3	171167	30.1	20.2	360679	30.2	19.8	181941	30.3	19.0
185614	29.9	20.2	189568	30.0	18.2	505913	30.1	20.1	131280	30.2	19.0	250882	30.2	20.6	308131	30.3	19.9
478982	29.9	21.8	365076	30.0	20.0	336626	30.1	19.4	85783	30.2	18.0	58860	30.2	18.4	386449	30.3	19.9
278859	29.9	20.3	37911	30.0	17.3	488986	30.1	20.4	145454	30.2	18.9	382361	30.2	20.0	387761	30.3	20.0
338643	29.9	20.4	44138	30.0	18.1	314131	30.1	20.2	350644	30.2	21.3	6627	30.2	16.3	12796	30.3	19.0
176608	29.9	19.5	23221	30.0	16.7	425055	30.1	20.5	503058	30.2	21.1	66616	30.2	18.7	51450	30.3	17.7
58651	29.9	19.4	210394	30.0	19.0	337191	30.1	20.4	361009	30.2	21.5	513559	30.2	21.0	288552	30.3	20.2
34198	29.9	18.4	119460	30.0	19.4	65662	30.1	18.5	476052	30.2	21.4	338818	30.2	20.8	334403	30.3	20.3
115837	29.9	18.5	494274	30.0	19.8	396107	30.1	20.8	203744	30.2	19.3	466624	30.2	21.2	106018	30.3	19.0
134672	29.9	18.8	409360	30.0	20.2	190451	30.1	20.1	131020	30.2	18.5	63503	30.2	17.8	91411	30.3	17.9
225966	29.9	20.4	176042	30.0	19.2	234225	30.1	21.4	398735	30.2	21.4	425585	30.2	21.3	425643	30.3	19.5
478413	29.9	20.8	326919	30.0	21.1	441978	30.1	20.8	12579	30.2	17.3	18007	30.2	16.7	281980	30.3	19.9
35254	29.9	19.1	103119	30.0	19.5	114431	30.1	18.5	65118	30.2	18.8	218810	30.2	19.5	35329	30.3	19.2
393677	29.9	18.7	133075	30.0	18.3	261403	30.1	20.0	357553	30.2	19.7	177863	30.2	19.6	342308	30.3	19.3
97892	29.9	19.0	438171	30.0	20.6	512643	30.1	21.4	438758	30.2	20.7	394359	30.2	20.7	471556	30.3	20.0
261098	29.9	20.2	12549	30.0	18.4	152032	30.1	20.7	123301	30.2	20.0	299726	30.2	20.3	237953	30.3	18.3
473059	29.9	20.7	418433	30.0	19.1	320264	30.1	19.3	512460	30.2	19.6	162158	30.2	18.8	246357	30.3	19.5
107058	29.9	20.4	431078	30.0	20.6	337134	30.1	21.1	474070	30.2	19.7	510205	30.2	20.1	95236	30.3	17.9
442537	29.9	21.3	479294	30.0	21.9	304570	30.1	19.5	346713	30.2	20.1	212896	30.2	19.8	13759	30.3	18.2
11609	29.9	18.1	349997	30.0	20.9	119040	30.1	19.8	232654	30.2	20.5	323422	30.2	19.9	514433	30.3	20.6
255138	29.9	19.6	456165	30.0	19.7	475233	30.1	21.5	255277	30.2	20.5	126000	30.2	19.5	90932	30.3	18.6
481288	29.9	20.5	108314	30.0	18.2	506742	30.1	20.5	120962	30.2	18.9	203679	30.3	19.2	54677	30.3	18.9
263260	29.9	21.2	58835	30.0	17.6	399066	30.1	20.6	179386	30.2	20.2	21885	30.3	18.3	209492	30.3	18.1
235785	29.9	20.8	261484	30.0	20.8	269981	30.1	19.0	500251	30.2	20.7	54754	30.3	17.2	123014	30.3	20.3
360924	29.9	21.7	57561	30.0	18.2	422996	30.1	19.8	509660	30.2	21.0	116815	30.3	17.3	306262	30.3	21.7
503160	29.9	19.9	261685	30.0	20.5	188798	30.1	19.3	472464	30.2	19.4	56814	30.3	17.4	28623	30.3	19.1
369926	29.9	20.6	180325	30.0	20.6	270350	30.1	19.9	350843	30.2	20.2	29220	30.3	18.1	392969	30.3	20.3
483635	29.9	20.7	497178	30.0	20.3	178342	30.1	20.0	146955	30.2	19.4	374425	30.3	22.1	338813	30.3	20.3
250041	29.9	19.6	506471	30.0	20.3												

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

Nº	06	V															
254959	30.4	20.8	317371	30.4	19.3	519754	30.5	20.7	367072	30.6	19.0	387758	30.7	21.4	403191	30.8	20.5
290511	30.4	20.5	204803	30.4	19.8	247426	30.5	21.2	472238	30.6	21.3	362963	30.7	20.4	282019	30.8	19.3
10626	30.4	18.6	169563	30.4	20.0	393129	30.5	20.5	229479	30.6	19.9	506241	30.7	20.5	247246	30.8	20.1
6634	30.4	13.9	316384	30.4	21.1	149393	30.5	19.0	87293	30.6	18.1	320640	30.7	20.8	383295	30.8	21.2
502708	30.4	21.2	40097	30.4	18.1	199694	30.5	20.3	428213	30.6	21.9	368935	30.7	19.9	235742	30.8	20.0
127922	30.4	17.9	359501	30.4	20.3	106181	30.5	19.1	315786	30.6	19.9	23995	30.7	19.0	504934	30.8	21.7
357896	30.4	21.3	341176	30.4	20.3	18956	30.5	18.2	287242	30.6	20.0	36346	30.7	18.4	203355	30.8	19.8
79519	30.4	19.4	222717	30.4	20.6	257259	30.5	19.4	185074	30.6	19.9	255349	30.7	20.0	184303	30.8	18.6
418019	30.4	20.6	20949	30.4	19.6	423712	30.5	21.4	338873	30.6	20.1	189574	30.7	17.5	472710	30.8	21.0
202929	30.4	19.4	386857	30.4	19.5	149208	30.5	20.1	282374	30.6	19.5	346465	30.7	20.8	33291	30.8	18.0
26379	30.4	21.2	450098	30.4	20.0	291805	30.5	19.5	17720	30.6	18.3	398562	30.7	20.9	434774	30.8	20.0
370249	30.4	19.9	260795	30.4	19.8	436631	30.5	20.6	350969	30.6	20.8	66624	30.7	17.7	311977	30.8	20.2
43209	30.4	17.1	159438	30.4	19.7	218399	30.5	18.4	291529	30.6	21.0	250828	30.7	20.4	111583	30.8	19.0
394636	30.4	21.4	312676	30.4	20.0	353648	30.5	20.3	21732	30.6	18.5	97013	30.7	19.0	42757	30.8	18.7
152585	30.4	19.8	269278	30.4	20.8	217582	30.5	19.4	98289	30.6	18.8	396812	30.7	20.0	433183	30.8	20.4
371892	30.4	20.6	389007	30.4	21.5	231935	30.5	19.3	291192	30.6	21.3	318487	30.7	19.5	80973	30.8	19.7
350921	30.4	20.7	44763	30.4	18.3	413403	30.5	20.8	483110	30.6	19.5	125768	30.7	19.4	271698	30.8	21.3
195313	30.4	19.6	392655	30.4	20.3	188939	30.5	20.4	289413	30.6	20.1	293669	30.7	18.4	354203	30.8	20.0
52100	30.4	19.0	261766	30.4	18.6	471790	30.5	19.2	469319	30.6	20.9	31064	30.7	19.1	208430	30.8	20.5
442179	30.4	20.4	339352	30.4	19.5	423411	30.5	19.7	422719	30.6	20.1	123157	30.7	19.8	253908	30.8	21.1
128974	30.4	20.2	101963	30.4	18.4	147691	30.5	18.5	481314	30.6	21.8	203975	30.7	20.3	509129	30.8	21.3
176153	30.4	20.1	87411	30.4	18.5	115777	30.5	19.9	253654	30.6	18.9	506841	30.7	20.2	351921	30.8	21.3
310536	30.4	20.4	261061	30.4	20.4	93771	30.5	18.3	81279	30.6	19.6	379202	30.7	21.1	334434	30.8	20.6
167474	30.4	18.7	483211	30.4	20.5	145833	30.5	18.3	442585	30.6	20.5	251402	30.7	19.9	271905	30.8	19.1
335150	30.4	20.1	392424	30.4	19.8	152832	30.5	18.6	509502	30.6	20.3	342245	30.7	19.4	160940	30.8	20.2
156164	30.4	19.2	451951	30.4	20.5	69702	30.5	17.6	338805	30.6	19.6	211041	30.7	18.8	40578	30.8	18.5
377750	30.4	21.4	19534	30.4	16.7	371886	30.5	19.6	254284	30.6	19.8	365074	30.7	19.4	358373	30.8	22.3
198407	30.4	18.6	333157	30.4	20.8	79054	30.5	19.4	211004	30.6	20.6	139999	30.7	19.3	398619	30.8	20.6
234776	30.4	18.9	446748	30.4	20.1	126763	30.5	18.6	168331	30.6	19.9	290562	30.7	20.6	306966	30.8	20.2
472907	30.4	19.6	467489	30.4	19.4	283001	30.5	19.7	167258	30.6	19.1	305511	30.7	20.3	277579	30.8	20.4
186052	30.4	18.4	150714	30.4	19.4	96998	30.5	18.1	35958	30.6	16.2	374525	30.7	20.7	48237	30.8	19.0
429124	30.4	20.9	39273	30.4	18.1	258369	30.5	19.9	321056	30.6	19.8	36858	30.7	17.7	227164	30.8	19.8
66583	30.4	18.1	308355	30.4	20.8	235834	30.5	21.5	288955	30.6	18.9	319142	30.7	21.7	509789	30.8	21.4
1297	30.4	15.3	305448	30.4	20.8	356190	30.5	20.2	136731	30.6	18.8	66264	30.7	17.1	433696	30.8	19.8
369511	30.4	21.3	168219	30.4	18.7	313306	30.5	20.5	322614	30.6	19.0	130969	30.7	20.0	150600	30.8	20.5
281639	30.4	20.1	511597	30.5	20.5	127728	30.5	18.9	13333	30.6	17.4	111795	30.7	19.6	250605	30.8	20.5
272388	30.4	21.0	446184	30.5	20.8	520025	30.5	21.6	342258	30.6	19.5	468632	30.7	20.0	61591	30.8	18.4
282020	30.4	18.8	64748	30.5	19.3	285478	30.5	21.3	354829	30.6	20.4	324561	30.7	19.1	311148	30.8	20.2
292242	30.4	20.5	378289	30.5	20.6	435820	30.5	20.8	72637	30.6	19.0	93035	30.7	18.4	337204	30.8	21.0
395264	30.4	20.0	351834	30.5	19.8	198920	30.5	19.6	386117	30.6	20.0	17072	30.7	18.2	507137	30.8	21.2
509305	30.4	20.1	6786	30.5	17.5	416105	30.5	19.7	362008	30.6	19.8	373731	30.7	20.6	236611	30.8	20.2
208504	30.4	19.9	39526	30.5	17.4	4043	30.5	16.2	184230	30.6	18.7	69810	30.7	19.7	475165	30.8	21.3
441286	30.4	19.1	470400	30.5	20.0	430266	30.5	20.3	348217	30.6	20.1	331132	30.7	20.6	464567	30.8	20.0
393076	30.4	20.0	311894	30.5	20.2	321685	30.6	20.5	345875	30.6	19.7	43721	30.7	19.1	112413	30.8	18.5
128583	30.4	20.3	228662	30.5	18.8	353952	30.6	19.7	262554	30.6	19.8	342490	30.7	20.3	293253	30.8	19.4
166099	30.4	19.2	420456	30.5	20.9	4352	30.6	16.1	414037	30.6	20.8	294440	30.7	17.3	129333	30.8	19.5
183724	30.4	20.3	258194	30.5	19.7	12734	30.6	17.8	262088	30.6	21.2	250811	30.7	19.4	186573	30.8	19.7
185112	30.4	20.3	431088	30.5	20.5	376599	30.6	19.2	173162	30.6	21.3	483096	30.7	20.7	294533	30.8	20.9
471617	30.4	19.9	262027	30.5	20.2	138014	30.6	20.1	37179	30.6	18.1	423742	30.7	20.4	474266	30.8	21.8
158728	30.4	18.5	395601	30.5	21.2	483178	30.6	20.3	28098	30.6	16.9	314102	30.7	21.1	313994	30.8	20.7
154268	30.4	19.9	234112	30.5	20.4	75051	30.6	18.3	146756	30.6	19.3	313948	30.7	19.8	8231	30.8	16.6
201758	30.4	19.0	378339	30.5	20.0	293904	30.6	20.3	433395	30.6	20.2	342375	30.7	20.3	151056	30.8	20.0
128701	30.4	18.9	170033	30.5	20.0	20913	30.6	18.6	279500	30.6	19.8	38713	30.7	18.6	330690	30.8	18.6
258056	30.4	17.2	266957	30.5	20.9	395379	30.6	20.5	320538	30.6	20.2	5073	30.7	15.7	38212	30.8	16.0
514969	30.4	21.2	310015	30.5	20.4	280968	30.6	20.7	292899	30.6	21.3	290386	30.7	19.1	16541	30.8	16.9
377211	30.4	19.7	119915	30.5	19.4	140894	30.6	20.3	127151	30.6	18.2	488592	30.7	19.8	274811	30.8	19.4
73906	30.4	19.0	236566	30.5	20.1	240699	30.6	20.9	365900	30.6	19.7	335579	30.7	20.8	340999	30.8	18.1
477014	30.4	19.0	159538	30.5	18.2	16486	30.6	16.1	253703	30.6	20.2	213822	30.7	19.1	393994	30.8	19.8
380274	30.4	20.4	2518	30.5	15.2	12774	30.6	19.2	416385	30.6	21.2	299419	30.7	20.1	290789	30.8	20.2
267734	30.4	19.7	61424	30.5	19.0	55282	30.6	18.6	459624	30.6	20.0	70074	30.7	16.9	472995	30.8	19.7
41558	30.4	18.1	408954	30.5	19.9												

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

Nº	06	V															
93733	30.8	19.5	13085	30.9	17.1	234085	30.9	18.7	333161	30.9	21.6	244769	30.9	19.6	374290	30.9	21.4
39130	30.8	18.5	328921	30.9	21.0	151674	30.9	20.0	272395	30.9	20.2	312217	30.9	19.8	165308	30.9	19.5
115663	30.8	19.5	38959	30.9	19.0	311393	30.9	20.1	63530	30.9	19.2	305526	30.9	20.9	35386	30.9	17.7
417512	30.8	21.7	46080	30.9	18.5	162124	30.9	19.4	312365	30.9	20.1	284445	30.9	21.2	353331	30.9	19.3
342275	30.8	19.0	521432	30.9	20.0	84160	30.9	19.3	46940	30.9	19.1	464890	30.9	20.2	40687	30.9	18.8
506526	30.8	21.5	520073	30.9	21.0	305384	30.9	20.4	335590	30.9	20.3	71402	30.9	18.4	98039	30.9	19.6
153171	30.8	18.4	110938	30.9	20.0	499690	30.9	21.7	242155	30.9	18.8	281817	30.9	20.5	39576	30.9	18.3
338834	30.8	21.3	208831	30.9	20.1	82725	30.9	19.2	465383	30.9	19.0	494822	30.9	21.6	425917	30.9	21.0
302200	30.8	20.4	32245	30.9	17.4	425596	30.9	19.9	361488	30.9	21.3	102564	30.9	19.2	472055	30.9	20.6
470439	30.8	20.2	384834	30.9	19.2	509211	30.9	21.5	262257	30.9	20.6	118969	30.9	20.8	76854	30.9	16.8
211743	30.8	20.5	281879	30.9	19.8	304680	30.9	20.6	35411	30.9	17.4	445244	30.9	20.1	446510	30.9	20.9
519811	30.8	21.4	469010	30.9	18.0	69126	30.9	19.4	146536	30.9	19.3	72628	30.9	18.8	192806	30.9	19.8
182028	30.8	21.2	294501	30.9	19.3	438779	30.9	19.8	510576	30.9	20.3	396568	30.9	21.8	224269	30.9	20.5
437089	30.8	20.6	96404	30.9	19.8	355709	30.9	20.5	222676	30.9	20.2	186264	30.9	20.8			
462598	30.8	20.1	236887	30.9	20.0	229509	30.9	20.3	193455	30.9	19.7	127215	30.9	19.0			
506611	30.8	21.2	509713	30.9	22.0	370922	30.9	19.4	444122	30.9	21.0	24373	30.9	16.7			
231682	30.8	20.0	251930	30.9	21.3	206524	30.9	20.2	398927	30.9	20.7	476472	30.9	20.8			
28921	30.8	17.2	431039	30.9	20.7	443010	30.9	21.7	364205	30.9	17.9	510930	30.9	21.0			
437708	30.8	20.6	106189	30.9	17.2	294636	30.9	21.2	437642	30.9	19.8	288171	30.9	19.9			
422972	30.8	20.3	399096	30.9	21.2	160042	30.9	18.5	64280	30.9	18.7	161046	30.9	18.0			
418076	30.8	19.6	60481	30.9	17.9	311621	30.9	19.3	233881	30.9	20.0	394726	30.9	20.4			
161155	30.8	19.9	250945	30.9	21.4	437485	30.9	21.0	71968	30.9	19.3	417928	30.9	20.6			
415782	30.8	19.8	267175	30.9	18.2	522958	30.9	20.8	19203	30.9	18.2	20015	30.9	17.8			
201162	30.8	18.6	245557	30.9	19.0	520991	30.9	20.2	476287	30.9	20.9	519406	30.9	21.6			
380192	30.9	20.7	505702	30.9	20.4	95830	30.9	18.7	62807	30.9	19.5	523791	30.9	22.6			
397771	30.9	20.9	176401	30.9	21.2	133648	30.9	19.0	124480	30.9	19.5	426794	30.9	19.0			
471593	30.9	21.4	277509	30.9	20.8	322745	30.9	21.6	294921	30.9	20.3	423906	30.9	20.8			
336801	30.9	19.5	335565	30.9	19.2	408208	30.9	20.0	86158	30.9	18.9	74273	30.9	19.1			
294953	30.9	19.7	222581	30.9	21.0	476992	30.9	21.1	243899	30.9	20.0	256814	30.9	19.9			
248111	30.9	19.5	12547	30.9	17.6	53420	30.9	16.7	380887	30.9	21.8	183333	30.9	20.1			
56986	30.9	18.0	342673	30.9	18.9	471382	30.9	20.9	208838	30.9	20.7	319035	30.9	21.7			
246297	30.9	19.9	198158	30.9	19.3	472762	30.9	20.5	299707	30.9	19.5	127225	30.9	18.9			
397082	30.9	19.6	330871	30.9	19.3	22710	30.9	17.8	404643	30.9	19.7	16247	30.9	18.6			
328178	30.9	19.8	20711	30.9	18.7	290088	30.9	20.2	342828	30.9	20.1	417658	30.9	21.3			
80799	30.9	19.0	207698	30.9	19.6	497720	30.9	21.2	102704	30.9	19.7	430142	30.9	21.0			