

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

Nº	02	V															
180954	1.0	20.2	495483	1.1	21.2	70940	1.2	17.7	289802	1.2	20.4	424874	1.3	21.1	207404	1.4	20.0
182071	1.0	19.7	70235	1.1	19.0	408227	1.2	20.6	14202	1.2	17.4	424592	1.3	20.6	226938	1.4	20.0
437376	1.0	19.7	354124	1.1	19.7	243834	1.2	20.3	456348	1.2	20.9	490643	1.3	20.2	192594	1.4	18.6
376295	1.0	19.6	364600	1.1	20.3	220571	1.2	21.1	193868	1.2	20.7	393943	1.3	20.0	242349	1.4	19.6
308156	1.0	19.5	223672	1.1	20.3	204579	1.2	18.2	142726	1.2	19.4	395727	1.3	19.9	464656	1.4	21.9
206731	1.0	19.3	57547	1.1	17.8	134258	1.2	18.2	84765	1.2	19.2	82332	1.3	17.8	333237	1.4	20.6
430412	1.0	21.4	10336	1.1	17.4	41791	1.2	17.8	375251	1.2	21.2	336537	1.3	20.1	522058	1.4	20.0
459267	1.0	20.7	227778	1.1	19.4	105161	1.2	18.0	288640	1.2	19.2	307625	1.3	19.5	214248	1.4	19.1
215935	1.0	20.9	74511	1.1	17.6	159013	1.2	19.3	90457	1.2	19.2	201771	1.3	19.5	21876	1.4	18.0
350661	1.0	20.3	320821	1.1	19.7	207946	1.2	20.5	317676	1.2	20.4	110126	1.3	18.5	104551	1.4	19.0
223647	1.0	21.2	64954	1.1	19.2	116363	1.2	19.3	342949	1.2	19.8	420396	1.3	20.6	452359	1.4	21.7
165880	1.0	19.3	136476	1.1	19.3	318638	1.2	20.1	466679	1.2	19.9	88528	1.3	18.4	102735	1.4	20.0
334953	1.0	19.5	38136	1.1	18.7	283747	1.2	19.6	133362	1.2	19.9	61663	1.3	17.8	246375	1.4	18.9
2954	1.0	15.6	134357	1.1	19.5	157699	1.2	20.4	322710	1.2	20.3	162452	1.3	22.0	101724	1.4	18.3
309299	1.0	20.8	281291	1.1	20.2	123947	1.2	18.0	2017	1.2	16.3	254705	1.3	20.1	241286	1.4	20.5
123682	1.0	19.5	435246	1.1	22.1	76428	1.2	19.1	341736	1.2	20.7	502446	1.3	20.7	493228	1.4	21.2
463027	1.0	21.9	283063	1.1	21.3	379130	1.2	19.5	355761	1.2	21.2	176729	1.3	20.4	334634	1.4	20.9
203075	1.0	20.1	498974	1.1	20.6	217803	1.2	19.5	307376	1.2	20.5	112039	1.3	19.1	460083	1.4	20.1
312119	1.0	21.0	317172	1.1	21.2	201043	1.2	18.9	272994	1.2	20.2	333093	1.3	20.5	419782	1.4	21.0
40252	1.0	17.7	83374	1.1	18.3	479469	1.2	19.8	435259	1.2	19.7	149010	1.3	19.5	498147	1.4	22.8
464942	1.0	19.7	292208	1.1	20.7	453051	1.2	21.0	41595	1.2	17.5	112147	1.3	20.0	298714	1.4	20.3
46319	1.0	17.8	464983	1.1	21.1	131119	1.2	19.0	40858	1.2	18.7	467625	1.3	20.7	222296	1.4	20.7
383663	1.0	20.3	356550	1.1	21.0	138350	1.2	19.2	319181	1.2	20.2	239413	1.3	19.8	303395	1.4	20.2
95340	1.0	19.2	57527	1.1	18.1	324091	1.2	21.5	262702	1.2	20.3	163739	1.3	20.1	367609	1.4	20.0
196282	1.0	19.5	399542	1.1	21.4	499389	1.2	20.0	289884	1.3	20.2	457042	1.3	20.2	410497	1.4	20.7
167057	1.0	20.0	15209	1.1	18.1	262823	1.2	18.6	96240	1.3	19.2	55505	1.3	18.4	17134	1.4	19.2
260078	1.0	19.1	689	1.1	15.6	99261	1.2	19.5	101740	1.3	18.3	231590	1.3	20.2	228678	1.4	19.2
205843	1.0	19.9	496182	1.1	21.5	81056	1.2	19.7	72982	1.3	19.1	473623	1.3	20.8	169105	1.4	20.6
403873	1.0	19.9	109753	1.1	20.2	77859	1.2	19.0	205222	1.3	19.1	249536	1.3	20.6	116197	1.4	19.1
400030	1.0	20.7	312517	1.1	20.9	132228	1.2	18.9	502938	1.3	20.3	28243	1.3	16.6	120613	1.4	18.8
52605	1.0	18.0	163353	1.1	20.5	218699	1.2	20.0	180570	1.3	20.3	386549	1.3	19.2	461697	1.4	19.8
306349	1.0	21.4	319439	1.1	20.6	301183	1.2	19.7	172734	1.3	19.4	204797	1.3	19.4	520946	1.4	21.6
393358	1.0	21.1	207414	1.1	20.7	460936	1.2	20.8	350704	1.3	19.8	496086	1.3	20.7	429897	1.4	21.0
428896	1.0	20.0	373377	1.1	20.5	158882	1.2	20.5	122717	1.3	20.1	226002	1.3	19.3	298891	1.4	21.1
241790	1.0	19.9	141572	1.1	19.2	149403	1.2	19.3	88589	1.3	18.6	65435	1.3	19.5	428129	1.4	21.0
153968	1.0	19.0	390250	1.1	20.5	66730	1.2	18.1	93603	1.3	18.6	37004	1.3	18.7	56384	1.4	18.2
372673	1.0	21.2	45390	1.1	17.2	218667	1.2	19.8	440482	1.3	20.9	233019	1.3	19.9	113846	1.4	20.0
19995	1.0	17.8	344469	1.1	21.2	43	1.2	11.1	42654	1.3	17.5	495211	1.3	20.4	497979	1.4	20.7
488485	1.0	21.7	240744	1.1	20.0	381192	1.2	20.4	413689	1.3	19.4	171040	1.3	19.4	57227	1.4	18.3
90234	1.0	17.9	280211	1.1	20.1	400307	1.2	20.2	23760	1.3	18.1	180647	1.3	20.5	461249	1.4	19.7
164199	1.0	18.1	111758	1.1	19.2	15662	1.2	16.8	390579	1.3	20.5	312550	1.3	20.1	420077	1.4	20.5
494932	1.0	20.5	75917	1.1	18.4	34808	1.2	18.7	265007	1.3	20.3	320677	1.3	20.2	54808	1.4	16.3
494954	1.0	21.3	340568	1.1	21.7	277986	1.2	19.2	492414	1.3	21.5	409755	1.3	21.4	508	1.4	13.1
284124	1.0	20.3	459838	1.1	21.6	222319	1.2	20.3	381975	1.3	19.9	348977	1.3	21.4	170639	1.4	19.1
261347	1.0	19.8	88948	1.1	18.9	374599	1.2	20.9	456525	1.3	20.0	453260	1.3	21.6	290019	1.4	21.0
418878	1.0	20.2	298771	1.1	21.5	200910	1.2	19.7	305707	1.3	20.2	197373	1.3	19.6	297836	1.4	19.4
216256	1.0	20.9	309247	1.1	20.5	262794	1.2	18.9	61166	1.3	16.5	284945	1.3	19.8	457239	1.4	19.6
238083	1.1	19.9	368582	1.1	20.2	497268	1.2	21.6	466783	1.3	20.1	467439	1.3	20.2	91266	1.4	18.6
337706	1.1	21.0	336736	1.1	20.0	352144	1.2	20.6	123112	1.3	19.9	462682	1.3	20.3	495702	1.4	20.5
503330	1.1	20.3	210190	1.1	20.2	48850	1.2	19.4	206967	1.3	19.7	369611	1.3	19.3	138625	1.4	20.7
424978	1.1	19.6	179988	1.1	20.3	76488	1.2	18.9	73254	1.3	19.1	190338	1.3	19.8	61755	1.4	19.3
36841	1.1	19.4	495870	1.1	22.3	163596	1.2	20.0	163672	1.3	20.1	197293	1.3	19.8	121662	1.4	19.0
451650	1.1	20.2	322305	1.1	20.2	433064	1.2	20.6	162771	1.3	18.9	365656	1.3	20.0	460848	1.4	20.9
116606	1.1	19.3	639	1.1	12.8	90129	1.2	18.9	164217	1.3	21.2	495479	1.3	22.0	170190	1.4	19.5
414479	1.1	19.9	304029	1.1	20.1	157995	1.2	20.5	325912	1.3	19.7	199496	1.3	19.5	134194	1.4	19.6
154304	1.1	19.2	284835	1.1	20.0	435998	1.2	19.8	310929	1.3	21.3	362767	1.3	19.8	473717	1.4	20.3
349593	1.1	20.2	73182	1.1	20.0	456679	1.2	21.5	66969	1.3	18.6	497257	1.3	22.9	279202	1.4	20.4
465736	1.1	20.3	150485	1.1	19.2	409539	1.2	19.9	308205	1.3	19.6	343897	1.4	20.7	282529	1.4	20.1
347426	1.1	20.6	35061	1.1	20.2	226088	1.2	19.2	453914	1.3	20.0	408332	1.4	20.0	193687	1.4	19.0
324442	1.1	19.6	297861	1.1	19.1	211460	1.2	19.3	376700	1.3	21.2	278489	1.4	19.7	10086	1.4	16.8
86656	1.1	19.3	497010	1.1	19.8	448269	1.2	20.2	155068	1.3	19.7	221515	1.4	20.5	29446	1.4	17.8
427123	1.1	21.0	235435	1.1	19.4	461787	1.2	21.6	170385	1.3	19.6	260443	1.4	19.1	97790	1.4	19.4
337669	1.1	20.8	104318	1.1	19.2	52490	1.2	18.7	1								

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

Nº	02	V															
248847	1.4	20.5	55736	1.5	18.4	5553	1.6	16.0	301766	1.6	20.6	450987	1.7	21.5	284367	1.8	21.4
294273	1.4	20.8	31315	1.5	17.6	251085	1.6	21.6	286438	1.6	19.1	331225	1.7	20.7	454868	1.8	21.0
420478	1.4	20.7	510	1.5	14.2	261136	1.6	18.9	233799	1.6	20.2	322711	1.7	20.2	436969	1.8	20.7
45752	1.4	18.1	457651	1.5	20.7	468375	1.6	20.1	502993	1.6	20.4	188559	1.7	19.1	124467	1.8	19.3
187499	1.4	19.4	309310	1.5	20.9	411299	1.6	20.8	131279	1.6	19.7	282639	1.7	21.0	227496	1.8	19.5
18297	1.4	18.4	10728	1.5	17.7	466486	1.6	20.6	61392	1.6	19.5	273861	1.7	19.6	256251	1.8	20.0
168679	1.4	17.9	208502	1.5	19.8	172902	1.6	19.6	269585	1.6	20.1	59751	1.7	19.6	450174	1.8	21.5
404319	1.4	20.2	17244	1.5	17.6	304792	1.6	20.7	490663	1.6	21.8	502125	1.7	20.5	55394	1.8	18.0
219750	1.5	19.8	244465	1.5	19.9	148659	1.6	20.2	191978	1.6	19.0	367987	1.7	19.1	209166	1.8	20.0
86532	1.5	17.3	82318	1.5	19.5	2649	1.6	15.5	384178	1.6	19.5	522648	1.7	20.6	413703	1.8	19.7
132905	1.5	19.4	365149	1.5	20.2	271123	1.6	20.4	428394	1.6	21.1	4766	1.7	15.6	161634	1.8	20.2
15101	1.5	16.8	156571	1.5	19.3	171982	1.6	20.5	239786	1.6	19.8	259983	1.7	19.4	130392	1.8	20.2
339564	1.5	20.1	166981	1.5	20.1	435352	1.6	20.2	96202	1.6	20.1	206974	1.7	18.9	83	1.8	11.5
313790	1.5	19.8	457046	1.5	19.5	451923	1.6	20.3	339451	1.6	21.4	60150	1.7	18.9	367968	1.8	20.2
339445	1.5	20.3	518850	1.5	20.8	251131	1.6	20.5	381614	1.6	20.8	179904	1.7	20.4	104594	1.8	18.3
501342	1.5	20.5	164595	1.5	21.0	219358	1.6	20.1	216558	1.6	18.3	29599	1.7	16.9	239653	1.8	19.0
453344	1.5	20.8	467764	1.5	20.0	134881	1.6	18.2	293877	1.6	19.6	105085	1.7	19.4	316539	1.8	20.3
206757	1.5	19.3	12610	1.5	18.0	244620	1.6	19.1	98218	1.6	18.4	165926	1.7	19.7	426888	1.8	19.9
244221	1.5	19.2	203707	1.5	20.0	30301	1.6	18.4	372503	1.6	20.0	500940	1.7	22.5	459121	1.8	20.3
224495	1.5	20.3	40353	1.5	17.1	340612	1.6	20.3	256248	1.6	19.7	54907	1.7	18.0	286414	1.8	19.8
50203	1.5	18.3	165058	1.5	19.9	318586	1.6	21.0	140459	1.6	20.1	125408	1.7	19.0	70192	1.8	19.9
216978	1.5	20.8	39183	1.5	17.4	194128	1.6	19.9	37490	1.6	19.2	416976	1.7	21.1	219687	1.8	20.4
444176	1.5	20.9	155942	1.5	19.9	204249	1.6	19.8	425070	1.6	21.2	338236	1.7	19.9	322327	1.8	20.8
324429	1.5	19.4	207346	1.5	19.5	19123	1.6	18.4	402609	1.6	20.9	283072	1.7	20.3	194481	1.8	21.0
99691	1.5	19.3	111712	1.5	19.4	503187	1.6	20.1	288811	1.6	20.8	273140	1.7	20.0	167043	1.8	18.6
344093	1.5	21.4	458164	1.5	20.5	163806	1.6	19.9	429290	1.6	19.9	101099	1.7	19.1	208617	1.8	21.8
347631	1.5	19.9	369285	1.5	20.7	144785	1.6	17.7	421097	1.6	20.2	84186	1.7	18.1	248742	1.8	20.5
140448	1.5	19.0	133729	1.5	19.6	173513	1.6	19.9	522577	1.6	20.2	235386	1.7	19.2	277576	1.8	20.4
345112	1.5	20.4	284392	1.5	21.3	324499	1.6	19.6	137998	1.6	18.0	336526	1.7	19.6	377169	1.8	20.6
44661	1.5	17.4	320494	1.5	19.8	124726	1.6	18.9	57171	1.6	18.0	381991	1.7	20.4	74054	1.8	18.9
122629	1.5	19.5	64330	1.5	19.0	166797	1.6	19.0	429047	1.6	20.2	413914	1.7	18.5	8975	1.8	17.3
405515	1.5	20.5	282847	1.5	19.4	82956	1.6	18.4	133133	1.6	19.8	498979	1.7	20.7	289178	1.8	19.8
383718	1.5	20.8	327320	1.5	20.0	467437	1.6	20.5	211866	1.6	19.2	498216	1.7	21.6	466567	1.8	20.9
7963	1.5	17.8	155678	1.5	19.9	404303	1.6	20.2	165793	1.6	18.7	517577	1.7	21.7	219388	1.8	18.7
285591	1.5	18.8	148597	1.5	18.7	444242	1.6	21.3	95339	1.6	19.6	446683	1.7	20.8	325551	1.8	21.4
359150	1.5	20.7	29013	1.5	19.6	78981	1.6	19.7	108780	1.6	19.2	423537	1.7	21.2	287762	1.8	20.4
36165	1.5	18.6	374588	1.5	20.4	459127	1.6	19.8	236921	1.7	20.2	324486	1.7	20.0	403511	1.8	21.1
354360	1.5	20.7	235579	1.5	20.3	503513	1.6	21.3	203557	1.7	19.5	503343	1.7	20.8	88588	1.8	18.5
316682	1.5	20.2	277368	1.5	21.0	355785	1.6	19.7	484667	1.7	20.9	298705	1.7	21.3	90087	1.8	18.7
406207	1.5	19.8	520495	1.5	20.6	97639	1.6	18.8	381644	1.7	19.8	98155	1.7	19.0	373426	1.8	21.2
35583	1.5	18.2	411367	1.5	21.2	128684	1.6	17.9	269112	1.7	21.2	462245	1.7	20.8	398474	1.8	21.7
32981	1.5	19.5	522408	1.5	21.8	493822	1.6	20.6	148123	1.7	20.2	340740	1.7	21.1	22666	1.8	17.7
48352	1.5	18.8	246906	1.5	19.9	266824	1.6	20.4	408906	1.7	19.8	380103	1.7	20.5	209670	1.8	19.2
372987	1.5	19.7	419276	1.5	19.8	504798	1.6	20.3	77746	1.7	18.4	21991	1.7	18.6	147773	1.8	20.6
319654	1.5	20.3	17725	1.5	16.3	35176	1.6	18.6	6704	1.7	16.6	492229	1.7	22.2	273439	1.8	19.5
171067	1.5	18.9	205269	1.5	20.0	30795	1.6	17.7	139964	1.7	18.5	382078	1.7	20.2	430419	1.8	20.2
184251	1.5	20.0	41638	1.5	18.5	135336	1.6	19.8	318816	1.7	20.0	234512	1.7	20.2	354673	1.8	20.3
503000	1.5	20.1	250505	1.5	19.6	369364	1.6	21.4	343956	1.7	20.8	522231	1.7	20.5	314860	1.8	20.5
135994	1.5	19.0	409511	1.5	21.0	217049	1.6	20.2	152536	1.7	19.9	58116	1.7	19.1	151160	1.8	20.1
238759	1.5	20.2	383380	1.5	21.4	121961	1.6	19.1	494734	1.7	21.7	486877	1.7	20.0	376611	1.8	21.5
4429	1.5	17.2	474098	1.5	21.7	45659	1.6	17.7	425477	1.7	21.1	310268	1.7	21.1	65869	1.8	18.4
31407	1.5	17.8	489912	1.5	21.6	378013	1.6	21.2	249011	1.7	20.5	428115	1.7	20.7	518422	1.8	22.4
85235	1.5	20.5	372432	1.5	21.9	417207	1.6	20.7	489501	1.7	21.7	85854	1.7	17.5	247349	1.8	19.7
249394	1.5	20.5	159781	1.5	19.1	330707	1.6	20.9	81851	1.7	19.2	296687	1.7	20.0	458773	1.8	21.4
122969	1.5	20.1	295495	1.5	20.9	148750	1.6	19.4	128414	1.7	20.0	367540	1.7	21.0	262363	1.8	20.4
152905	1.5	19.4	329619	1.5	20.3	155161	1.6	19.3	436249	1.7	20.0	338908	1.7	19.5	269253	1.8	20.2
508385	1.5	21.4	15996	1.5	17.0	496345	1.6	21.5	301805	1.7	20.7	65703	1.7	18.8	16664	1.8	17.7
433526	1.5	20.7	202136	1.5	19.8	462086	1.6	20.9	413063	1.7	20.9	55306	1.7	18.8	185746	1.8	19.8
96553	1.5	19.1	368815	1.5	20.1	139864	1.6	19.7	32133	1.7	17.7	421071	1.7	21.0	391060	1.8	21.0
292438	1.5	20.6	500485	1.5	19.9	129187	1.6	19.5	307606	1.7	19.7	424189	1.7	20.5	182550	1.8	19.7
111876	1.5	19.1	422960	1.5	18.9	116881	1.6	19.5	256247	1.7	19.8	411357	1.7	20.5	424623	1.8	20.5
334242	1.5	20.9	345573	1.5	20.3	322352	1.6	20.4	134250	1.7	18.7	205274	1.7	19.5	108733	1.8	19.6
110988	1.5	20.0	421025	1.5	20.8	128364	1.6	19.9	19								

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

Nº	02	V															
371725	1.8	20.8	323806	1.9	20.9	470102	1.9	21.4	190334	2.0	20.1	427089	2.1	21.4	155614	2.2	19.8
76831	1.8	18.0	81327	1.9	20.0	105101	1.9	19.8	343670	2.1	20.9	465139	2.1	19.4	95193	2.2	19.0
261306	1.8	20.3	281487	1.9	19.5	178894	1.9	21.4	328165	2.1	19.7	281707	2.1	19.6	57348	2.2	17.6
158088	1.8	18.9	229800	1.9	20.1	119541	1.9	18.7	7326	2.1	18.1	203015	2.1	18.0	169278	2.2	20.8
364015	1.8	21.2	34307	1.9	18.8	273339	1.9	20.7	85998	2.1	20.0	389455	2.1	19.8	227096	2.2	19.7
218630	1.8	21.2	1708	1.9	14.3	243054	1.9	19.2	250161	2.1	19.1	519143	2.1	21.9	504020	2.2	22.0
116697	1.8	19.0	88592	1.9	19.8	225566	1.9	20.5	175348	2.1	19.5	251771	2.1	20.6	246584	2.2	19.7
309284	1.8	20.6	288838	1.9	19.6	40536	1.9	18.4	1896	2.1	17.2	76438	2.1	18.2	92366	2.2	19.1
77850	1.8	18.0	271085	1.9	20.1	18953	1.9	18.9	169214	2.1	20.2	416869	2.1	21.3	244576	2.2	19.1
337509	1.8	20.7	64307	1.9	18.9	284153	1.9	20.4	82951	2.1	19.4	860	2.1	14.4	23256	2.2	17.2
192814	1.8	19.4	414817	1.9	20.0	237177	1.9	20.3	17840	2.1	18.0	816	2.1	13.8	423539	2.2	22.1
287407	1.8	18.8	453270	1.9	22.3	33020	1.9	17.8	468332	2.1	20.8	485394	2.1	21.1	355825	2.2	20.2
415830	1.8	20.9	195399	1.9	19.7	372487	1.9	19.9	261081	2.1	19.6	183615	2.1	20.0	271302	2.2	20.7
142609	1.8	19.8	156566	1.9	18.9	23528	1.9	18.9	461282	2.1	19.8	310415	2.1	20.5	261382	2.2	20.2
4934	1.9	17.2	54507	1.9	17.6	466703	2.0	21.1	492438	2.1	21.7	217957	2.1	21.1	156523	2.2	19.0
164374	1.9	18.9	421619	1.9	20.6	56916	2.0	19.0	428141	2.1	21.3	58693	2.1	18.2	362176	2.2	20.6
378823	1.9	21.5	363757	1.9	20.0	240029	2.0	19.4	497920	2.1	20.8	82694	2.1	18.8	82358	2.2	17.9
234954	1.9	20.1	492953	1.9	20.5	370772	2.0	21.0	337196	2.1	20.0	394795	2.1	20.9	456408	2.2	20.8
145516	1.9	19.5	171020	1.9	19.5	280751	2.0	20.8	323566	2.1	21.0	108687	2.1	19.7	375243	2.2	20.9
411915	1.9	20.4	229123	1.9	20.1	405881	2.0	20.1	309326	2.1	21.2	470871	2.1	20.0	220341	2.2	19.4
161211	1.9	19.2	204354	1.9	19.4	161995	2.0	22.3	234942	2.1	19.9	238422	2.1	20.1	45804	2.2	19.0
24887	1.9	17.3	153990	1.9	19.3	85045	2.0	18.6	241057	2.1	21.2	473802	2.1	19.6	136390	2.2	19.2
427064	1.9	20.9	277734	1.9	20.5	501327	2.0	20.5	279924	2.1	20.7	467554	2.1	21.3	199681	2.2	19.8
110834	1.9	20.1	495334	1.9	18.4	23333	2.0	18.0	14647	2.1	17.2	290434	2.1	20.9	495728	2.2	21.4
456499	1.9	20.4	169152	1.9	20.1	343992	2.0	21.0	241706	2.1	20.9	205306	2.1	19.5	467911	2.2	21.8
115586	1.9	19.0	404597	1.9	20.2	229576	2.0	20.1	195247	2.1	19.0	126289	2.1	19.4	418337	2.2	21.4
268240	1.9	21.2	78807	1.9	19.2	51872	2.0	17.5	293323	2.1	20.8	147507	2.1	19.4	129709	2.2	19.3
96774	1.9	19.3	299452	1.9	20.1	206775	2.0	19.6	274813	2.1	20.3	413528	2.1	20.0	423864	2.2	20.5
404017	1.9	20.6	202469	1.9	20.6	454845	2.0	21.3	241108	2.1	20.0	194013	2.1	20.9	39632	2.2	18.4
327385	1.9	20.7	519358	1.9	21.0	373940	2.0	21.4	223723	2.1	20.3	344095	2.1	20.9	279533	2.2	20.7
263631	1.9	20.4	138633	1.9	19.9	370699	2.0	20.7	126269	2.1	19.5	501794	2.1	20.1	421587	2.2	20.4
459828	1.9	20.7	502109	1.9	20.5	322798	2.0	20.6	495616	2.1	20.7	370683	2.1	20.2	107425	2.2	19.3
258167	1.9	19.9	311584	1.9	20.8	118803	2.0	19.2	492026	2.1	21.3	221032	2.1	20.8	199149	2.2	19.7
347892	1.9	20.7	114394	1.9	19.4	329926	2.0	21.1	144932	2.1	19.8	39391	2.1	19.6	402555	2.2	21.1
4061	1.9	16.9	143180	1.9	18.6	240329	2.0	20.8	70983	2.1	19.1	161308	2.1	19.6	376031	2.2	19.9
210013	1.9	19.4	238475	1.9	19.1	428909	2.0	20.0	486645	2.1	20.0	329066	2.1	20.7	153527	2.2	19.3
203080	1.9	18.7	429045	1.9	20.2	95530	2.0	19.7	409919	2.1	21.2	121501	2.1	17.3	424766	2.2	20.7
208221	1.9	19.6	124681	1.9	17.9	436355	2.0	20.6	34605	2.1	18.8	86415	2.1	19.0	35608	2.2	19.2
208193	1.9	20.1	498356	1.9	21.1	434297	2.0	20.1	234870	2.1	19.9	180644	2.1	19.6	324443	2.2	20.1
248137	1.9	20.4	189287	1.9	19.8	222801	2.0	19.1	109462	2.1	19.1	73061	2.1	18.7	433036	2.2	20.8
415860	1.9	21.0	185386	1.9	20.9	493837	2.0	19.9	285905	2.1	21.2	425095	2.1	21.6	264088	2.2	20.5
62955	1.9	17.4	375034	1.9	21.5	226842	2.0	20.5	2376	2.1	15.6	87044	2.1	19.8	62231	2.2	18.8
492630	1.9	21.5	290320	1.9	21.1	46145	2.0	19.0	122220	2.1	20.1	75995	2.1	18.6	30487	2.2	18.9
250606	1.9	20.5	193770	1.9	20.2	75073	2.0	16.6	458339	2.1	19.6	273013	2.2	20.5	322134	2.2	19.6
22807	1.9	18.6	253101	1.9	21.3	120364	2.0	18.9	290537	2.1	19.9	197229	2.2	20.0	415943	2.2	21.1
60565	1.9	17.2	225044	1.9	19.7	312143	2.0	20.2	298716	2.1	20.6	182613	2.2	19.5	281053	2.2	20.3
466046	1.9	22.5	382263	1.9	20.6	291062	2.0	20.0	235086	2.1	22.2	242147	2.2	22.0	203140	2.2	19.7
316078	1.9	20.5	254703	1.9	20.7	415901	2.0	21.3	54837	2.1	18.1	501451	2.2	20.8	431450	2.2	21.1
129544	1.9	19.8	153070	1.9	18.8	197087	2.0	19.8	329834	2.1	20.6	124521	2.2	19.1	109294	2.2	19.4
431158	1.9	20.7	163087	1.9	19.1	394823	2.0	21.8	224675	2.1	20.0	492	2.2	14.9	310967	2.2	20.9
383001	1.9	19.9	456394	1.9	20.4	160295	2.0	19.6	55266	2.1	17.9	432582	2.2	20.9	204636	2.2	20.2
377319	1.9	19.8	13762	1.9	17.0	242632	2.0	19.7	465747	2.1	21.1	171371	2.2	19.6	468162	2.2	20.0
75686	1.9	19.1	197549	1.9	20.2	157547	2.0	19.6	420543	2.1	20.6	451001	2.2	22.1	424695	2.2	21.1
307747	1.9	18.1	275598	1.9	20.2	212811	2.0	19.7	14239	2.1	17.8	200125	2.2	20.8	38829	2.2	18.4
239336	1.9	20.5	419723	1.9	21.1	390371	2.0	20.4	205450	2.1	20.6	199488	2.2	20.7	328527	2.2	20.6
366464	1.9	19.4	492624	1.9	20.8	199838	2.0	19.9	292612	2.1	20.7	340783	2.2	21.7	288899	2.2	20.1
369278	1.9	20.4	341337	1.9	20.5	306279	2.0	21.4	131971	2.1	18.8	170836	2.2	19.2	416910	2.2	21.1
350604	1.9	21.1	340836	1.9	21.1	5600	2.0	16.1	223136	2.1	20.4	461219	2.2	19.7	26995	2.2	17.8
48827	1.9	18.2	110325	1.9	19.8	336025	2.0	21.0	59316	2.1	18.5	420934	2.2	20.8	209449	2.2	18.9
136546	1.9	19.9	431519	1.9	20.5	143191	2.0	19.9	498568	2.1	21.5	235029	2.2	19.9	337034	2.2	21.0
7837	1.9	17.2	229227	1.9	19.0	305827	2.0	20.2	16164	2.1	18.5	200611	2.2	19.5	283950	2.2	19.7
265716	1.9	20.8	73013	1.9	20.1	207091	2.0	18.3	260122	2.1	19.2	27836	2.2	17.2	125419	2.2	19.0
330059	1.9	21.0	188208	1.9	20.9	144598	2.0	19.4	139								

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

Nº	02	V															
3751	2.2	16.7	400015	2.3	21.4	76905	2.4	17.8	16827	2.5	17.7	321785	2.5	20.4	412795	2.6	21.9
432104	2.2	19.8	81356	2.3	19.6	15143	2.4	16.8	123406	2.5	19.1	16017	2.5	17.7	372039	2.6	19.9
114000	2.2	19.8	51237	2.3	18.0	426305	2.4	21.2	180897	2.5	20.6	163520	2.5	18.9	426026	2.6	20.3
472657	2.2	21.1	203844	2.3	19.6	493209	2.4	21.6	459699	2.5	21.6	426480	2.5	20.9	350218	2.6	20.6
378702	2.3	21.6	257022	2.3	20.0	72661	2.4	17.8	462891	2.5	21.1	222724	2.5	19.4	357124	2.6	20.8
522413	2.3	21.0	373734	2.3	19.8	416259	2.4	19.1	243827	2.5	18.7	196739	2.5	19.3	425640	2.6	19.7
163549	2.3	20.6	500471	2.3	21.7	163933	2.4	18.9	39697	2.5	18.2	469421	2.5	21.5	185891	2.6	20.5
283576	2.3	18.3	410041	2.3	20.9	203723	2.4	20.1	25171	2.5	18.3	282633	2.5	19.2	505300	2.6	21.5
1500	2.3	15.6	4170	2.3	16.3	56868	2.4	18.9	115363	2.5	20.2	53304	2.5	17.9	229041	2.6	18.9
459452	2.3	22.0	432953	2.3	21.3	135681	2.4	19.5	189774	2.5	19.1	88446	2.5	17.8	363775	2.6	20.0
104931	2.3	18.7	373075	2.3	20.2	458321	2.4	20.2	424688	2.5	21.2	499460	2.5	20.6	455449	2.6	20.8
466135	2.3	21.2	239244	2.3	20.7	413569	2.4	20.4	89461	2.5	18.8	405861	2.5	20.4	282528	2.6	19.9
108881	2.3	19.5	210176	2.3	20.7	95846	2.4	19.9	164466	2.5	20.4	99789	2.5	19.3	79804	2.6	18.9
416528	2.3	19.7	427701	2.3	20.9	78746	2.4	19.0	135568	2.5	19.8	405986	2.5	19.7	381652	2.6	20.1
70545	2.3	18.9	454893	2.3	20.6	241712	2.4	20.9	134864	2.5	19.1	486092	2.5	20.3	233794	2.6	20.2
244009	2.3	20.5	325984	2.3	20.1	81519	2.4	19.7	76414	2.5	18.6	481848	2.5	20.1	360337	2.6	20.9
54776	2.3	18.9	404785	2.3	19.8	289164	2.4	21.2	170302	2.5	20.3	57036	2.5	18.5	238573	2.6	20.5
10540	2.3	17.0	291171	2.3	20.9	330472	2.4	19.9	154071	2.5	19.5	96623	2.5	19.6	491344	2.6	20.7
52822	2.3	18.8	52735	2.3	18.1	51077	2.4	18.0	432536	2.5	21.3	18741	2.5	16.2	396645	2.6	19.2
86021	2.3	19.5	66560	2.3	17.6	120195	2.4	19.6	34759	2.5	15.9	386298	2.5	19.8	236923	2.6	20.1
267097	2.3	20.1	194465	2.3	20.1	519273	2.4	20.7	52178	2.5	19.1	273325	2.5	20.6	462691	2.6	21.4
241215	2.3	20.1	350609	2.3	20.3	289968	2.4	19.8	138650	2.5	19.4	495242	2.6	21.2	415779	2.6	20.6
143111	2.3	20.1	205002	2.3	19.5	413881	2.4	21.5	433049	2.5	20.0	303731	2.6	20.8	84203	2.6	18.8
11620	2.3	17.5	164313	2.3	19.9	85234	2.4	19.6	111501	2.5	18.8	320652	2.6	20.3	136928	2.6	18.4
413120	2.3	21.6	492701	2.3	21.6	55467	2.4	17.4	158408	2.5	17.7	23046	2.6	17.7	24600	2.6	18.8
500145	2.3	20.5	105371	2.4	20.0	194395	2.4	18.8	43989	2.5	19.1	2037	2.6	16.3	409804	2.6	20.7
83479	2.3	19.7	87813	2.4	19.7	169199	2.4	19.6	131427	2.5	18.3	369859	2.6	20.3	320421	2.6	20.1
336523	2.3	20.0	126723	2.4	17.5	230501	2.4	20.2	151979	2.5	19.5	225418	2.6	18.8	475	2.6	16.9
419843	2.3	20.4	444368	2.4	21.3	251117	2.4	20.5	462269	2.5	20.8	498051	2.6	20.1	211559	2.6	18.9
3036	2.3	15.7	409888	2.4	20.2	51781	2.4	18.4	186237	2.5	19.9	300935	2.6	19.8	382866	2.6	20.1
208636	2.3	20.1	463328	2.4	20.3	31118	2.4	15.0	419732	2.5	20.8	2915	2.6	17.2	60680	2.6	19.4
498204	2.3	21.7	491010	2.4	21.3	303403	2.4	19.4	204907	2.5	19.8	307460	2.6	19.9	11328	2.6	17.5
398737	2.3	19.6	55982	2.4	18.6	283458	2.4	21.2	187273	2.5	20.1	51902	2.6	18.2	213757	2.6	19.0
261406	2.3	19.6	141031	2.4	19.9	377266	2.4	19.4	467561	2.5	20.3	500398	2.6	20.5	41627	2.6	18.8
422769	2.3	21.5	60593	2.4	18.7	196524	2.4	21.1	337694	2.5	20.7	165790	2.6	20.0	132300	2.6	19.9
121129	2.3	17.2	327295	2.4	21.3	61833	2.4	17.7	452439	2.5	21.2	172040	2.6	19.2	128125	2.6	19.0
243580	2.3	19.1	523773	2.4	21.1	353898	2.4	21.0	410539	2.5	20.3	456361	2.6	20.4	403555	2.6	22.0
212147	2.3	19.4	501340	2.4	21.1	165725	2.4	19.4	70350	2.5	16.5	58806	2.6	19.0	297794	2.6	18.8
282913	2.3	20.2	492393	2.4	21.2	451040	2.4	20.6	114617	2.5	19.1	197114	2.6	19.2	110411	2.6	18.8
52198	2.3	18.2	15431	2.4	16.8	244104	2.4	20.7	99406	2.5	18.7	87788	2.6	20.0	382299	2.6	20.6
382699	2.3	21.6	76233	2.4	18.6	1431	2.4	15.7	490018	2.5	20.7	495760	2.6	20.4	324047	2.6	20.1
65617	2.3	19.7	29305	2.4	17.9	288949	2.4	21.1	7692	2.5	17.4	161589	2.6	19.8	120022	2.6	18.0
363324	2.3	20.4	206960	2.4	20.1	117614	2.4	20.1	502751	2.5	22.0	287095	2.6	21.3	77038	2.6	18.4
405281	2.3	21.7	376183	2.4	20.0	517585	2.4	21.3	79644	2.5	20.2	464412	2.6	20.8	198602	2.6	19.3
97533	2.3	19.3	239291	2.4	20.8	317094	2.4	20.3	250203	2.5	20.2	101054	2.6	20.3	337865	2.6	20.5
223698	2.3	20.0	370029	2.4	21.3	204151	2.4	19.1	111021	2.5	18.8	356326	2.6	20.7	454281	2.6	21.7
67563	2.3	18.9	280034	2.4	20.7	499024	2.4	20.3	399713	2.5	20.6	334281	2.6	20.2	165732	2.6	19.9
20783	2.3	18.3	88032	2.4	19.3	165744	2.4	19.9	440424	2.5	20.6	404243	2.6	20.7	312083	2.6	21.4
143163	2.3	18.9	461246	2.4	19.8	491860	2.4	20.1	719	2.5	20.8	226795	2.6	19.4	263563	2.6	20.3
298728	2.3	20.7	354939	2.4	20.8	92365	2.4	19.7	462089	2.5	21.4	201000	2.6	18.5	74946	2.6	17.7
122887	2.3	18.6	459731	2.4	20.9	246862	2.4	20.0	45303	2.5	18.3	464023	2.6	20.4	130755	2.6	19.6
332890	2.3	19.7	160770	2.4	20.3	473893	2.4	20.0	85307	2.5	17.2	242814	2.6	20.3	170346	2.6	20.9
451402	2.3	21.1	428184	2.4	20.6	7732	2.4	17.1	456504	2.5	20.8	416675	2.6	21.7	456346	2.6	21.8
459979	2.3	20.7	80102	2.4	19.3	202725	2.4	20.7	38630	2.5	18.1	397806	2.6	20.3	333794	2.6	19.9
451059	2.3	19.3	223677	2.4	20.3	414872	2.4	19.9	335647	2.5	21.5	309885	2.6	19.2	342989	2.6	19.6
96205	2.3	19.5	409520	2.4	20.6	368982	2.4	19.4	179768	2.5	19.7	278989	2.6	20.8	74604	2.6	18.6
453402	2.3	20.3	312226	2.4	19.6	100704	2.4	18.1	355884	2.5	20.0	125568	2.6	18.0	83638	2.6	19.0
259962	2.3	21.1	319682	2.4	18.9	117047	2.4	19.4	222668	2.5	20.6	169383	2.6	19.1	350393	2.7	20.9
52296	2.3	18.9	232992	2.4	20.1	465217	2.4	21.7	20527	2.5	21.3	332141	2.6	20.1	152745	2.7	19.2
19442	2.3	18.2	502737	2.4	21.0	164932	2.4	18.4	65175	2.5	20.0	457020	2.6	20.7	29880	2.7	19.2
116768	2.3	19.5	84663	2.4	18.5	307746	2.4	20.0	262754	2.5	19.0	314677	2.6	21.6	91781	2.7	18.1
135284	2.3	20.4	165778	2.4	19.6	374048	2.4	22.1	352712	2.5	19.6	133815	2.6	19.1	47148	2.7	18.7
228588	2.3	19.7	172019	2.4	19.7	598	2.4	13.4	57744	2.5	19.1						

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
426183	2.7	21.3	327024	2.7	21.0	110753	2.8	20.1	503303	2.9	20.2	176631	2.9	18.9	325246	3.0	20.8
309139	2.7	22.6	9683	2.7	17.9	29443	2.8	19.0	10517	2.9	16.1	33268	2.9	18.4	14859	3.0	18.4
353395	2.7	20.7	110438	2.7	19.6	16880	2.8	17.9	152063	2.9	20.5	49879	2.9	18.0	401166	3.0	20.3
81717	2.7	18.3	401548	2.7	20.0	393910	2.8	21.4	397035	2.9	21.0	170144	2.9	19.5	371239	3.0	20.7
294907	2.7	19.5	354153	2.7	19.8	398725	2.8	19.6	150236	2.9	19.8	312654	2.9	20.3	3419	3.0	16.1
417660	2.7	19.4	66846	2.7	19.5	302141	2.8	21.8	351670	2.9	20.0	496689	2.9	21.2	363825	3.0	20.6
406474	2.7	21.8	488818	2.7	21.7	409646	2.8	19.7	126454	2.9	18.9	64672	2.9	18.6	522571	3.0	21.0
18107	2.7	18.0	93220	2.7	19.8	234192	2.8	20.0	215675	2.9	19.5	461786	2.9	20.8	180543	3.0	18.8
182611	2.7	20.8	265757	2.8	20.0	127681	2.8	18.7	109351	2.9	19.6	313183	2.9	20.6	371648	3.0	20.2
305731	2.7	19.9	291553	2.8	19.9	37266	2.8	17.5	220569	2.9	19.8	172961	2.9	19.8	225548	3.0	19.7
226065	2.7	19.0	160777	2.8	20.1	18414	2.8	17.3	369756	2.9	18.0	411417	2.9	20.6	147814	3.0	17.9
242088	2.7	19.5	383759	2.8	21.1	447201	2.8	21.2	165309	2.9	20.5	218985	2.9	20.7	350683	3.0	20.9
460829	2.7	21.6	185261	2.8	19.8	236222	2.8	19.3	496738	2.9	20.9	200664	2.9	20.6	77624	3.0	19.0
194823	2.7	19.0	292975	2.8	21.2	379109	2.8	19.1	296773	2.9	20.3	523758	2.9	21.6	100837	3.0	19.6
130457	2.7	18.4	413567	2.8	19.4	123221	2.8	19.3	494002	2.9	20.1	19322	2.9	17.9	447381	3.1	20.3
246035	2.7	20.5	208493	2.8	19.5	368183	2.8	22.0	199545	2.9	20.1	153180	2.9	19.6	163479	3.1	19.9
377132	2.7	20.8	344820	2.8	19.4	126260	2.8	19.7	162044	2.9	19.4	324641	2.9	20.6	59746	3.1	18.4
61938	2.7	18.3	460221	2.8	20.8	135510	2.8	19.6	9426	2.9	17.8	241544	2.9	20.4	236897	3.1	19.5
499977	2.7	21.2	130845	2.8	18.2	450164	2.8	20.8	249039	2.9	21.1	76810	2.9	18.6	313773	3.1	18.6
345082	2.7	21.0	341392	2.8	20.8	117469	2.8	19.0	496405	2.9	21.7	464203	2.9	20.2	26088	3.1	16.3
452496	2.7	21.7	367374	2.8	21.3	231084	2.8	20.6	409989	2.9	21.1	335998	2.9	20.1	323825	3.1	20.2
102626	2.7	18.1	118860	2.8	18.3	10966	2.8	18.7	2341	2.9	15.0	354890	2.9	20.2	199104	3.1	20.1
8344	2.7	16.3	109089	2.8	19.0	492411	2.8	21.4	220613	2.9	20.3	246168	2.9	20.1	440064	3.1	20.6
154280	2.7	19.0	32238	2.8	18.8	252983	2.8	22.4	188694	2.9	20.9	322594	2.9	20.2	246665	3.1	20.8
321207	2.7	19.5	246742	2.8	18.8	443892	2.8	21.0	56010	2.9	17.8	206807	2.9	19.9	257229	3.1	20.3
343180	2.7	20.3	378968	2.8	19.1	226873	2.8	19.8	137197	2.9	19.8	30482	2.9	16.1	488525	3.1	21.6
465653	2.7	21.5	428949	2.8	20.8	294832	2.8	20.2	519876	2.9	21.8	483702	2.9	21.1	39869	3.1	17.3
257036	2.7	19.9	122393	2.8	19.0	13802	2.8	17.2	408336	2.9	20.5	51088	2.9	18.5	191614	3.1	19.9
420927	2.7	20.1	3358	2.8	16.4	295552	2.8	19.5	183336	2.9	17.9	416907	2.9	22.1	38350	3.1	17.9
238802	2.7	20.3	199608	2.8	19.2	112588	2.8	19.9	110078	2.9	19.5	496923	2.9	21.0	124703	3.1	18.8
311001	2.7	20.0	185395	2.8	19.5	362048	2.8	19.7	427622	2.9	21.2	338062	2.9	20.8	200373	3.1	18.6
425480	2.7	20.2	252247	2.8	21.3	503618	2.8	20.1	138653	2.9	19.8	150173	2.9	19.4	115311	3.1	19.4
105678	2.7	20.4	413895	2.8	20.5	413498	2.8	21.3	232857	2.9	20.6	475518	2.9	21.2	367593	3.1	21.5
280622	2.7	19.5	205784	2.8	19.0	334085	2.8	20.3	209915	2.9	20.2	294250	2.9	19.9	354911	3.1	20.4
76818	2.7	15.4	296113	2.8	20.6	357377	2.8	20.7	468598	2.9	20.9	405213	2.9	21.8	59290	3.1	17.9
334152	2.7	20.4	114639	2.8	20.0	373968	2.9	20.5	245163	2.9	19.9	207010	2.9	19.0	233151	3.1	20.6
81866	2.7	19.8	221864	2.8	20.8	334201	2.9	20.3	272493	2.9	20.3	462704	2.9	21.4	294596	3.1	19.7
165852	2.7	19.4	122723	2.8	19.0	140469	2.9	19.1	432143	2.9	20.0	492300	2.9	20.8	350028	3.1	20.0
465447	2.7	21.5	268052	2.8	20.2	456366	2.9	20.9	354902	2.9	20.4	295409	2.9	19.3	205464	3.1	20.1
441853	2.7	21.6	210085	2.8	19.9	358059	2.9	20.5	345560	2.9	22.1	518463	2.9	22.3	229358	3.1	19.5
166824	2.7	17.4	459693	2.8	20.8	505214	2.9	21.6	237536	2.9	21.2	421574	3.0	20.9	424789	3.1	20.8
72932	2.7	18.6	431448	2.8	21.4	243111	2.9	20.1	310405	2.9	20.2	246197	3.0	20.1	85102	3.1	18.9
458539	2.7	19.4	81533	2.8	18.7	422496	2.9	20.5	313632	2.9	18.3	413597	3.0	19.7	462049	3.1	20.5
257828	2.7	19.3	243850	2.8	20.3	343046	2.9	20.3	165579	2.9	19.0	146824	3.0	17.9	301367	3.1	20.1
458513	2.7	21.3	343544	2.8	20.5	371925	2.9	21.4	503769	2.9	20.4	168694	3.0	19.4	204345	3.1	19.0
465759	2.7	21.0	511718	2.8	20.7	245766	2.9	19.9	412169	2.9	21.1	415857	3.0	21.1	501418	3.1	20.8
130700	2.7	17.3	219769	2.8	19.0	182708	2.9	19.4	148774	2.9	19.4	330513	3.0	20.1	135403	3.1	19.7
328946	2.7	19.5	406200	2.8	20.2	128972	2.9	18.9	325974	2.9	20.6	496823	3.0	21.7	65076	3.1	19.4
2734	2.7	16.4	154068	2.8	19.5	17851	2.9	16.2	89645	2.9	19.5	422862	3.0	21.6	145338	3.1	20.0
369446	2.7	20.0	192565	2.8	20.0	117214	2.9	19.8	115964	2.9	18.6	259992	3.0	20.7	108490	3.1	19.1
232352	2.7	19.2	187803	2.8	20.4	344121	2.9	20.5	544142	2.9	18.0	30393	3.0	17.2	64944	3.1	18.7
272855	2.7	19.8	144480	2.8	19.1	215765	2.9	20.1	44868	2.9	18.9	88996	3.0	18.6	31800	3.1	17.8
375005	2.7	20.9	61405	2.8	19.4	21203	2.9	19.8	404955	2.9	20.6	379922	3.0	20.5	125259	3.1	19.3
518147	2.7	22.0	421102	2.8	21.0	62979	2.9	19.0	382352	2.9	20.9	418973	3.0	20.9	304797	3.1	20.8
278912	2.7	19.9	262342	2.8	20.0	26174	2.9	17.7	155228	2.9	19.9	464394	3.0	19.4	72968	3.1	18.9
194760	2.7	19.8	175238	2.8	20.6	7561	2.9	16.1	341660	2.9	21.5	500509	3.0	21.2	278174	3.1	18.4
285644	2.7	20.6	384948	2.8	20.9	426767	2.9	21.4	284312	2.9	21.0	319529	3.0	19.6	493307	3.1	21.7
121198	2.7	20.2	10472	2.8	18.5	99909	2.9	19.4	459276	2.9	20.8	289930	3.0	20.0	381262	3.1	20.1
4888	2.7	16.7	279472	2.8	20.1	428142	2.9	21.2	60266	2.9	18.3	421886	3.0	20.5	240504	3.1	20.3
46584	2.7	18.9	237723	2.8	20.1	241188	2.9	19.6	222299	2.9	19.8	42934	3.0	20.1	23284	3.1	18.4
359056	2.7	18.7	81830	2.8	19.5	459763	2.9	21.9	44166	2.9	16.8	258084	3.0	20.8	209646	3.1	19.0
370695	2.7	22.0	148743	2.8	18.5	225268	2.9	19.8	332669	2.9	20.3	79325	3.0	19.9	340726	3.1	21.1
400228	2.7	20.5	306404	2.8	20.8	334299	2.9</										

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

Nº	02	V	Nº	02	V												
8961	3.1	17.6	33640	3.2	18.5	165678	3.2	20.1	204312	3.3	20.0	265363	3.4	19.7	382313	3.5	20.7
206403	3.1	19.8	299533	3.2	19.3	462023	3.2	20.2	382207	3.3	20.0	368602	3.4	21.1	154648	3.5	18.7
500278	3.1	20.1	502948	3.2	20.5	499709	3.2	19.9	196626	3.3	20.2	292846	3.4	19.1	401809	3.5	22.7
153931	3.1	19.4	15381	3.2	18.0	423671	3.2	20.1	498517	3.3	21.3	8558	3.4	19.4	463611	3.5	21.0
333381	3.1	19.8	415004	3.2	20.2	466870	3.2	21.1	392778	3.3	20.6	465679	3.4	21.1	492892	3.5	21.8
161619	3.1	18.8	290676	3.2	20.4	225320	3.2	19.7	399509	3.3	20.8	200365	3.4	19.8	289532	3.5	20.1
57283	3.1	18.3	212008	3.2	19.3	323139	3.2	18.3	245687	3.3	19.6	40773	3.4	19.5	307853	3.5	19.0
415545	3.1	21.3	298838	3.2	20.0	322181	3.2	20.2	468669	3.3	20.5	150989	3.4	19.7	357354	3.5	20.4
234908	3.1	20.1	112480	3.2	19.7	330034	3.2	19.6	55805	3.3	18.8	306072	3.4	21.3	200792	3.5	20.7
385035	3.1	20.7	211455	3.2	20.1	236170	3.2	19.4	4925	3.3	16.5	160098	3.4	19.4	290095	3.5	20.1
77904	3.1	19.0	32159	3.2	18.9	43688	3.2	18.4	109430	3.3	19.8	6377	3.4	16.1	432171	3.5	20.7
202938	3.1	19.6	358555	3.2	20.4	171263	3.2	19.7	76239	3.3	18.5	60161	3.4	18.8	212576	3.5	20.7
51336	3.1	17.3	149695	3.2	20.1	370197	3.2	20.2	302313	3.3	18.8	491186	3.4	21.3	163535	3.5	18.6
256131	3.1	21.1	427082	3.2	20.3	383591	3.2	20.4	117847	3.3	18.9	203125	3.4	19.3	127677	3.5	18.9
343081	3.1	19.2	212025	3.2	19.5	274804	3.2	20.7	492064	3.3	20.8	105188	3.4	19.8	169747	3.5	19.7
87240	3.1	19.4	92777	3.2	18.4	384597	3.2	19.4	129688	3.3	19.6	343675	3.4	21.1	237724	3.5	20.1
270003	3.1	18.9	429042	3.2	19.6	315563	3.3	20.9	136817	3.3	19.5	299047	3.4	19.8	354957	3.5	21.1
499992	3.1	21.4	180675	3.2	20.2	306026	3.3	20.4	15691	3.3	18.1	464150	3.4	20.0	204714	3.5	21.1
326477	3.1	20.3	465660	3.2	20.2	35463	3.3	17.7	285815	3.3	19.2	268533	3.4	19.7	256027	3.5	20.5
416930	3.1	20.4	235670	3.2	19.0	54024	3.3	18.3	145121	3.3	20.5	462230	3.4	20.5	241675	3.5	21.7
489087	3.1	20.4	320716	3.2	19.7	75364	3.3	18.3	376566	3.3	21.9	52675	3.4	17.9	393880	3.5	20.6
489548	3.1	21.4	275054	3.2	20.3	257646	3.3	20.0	99265	3.3	20.4	468290	3.4	20.4	56679	3.5	17.9
50289	3.1	18.2	365612	3.2	21.8	452592	3.3	22.1	468608	3.3	20.2	263974	3.4	20.7	74695	3.5	18.8
312122	3.1	21.4	522339	3.2	21.1	502325	3.3	21.0	165863	3.3	18.6	103581	3.4	18.5	52867	3.5	18.7
435275	3.1	19.4	491268	3.2	20.5	158991	3.3	20.7	285989	3.3	21.2	401709	3.4	20.5	461714	3.5	20.7
335800	3.1	21.6	379099	3.2	21.3	373350	3.3	20.5	350	3.3	12.6	297828	3.4	18.9	285427	3.5	21.0
456246	3.1	21.2	232368	3.2	19.1	81062	3.3	18.1	413841	3.3	21.5	164859	3.4	19.4	306967	3.5	19.7
365278	3.1	21.3	96636	3.2	18.3	36813	3.3	19.6	454331	3.3	21.9	94643	3.4	19.0	299458	3.5	20.5
34199	3.1	17.4	128073	3.2	19.6	52774	3.3	19.9	401004	3.3	21.5	406692	3.4	19.5	81401	3.5	19.1
315536	3.1	20.3	204025	3.2	20.0	244025	3.3	20.2	424384	3.3	20.7	200408	3.4	20.2	494694	3.5	22.3
423357	3.1	19.8	152776	3.2	19.4	973	3.3	14.4	424335	3.3	20.5	419103	3.4	21.6	46631	3.5	17.4
2878	3.1	16.4	185741	3.2	20.2	236154	3.3	19.3	273413	3.3	20.4	467884	3.4	20.8	245433	3.5	19.7
141914	3.1	20.1	4673	3.2	15.0	18596	3.3	17.9	40306	3.3	19.2	52790	3.4	18.3	500377	3.5	21.2
29307	3.1	16.4	47172	3.2	18.5	414853	3.3	20.7	346838	3.3	19.9	56484	3.4	18.0	227574	3.5	20.2
335888	3.1	21.0	460560	3.2	21.0	401045	3.3	20.9	291733	3.3	20.4	297234	3.4	20.7	128776	3.5	20.2
108908	3.1	19.5	189510	3.2	19.1	372513	3.3	20.6	296913	3.3	21.4	308167	3.4	20.4	109279	3.5	19.3
198889	3.1	19.2	491948	3.2	20.9	160764	3.3	20.0	306081	3.3	20.4	408439	3.4	20.7	348512	3.5	19.4
446855	3.1	21.4	379926	3.2	19.9	489660	3.3	21.9	280864	3.3	20.6	125885	3.4	19.3	370480	3.5	21.5
132782	3.1	18.7	369766	3.2	20.0	132370	3.3	19.0	190461	3.3	18.8	316569	3.4	21.0	359244	3.5	19.7
45102	3.1	19.0	119588	3.2	19.8	348581	3.3	19.8	150231	3.4	19.0	97825	3.4	19.6	40748	3.5	19.1
502862	3.1	20.1	136500	3.2	20.5	503009	3.3	20.1	520973	3.4	21.1	522491	3.4	21.1	400354	3.5	21.9
443863	3.1	21.4	276869	3.2	19.9	450368	3.3	18.4	229135	3.4	19.7	179836	3.4	19.8	163522	3.5	20.0
10557	3.1	17.2	341383	3.2	20.8	454294	3.3	20.7	245870	3.4	20.9	226015	3.4	19.6	374106	3.5	21.6
88390	3.2	20.3	149329	3.2	18.7	1033	3.3	15.3	56945	3.4	18.8	146675	3.4	20.3	195781	3.5	19.8
98128	3.2	18.6	415804	3.2	20.8	246846	3.3	19.4	35017	3.4	18.4	290162	3.4	20.2	377293	3.5	19.5
17628	3.2	17.9	349505	3.2	21.0	345555	3.3	22.2	466912	3.4	20.4	134300	3.4	19.5	144479	3.5	19.9
214580	3.2	20.3	198864	3.2	19.5	104552	3.3	18.4	364234	3.4	21.8	315930	3.4	19.9	496676	3.5	20.8
5626	3.2	15.1	161794	3.2	17.8	201820	3.3	19.1	469245	3.4	21.0	307885	3.4	19.4	517189	3.5	21.7
380529	3.2	19.6	163035	3.2	18.6	285592	3.3	21.3	26313	3.4	19.2	246702	3.4	20.3	380236	3.5	19.7
296349	3.2	20.3	32532	3.2	20.1	408722	3.3	20.9	377320	3.4	20.0	406064	3.4	20.7	44154	3.5	18.5
138477	3.2	20.2	56471	3.2	19.2	145334	3.3	20.0	266674	3.4	19.6	421702	3.4	20.0	206790	3.5	19.6
456137	3.2	20.4	27182	3.2	16.7	376971	3.3	21.3	179265	3.4	20.8	287469	3.4	19.1	1233543	3.5	18.7
54720	3.2	18.5	80172	3.2	18.8	67930	3.3	19.7	53444	3.4	17.8	493399	3.4	20.7	82741	3.5	19.6
453815	3.2	22.5	219436	3.2	18.8	275925	3.3	19.4	109385	3.4	19.1	229264	3.4	19.6	240593	3.5	19.7
357235	3.2	21.1	190081	3.2	20.0	229827	3.3	20.5	463896	3.4	21.1	367518	3.4	20.9	503106	3.5	20.9
405081	3.2	20.5	510638	3.2	22.1	189769	3.3	19.7	511560	3.4	21.2	252692	3.4	18.8	280763	3.5	20.0
59247	3.2	18.0	493865	3.2	20.0	45616	3.3	18.4	4519	3.4	16.3	234445	3.4	20.6	19131	3.5	18.1
39060	3.2	18.8	87985	3.2	20.1	115542	3.3	19.2	24965	3.4	17.9	388798	3.4	20.8	32403	3.5	18.1
258275	3.2	19.6	191149	3.2	19.3	246864	3.3	21.2	282163	3.4	21.6	51812	3.4	18.2	59054	3.5	19.7
189407	3.2	20.5	266922	3.2	20.4	45857	3.3	17.4	39447	3.4	19.4	444675	3.4	19.0	243263	3.5	19.5
41651	3.2	18.7	493311	3.2	21.9	319829	3.3	19.5	123701	3.4	18.3	102093	3.4	18.4	456334	3.5	20.3
417125	3.2	21.0	375439	3.2	20.8	399568	3.3	21.5	35170	3.4	17.6	377162	3.4	20.9	67273	3.5	19.1
368624	3.2	20.6	2803	3.2	15.7	169170	3.3	20.1	519296	3.							

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
262574	3.5	20.9	372732	3.6	19.9	321845	3.7	20.9	171999	3.7	19.6	281314	3.8	20.3	459579	3.9	20.5
403568	3.5	20.5	454932	3.6	21.9	172024	3.7	20.4	191336	3.7	20.2	248709	3.8	19.9	352726	3.9	21.5
180008	3.5	19.7	459905	3.6	20.6	456532	3.7	19.5	378709	3.7	20.7	265649	3.8	19.1	37818	3.9	19.0
415884	3.5	22.0	35798	3.6	19.3	234372	3.7	20.6	453780	3.7	22.4	61443	3.8	19.3	258865	3.9	20.6
399483	3.5	21.8	500268	3.6	21.6	457585	3.7	20.2	197592	3.7	19.9	100996	3.8	19.4	351923	3.9	20.7
323465	3.5	21.8	131050	3.6	19.2	318115	3.7	20.6	88508	3.7	19.1	54017	3.8	18.7	54523	3.9	16.8
268101	3.5	19.8	78487	3.6	19.5	431553	3.7	20.6	409966	3.7	20.4	307759	3.8	20.8	282809	3.9	19.8
16111	3.5	18.3	209475	3.6	19.0	431507	3.7	20.8	233839	3.7	20.7	490672	3.8	21.7	409916	3.9	21.3
51714	3.5	19.2	165931	3.6	18.9	325123	3.7	21.0	344554	3.7	20.1	401677	3.8	20.9	119613	3.9	19.1
223725	3.5	20.4	332720	3.6	19.8	399574	3.7	21.1	373338	3.7	21.3	281134	3.8	18.8	473654	3.9	20.4
93165	3.5	17.6	340807	3.6	21.0	256311	3.7	20.0	516207	3.7	20.4	303380	3.8	19.7	485386	3.9	20.7
429025	3.5	19.9	430603	3.6	20.8	417900	3.7	20.1	246749	3.7	20.8	251068	3.8	20.3	285418	3.9	19.5
495929	3.5	20.3	58598	3.6	18.6	222272	3.7	19.7	171893	3.7	20.2	2221	3.8	17.3	231217	3.9	19.9
428984	3.5	20.9	210776	3.6	18.2	423639	3.7	19.7	96430	3.7	18.3	335938	3.8	20.7	168480	3.9	19.7
62140	3.5	19.5	355790	3.6	20.2	407292	3.7	21.2	285912	3.7	20.8	211442	3.8	18.6	312772	3.9	19.5
283927	3.5	20.8	272195	3.6	20.4	429388	3.7	20.8	39851	3.7	17.5	466306	3.8	20.9	148990	3.9	19.3
209615	3.5	19.1	210170	3.6	19.8	27483	3.7	17.7	258068	3.7	19.5	325520	3.8	20.8	442675	3.9	20.6
317156	3.5	20.0	93042	3.6	17.6	10968	3.7	18.1	413676	3.7	20.4	201029	3.8	19.6	25120	3.9	19.0
296187	3.5	20.1	375041	3.6	20.5	285888	3.7	20.7	203494	3.7	19.6	26839	3.8	17.9	340690	3.9	21.3
89504	3.5	19.1	317038	3.6	20.2	79075	3.7	20.4	144902	3.7	19.2	155973	3.8	20.5	369335	3.9	20.4
335228	3.5	20.3	282029	3.6	19.9	282926	3.7	19.7	83908	3.7	19.1	380057	3.8	20.5	125835	3.9	18.0
90760	3.5	19.9	216544	3.6	21.3	47106	3.7	17.8	497518	3.7	20.6	87497	3.8	18.8	518599	3.9	20.9
17428	3.5	16.9	152556	3.6	18.4	170303	3.7	21.0	109684	3.7	20.3	37200	3.8	18.7	149927	3.9	20.2
169961	3.5	19.6	39009	3.6	19.2	503662	3.7	22.2	173845	3.7	19.5	48035	3.8	19.1	249035	3.9	19.5
210752	3.5	19.0	300270	3.6	21.0	134454	3.7	20.2	123557	3.7	19.2	66144	3.8	20.0	412909	3.9	20.7
272597	3.5	21.4	252529	3.6	20.1	281070	3.7	23.5	417539	3.7	21.6	496003	3.8	21.7	158337	3.9	20.4
96869	3.5	18.0	495976	3.6	20.3	5727	3.7	16.2	320723	3.7	19.8	422327	3.8	20.0	303995	3.9	19.9
105460	3.5	19.4	425399	3.6	20.8	364756	3.7	20.7	266766	3.7	20.5	207785	3.8	20.0	34381	3.9	18.7
489289	3.5	21.3	29472	3.6	18.1	277318	3.7	20.7	197900	3.7	20.6	192503	3.8	21.1	456912	3.9	19.1
27562	3.6	17.6	159961	3.6	19.0	363892	3.7	21.6	459445	3.7	21.1	379827	3.8	19.7	520064	3.9	21.1
331424	3.6	19.4	332635	3.6	20.8	261193	3.7	20.5	168058	3.7	19.2	275208	3.8	20.1	85013	3.9	19.6
372636	3.6	20.5	214070	3.6	19.5	33716	3.7	18.3	239896	3.7	20.2	2630	3.8	16.2	169914	3.9	19.1
415855	3.6	20.7	153338	3.6	19.5	18309	3.7	18.7	103498	3.7	17.3	432514	3.8	20.7	165272	3.9	20.7
237220	3.6	20.5	376606	3.6	19.9	368821	3.7	20.0	363044	3.8	21.9	413868	3.8	21.4	519542	3.9	21.3
206102	3.6	19.5	391801	3.6	20.9	217062	3.7	20.3	171302	3.8	19.9	366749	3.8	20.7	393272	3.9	20.0
4848	3.6	15.8	505928	3.6	21.2	205951	3.7	19.4	52014	3.8	19.4	429302	3.8	20.7	102048	3.9	20.2
103952	3.6	19.6	117838	3.6	20.0	240104	3.7	19.9	92404	3.8	20.0	5061	3.8	16.9	220590	3.9	20.4
102417	3.6	19.3	110536	3.6	18.7	141767	3.7	19.5	117701	3.8	19.3	282868	3.8	20.0	373320	3.9	20.7
238753	3.6	20.6	463461	3.6	21.5	400246	3.7	20.5	27117	3.8	17.3	76376	3.8	18.9	453364	3.9	19.8
325979	3.6	20.3	349852	3.6	20.2	454160	3.7	20.1	424310	3.8	20.1	290467	3.8	21.1	472635	3.9	21.1
342980	3.6	20.1	409009	3.6	20.7	271275	3.7	20.8	79147	3.8	20.2	248926	3.8	17.5	333862	3.9	20.3
277151	3.6	21.1	108324	3.6	19.5	462653	3.7	21.6	4876	3.8	16.6	307621	3.8	20.7	457074	3.9	20.3
488462	3.6	22.4	299379	3.6	19.6	5232	3.7	16.6	310987	3.8	20.9	296230	3.8	20.1	387803	3.9	19.8
87919	3.6	19.0	419839	3.6	20.5	200363	3.7	19.1	426201	3.8	20.2	94594	3.8	18.3	326981	3.9	21.3
459346	3.6	20.7	466418	3.6	20.7	431144	3.7	21.2	205956	3.8	20.6	194366	3.8	20.8	200775	3.9	19.6
344392	3.6	20.2	317487	3.6	20.2	505868	3.7	20.9	104116	3.8	19.3	372975	3.8	19.7	327890	3.9	19.1
503531	3.6	20.4	145650	3.6	19.5	455443	3.7	21.8	372956	3.8	20.4	223764	3.8	20.1	304799	3.9	20.9
83974	3.6	19.3	321267	3.6	19.7	27133	3.7	19.1	13266	3.8	18.2	120271	3.8	19.8	144409	3.9	18.9
105618	3.6	18.6	179058	3.6	19.7	216546	3.7	19.5	110528	3.8	18.9	341438	3.8	20.4	247676	3.9	18.1
228200	3.6	20.5	205292	3.6	19.3	211809	3.7	19.8	170853	3.8	19.2	190346	3.8	20.2	412091	3.9	21.0
462081	3.6	19.9	122677	3.6	19.3	158277	3.7	20.3	324475	3.8	19.9	418272	3.8	20.9	220575	3.9	20.1
283149	3.6	20.1	26535	3.6	17.4	203309	3.7	19.9	24700	3.8	18.2	350607	3.8	20.2	397156	3.9	21.4
397434	3.6	20.6	200638	3.6	21.4	422550	3.7	21.0	337908	3.8	20.4	297394	3.8	20.7	456553	3.9	19.1
454992	3.6	20.5	131738	3.6	18.3	258529	3.7	19.1	235022	3.8	19.2	368740	3.8	19.8	225195	3.9	20.5
155490	3.6	18.3	457228	3.6	20.5	325204	3.7	19.9	122491	3.8	19.4	400172	3.8	20.6	416193	3.9	19.8
31423	3.6	17.5	1052	3.6	14.4	12086	3.7	18.2	383809	3.8	19.6	468899	3.8	20.4	51225	3.9	16.7
431487	3.6	20.9	313803	3.6	19.0	280875	3.7	21.0	2507	3.8	15.4	125820	3.8	18.7	466204	3.9	21.0
284847	3.6	20.9	31602	3.6	18.8	130636	3.7	19.7	104489	3.8	18.1	295955	3.8	20.7	333425	3.9	21.0
419676	3.6	21.0	177546	3.6	19.2	493185	3.7	20.9	366816	3.8	19.9	376431	3.8	21.2	57025	3.9	19.3
257125	3.6	19.4	150160	3.6	19.9	419152	3.7	21.0	54896	3.8	17.4	290911	3.8	19.8	88882	3.9	19.1
14708	3.6	17.9	140852	3.6	20.2	496696	3.7	20.9	127121	3.8	19.1	388660	3.8	20.7	387513	3.9	20.1
11047	3.6	17.3	317086	3.6	20.6	380388	3.7	20.6	77694	3.8	17.6	289694	3.8	21.0	107256	3.9	18.3
143125	3.6	19.2	457087	3.6	21.0	30972	3.7	18.5</									

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

Nº	02	V															
165107	3.9	19.0	404280	3.9	19.7	58208	4.1	19.2	200426	4.1	18.5	347385	4.2	19.7	322235	4.3	20.2
503152	3.9	20.5	432917	3.9	20.7	503678	4.1	21.2	285259	4.1	19.7	346778	4.2	19.7	179929	4.3	19.6
518072	3.9	20.4	417765	3.9	19.5	178647	4.1	19.7	223653	4.1	20.3	17064	4.2	16.2	80121	4.3	20.0
454517	3.9	21.4	96617	3.9	17.6	169317	4.1	19.0	322127	4.1	20.4	29776	4.2	18.2	307379	4.3	19.5
498670	3.9	20.8	275773	3.9	21.0	18651	4.1	16.5	160462	4.1	20.0	463983	4.2	20.9	351639	4.3	20.2
206195	3.9	19.3	16659	4.0	18.4	355030	4.1	20.0	271837	4.1	19.8	416837	4.2	22.7	288221	4.3	19.9
127813	3.9	19.6	275069	4.0	20.6	427010	4.1	21.6	428843	4.1	21.1	316945	4.2	20.3	52313	4.3	18.8
491613	3.9	20.3	298316	4.0	19.1	69502	4.1	18.6	8748	4.1	17.1	154287	4.2	19.5	466054	4.3	22.9
37	3.9	10.1	498279	4.0	21.9	206213	4.1	18.6	212946	4.1	19.7	443086	4.2	20.9	442609	4.3	21.7
22345	3.9	18.0	158517	4.0	19.6	465897	4.1	20.9	352797	4.1	19.8	94278	4.2	18.8	215863	4.3	19.8
86908	3.9	19.4	354069	4.0	20.5	19638	4.1	18.4	223654	4.1	20.0	430857	4.2	21.1	265801	4.3	19.9
215242	3.9	19.2	125165	4.0	18.7	79861	4.1	18.0	456446	4.1	21.1	522647	4.2	21.5	322469	4.3	19.9
217945	3.9	20.3	210992	4.0	19.8	50936	4.1	19.3	462283	4.1	21.5	453850	4.2	20.6	208961	4.3	19.3
70851	3.9	18.9	496685	4.0	19.5	432209	4.1	19.9	47700	4.2	18.8	468331	4.2	20.5	371228	4.3	19.3
101555	3.9	17.4	187298	4.0	19.5	292873	4.1	21.0	489213	4.2	21.0	201187	4.2	19.3	297391	4.3	20.7
426714	3.9	21.4	199082	4.0	19.6	341183	4.1	20.9	310080	4.2	20.1	205483	4.2	21.0	14447	4.3	18.0
13510	3.9	18.1	59207	4.0	19.3	72185	4.1	17.9	126325	4.2	20.0	492907	4.2	20.3	1503	4.3	13.3
112234	3.9	19.6	423037	4.0	20.4	490063	4.1	22.5	325311	4.2	19.6	431840	4.2	21.7	207161	4.3	18.9
142983	3.9	19.5	260781	4.0	20.3	91456	4.1	16.8	329020	4.2	20.3	17150	4.2	18.4	260015	4.3	19.4
282801	3.9	20.9	368814	4.0	20.1	246191	4.1	19.8	47993	4.2	18.4	231787	4.2	19.5	201281	4.3	20.9
373456	3.9	20.8	336514	4.0	20.1	267755	4.1	19.7	304803	4.2	21.1	456686	4.2	20.7	347066	4.3	20.9
341727	3.9	21.1	465685	4.0	20.8	127288	4.1	19.6	72963	4.2	19.3	380385	4.2	19.1	33079	4.3	18.6
82077	3.9	18.1	3665	4.0	16.0	82500	4.1	18.7	272922	4.2	20.1	245006	4.2	18.8	309220	4.3	21.4
245025	3.9	19.9	449100	4.0	21.9	25814	4.1	18.9	176755	4.2	19.4	230492	4.2	19.6	503542	4.3	21.1
18723	3.9	18.2	354081	4.0	20.2	415755	4.1	21.3	146308	4.2	20.2	215683	4.2	19.7	59828	4.3	18.9
88378	3.9	19.9	241976	4.0	19.7	192526	4.1	20.1	33772	4.2	18.4	68697	4.2	19.5	164576	4.3	19.2
380215	3.9	20.7	448128	4.0	20.7	408195	4.1	20.1	246119	4.2	19.9	274967	4.2	20.6	301506	4.3	20.8
50841	3.9	18.8	417650	4.0	19.6	278686	4.1	20.7	147785	4.2	18.9	455372	4.2	20.3	421882	4.3	21.7
28583	3.9	18.2	522262	4.0	21.3	93270	4.1	18.0	89274	4.2	17.8	404835	4.2	21.4	189022	4.3	20.3
466186	3.9	21.2	3464	4.0	15.9	126374	4.1	18.2	173217	4.2	19.3	269110	4.2	20.7	444229	4.3	21.2
372510	3.9	20.9	257312	4.0	20.7	187737	4.1	21.3	406484	4.2	20.8	432427	4.2	20.0	374069	4.3	21.0
340825	3.9	21.3	206203	4.0	19.5	405315	4.1	20.5	347368	4.2	21.2	33627	4.2	18.8	223267	4.3	19.9
496018	3.9	23.3	252690	4.0	18.6	102639	4.1	19.2	30887	4.2	16.7	89501	4.2	18.6	520823	4.3	20.1
81295	3.9	19.3	167948	4.0	19.9	289153	4.1	19.9	313795	4.2	20.0	325220	4.2	20.8	463567	4.3	20.8
454105	3.9	20.2	489805	4.0	21.1	346145	4.1	20.5	503501	4.2	21.1	354969	4.2	21.1	115931	4.3	17.5
269936	3.9	20.7	367619	4.0	20.3	136488	4.1	19.7	38629	4.2	18.7	95182	4.2	18.9	59585	4.3	17.4
455479	3.9	21.1	370714	4.0	20.5	143133	4.1	19.0	289899	4.2	20.7	83948	4.2	19.4	50107	4.3	17.7
463186	3.9	21.1	152691	4.0	19.5	464296	4.1	21.0	187891	4.2	19.7	288923	4.2	20.3	4384	4.3	16.3
16941	3.9	15.9	58442	4.0	19.4	111594	4.1	18.9	204136	4.2	18.1	508576	4.2	21.7	403890	4.3	20.8
423828	3.9	20.5	222829	4.0	19.2	458264	4.1	21.2	451738	4.2	19.9	127680	4.2	19.2	295620	4.3	21.1
37870	3.9	17.0	130186	4.0	18.1	65483	4.1	18.6	236080	4.2	19.7	62614	4.2	19.4	127369	4.3	19.9
261295	3.9	20.9	304838	4.0	19.7	318058	4.1	19.2	468295	4.2	20.6	47984	4.2	18.1	203117	4.3	20.6
357371	3.9	20.3	282892	4.0	20.0	82952	4.1	18.2	453334	4.2	20.9	113831	4.2	18.9	96231	4.3	19.5
110992	3.9	19.6	35913	4.0	18.9	237087	4.1	19.7	462027	4.2	20.0	403331	4.2	19.8	69484	4.3	17.8
36192	3.9	17.6	197906	4.0	21.0	373018	4.1	20.7	207965	4.2	20.4	107456	4.2	19.2	27358	4.3	18.7
356299	3.9	20.4	377190	4.0	21.1	340856	4.1	20.1	268615	4.2	20.5	431215	4.2	21.4	269237	4.3	20.6
74064	3.9	20.1	237320	4.0	20.2	86851	4.1	20.1	46068	4.2	19.3	273184	4.2	20.1	55099	4.3	18.2
284351	3.9	19.8	501277	4.0	20.2	403065	4.1	19.6	192513	4.2	20.7	379892	4.2	21.3	236681	4.3	20.9
265410	3.9	20.7	217117	4.0	19.4	498219	4.1	22.1	325995	4.2	18.9	355892	4.2	20.6	120225	4.3	19.5
169949	3.9	20.2	81848	4.0	19.2	123344	4.1	19.1	115168	4.2	18.9	411347	4.2	20.7	35153	4.3	18.5
238340	3.9	19.7	381204	4.0	21.1	387482	4.1	19.9	129819	4.2	20.2	430383	4.2	20.6	428375	4.3	20.8
51991	3.9	16.9	432124	4.0	20.2	82029	4.1	19.3	120840	4.2	18.8	171911	4.2	20.2	426939	4.3	19.8
179099	3.9	20.4	37615	4.0	18.8	463560	4.1	20.7	209412	4.2	19.6	76799	4.2	18.4	113651	4.3	19.6
462007	3.9	21.0	208060	4.0	20.1	285579	4.1	20.8	345586	4.2	20.6	45868	4.2	19.3	231658	4.3	20.0
106606	3.9	18.1	215520	4.0	19.2	130677	4.1	19.7	144825	4.2	20.1	77927	4.2	18.3	89369	4.3	19.2
279625	3.9	20.4	262917	4.0	19.7	353825	4.1	20.8	423056	4.2	21.7	30625	4.2	18.7	130681	4.3	18.8
453071	3.9	21.0	10982	4.0	19.8	282985	4.1	20.7	296337	4.2	19.7	55045	4.2	17.6	90637	4.3	19.7
50561	3.9	18.3	274022	4.0	21.4	122808	4.1	19.7	55569	4.2	19.6	325896	4.3	20.9	266686	4.3	21.1
136385	3.9	18.9	299477	4.0	19.9	170207	4.1	21.0	198887	4.2	19.0	165876	4.3	19.8	459729	4.3	21.4
459412	3.9	20.5	456873	4.0	21.0	123353	4.1	19.5	63036	4.2	19.5	102098	4.3	20.1	259219	4.3	18.7
165085	3.9	20.1	346000	4.0	20.5	105698	4.1	20.0	107246	4.2	18.4	238338	4.3	19.0	65748	4.3	18.3
283899	3.9	18.7	303939	4.0	21.5	95290	4.1	19.6	59362	4.2	18.2	184913	4.3	20.0	100370	4.3	20.2
297473	3.9	19.2	416922	4.0	21.1	201060	4.1	18.2	408139								

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

Nº	02	V															
299558	4.3	19.3	40386	4.4	18.9	363132	4.5	21.0	520817	4.5	20.4	463580	4.6	21.0	53090	4.7	16.0
338427	4.3	19.0	492575	4.4	22.4	52083	4.5	19.7	129572	4.5	18.8	239502	4.6	20.7	293767	4.7	19.9
30589	4.3	18.3	113414	4.4	19.4	473833	4.5	20.7	48859	4.5	19.3	85528	4.6	19.8	313988	4.7	19.7
10931	4.3	16.9	109934	4.4	20.0	38015	4.5	18.4	332679	4.5	20.2	204817	4.6	20.7	349399	4.7	20.4
267470	4.3	20.2	334759	4.4	21.1	445269	4.5	22.7	128724	4.5	19.3	30431	4.6	17.2	157111	4.7	20.3
318793	4.3	20.6	237492	4.4	20.1	339441	4.5	20.4	454307	4.5	21.3	326715	4.6	19.3	378324	4.7	20.7
219419	4.3	19.7	114088	4.4	19.6	408905	4.5	20.6	201259	4.5	19.5	437173	4.6	20.3	39623	4.7	18.8
39942	4.3	18.4	330718	4.4	20.8	187212	4.5	20.5	82957	4.5	19.0	277912	4.6	20.5	337051	4.7	21.7
496840	4.3	19.7	241872	4.4	20.0	266730	4.5	20.8	308754	4.5	19.8	214201	4.6	19.8	450543	4.7	20.5
405975	4.3	21.1	301290	4.4	21.1	17027	4.5	17.1	503104	4.5	20.5	30918	4.6	18.1	427460	4.7	20.0
51334	4.3	18.1	135654	4.4	19.9	77707	4.5	19.2	416255	4.5	19.7	34421	4.6	18.2	87758	4.7	19.6
518593	4.3	21.3	163505	4.4	20.0	64332	4.5	18.9	124898	4.5	20.0	236055	4.6	20.5	260563	4.7	19.8
345903	4.3	20.2	311010	4.4	18.7	19426	4.5	18.7	138665	4.5	20.8	461573	4.6	21.5	54079	4.7	18.2
416613	4.3	21.5	208403	4.4	20.0	424677	4.5	21.4	445937	4.5	20.2	2817	4.6	17.4	260049	4.7	20.7
277278	4.3	20.9	233023	4.4	19.7	429242	4.5	20.6	82853	4.5	18.8	375293	4.6	20.9	53922	4.7	19.0
304037	4.3	19.5	130500	4.4	18.9	105042	4.5	19.3	371265	4.5	19.9	139698	4.6	18.5	345742	4.7	19.9
82946	4.3	18.5	279543	4.4	20.8	52935	4.5	19.5	148557	4.5	16.9	218373	4.6	20.6	248637	4.7	19.6
116364	4.3	17.9	241970	4.4	20.1	202779	4.5	19.7	208267	4.6	18.8	90269	4.6	19.0	82586	4.7	19.5
362058	4.3	19.7	458378	4.4	21.7	36539	4.5	18.3	411199	4.6	21.8	116320	4.6	19.5	461430	4.7	19.5
200693	4.3	20.7	318118	4.4	19.6	186878	4.5	19.4	192045	4.6	19.1	27046	4.6	18.1	184072	4.7	20.0
407948	4.3	20.0	4826	4.4	16.8	70345	4.5	18.9	57169	4.6	17.6	458305	4.6	20.6	227596	4.7	20.3
394360	4.3	20.1	26359	4.4	17.3	284475	4.5	20.4	21039	4.6	18.2	225189	4.6	20.2	367201	4.7	20.5
83674	4.3	18.7	100760	4.4	18.8	243154	4.5	20.0	469119	4.6	20.4	45766	4.6	17.8	109891	4.7	19.4
436768	4.3	19.7	428473	4.4	20.4	503062	4.5	20.1	436016	4.6	21.0	6179	4.6	16.2	10350	4.7	16.4
488835	4.3	21.9	9978	4.4	17.2	239588	4.5	20.1	253213	4.6	19.3	413121	4.6	20.5	432115	4.7	20.1
31110	4.3	18.9	314647	4.4	20.4	303412	4.5	19.9	420028	4.6	20.3	491076	4.6	21.7	52037	4.7	19.5
335212	4.3	20.4	311590	4.4	20.7	1322	4.5	16.7	383665	4.6	20.2	150167	4.6	18.3	83199	4.7	18.4
413088	4.3	21.2	421278	4.4	21.1	401130	4.5	21.3	500554	4.6	21.4	412052	4.6	21.4	13234	4.7	16.6
276295	4.3	21.1	63455	4.4	19.0	44383	4.5	18.2	59379	4.6	19.1	431576	4.6	19.4	153769	4.7	18.9
251718	4.3	19.8	363914	4.4	21.5	432109	4.5	19.8	155000	4.6	19.3	395765	4.6	20.8	463169	4.7	20.6
209485	4.3	19.0	386833	4.4	20.3	325142	4.5	20.2	346009	4.6	20.4	110143	4.6	19.4	56906	4.7	18.8
384588	4.3	20.5	11017	4.4	16.3	148954	4.5	19.3	36560	4.6	18.3	417099	4.6	21.4	205302	4.7	19.4
170494	4.3	19.9	19970	4.4	18.2	468182	4.5	20.3	89769	4.6	20.0	274492	4.6	20.2	100480	4.7	21.3
140807	4.3	19.1	9813	4.4	16.5	367554	4.5	21.9	38955	4.6	18.4	310986	4.6	20.7	62066	4.7	18.6
334272	4.3	21.1	431517	4.4	20.7	401095	4.5	21.5	80153	4.6	17.8	167935	4.6	20.2	436333	4.7	18.1
465726	4.4	20.4	148813	4.4	19.6	297885	4.5	19.3	417028	4.6	20.6	361732	4.6	21.2	178944	4.7	20.0
253020	4.4	21.0	413522	4.4	21.4	81437	4.5	20.1	347327	4.6	20.7	53874	4.6	17.8	284194	4.7	19.2
463919	4.4	20.7	184049	4.4	19.7	309337	4.5	21.5	97574	4.6	19.2	309448	4.6	20.5	137166	4.7	19.8
120930	4.4	20.0	5226	4.4	15.8	127676	4.5	19.3	95832	4.6	19.2	509951	4.6	21.1	363628	4.7	21.6
343542	4.4	20.9	456320	4.4	21.6	258152	4.5	20.8	309157	4.6	18.8	277600	4.7	20.7	28793	4.7	17.7
462839	4.4	21.0	304113	4.4	20.1	372331	4.5	19.5	152185	4.6	19.9	481506	4.7	21.0	498255	4.7	21.0
357981	4.4	20.6	135205	4.4	19.8	428750	4.5	20.7	66958	4.6	19.3	345579	4.7	20.5	155568	4.7	20.6
341263	4.4	21.1	176230	4.4	19.7	93293	4.5	18.9	183237	4.6	19.7	150181	4.7	18.6	506380	4.7	22.1
234933	4.4	19.5	284844	4.4	20.2	212885	4.5	19.3	375331	4.6	20.1	465765	4.7	21.3	182905	4.7	19.8
466709	4.4	20.9	200331	4.4	20.0	212956	4.5	19.7	116689	4.6	19.3	69825	4.7	18.8	468003	4.7	21.5
249404	4.4	20.1	465054	4.4	21.7	196804	4.5	20.1	208652	4.6	19.1	9573	4.7	17.5	466227	4.7	21.2
69654	4.4	17.6	165339	4.4	18.9	27222	4.5	17.1	246414	4.6	20.6	417777	4.7	20.0	65114	4.7	19.1
328418	4.4	22.3	385959	4.4	21.3	22375	4.5	17.9	47916	4.6	18.2	30413	4.7	18.5	340772	4.7	20.8
113867	4.4	19.2	206903	4.4	19.7	104005	4.5	19.1	98976	4.6	18.1	323107	4.7	20.6	433700	4.7	19.2
378308	4.4	20.4	63734	4.4	18.0	467070	4.5	20.2	134485	4.6	19.8	279988	4.7	20.2	243397	4.7	19.8
275851	4.4	19.8	496937	4.4	21.8	277724	4.5	20.7	112911	4.6	19.7	127429	4.7	19.2	356454	4.7	21.4
204155	4.4	19.2	146333	4.4	20.3	103027	4.5	18.5	45365	4.6	19.4	78665	4.7	19.4	4746	4.7	16.7
128147	4.4	19.1	359066	4.4	21.0	132709	4.5	19.4	191584	4.6	20.6	406171	4.7	20.6	227679	4.7	19.8
280849	4.4	21.0	502850	4.4	20.8	465475	4.5	20.8	274213	4.6	20.2	116921	4.7	19.4	3961	4.7	16.1
500257	4.4	21.3	196745	4.4	19.6	458505	4.5	20.3	523774	4.6	21.7	185146	4.7	20.0	427043	4.7	21.0
467605	4.4	20.0	18798	4.4	19.1	163787	4.5	19.1	298791	4.6	20.8	10722	4.7	17.4	293089	4.7	21.1
399708	4.4	22.4	283061	4.4	20.8	9985	4.5	16.6	34721	4.6	17.8	169335	4.7	19.1	81678	4.7	19.5
3704	4.4	15.9	266389	4.4	20.5	60855	4.5	19.5	375748	4.6	21.2	58050	4.7	18.2	17799	4.7	17.6
182702	4.4	19.6	330451	4.4	21.0	405174	4.5	20.8	30345	4.6	18.1	326433	4.7	19.6	79901	4.7	17.2
155620	4.4	19.3	238071	4.4	18.2	303469	4.5	19.3	161090	4.6	20.2	231813	4.7	20.5	369864	4.7	20.5
372663	4.4	20.8	258559	4.4	19.1	386842	4.5	21.0	340650	4.6	20.0	258078	4.7	19.4	378341	4.7	21.2
198972	4.4	19.9	101842	4.4	17.8	364224	4.5	21.3	462982	4.6	20.1	411271	4.7	21.5	11345	4.7	19.3
468106	4.4	19.6	234542	4.4	20.4	142520	4.5	20.7	29091	4.6	17.						

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

Nº	02	V															
390794	4.7	19.9	177104	4.8	19.1	323497	4.9	20.9	181684	4.9	19.7	227560	5.0	20.1	53501	5.1	17.9
171454	4.7	19.9	182684	4.8	20.1	40549	4.9	18.9	154332	4.9	19.7	343004	5.0	20.6	492984	5.1	21.6
503133	4.7	20.6	162914	4.8	18.7	182977	4.9	21.4	354550	4.9	19.9	168094	5.0	20.4	195240	5.1	20.5
412568	4.8	20.4	36925	4.8	17.3	409442	4.9	21.0	292157	4.9	20.5	432126	5.0	19.8	399492	5.1	21.1
498942	4.8	20.7	43961	4.8	18.0	501432	4.9	20.3	136085	4.9	18.3	82605	5.0	19.4	384989	5.1	20.5
160	4.8	12.6	346023	4.8	20.7	376667	4.9	21.7	338948	4.9	19.6	319734	5.0	20.6	16838	5.1	16.9
47708	4.8	18.4	143429	4.8	19.8	26543	4.9	18.6	301066	4.9	21.0	149668	5.0	19.9	375453	5.1	21.1
463747	4.8	20.7	104579	4.8	19.1	332852	4.9	19.6	219357	4.9	20.9	282829	5.0	20.9	448328	5.1	19.7
166726	4.8	19.9	419048	4.8	20.7	296620	4.9	21.0	327034	4.9	20.8	178605	5.1	20.3	518654	5.1	21.2
54052	4.8	19.0	168369	4.8	20.0	428970	4.9	20.4	203426	4.9	19.5	182429	5.1	20.5	379049	5.1	20.2
298324	4.8	20.8	465776	4.8	20.9	322311	4.9	19.8	404190	4.9	20.1	293841	5.1	20.1	429289	5.1	20.9
107207	4.8	18.5	508430	4.8	22.5	241261	4.9	19.9	241358	4.9	20.1	336908	5.1	20.6	356988	5.1	20.5
400559	4.8	21.8	354064	4.8	21.1	485385	4.9	21.3	450170	4.9	22.4	382842	5.1	20.3	76577	5.1	19.7
402631	4.8	20.9	301251	4.8	21.3	489533	4.9	21.4	136624	4.9	19.5	126348	5.1	19.6	5642	5.1	18.0
92369	4.8	19.8	238135	4.8	19.8	240437	4.9	20.7	17543	4.9	17.1	170859	5.1	18.4	314165	5.1	20.3
283567	4.8	20.8	177872	4.8	20.1	519630	4.9	20.3	205466	4.9	20.5	171540	5.1	20.4	419817	5.1	21.0
250173	4.8	20.1	431584	4.8	20.5	122671	4.9	19.0	259205	4.9	19.2	198908	5.1	20.0	219392	5.1	19.9
34417	4.8	18.1	201117	4.8	19.0	37840	4.9	17.7	161133	4.9	19.3	301803	5.1	20.3	18802	5.1	18.5
196920	4.8	19.1	451015	4.8	21.0	124853	4.9	19.1	219424	4.9	19.8	247487	5.1	20.0	372496	5.1	22.4
30895	4.8	19.2	178121	4.8	20.8	130609	4.9	19.9	58310	4.9	18.9	131542	5.1	18.8	413039	5.1	21.1
5588	4.8	17.0	124559	4.8	19.8	406161	4.9	21.3	27816	4.9	18.0	272619	5.1	20.4	16527	5.1	16.7
428425	4.8	20.6	340585	4.8	20.6	65242	4.9	18.8	309876	4.9	19.5	225426	5.1	20.4	431257	5.1	20.7
169118	4.8	20.1	285116	4.8	21.6	184077	4.9	19.5	214156	4.9	19.6	430356	5.1	21.2	294022	5.1	20.1
172482	4.8	19.9	409952	4.8	21.1	467680	4.9	20.4	503460	4.9	21.1	294615	5.1	20.4	172001	5.1	20.2
230817	4.8	19.6	429670	4.8	20.2	221727	4.9	19.4	138519	4.9	21.4	455444	5.1	21.6	464403	5.1	20.2
408484	4.8	20.5	23437	4.8	18.1	333068	4.9	19.5	369545	4.9	20.5	425661	5.1	20.6	474249	5.1	21.2
366370	4.8	20.4	237624	4.8	19.7	432170	4.9	20.8	230510	4.9	19.2	429317	5.1	20.1	430710	5.1	19.7
473436	4.8	20.0	244108	4.8	19.9	205461	4.9	20.6	147159	4.9	19.6	136582	5.1	19.0	242568	5.1	20.5
49520	4.8	18.2	239563	4.8	20.3	166189	4.9	19.1	353320	4.9	21.3	76434	5.1	18.8	77176	5.1	18.0
196234	4.8	18.9	242376	4.8	19.7	408282	4.9	20.6	56659	4.9	19.9	117566	5.1	19.3	216841	5.1	20.4
491972	4.8	20.9	466202	4.8	20.7	373184	4.9	20.3	54545	4.9	19.2	499454	5.1	20.6	96497	5.1	19.7
158195	4.8	20.2	304947	4.9	20.3	169270	4.9	20.3	302024	4.9	21.5	281760	5.1	20.4	276325	5.1	20.3
213874	4.8	19.0	310720	4.9	19.7	468712	4.9	22.2	455072	4.9	20.8	133085	5.1	20.3	24597	5.1	19.0
206136	4.8	19.0	109218	4.9	19.0	231591	4.9	20.3	144374	4.9	20.2	371746	5.1	20.2	461698	5.1	21.5
380328	4.8	21.5	340664	4.9	21.6	375981	4.9	21.2	16515	4.9	17.0	217438	5.1	20.4	238375	5.1	19.3
460795	4.8	21.2	239565	4.9	20.4	124582	4.9	19.0	301490	4.9	19.7	321619	5.1	20.1	284866	5.1	19.6
60839	4.8	18.5	369083	4.9	21.7	377442	4.9	21.8	494791	4.9	21.7	495000	5.1	20.9	362080	5.1	20.4
261345	4.8	20.0	368652	4.9	19.6	172002	4.9	19.5	167564	4.9	19.3	462060	5.1	20.3	462309	5.1	21.1
138342	4.8	19.2	185365	4.9	19.4	199551	4.9	20.2	211618	4.9	19.6	66309	5.1	19.1	208689	5.1	20.7
8194	4.8	16.3	459680	4.9	20.8	206792	4.9	18.8	61600	4.9	18.8	499890	5.1	21.3	321446	5.1	20.2
215276	4.8	21.5	191343	4.9	19.9	295842	4.9	20.5	369649	4.9	19.8	415819	5.1	20.8	163616	5.1	18.2
209023	4.8	19.5	52448	4.9	19.7	512354	4.9	21.0	185431	4.9	19.2	55951	5.1	19.8	122098	5.1	18.5
310298	4.8	20.6	31373	4.9	16.5	176221	4.9	20.6	461498	4.9	19.3	69064	5.1	18.2	373851	5.1	21.0
429955	4.8	21.7	523501	4.9	20.8	362123	4.9	20.3	269091	4.9	18.7	110414	5.1	20.0	178974	5.1	19.9
401903	4.8	20.3	337538	4.9	21.6	165504	4.9	18.9	387002	4.9	21.2	135736	5.1	19.9	54413	5.1	17.9
383770	4.8	19.7	430982	4.9	20.0	138428	4.9	19.5	417244	5.0	19.0	496314	5.1	21.0	503567	5.1	21.0
203578	4.8	19.9	175834	4.9	20.7	450995	4.9	21.3	104923	5.0	19.2	367365	5.1	20.9	122805	5.1	18.6
164240	4.8	19.8	135340	4.9	19.5	367520	4.9	21.4	197982	5.0	18.6	39074	5.1	18.5	448151	5.1	21.5
312677	4.8	19.3	260766	4.9	20.0	31090	4.9	17.9	129846	5.0	20.3	282596	5.1	19.8	89230	5.1	19.1
123570	4.8	18.5	400785	4.9	21.1	341686	4.9	20.3	20270	5.0	18.4	123355	5.1	20.2	450517	5.1	19.7
6780	4.8	17.4	154270	4.9	20.2	411731	4.9	20.4	417144	5.0	21.6	108874	5.1	19.3	231833	5.1	19.2
402571	4.8	21.3	155208	4.9	19.9	183144	4.9	18.9	184446	5.0	20.6	89801	5.1	18.7	113573	5.1	19.4
110591	4.8	19.0	495121	4.9	21.3	37809	4.9	19.1	502560	5.0	21.3	14966	5.1	18.7	14969	5.1	17.9
156429	4.8	18.9	64866	4.9	19.1	459241	4.9	19.9	212457	5.0	20.0	25304	5.1	18.3	108449	5.1	20.1
405891	4.8	19.8	258258	4.9	19.4	126992	4.9	18.3	358081	5.0	21.6	7139	5.1	17.0	129545	5.1	19.9
512245	4.8	17.4	103281	4.9	18.9	153798	4.9	19.8	272825	5.0	21.0	368969	5.1	19.9	234423	5.2	20.9
199588	4.8	19.8	377045	4.9	21.0	66354	4.9	17.6	369109	5.0	20.0	25670	5.1	18.1	89328	5.2	19.0
239217	4.8	19.8	457851	4.9	21.4	373761	4.9	19.7	265331	5.0	20.0	323939	5.1	21.3	142830	5.2	19.0
349935	4.8	20.6	41418	4.9	17.6	101389	4.9	19.5	112014	5.0	18.2	494756	5.1	20.9	98175	5.2	18.7
79115	4.8	20.2	38063	4.9	18.8	114124	4.9	18.7	384967	5.0	20.4	151996	5.1	19.7	70393	5.2	19.3
465659	4.8	19.6	94677	4.9	19.2	122324	4.9	19.3	90098	5.0	18.0	464931	5.1	21.6	36314	5.2	18.0
207598	4.8	20.4	185161	4.9	20.2	243573	4.9	20.3	329609	5.0	19.3	373259	5.1	20.8	282591	5.2	20.0
407658	4.8	20.2	241184	4.9	19.7	237358	4.9										

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

Nº	02	V															
193895	5.2	19.3	455784	5.3	22.1	130531	5.3	18.1	292721	5.4	19.5	279201	5.5	20.3	254595	5.5	20.9
151020	5.2	19.8	332806	5.3	20.0	6999	5.3	16.4	225389	5.4	19.8	376703	5.5	20.8	407486	5.5	20.7
169721	5.2	19.8	323430	5.3	21.3	2010	5.3	15.8	517575	5.4	20.5	431501	5.5	21.0	359013	5.5	20.6
155362	5.2	19.7	291211	5.3	20.0	247631	5.3	20.8	95803	5.4	19.5	348638	5.5	19.9	491908	5.5	21.1
227339	5.2	19.6	170249	5.3	21.1	253295	5.3	19.1	312559	5.4	19.1	300369	5.5	19.9	287812	5.5	20.4
52916	5.2	17.9	428111	5.3	21.6	22572	5.3	18.4	446320	5.4	20.5	338028	5.5	20.7	375360	5.5	20.3
375436	5.2	20.4	384217	5.3	20.7	470905	5.3	21.2	218169	5.4	19.1	453064	5.5	21.1	419924	5.5	20.3
434647	5.2	20.9	312653	5.3	20.5	165878	5.3	19.8	294142	5.4	19.9	399494	5.5	20.0	172725	5.5	18.4
29431	5.2	17.4	368071	5.3	20.5	380313	5.3	20.1	489237	5.4	22.7	244961	5.5	19.8	111454	5.5	20.0
108878	5.2	19.4	133918	5.3	19.0	63670	5.3	18.3	144842	5.4	20.1	163738	5.5	20.4	431967	5.5	20.2
398702	5.2	19.5	367566	5.3	21.7	241061	5.3	21.4	503886	5.4	23.7	229149	5.5	21.1	408729	5.5	20.3
350980	5.2	19.6	366925	5.3	20.0	430843	5.3	21.3	518704	5.4	20.6	27581	5.5	18.0	138255	5.5	19.6
250993	5.2	20.1	463526	5.3	21.5	57425	5.3	17.9	30494	5.4	17.8	494799	5.5	18.9	17013	5.5	17.5
184164	5.2	20.4	350437	5.3	20.7	174775	5.3	19.0	259265	5.4	18.6	357610	5.5	19.4	343117	5.5	20.6
75328	5.2	18.6	295522	5.3	20.9	182534	5.3	19.5	343097	5.4	19.9	205286	5.5	19.4	388674	5.5	20.4
412988	5.2	20.2	469433	5.3	20.1	109777	5.3	19.2	56891	5.4	17.5	154909	5.5	19.9	190335	5.5	20.7
168964	5.2	18.0	483006	5.3	20.3	299540	5.3	19.6	381955	5.4	19.3	333767	5.5	20.0	89063	5.5	18.7
499733	5.2	21.3	2130	5.3	16.8	356939	5.3	20.5	381986	5.4	20.5	167748	5.5	19.6	48537	5.5	18.0
236262	5.2	19.3	152879	5.3	18.6	228759	5.3	20.1	256157	5.4	21.5	472278	5.5	20.1	296181	5.5	20.9
421973	5.2	21.3	69601	5.3	17.8	434937	5.3	20.6	367516	5.4	21.3	334142	5.5	21.3	224576	5.5	21.3
419700	5.2	20.7	344547	5.3	20.7	169986	5.3	19.3	413187	5.4	21.6	412215	5.5	20.9	323102	5.5	20.2
57984	5.2	19.8	411316	5.3	20.5	183779	5.3	19.5	323461	5.4	21.2	151212	5.5	19.9	363202	5.5	21.3
225712	5.2	21.5	245206	5.3	20.4	248857	5.3	20.3	523511	5.4	20.8	403082	5.5	19.1	298778	5.5	21.5
55647	5.2	18.8	463658	5.3	20.7	392906	5.3	20.2	303338	5.4	20.7	192229	5.5	20.5	194563	5.5	20.0
39727	5.2	18.8	288632	5.3	20.8	495570	5.3	20.4	233852	5.4	19.5	401499	5.5	20.2	473848	5.5	22.0
225014	5.2	20.3	235637	5.3	19.8	312505	5.3	20.4	4396	5.4	17.2	345870	5.5	21.0	327842	5.5	19.2
63477	5.2	18.4	32036	5.3	18.4	399601	5.3	20.0	443898	5.4	21.1	381701	5.5	19.5	412582	5.5	21.0
462945	5.2	20.2	372598	5.3	21.1	154917	5.3	19.9	266096	5.4	20.1	102102	5.5	19.6	158736	5.5	19.7
106626	5.2	19.5	426560	5.3	21.4	415433	5.3	20.5	212677	5.4	20.8	237356	5.5	20.3	363434	5.5	19.9
55547	5.2	19.0	189757	5.3	18.8	468840	5.3	21.4	74468	5.4	17.4	136634	5.5	19.2	503438	5.5	20.3
71031	5.2	18.5	403864	5.3	20.5	82650	5.4	19.1	451018	5.4	20.8	101657	5.5	18.3	385050	5.5	20.8
38893	5.2	19.1	368612	5.3	20.7	52874	5.4	17.8	346926	5.4	19.9	333230	5.5	20.0	192507	5.5	20.2
23034	5.2	18.7	463626	5.3	20.9	384183	5.4	19.0	12505	5.4	17.6	191595	5.5	20.1	30981	5.5	18.5
330716	5.2	19.7	115317	5.3	18.9	310385	5.4	19.4	496080	5.4	21.9	413785	5.5	19.1	91127	5.5	18.2
145631	5.2	19.5	414834	5.3	21.4	148890	5.4	20.3	297489	5.4	20.3	317589	5.5	19.0	80022	5.6	18.5
335817	5.2	20.8	494716	5.3	21.3	492433	5.4	21.0	180657	5.4	20.1	472687	5.5	20.4	136109	5.6	20.4
32187	5.2	17.9	448307	5.3	20.3	381674	5.4	20.4	165711	5.4	20.6	323259	5.5	17.7	207764	5.6	19.6
3511	5.2	15.0	301617	5.3	20.8	131299	5.4	19.2	42734	5.4	19.2	437451	5.5	20.0	116895	5.6	19.9
351697	5.2	20.0	44027	5.3	18.0	40750	5.4	19.8	113720	5.4	19.2	163716	5.5	19.6	270445	5.6	20.0
433189	5.2	21.4	158518	5.3	19.6	62946	5.4	19.0	8602	5.4	16.2	56231	5.5	17.7	149634	5.6	19.3
167674	5.2	18.4	491235	5.3	20.0	83677	5.4	19.1	345880	5.4	20.7	60861	5.5	18.4	239996	5.6	19.7
17955	5.2	18.3	499011	5.3	20.6	218647	5.4	20.8	416653	5.4	20.7	233261	5.5	20.3	456356	5.6	21.3
468317	5.2	19.9	118722	5.3	19.0	205491	5.4	20.2	142708	5.4	20.0	161928	5.5	19.8	57014	5.6	19.2
363810	5.2	20.5	105180	5.3	18.4	65130	5.4	19.5	272669	5.4	19.4	492501	5.5	20.9	371132	5.6	21.3
341344	5.2	20.9	170262	5.3	19.7	89628	5.4	19.6	416079	5.4	21.3	409446	5.5	21.6	56252	5.6	17.7
30866	5.2	17.6	242190	5.3	20.5	364308	5.4	21.2	298870	5.4	20.1	240535	5.5	19.9	124805	5.6	19.3
518118	5.2	20.4	377202	5.3	21.4	459702	5.4	20.3	204536	5.4	19.7	378853	5.5	20.8	429250	5.6	21.8
76557	5.2	18.5	214241	5.3	19.8	209618	5.4	18.5	464220	5.4	20.8	139572	5.5	19.2	293913	5.6	21.2
356021	5.2	20.1	428982	5.3	20.7	216850	5.4	20.2	210257	5.4	19.1	19370	5.5	15.8	363846	5.6	20.3
412893	5.2	20.1	65965	5.3	19.2	384190	5.4	20.1	4830	5.4	15.8	354923	5.5	20.2	222283	5.6	20.3
126115	5.2	18.9	145162	5.3	20.9	341493	5.4	19.8	241135	5.4	21.1	455470	5.5	21.3	228761	5.6	20.5
165706	5.2	20.0	315959	5.3	20.7	276252	5.4	19.8	229242	5.4	19.7	62080	5.5	18.3	31128	5.6	20.4
127624	5.2	18.8	131307	5.3	18.5	169347	5.4	19.2	259333	5.4	19.2	421461	5.5	21.5	267463	5.6	19.6
498915	5.2	20.1	87368	5.3	19.4	67821	5.4	20.0	366184	5.4	19.7	73082	5.5	19.6	496402	5.6	22.1
343596	5.2	20.9	199715	5.3	20.8	437108	5.4	20.4	410453	5.4	20.5	409848	5.5	21.3	463489	5.6	20.9
496775	5.2	20.3	164312	5.3	18.8	461829	5.4	20.8	363174	5.4	21.6	290231	5.5	20.6	78503	5.6	18.5
93782	5.2	19.0	110837	5.3	19.2	228569	5.4	19.1	419500	5.4	19.6	118210	5.5	19.5	179017	5.6	19.9
318185	5.2	21.3	382270	5.3	20.4	430681	5.4	20.6	357358	5.4	20.3	160807	5.5	19.7	492704	5.6	21.2
27123	5.2	19.0	12705	5.3	16.9	453294	5.4	20.0	380022	5.4	21.4	366475	5.5	20.9	293124	5.6	20.1
217963	5.2	20.9	86554	5.3	19.7	179052	5.4	21.3	379006	5.4	19.8	127261	5.5	18.5	156530	5.6	19.8
64035	5.2	19.0	361715	5.3	21.0	339012	5.4	19.6	486769	5.4	20.6	177458	5.5	19.8	70938	5.6	17.7
109977	5.2	19.4	317382	5.3	20.8	429032	5.4	20.0	310956	5.4	20.7	298920	5.5	21.1	113819	5.6	19.0
121986	5.2	18.8	81624	5.3	19.4	93210	5.4	19									

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
130635	5.6	19.9	406163	5.7	21.5	28933	5.7	18.7	193766	5.8	19.5	459308	5.9	20.2	493653	5.9	20.1
430087	5.6	20.7	402853	5.7	21.3	462267	5.7	21.7	426323	5.8	20.5	415467	5.9	21.9	225021	5.9	19.7
518851	5.6	20.1	36951	5.7	19.0	317436	5.7	20.4	519562	5.8	21.3	200841	5.9	20.3	52972	5.9	18.8
168860	5.6	18.9	464256	5.7	20.2	95106	5.7	18.8	61411	5.8	18.3	257139	5.9	20.4	143026	5.9	19.5
330021	5.6	20.1	159997	5.7	21.0	422317	5.7	21.0	86051	5.8	18.4	224451	5.9	20.3	297484	5.9	19.7
347006	5.6	19.2	340842	5.7	21.1	290232	5.7	21.2	125053	5.8	20.2	234839	5.9	19.9	463995	5.9	21.9
65173	5.6	19.8	495524	5.7	20.9	325256	5.7	21.0	84509	5.8	17.9	13531	5.9	17.7	292635	5.9	20.7
473756	5.6	20.8	432122	5.7	20.5	385001	5.7	20.7	110324	5.8	18.4	5107	5.9	16.3	82444	5.9	19.3
121863	5.6	19.0	210395	5.7	20.0	213074	5.7	20.6	354507	5.8	20.8	310283	5.9	20.3	120985	5.9	19.7
127745	5.6	19.4	455448	5.7	20.7	69575	5.7	18.9	135587	5.8	19.0	170049	5.9	19.9	462338	5.9	20.5
424288	5.6	19.9	15157	5.7	18.2	473697	5.7	19.2	189977	5.8	20.1	396578	5.9	20.8	370821	5.9	21.3
63667	5.6	19.7	317788	5.7	20.8	258453	5.7	19.2	376436	5.8	20.9	340631	5.9	21.0	367426	5.9	20.0
263730	5.6	20.3	372557	5.7	21.2	38996	5.7	16.9	2449	5.8	17.2	461823	5.9	20.7	423193	5.9	21.8
278430	5.6	21.2	428868	5.7	20.5	133999	5.7	19.0	275762	5.8	20.3	288402	5.9	18.7	448110	5.9	21.1
158617	5.6	19.2	245048	5.7	20.3	188728	5.7	20.8	354898	5.8	19.4	172009	5.9	19.9	385894	5.9	21.0
248643	5.6	20.2	169264	5.7	20.0	194392	5.7	19.4	89422	5.8	19.2	36331	5.9	18.3	299351	5.9	21.4
69811	5.6	19.2	224988	5.7	20.1	348400	5.7	21.7	241429	5.8	20.2	418309	5.9	20.5	340846	5.9	20.2
336470	5.6	19.6	432498	5.7	20.9	307197	5.7	20.6	233487	5.8	19.3	329623	5.9	21.2	24639	5.9	17.1
465513	5.6	21.6	229097	5.7	20.4	501966	5.7	20.2	32782	5.8	19.1	163514	5.9	19.2	56572	5.9	17.9
377424	5.6	21.9	124619	5.7	18.5	362177	5.7	21.1	81553	5.8	18.6	37117	5.9	19.1	101982	5.9	20.7
128035	5.6	19.8	55744	5.7	18.2	325942	5.7	20.8	243429	5.8	21.1	17922	5.9	17.7	87660	5.9	19.8
67508	5.6	17.1	16622	5.7	17.4	320488	5.8	20.2	208627	5.8	19.2	337244	5.9	20.4	179272	5.9	20.8
405874	5.6	19.8	182070	5.7	19.5	408137	5.8	20.2	355398	5.8	20.6	109893	5.9	18.8	68633	5.9	18.9
101954	5.6	21.3	28321	5.7	17.2	307402	5.8	19.5	335975	5.8	20.9	258073	5.9	20.4	234294	5.9	19.5
282152	5.6	20.8	147221	5.7	19.2	171998	5.8	18.9	233781	5.8	20.3	327889	5.9	19.8	196312	5.9	19.1
201635	5.6	19.7	129717	5.7	19.3	34886	5.8	18.4	8011	5.8	16.8	401573	5.9	21.0	287386	5.9	19.9
113849	5.6	18.8	422737	5.7	21.5	206317	5.8	20.1	436003	5.8	19.5	469168	5.9	20.8	314742	5.9	20.3
432913	5.6	21.2	148822	5.7	19.4	315524	5.8	19.7	320869	5.8	20.9	309447	5.9	19.8	209029	5.9	19.5
400161	5.6	20.1	296081	5.7	19.3	523798	5.8	21.9	83472	5.8	18.9	453323	5.9	20.7	96564	5.9	19.7
330074	5.6	20.4	88941	5.7	18.9	169645	5.8	19.7	217427	5.8	20.4	334623	5.9	19.4	471130	5.9	20.7
329152	5.6	20.1	27012	5.7	18.4	92652	5.8	18.0	97449	5.8	19.4	245028	5.9	20.3	265771	5.9	19.7
219757	5.6	20.0	268593	5.7	20.2	424687	5.8	21.9	466128	5.8	21.6	293145	5.9	19.3	203986	5.9	19.7
279231	5.6	20.7	94579	5.7	18.1	158832	5.8	19.7	302466	5.8	20.3	316774	5.9	20.7	402553	5.9	21.4
415836	5.6	21.7	372685	5.7	20.5	96890	5.8	17.7	131274	5.8	18.6	1627	5.9	16.3	329589	5.9	18.7
135446	5.6	18.5	46762	5.7	18.4	183501	5.8	19.9	103943	5.8	18.8	269454	5.9	19.5	198276	5.9	20.8
215799	5.6	20.1	55746	5.7	17.9	279555	5.8	20.4	212630	5.8	20.6	256232	5.9	20.4	397809	5.9	20.7
37041	5.6	18.4	362423	5.7	21.4	166675	5.8	19.7	451720	5.8	20.1	370708	5.9	21.0	146580	5.9	19.0
371689	5.6	20.6	374000	5.7	19.0	186569	5.8	19.4	209101	5.8	20.6	60737	5.9	17.8	323783	5.9	21.1
123165	5.6	17.7	118277	5.7	19.7	497847	5.8	20.9	258173	5.8	20.3	51035	5.9	17.8	432231	5.9	21.3
257332	5.6	20.7	453275	5.7	21.6	486792	5.8	21.3	259111	5.8	20.7	298944	5.9	19.5	293140	5.9	20.6
56573	5.6	18.8	218379	5.7	20.2	15782	5.8	17.9	318302	5.8	20.5	238523	5.9	20.3	323144	5.9	18.6
28006	5.6	16.6	211972	5.7	18.9	303387	5.8	19.3	375410	5.8	20.5	210235	5.9	19.6	399570	5.9	22.0
417558	5.6	21.2	393346	5.7	21.1	363153	5.8	21.4	172012	5.8	20.2	20871	5.9	19.2	319633	5.9	20.4
282863	5.6	20.8	350758	5.7	19.4	178905	5.8	21.0	428875	5.8	21.1	14376	5.9	17.6	430718	5.9	20.5
170038	5.6	19.5	191318	5.7	20.3	341468	5.8	20.8	514652	5.8	22.6	99897	5.9	18.6	344510	5.9	21.2
458384	5.6	20.7	125810	5.7	19.5	300099	5.8	20.9	500572	5.8	21.6	3918	5.9	15.9	35527	5.9	19.4
362045	5.6	19.6	86275	5.7	19.2	54294	5.8	18.6	267186	5.8	20.6	223702	5.9	20.3	464095	5.9	19.9
360767	5.6	20.7	444186	5.7	21.0	73746	5.8	19.1	132809	5.8	19.6	99595	5.9	18.6	451684	5.9	20.1
449160	5.6	19.2	279901	5.7	20.8	105281	5.8	18.6	281899	5.8	20.7	425050	5.9	22.1	258357	5.9	19.5
284359	5.6	21.3	140716	5.7	20.1	290227	5.8	20.8	368605	5.8	20.4	375492	5.9	19.8	310888	5.9	21.3
278884	5.6	20.9	81388	5.7	19.0	238447	5.8	20.4	372034	5.8	21.1	131897	5.9	19.1	463932	5.9	20.9
9461	5.6	17.9	366729	5.7	19.1	416587	5.8	21.0	265768	5.8	20.1	453393	5.9	20.3	268074	5.9	20.7
151829	5.6	19.8	218668	5.7	19.8	117923	5.8	19.6	205282	5.8	18.9	370805	5.9	20.7	104525	5.9	19.8
200139	5.6	20.6	12057	5.7	16.9	288072	5.8	19.8	242489	5.8	20.0	105365	5.9	19.3	195511	5.9	18.8
381696	5.6	19.6	310962	5.7	20.1	322390	5.8	20.6	133276	5.8	20.2	307648	5.9	19.6	182714	5.9	20.1
129388	5.6	20.1	207878	5.7	20.8	168507	5.8	20.8	241065	5.8	20.0	462051	5.9	21.2	282505	5.9	20.4
274382	5.6	19.8	2859	5.7	15.0	202373	5.8	20.4	25236	5.8	18.5	405154	5.9	22.1	372012	5.9	20.3
62136	5.6	19.4	488829	5.7	22.0	84187	5.8	18.2	8956	5.8	16.2	237741	5.9	20.8	117023	5.9	19.7
136204	5.6	21.0	177580	5.7	19.0	431230	5.8	21.5	468847	5.8	22.0	283983	5.9	19.9	93279	5.9	19.4
315387	5.6	20.7	51218	5.7	17.6	323535	5.8	21.8	158519	5.8	19.7	334897	5.9	20.9	176759	5.9	19.4
373387	5.6	20.1	354564	5.7	19.6	518031	5.8	20.4	209462	5.8	20.4	341689	5.9	20.8	245540	5.9	19.7
433899	5.6	21.0	381915	5.7	18.7	225164	5.8	21.3	519555	5.8	21.2	208542	5.9	20.3	101110	5.9	19.1
95383	5.6	19.0	232032	5.7	19.9	321856	5.8	20.5</									

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

Nº	02	V															
467599	5.9	20.6	383778	6.1	21.2	284386	6.1	20.8	138629	6.2	20.2	372010	6.3	21.6	473655	6.3	21.6
218023	5.9	19.8	259061	6.1	20.4	252680	6.1	19.4	387457	6.2	20.1	138274	6.3	19.5	375351	6.3	21.1
26205	5.9	19.0	384735	6.1	20.3	323452	6.1	21.1	37720	6.2	18.7	288061	6.3	20.8	336287	6.3	20.5
200464	5.9	19.3	42444	6.1	18.7	234952	6.1	20.1	82939	6.2	19.0	283528	6.3	19.2	142382	6.3	19.5
235673	5.9	21.2	494768	6.1	22.0	227942	6.1	20.2	346703	6.2	20.7	467184	6.3	19.7	2291	6.3	15.1
335217	5.9	20.2	246176	6.1	20.0	113079	6.1	19.9	302442	6.2	19.4	244131	6.3	19.3	259934	6.3	20.6
428414	6.0	20.3	426212	6.1	20.4	287518	6.1	18.9	159670	6.2	19.4	322812	6.3	20.1	335884	6.4	20.9
282171	6.0	21.2	453827	6.1	20.8	189443	6.1	19.4	237656	6.2	19.2	63431	6.3	19.0	378922	6.4	21.1
455919	6.0	20.8	496717	6.1	20.9	249107	6.1	20.9	112767	6.2	20.2	428929	6.3	20.6	309396	6.4	20.8
182038	6.0	18.7	428405	6.1	20.5	129721	6.1	19.8	482794	6.2	20.3	110734	6.3	19.3	320816	6.4	20.4
405903	6.0	21.9	153991	6.1	18.5	337442	6.1	21.2	208335	6.2	19.7	457609	6.3	20.1	68594	6.4	18.8
307678	6.0	20.2	357037	6.1	21.2	416912	6.1	21.4	322364	6.2	20.8	432487	6.3	20.7	489684	6.4	22.1
308276	6.0	19.6	32078	6.1	18.5	241671	6.1	21.1	185495	6.2	20.2	229591	6.3	19.7	298377	6.4	18.2
204229	6.0	19.8	321972	6.1	21.0	106128	6.1	19.3	163578	6.2	19.5	155989	6.3	19.7	39151	6.4	18.9
252232	6.0	20.0	148845	6.1	19.8	258480	6.1	18.8	174242	6.2	19.8	284725	6.3	21.2	348592	6.4	20.8
364437	6.0	20.7	412698	6.1	20.3	360429	6.1	20.4	489926	6.2	22.0	301822	6.3	20.8	325572	6.4	22.1
363808	6.0	21.5	448132	6.1	21.5	277825	6.1	20.7	83004	6.2	18.8	301086	6.3	21.7	184931	6.4	20.1
191793	6.0	20.2	288493	6.1	19.4	423066	6.1	20.3	263606	6.2	20.7	35486	6.3	17.9	413540	6.4	20.0
323781	6.0	20.9	80068	6.1	18.6	402961	6.1	20.7	186097	6.2	20.4	443881	6.3	20.9	135197	6.4	20.9
118203	6.0	20.4	33008	6.1	17.6	52257	6.1	18.9	341427	6.2	20.3	198892	6.3	19.4	461509	6.4	22.0
193907	6.0	20.7	53660	6.1	19.2	413515	6.1	20.0	363201	6.2	20.5	476905	6.3	20.8	418273	6.4	20.5
81828	6.0	18.8	418355	6.1	20.0	371006	6.1	19.5	425373	6.2	20.1	172	6.3	12.3	290971	6.4	20.1
246545	6.0	20.6	161106	6.1	19.6	368448	6.2	19.6	281305	6.2	20.6	83962	6.3	19.6	151796	6.4	19.7
6019	6.0	15.6	38276	6.1	17.4	122668	6.2	18.3	217794	6.2	19.6	499987	6.3	21.7	325211	6.4	20.0
78703	6.0	18.3	432162	6.1	20.7	327276	6.2	20.5	53610	6.2	18.3	428268	6.3	20.0	425718	6.4	19.4
14460	6.0	17.7	59284	6.1	17.7	54097	6.2	18.2	420908	6.2	20.7	404223	6.3	21.1	428105	6.4	20.0
184163	6.0	20.1	318677	6.1	19.2	236093	6.2	20.8	391859	6.2	21.0	285792	6.3	20.5	431251	6.4	21.0
411284	6.0	20.2	453081	6.1	20.2	404885	6.2	21.2	82972	6.2	18.5	68523	6.3	18.4	447229	6.4	20.5
262717	6.0	19.1	143103	6.1	19.3	427678	6.2	20.0	430150	6.2	20.6	141389	6.3	19.5	253175	6.4	19.6
158978	6.0	20.2	326430	6.1	19.7	419848	6.2	20.0	210193	6.2	20.2	468111	6.3	20.0	348424	6.4	20.8
168278	6.0	21.0	224913	6.1	19.7	500699	6.2	22.0	229378	6.2	20.7	464950	6.3	21.5	176847	6.4	19.1
55169	6.0	18.0	68592	6.1	18.8	114105	6.2	20.2	13047	6.2	17.0	113755	6.3	19.5	415259	6.4	20.5
325788	6.0	19.7	99359	6.1	17.7	322062	6.2	21.2	257725	6.2	19.2	256101	6.3	21.4	108358	6.4	19.5
117397	6.0	18.6	366850	6.1	21.1	460666	6.2	21.3	295429	6.2	19.8	283115	6.3	20.5	433541	6.4	19.8
411494	6.0	20.1	338070	6.1	20.8	354045	6.2	21.5	196897	6.2	19.3	79866	6.3	18.0	135252	6.4	21.0
86869	6.0	20.4	205605	6.1	20.6	492490	6.2	21.5	130952	6.2	19.3	72756	6.3	18.3	323488	6.4	20.6
462861	6.0	20.3	35161	6.1	18.7	459983	6.2	20.9	226588	6.2	19.2	480219	6.3	20.2	290518	6.4	21.0
451693	6.0	20.4	92452	6.1	20.6	426188	6.2	21.9	350617	6.2	21.2	313434	6.3	20.7	413102	6.4	20.5
372511	6.0	20.5	218702	6.1	20.4	146504	6.2	18.2	318701	6.2	19.7	89475	6.3	17.8	29588	6.4	16.8
414762	6.0	21.7	230603	6.1	20.2	69616	6.2	18.1	138093	6.2	18.6	60764	6.3	17.8	197525	6.4	19.9
83944	6.0	18.7	237510	6.1	20.3	40434	6.2	18.5	29402	6.2	19.0	168030	6.3	19.4	148802	6.4	20.3
149218	6.0	20.7	519233	6.1	22.2	131911	6.2	19.4	312991	6.2	20.6	432156	6.3	20.0	289204	6.4	20.0
88922	6.0	18.7	79304	6.1	18.4	424127	6.2	20.1	350636	6.2	20.0	266297	6.3	19.5	429948	6.4	20.7
281548	6.0	20.2	206230	6.1	19.5	38332	6.2	19.1	384179	6.2	20.6	164308	6.3	19.4	57821	6.4	18.0
203518	6.0	19.4	277612	6.1	20.8	88314	6.2	19.9	208983	6.2	19.4	312027	6.3	21.2	282157	6.4	20.3
16853	6.0	16.9	226629	6.1	19.2	518860	6.2	21.0	294377	6.2	20.6	458867	6.3	21.0	417297	6.4	19.8
185507	6.0	20.2	152752	6.1	19.1	33175	6.2	18.6	64101	6.2	18.8	236959	6.3	20.1	42797	6.4	16.7
28773	6.0	17.0	209969	6.1	19.4	128820	6.2	20.2	361397	6.2	20.1	147133	6.3	20.3	182329	6.4	20.0
149809	6.0	19.2	105500	6.1	20.5	318111	6.2	18.9	462873	6.2	20.9	41946	6.3	17.3	123654	6.4	18.8
210205	6.0	20.0	223727	6.1	20.2	469420	6.2	22.6	272623	6.2	21.1	34356	6.3	19.0	240302	6.4	20.2
205272	6.0	20.5	195215	6.1	18.8	462871	6.2	21.1	318104	6.3	20.2	134262	6.3	19.2	466233	6.4	20.3
305783	6.0	20.4	295641	6.1	20.2	287605	6.2	19.8	269217	6.3	18.2	229621	6.3	19.8	381241	6.4	20.7
69335	6.0	19.4	432148	6.1	20.8	458752	6.2	22.1	518830	6.3	22.0	118679	6.3	20.0	310883	6.4	19.4
317218	6.0	19.4	152145	6.1	19.4	337330	6.2	21.8	184883	6.3	20.7	278667	6.3	22.0	183425	6.4	19.3
26273	6.0	18.0	376567	6.1	20.2	245752	6.2	21.3	454159	6.3	20.8	1112	6.3	14.4	351749	6.4	19.1
196265	6.0	18.2	190285	6.1	18.3	422742	6.2	21.5	80816	6.3	18.6	52457	6.3	17.9	125541	6.4	18.8
427232	6.0	20.2	171878	6.1	20.4	346152	6.2	21.2	465517	6.3	21.5	325305	6.3	19.9	454758	6.4	20.5
503836	6.0	21.0	522263	6.1	21.5	156725	6.2	18.3	401829	6.3	21.7	239212	6.3	20.6	110918	6.4	18.6
290126	6.0	20.7	367205	6.1	19.6	244248	6.2	19.8	341309	6.3	21.5	179153	6.3	20.2	305025	6.4	19.5
500409	6.0	21.5	199612	6.1	20.1	467956	6.2	21.2	429742	6.3	21.3	326103	6.3	21.3	209363	6.4	19.7
324518	6.1	20.7	64521	6.1	17.0	208952	6.2	19.7	232751	6.3	20.8	218744	6.3	19.9	134424	6.4	19.0
124733	6.1	19.7	207048	6.1	19.7	297486	6.2	18.6	490810	6.3	21.4	68367	6.3	18.6	362997	6.4	20.3
410314	6.1	21.0	429977	6.1	19.6	340579	6.										

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

Nº	02	V	Nº	02	V												
327250	6.4	20.3	155425	6.5	19.9	158501	6.6	19.6	3823	6.6	15.7	500183	6.7	21.6	88698	6.8	19.6
341499	6.4	21.3	256217	6.5	19.3	27445	6.6	18.8	61791	6.6	19.2	292297	6.7	20.6	377167	6.8	21.3
109540	6.4	20.1	321537	6.5	20.6	52166	6.6	18.5	413857	6.6	21.4	173214	6.7	19.9	103677	6.8	18.7
373346	6.4	20.5	428834	6.5	21.9	347032	6.6	20.3	366876	6.6	21.4	22964	6.7	17.2	432544	6.8	20.5
468671	6.4	19.4	522364	6.5	20.6	284803	6.6	19.8	508749	6.6	22.0	135452	6.7	19.4	317399	6.8	19.2
45806	6.4	19.3	41602	6.5	18.0	205574	6.6	20.5	385620	6.6	21.4	167830	6.7	18.6	325337	6.8	20.7
333751	6.4	20.1	462047	6.5	21.2	100664	6.6	18.5	357190	6.6	20.4	262766	6.7	20.5	54648	6.8	17.9
16007	6.4	16.8	302666	6.5	20.0	174480	6.6	19.2	142887	6.6	19.5	180632	6.7	19.9	211630	6.8	20.8
368563	6.4	19.8	433577	6.5	20.6	419072	6.6	21.1	928	6.6	13.5	266379	6.7	19.4	98371	6.8	19.5
129540	6.4	20.3	337580	6.5	21.3	169142	6.6	20.6	15648	6.6	17.8	8468	6.7	19.4	164323	6.8	19.8
382407	6.4	20.8	90185	6.5	18.2	406150	6.6	20.2	411229	6.6	20.7	132241	6.7	19.0	182553	6.8	20.6
83193	6.4	19.0	21796	6.5	19.2	21264	6.6	18.5	245564	6.6	21.4	135203	6.7	19.8	519361	6.8	21.2
10385	6.4	17.3	200907	6.5	19.4	87828	6.6	19.9	247552	6.7	20.6	369337	6.7	21.0	208192	6.8	20.6
189863	6.4	20.8	80543	6.5	18.4	6523	6.6	20.4	496478	6.7	20.9	97976	6.7	19.3	1222404	6.8	19.5
433933	6.4	20.5	461032	6.5	20.3	41911	6.6	17.0	50416	6.7	18.6	60533	6.7	18.5	7789	6.8	17.3
426568	6.4	20.9	114402	6.5	19.3	491848	6.6	20.5	363183	6.7	21.9	319846	6.7	19.2	432473	6.8	20.7
49929	6.4	17.0	330377	6.5	19.1	327869	6.6	20.9	383412	6.7	20.8	398321	6.7	20.6	202262	6.8	19.3
260760	6.4	20.2	51074	6.5	19.1	519112	6.6	21.2	501429	6.7	19.7	206202	6.7	20.4	454092	6.8	21.2
15056	6.4	17.6	316638	6.5	20.6	411266	6.6	21.5	11225	6.7	17.6	38752	6.7	18.8	246046	6.8	19.8
465771	6.4	21.3	384134	6.5	20.2	148983	6.6	19.3	500289	6.7	20.8	18477	6.7	19.8	420589	6.8	20.5
419195	6.4	21.5	78107	6.5	18.7	453272	6.6	21.6	243110	6.7	20.6	165433	6.7	19.6	422033	6.8	20.0
458343	6.4	21.2	310399	6.5	18.4	130702	6.6	20.2	32231	6.7	18.5	461775	6.7	21.3	239717	6.8	19.7
118276	6.4	20.1	52157	6.5	18.3	194216	6.6	19.8	327958	6.7	20.5	393458	6.7	21.3	109913	6.8	19.1
291318	6.4	21.3	384868	6.5	21.8	256160	6.6	19.8	206261	6.7	19.1	290563	6.7	20.5	248918	6.8	20.0
151010	6.4	19.4	18703	6.5	18.8	490813	6.6	21.4	193179	6.7	20.2	421242	6.7	21.1	410371	6.8	21.2
405146	6.4	21.1	183345	6.5	19.6	344007	6.6	20.2	455964	6.7	21.1	133365	6.7	19.7	162779	6.8	18.6
494964	6.4	20.9	397823	6.5	21.3	18518	6.6	17.6	367930	6.7	20.3	215486	6.7	20.1	205339	6.8	19.9
497644	6.4	21.2	96068	6.5	19.6	98066	6.6	18.4	496253	6.7	21.3	118275	6.7	19.6	95613	6.8	19.0
269798	6.4	19.6	133395	6.5	19.6	132267	6.6	19.8	84874	6.7	19.4	519390	6.7	21.9	71003	6.8	19.1
409959	6.4	22.8	127273	6.5	19.5	308719	6.6	19.9	360179	6.7	20.1	461989	6.7	21.3	457064	6.8	21.0
498923	6.4	21.0	281075	6.5	21.7	472560	6.6	20.9	49778	6.7	18.9	289564	6.7	20.6	343128	6.8	19.9
437322	6.4	19.9	195411	6.5	20.2	455576	6.6	21.6	492588	6.7	21.6	224366	6.7	20.9	190966	6.8	18.5
1678	6.4	14.8	16385	6.5	19.2	385031	6.6	20.6	392308	6.7	20.3	288417	6.7	20.1	498896	6.8	21.0
3994	6.4	17.2	447001	6.5	21.3	253167	6.6	20.4	84988	6.7	18.1	425534	6.7	20.0	236033	6.8	20.0
246162	6.4	19.9	432165	6.5	20.7	379754	6.6	21.1	64201	6.7	17.5	428465	6.7	20.3	127312	6.8	19.4
435935	6.4	20.0	48279	6.5	19.2	501421	6.6	21.0	201069	6.7	19.0	289547	6.7	21.0	425324	6.8	20.1
192239	6.4	20.7	199812	6.5	20.6	135116	6.6	18.2	204221	6.7	19.5	83802	6.7	19.2	12319	6.8	18.4
131970	6.4	19.1	289828	6.5	19.9	206735	6.6	19.3	414908	6.7	20.6	244218	6.8	21.6	79499	6.8	18.1
324607	6.4	19.2	453023	6.5	21.2	78629	6.6	18.6	481135	6.7	21.3	465988	6.8	21.1	381248	6.8	20.1
74491	6.5	18.7	523769	6.5	21.8	391474	6.6	20.5	154049	6.7	19.5	80911	6.8	19.0	461084	6.8	20.3
302454	6.5	19.6	404215	6.5	20.1	456820	6.6	20.7	159246	6.7	19.9	386846	6.8	20.0	464690	6.8	20.6
270580	6.5	19.6	121531	6.5	19.5	279076	6.6	19.8	307888	6.7	19.7	70322	6.8	20.1	205891	6.8	19.4
503601	6.5	20.7	399475	6.5	21.4	387708	6.6	20.0	191121	6.7	19.9	360450	6.8	21.8	169018	6.8	19.2
238728	6.5	19.9	22989	6.5	18.3	505006	6.6	21.1	73427	6.7	19.3	467031	6.8	21.1	317417	6.8	21.0
285260	6.5	19.4	153187	6.5	19.9	328372	6.6	22.1	456816	6.7	20.7	466175	6.8	21.2	382726	6.8	19.6
204324	6.5	20.9	456092	6.5	20.1	18904	6.6	17.6	368608	6.7	19.7	492879	6.8	22.4	265673	6.8	19.8
336520	6.5	19.7	415653	6.5	21.6	50960	6.6	17.7	135468	6.7	19.6	416654	6.8	20.6	298843	6.8	19.9
417826	6.5	19.5	183979	6.5	19.3	465205	6.6	20.5	499465	6.7	20.5	279032	6.8	20.5	180843	6.8	20.7
32206	6.5	18.6	81859	6.5	18.2	258276	6.6	20.4	297113	6.7	21.4	430622	6.8	20.8	112243	6.8	20.0
208989	6.5	19.0	389661	6.5	20.7	136339	6.6	19.6	153886	6.7	19.3	171984	6.8	20.0	272908	6.8	19.6
205370	6.5	20.0	198869	6.5	20.5	245960	6.6	20.3	130824	6.7	19.4	231081	6.8	21.0	462003	6.8	20.9
162599	6.5	20.7	184073	6.5	19.7	353997	6.6	20.7	3238	6.7	16.6	112974	6.8	19.8	396584	6.8	20.9
131907	6.5	17.7	132963	6.5	19.9	35897	6.6	18.0	105107	6.7	20.2	363136	6.8	21.0	31319	6.8	17.7
496813	6.5	20.8	464986	6.5	20.8	48408	6.6	17.5	19612	6.7	17.6	399880	6.8	19.9	452212	6.8	20.7
37842	6.5	17.6	412603	6.5	21.8	109657	6.6	18.1	312841	6.7	21.4	249282	6.8	20.1	324646	6.8	19.9
296827	6.5	20.9	33971	6.5	17.8	338895	6.6	19.4	20718	6.7	17.3	77489	6.8	18.8	172561	6.8	19.3
363155	6.5	21.2	357339	6.5	21.2	21438	6.6	18.0	219327	6.7	19.6	488883	6.8	20.6	512284	6.8	21.5
142304	6.5	18.6	243146	6.5	20.5	188487	6.6	20.5	144351	6.7	19.0	156832	6.8	19.3	285612	6.8	20.3
467572	6.5	20.9	320658	6.5	19.6	241513	6.6	20.4	264429	6.7	19.7	502529	6.8	21.2	152760	6.8	21.0
383780	6.5	20.5	171588	6.5	19.6	380496	6.6	19.7	168468	6.7	20.3	375296	6.8	21.4	165102	6.8	19.5
101961	6.5	19.4	288945	6.5	20.2	165815	6.6	19.8	19909	6.7	18.2	245133	6.8	20.1	490176	6.8	22.3
51890	6.5	17.6	376220	6.5	20.1	380416	6.6	20.6	280487	6.7	21.5	234894	6.8	19.8	489607	6.8	20.8
222303	6.5	19.4	415388	6.5	21.1	109179	6.6	20.2	3								

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

Nº	02	V															
257846	6.8	18.9	111548	6.9	18.6	365771	6.9	20.9	434188	7.0	21.3	215047	7.1	20.0	246252	7.2	20.0
419802	6.8	21.1	233608	6.9	20.4	417017	6.9	21.6	56474	7.0	19.5	237344	7.1	19.1	112944	7.2	19.0
30135	6.8	18.7	371183	6.9	21.3	196505	6.9	20.6	505359	7.0	20.8	30085	7.1	18.6	190425	7.2	20.3
81610	6.8	19.0	50652	6.9	18.7	85177	6.9	18.9	460350	7.1	19.7	291031	7.1	19.9	39091	7.2	19.0
271078	6.8	20.9	147196	6.9	20.6	426308	6.9	20.9	245993	7.1	19.9	209940	7.1	20.7	230506	7.2	19.0
372681	6.8	20.8	332546	6.9	20.6	406197	6.9	20.5	496261	7.1	20.8	31869	7.1	18.2	106579	7.2	19.1
124277	6.9	18.4	472424	6.9	20.6	322827	6.9	21.2	433695	7.1	21.0	229987	7.1	19.5	111858	7.2	19.2
93927	6.9	17.8	31366	6.9	17.6	338867	6.9	19.9	448145	7.1	20.7	457530	7.1	21.4	458926	7.2	20.6
200706	6.9	21.3	295006	6.9	21.2	331021	6.9	20.9	306598	7.1	20.2	200397	7.1	18.7	460002	7.2	21.1
461462	6.9	20.4	362113	6.9	20.1	258121	6.9	19.9	43864	7.1	18.2	109487	7.1	19.2	375033	7.2	19.8
45224	6.9	15.9	288652	6.9	20.5	432204	6.9	20.4	440799	7.1	23.4	82137	7.1	18.5	175959	7.2	18.9
375641	6.9	18.5	123317	6.9	18.6	106904	6.9	19.7	158599	7.1	19.6	308072	7.1	21.0	322856	7.2	20.6
417228	6.9	20.8	116361	6.9	19.5	436753	6.9	20.7	371678	7.1	19.2	371263	7.1	20.7	467142	7.2	20.4
371181	6.9	20.6	313185	6.9	21.0	222976	6.9	21.6	464852	7.1	20.3	490547	7.1	20.3	343954	7.2	20.9
498118	6.9	21.4	160014	6.9	21.5	130516	6.9	18.7	151632	7.1	20.2	39194	7.1	18.5	420120	7.2	19.9
95433	6.9	18.8	8476	6.9	17.8	363769	6.9	20.5	19145	7.1	17.4	368558	7.1	19.5	59766	7.2	19.8
91757	6.9	19.2	457155	6.9	19.0	47237	6.9	17.6	421363	7.1	20.0	218670	7.1	19.9	498917	7.2	20.6
404236	6.9	20.9	503606	6.9	21.1	436728	6.9	21.4	446315	7.1	18.9	163448	7.1	19.5	52673	7.2	18.3
333397	6.9	19.8	130876	6.9	19.2	362475	6.9	21.4	417145	7.1	19.7	456659	7.1	21.4	460362	7.2	20.7
90734	6.9	18.6	208351	6.9	19.1	465133	6.9	19.3	97636	7.1	18.3	361624	7.1	20.5	237505	7.2	21.0
241823	6.9	20.1	233628	6.9	20.0	103972	6.9	18.1	293743	7.1	20.4	146418	7.1	20.2	213689	7.2	20.3
188993	6.9	20.7	92772	6.9	17.7	126631	6.9	19.3	353663	7.1	20.4	266438	7.1	20.2	118743	7.2	19.2
345686	6.9	21.4	83399	6.9	19.5	462638	6.9	21.6	299368	7.1	20.5	78147	7.1	18.9	58088	7.2	18.6
50668	6.9	17.6	386586	6.9	19.9	166710	6.9	20.4	39895	7.1	17.8	362179	7.1	20.3	518627	7.2	21.2
408273	6.9	20.3	182655	6.9	20.3	215052	6.9	18.8	18595	7.1	17.6	31526	7.1	17.4	61010	7.2	19.8
380481	6.9	19.8	313824	6.9	19.2	56519	6.9	18.7	110392	7.1	19.3	129603	7.1	18.4	82816	7.2	20.1
209006	6.9	19.7	143402	6.9	19.0	316559	6.9	20.2	27332	7.1	18.3	323473	7.1	20.7	197194	7.2	19.6
97486	6.9	17.8	439719	6.9	21.1	422079	6.9	21.3	457251	7.1	21.1	166402	7.1	20.3	17496	7.2	17.9
133478	6.9	20.2	416900	6.9	21.1	63911	6.9	18.8	284084	7.1	20.9	135891	7.1	18.3	98461	7.2	17.9
433086	6.9	21.0	376237	6.9	20.5	165816	6.9	19.7	19272	7.1	18.5	217962	7.1	20.2	423464	7.2	21.5
148609	6.9	19.3	500248	6.9	22.3	403850	6.9	19.8	126643	7.1	20.0	123656	7.1	18.1	505205	7.2	21.1
520626	6.9	21.2	238709	6.9	19.4	377895	6.9	20.6	163735	7.1	20.2	324585	7.1	20.9	303850	7.2	20.3
235625	6.9	19.7	101580	6.9	18.6	253208	6.9	18.7	43803	7.1	18.1	461699	7.1	20.5	341760	7.2	19.6
373345	6.9	21.0	321555	6.9	20.4	356462	7.0	20.8	346820	7.1	20.8	35512	7.1	18.4	502251	7.2	21.1
81950	6.9	18.5	144548	6.9	20.0	168327	7.0	20.0	453025	7.1	21.3	87104	7.1	19.2	465987	7.2	20.4
238980	6.9	20.5	331776	6.9	19.1	432056	7.0	20.6	215844	7.1	20.0	327040	7.1	21.5	142434	7.2	19.4
293254	6.9	20.1	271625	6.9	21.5	199797	7.0	20.0	42335	7.1	20.0	426136	7.1	20.7	168516	7.2	19.2
53458	6.9	19.8	416927	6.9	21.2	169107	7.0	20.3	87913	7.1	20.0	472554	7.1	21.2	312208	7.2	20.3
179252	6.9	19.9	206363	6.9	20.7	444403	7.0	21.0	223766	7.1	19.6	39039	7.1	18.8	100074	7.2	20.4
97885	6.9	19.6	382326	6.9	20.7	112565	7.0	20.0	46927	7.1	17.7	461763	7.1	20.2	343009	7.2	20.2
334111	6.9	20.3	460356	6.9	21.1	325251	7.0	20.8	26393	7.1	17.4	416981	7.1	20.2	248536	7.2	18.0
11650	6.9	17.3	381655	6.9	20.1	287853	7.0	20.9	467669	7.1	20.5	7325	7.1	16.4	327323	7.2	21.3
113611	6.9	19.9	127164	6.9	19.5	244194	7.0	19.7	348582	7.1	20.8	229390	7.1	20.3	522526	7.2	20.5
137046	6.9	18.6	98300	6.9	18.9	333615	7.0	20.1	19847	7.1	16.4	62075	7.2	19.1	170976	7.2	20.4
344836	6.9	20.3	110740	6.9	20.3	168013	7.0	19.6	321251	7.1	20.3	286049	7.2	21.2	303966	7.2	21.3
301982	6.9	21.0	52691	6.9	18.8	109609	7.0	19.0	424317	7.1	20.6	373306	7.2	19.7	324615	7.2	20.3
346848	6.9	20.5	318878	6.9	20.5	19037	7.0	20.0	122036	7.1	19.5	70661	7.2	20.2	289648	7.2	20.6
170125	6.9	19.1	372643	6.9	20.2	374965	7.0	20.9	127928	7.1	19.1	424992	7.2	20.4	50757	7.2	18.8
450191	6.9	20.5	87681	6.9	20.0	425233	7.0	21.4	42875	7.1	17.8	463548	7.2	20.7	151925	7.2	19.9
120700	6.9	19.4	224316	6.9	20.6	457241	7.0	20.7	500433	7.1	22.4	459178	7.2	20.9	35734	7.2	19.2
173131	6.9	20.7	301438	6.9	20.2	186993	7.0	20.6	49639	7.1	17.3	393715	7.2	21.1	468351	7.2	20.5
105019	6.9	19.8	241217	6.9	19.9	294097	7.0	20.4	272553	7.1	20.7	203687	7.2	19.2	206350	7.2	20.4
461001	6.9	19.7	315030	6.9	20.6	339576	7.0	20.8	134088	7.1	17.9	241651	7.2	19.2	193988	7.2	19.7
433225	6.9	21.3	379494	6.9	20.5	500464	7.0	21.9	184721	7.1	20.9	451049	7.2	20.3	502886	7.2	19.9
491710	6.9	21.4	460181	6.9	20.4	417697	7.0	18.7	283497	7.1	21.9	106761	7.2	17.4	282329	7.2	20.0
95486	6.9	19.5	109959	6.9	19.6	288892	7.0	20.7	497970	7.1	20.1	145580	7.2	19.3	226610	7.2	19.4
412532	6.9	21.0	54147	6.9	17.9	285627	7.0	20.7	165801	7.1	19.7	19622	7.2	18.4	289173	7.2	20.3
468985	6.9	20.6	474005	6.9	20.2	203795	7.0	20.2	92876	7.1	17.3	400274	7.2	21.3	166561	7.2	18.7
498639	6.9	21.2	26556	6.9	17.8	469927	7.0	20.5	454400	7.1	20.8	12614	7.2	18.7	389149	7.2	20.0
434951	6.9	21.2	487740	6.9	22.0	499864	7.0	21.4	282672	7.1	20.7	468586	7.2	20.9	310896	7.2	20.9
331480	6.9	19.5	63826	6.9	18.7	128540	7.0	19.4	46756	7.1	18.3	426309	7.2	20.5	161446	7.2	19.7
372951	6.9	20.0	244213	6.9	20.1	296005	7.0	20.5	67301	7.1	19.2	207347	7.2	20.7	409394	7.2	20.3
325338	6.9	20.9	100941	6.9	20.2	240836	7.0	20									

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
459286	7.3	20.3	345605	7.3	20.6	254489	7.4	20.2	79541	7.4	19.5	344021	7.5	20.5	293239	7.6	20.1
185888	7.3	20.2	112532	7.3	19.8	301652	7.4	20.8	15250	7.5	17.3	421130	7.5	20.8	464694	7.6	19.3
253934	7.3	19.6	495216	7.3	21.4	499716	7.4	19.7	81673	7.5	19.7	318479	7.5	20.8	140251	7.6	18.6
414220	7.3	20.4	319382	7.3	20.9	217756	7.4	21.2	70132	7.5	19.6	125031	7.5	18.3	435196	7.6	21.4
202537	7.3	20.1	341222	7.3	20.0	89995	7.4	19.3	371192	7.5	20.2	130742	7.5	18.3	386774	7.6	20.4
240336	7.3	20.6	459902	7.3	20.9	52221	7.4	18.1	290822	7.5	20.3	409993	7.5	20.8	519622	7.6	21.0
180569	7.3	20.1	122827	7.3	19.5	261402	7.4	20.6	171379	7.5	20.5	449614	7.5	20.5	110317	7.6	19.1
495204	7.3	20.3	370192	7.3	19.9	366880	7.4	21.0	505023	7.5	21.4	258747	7.5	20.7	209365	7.6	18.9
167937	7.3	19.9	334047	7.3	20.7	276605	7.4	20.0	182123	7.5	20.6	76452	7.5	17.8	437961	7.6	20.3
61995	7.3	19.2	10470	7.3	18.6	522679	7.4	21.0	371766	7.5	20.6	281312	7.5	20.9	171851	7.6	19.9
155137	7.3	20.4	379048	7.3	20.5	19852	7.4	17.0	188699	7.5	19.7	132278	7.5	19.6	352783	7.6	20.4
307782	7.3	18.6	197254	7.3	19.3	84280	7.4	19.3	1049	7.5	15.0	280801	7.5	20.9	419529	7.6	21.4
455236	7.3	21.3	383626	7.3	21.2	379198	7.4	20.6	143296	7.5	19.0	38655	7.5	18.0	240089	7.6	19.3
339575	7.3	20.9	197942	7.3	19.6	243102	7.4	20.3	159369	7.5	19.3	74058	7.5	19.7	187606	7.6	19.8
214891	7.3	20.1	520116	7.3	20.9	496304	7.4	21.5	473867	7.5	20.8	337642	7.5	20.4	409205	7.6	20.9
64580	7.3	19.3	48359	7.3	20.4	281798	7.4	19.9	179134	7.5	20.2	284862	7.5	20.2	165200	7.6	20.5
6262	7.3	16.9	31957	7.3	17.9	330826	7.4	20.5	391040	7.5	20.9	93653	7.5	18.8	385176	7.6	20.3
462961	7.3	20.0	11130	7.3	18.3	169209	7.4	19.7	377031	7.5	21.5	109607	7.5	19.9	361182	7.6	21.6
224512	7.3	20.8	157359	7.3	20.0	429911	7.4	21.1	283094	7.5	20.7	422715	7.5	22.1	492601	7.6	21.5
34632	7.3	18.4	34140	7.3	19.1	151022	7.4	19.9	110652	7.5	18.8	425379	7.5	20.6	23131	7.6	16.9
255572	7.3	21.9	384993	7.3	21.0	68335	7.4	19.3	425634	7.5	20.8	357356	7.5	21.9	415531	7.6	21.1
258476	7.3	18.7	227779	7.3	19.6	95661	7.4	18.9	455102	7.5	21.5	403866	7.5	20.5	242402	7.6	20.7
60690	7.3	18.7	59469	7.3	18.9	423144	7.4	20.1	344210	7.5	20.8	349292	7.5	21.0	417326	7.6	20.6
67599	7.3	19.5	496299	7.3	20.0	262650	7.4	19.9	347402	7.5	20.3	428943	7.5	20.6	354128	7.6	19.7
2694	7.3	16.2	1408	7.3	15.9	488638	7.4	19.2	40665	7.5	19.2	2076	7.5	16.8	321084	7.6	20.1
318026	7.3	19.6	411215	7.3	19.9	427000	7.4	20.8	86015	7.5	19.8	333376	7.5	21.4	136342	7.6	18.7
234909	7.3	20.6	96490	7.3	18.0	291669	7.4	19.6	325216	7.5	20.4	408288	7.5	20.1	146523	7.6	20.5
109635	7.3	18.4	360101	7.3	20.0	192859	7.4	20.6	5824	7.5	15.4	132268	7.5	20.2	411189	7.6	21.4
147640	7.3	18.5	331301	7.3	20.3	479315	7.4	19.7	495197	7.5	20.6	488822	7.5	20.4	298960	7.6	19.9
471501	7.3	19.5	123243	7.3	19.7	148574	7.4	18.5	192278	7.5	18.4	26774	7.5	19.4	188653	7.6	20.6
46867	7.3	18.8	293976	7.3	21.0	328358	7.4	21.0	190717	7.5	19.2	517653	7.6	21.3	112857	7.6	19.4
281348	7.3	21.2	492004	7.3	21.8	225391	7.4	20.9	450477	7.5	21.1	307901	7.6	20.1	38066	7.6	19.2
313177	7.3	20.4	359148	7.3	21.0	432549	7.4	21.4	445282	7.5	21.8	321426	7.6	20.6	239229	7.6	21.1
217435	7.3	20.7	246855	7.3	21.0	879	7.4	15.1	159072	7.5	20.5	193754	7.6	20.1	217455	7.6	20.2
208176	7.3	21.2	158192	7.3	19.9	385111	7.4	21.1	389963	7.5	19.9	194705	7.6	19.4	335906	7.6	20.2
85349	7.3	19.4	104743	7.4	18.5	81903	7.4	18.4	63171	7.5	18.3	163695	7.6	19.9	16569	7.6	18.7
266777	7.3	20.9	307394	7.4	20.2	319080	7.4	21.0	3867	7.5	15.4	48615	7.6	19.4	164968	7.6	18.6
331057	7.3	21.3	369993	7.4	18.6	347612	7.4	19.6	200906	7.5	18.9	7582	7.6	16.6	200733	7.6	20.2
380933	7.3	20.6	381936	7.4	20.3	415695	7.4	20.7	98785	7.5	19.2	269478	7.6	20.2	403239	7.6	20.6
306827	7.3	19.5	330145	7.4	20.6	54189	7.4	19.5	87801	7.5	19.2	419510	7.6	19.8	127688	7.6	18.5
328914	7.3	19.9	65167	7.4	19.4	423426	7.4	20.7	57472	7.5	18.9	315553	7.6	20.9	12612	7.6	17.9
285502	7.3	20.0	447273	7.4	21.7	270576	7.4	20.3	296200	7.5	20.8	432187	7.6	20.6	23374	7.6	19.5
265369	7.3	20.4	310290	7.4	21.4	282195	7.4	21.6	299039	7.5	19.4	460367	7.6	20.5	502859	7.6	20.7
229896	7.3	20.4	443886	7.4	20.7	330980	7.4	20.1	346285	7.5	20.7	288728	7.6	21.4	194105	7.6	19.9
522691	7.3	21.4	424243	7.4	21.3	96157	7.4	19.8	126995	7.5	19.3	212703	7.6	20.0	127141	7.6	19.1
254710	7.3	19.4	52685	7.4	18.8	399507	7.4	21.0	247011	7.5	21.0	101793	7.6	18.2	251343	7.6	20.0
215078	7.3	19.9	459389	7.4	20.0	456695	7.4	21.0	414827	7.5	20.6	185526	7.6	19.7	44098	7.6	17.1
243425	7.3	19.5	16336	7.4	18.8	16779	7.4	18.1	425855	7.5	20.7	372893	7.6	19.2	7684	7.6	17.0
456398	7.3	20.8	439746	7.4	20.8	157193	7.4	19.5	354499	7.5	21.5	200624	7.6	21.0	398720	7.6	20.7
48861	7.3	18.8	19793	7.4	16.2	365762	7.4	20.9	103760	7.5	19.2	140018	7.6	20.0	413939	7.6	19.7
109263	7.3	19.7	41918	7.4	17.9	461693	7.4	21.3	167017	7.5	20.4	206059	7.6	20.2	474099	7.6	21.1
28358	7.3	18.3	16100	7.4	18.6	96996	7.4	19.7	239442	7.5	20.4	456418	7.6	20.9	276608	7.6	20.9
423718	7.3	20.9	125098	7.4	19.5	250636	7.4	19.5	173032	7.5	20.9	64782	7.6	18.9	152795	7.6	20.1
417822	7.3	20.1	366828	7.4	20.0	193894	7.4	19.6	215072	7.5	20.2	426291	7.6	21.4	357565	7.6	21.6
409630	7.3	19.4	82914	7.4	18.6	241442	7.4	20.0	63310	7.5	18.7	440070	7.6	21.0	514312	7.7	20.5
244994	7.3	19.7	334556	7.4	20.5	461983	7.4	20.5	325782	7.5	20.4	14948	7.6	18.3	18981	7.7	18.0
17327	7.3	17.7	304855	7.4	20.7	241132	7.4	20.0	90566	7.5	19.7	508360	7.6	21.2	501269	7.7	20.9
137761	7.3	18.0	502451	7.4	20.0	322874	7.4	20.6	472801	7.5	21.0	404999	7.6	19.9	53831	7.7	18.5
57248	7.3	16.5	136229	7.4	19.4	325259	7.4	20.9	433223	7.5	21.0	14539	7.6	17.9	495024	7.7	20.2
377946	7.3	20.7	38385	7.4	18.9	276165	7.4	20.4	431216	7.5	21.6	209418	7.6	19.4	85035	7.7	19.8
314802	7.3	20.4	156532	7.4	20.0	412867	7.4	21.0	327240	7.5	20.7	383792	7.6	21.7	258281	7.7	20.2
223666	7.3	19.9	172864	7.4	19.6	57319	7.4	18.2	495922	7.5	20.9	267486	7.6	19.5	417810	7.7	20.3
394347	7.3	20.1	340669	7.4	20.5	366883	7.4	21.7	118593</								

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

Nº	02	V															
431465	7.7	20.3	34873	7.7	17.8	96230	7.8	18.6	462907	7.9	20.7	239879	7.9	20.0	437541	7.9	20.4
98061	7.7	18.6	160975	7.7	19.4	398970	7.8	20.1	233823	7.9	20.3	444324	7.9	21.5	222310	7.9	19.7
518518	7.7	21.8	79513	7.7	19.8	71923	7.8	18.0	456091	7.9	20.8	76032	7.9	19.2	340844	7.9	22.0
317594	7.7	21.3	622	7.7	13.2	197717	7.8	20.1	204278	7.9	19.1	338482	7.9	19.3	467217	7.9	20.9
164303	7.7	20.5	275307	7.7	21.1	429870	7.8	20.0	88715	7.9	18.5	415940	7.9	21.5	8137	7.9	18.6
492891	7.7	21.2	416211	7.7	21.3	359080	7.8	19.8	130638	7.9	19.8	466278	7.9	21.3	162546	7.9	18.5
194301	7.7	18.8	337764	7.7	20.7	322714	7.8	21.0	278462	7.9	20.6	83541	7.9	19.1	433011	7.9	20.8
84528	7.7	18.2	168805	7.7	18.6	304826	7.8	21.5	7180	7.9	17.8	331960	7.9	20.7	295360	7.9	20.4
318613	7.7	20.0	385295	7.7	21.2	417135	7.8	20.7	305024	7.9	20.1	282657	7.9	20.7	521051	7.9	20.9
52406	7.7	19.4	5356	7.7	15.6	112584	7.8	19.3	218015	7.9	20.1	421961	7.9	19.6	496295	7.9	21.5
230435	7.7	20.8	492598	7.8	22.6	287304	7.8	20.9	402632	7.9	21.1	114649	7.9	19.5	496562	7.9	20.2
129915	7.7	19.6	51856	7.8	17.8	199944	7.8	19.8	153371	7.9	20.4	93884	7.9	19.9	357989	8.0	19.6
264721	7.7	19.9	199009	7.8	20.7	21009	7.8	18.4	453578	7.9	21.1	432557	7.9	20.1	318113	8.0	21.4
215339	7.7	19.9	111042	7.8	18.6	322013	7.8	20.4	42922	7.9	16.8	339550	7.9	21.0	295689	8.0	20.7
266929	7.7	21.4	491687	7.8	20.6	492648	7.8	22.0	54642	7.9	19.6	359631	7.9	20.0	404375	8.0	20.6
179914	7.7	20.1	498544	7.8	21.5	15531	7.8	18.2	450416	7.9	20.1	168096	7.9	20.4	424709	8.0	20.1
18453	7.7	17.8	63173	7.8	18.4	55172	7.8	17.9	266204	7.9	20.2	523763	7.9	22.0	234150	8.0	20.5
199846	7.7	19.3	433539	7.8	20.3	453853	7.8	20.4	132256	7.9	19.5	294286	7.9	20.5	405981	8.0	21.9
18438	7.7	18.2	508571	7.8	21.7	309277	7.8	20.6	207459	7.9	20.2	162994	7.9	19.5	28391	8.0	21.0
19805	7.7	18.0	203870	7.8	18.9	23873	7.8	18.0	237329	7.9	19.5	50627	7.9	18.8	414842	8.0	20.7
426187	7.7	21.6	136760	7.8	18.7	109994	7.8	20.6	171906	7.9	20.5	252430	7.9	19.5	497753	8.0	21.4
455112	7.7	21.2	64404	7.8	19.1	229694	7.8	20.2	81747	7.9	18.1	265803	7.9	20.9	252914	8.0	20.9
336042	7.7	20.1	242729	7.8	20.3	296602	7.8	20.3	258653	7.9	19.6	523767	7.9	21.9	392695	8.0	21.4
52280	7.7	19.2	165938	7.8	19.6	197310	7.8	19.1	464889	7.9	21.8	243819	7.9	21.0	197767	8.0	20.7
425361	7.7	20.7	359064	7.8	20.2	494753	7.8	22.3	487171	7.9	19.7	286690	7.9	20.4	1376	8.0	16.1
371235	7.7	20.4	428976	7.8	20.7	292334	7.8	21.8	384218	7.9	20.3	284679	7.9	19.9	293704	8.0	20.5
7104	7.7	15.9	16787	7.8	17.9	223607	7.8	20.9	14984	7.9	18.2	366879	7.9	21.2	290319	8.0	21.2
240228	7.7	19.0	41549	7.8	18.8	166774	7.8	19.7	301136	7.9	20.4	422700	7.9	21.2	493777	8.0	20.3
387301	7.7	20.8	193935	7.8	21.6	29605	7.8	18.6	146939	7.9	17.7	327010	7.9	20.8	259748	8.0	19.5
54118	7.7	19.3	16522	7.8	17.8	309788	7.8	20.2	309277	7.9	22.0	213641	7.9	19.3	355819	8.0	20.6
242768	7.7	19.8	496268	7.8	19.8	506237	7.8	20.4	423736	7.9	21.5	326993	7.9	21.3	65538	8.0	19.8
281379	7.7	21.0	200746	7.8	19.7	200670	7.8	20.3	85448	7.9	19.8	16276	7.9	18.4	102154	8.0	18.2
445990	7.7	20.8	153892	7.8	19.6	25189	7.8	18.9	115118	7.9	19.5	182532	7.9	20.4	187830	8.0	20.9
331617	7.7	20.7	456650	7.8	20.9	58959	7.8	18.7	501379	7.9	20.2	60126	7.9	19.3	207958	8.0	20.7
290775	7.7	19.5	471795	7.8	21.8	318261	7.8	20.9	6896	7.9	17.3	306613	7.9	18.9	209719	8.0	20.7
179699	7.7	18.7	502084	7.8	21.1	437627	7.8	21.3	30556	7.9	19.0	19498	7.9	17.8	84281	8.0	19.9
292596	7.7	20.9	344241	7.8	20.9	377888	7.8	20.9	41963	7.9	19.1	320349	7.9	20.7	264576	8.0	19.7
20481	7.7	18.3	73929	7.8	20.3	417048	7.8	20.3	334082	7.9	20.3	168020	7.9	20.2	459529	8.0	20.1
343060	7.7	20.5	439730	7.8	19.9	170806	7.8	19.3	5235	7.9	16.2	86388	7.9	18.8	417141	8.0	19.7
207564	7.7	20.3	35388	7.8	18.5	166973	7.8	20.2	118625	7.9	17.8	185915	7.9	20.3	415156	8.0	20.3
38175	7.7	19.9	205795	7.8	19.2	51718	7.8	19.1	240582	7.9	19.6	359175	7.9	20.2	68728	8.0	18.9
261133	7.7	20.8	33845	7.8	18.6	373356	7.8	20.9	296009	7.9	21.4	145812	7.9	18.0	403811	8.0	20.1
237286	7.7	19.8	167702	7.8	19.7	4712	7.8	16.5	171897	7.9	20.5	318364	7.9	20.6	282449	8.0	19.6
193888	7.7	20.8	461998	7.8	20.9	456869	7.8	21.6	170121	7.9	19.4	405927	7.9	22.3	169204	8.0	20.2
52723	7.7	17.7	357600	7.8	19.4	377243	7.8	20.0	175496	7.9	20.6	103941	7.9	18.9	456235	8.0	20.4
2539	7.7	17.0	437321	7.8	20.1	305750	7.8	19.4	218873	7.9	19.7	141705	7.9	20.2	424649	8.0	21.9
400792	7.7	20.5	337688	7.8	20.7	492865	7.8	21.4	155921	7.9	19.4	229020	7.9	20.3	275336	8.0	21.1
58147	7.7	18.7	427404	7.8	20.3	418270	7.8	20.8	357522	7.9	20.3	387568	7.9	20.4	193860	8.0	20.3
394	7.7	14.4	235486	7.8	20.2	27504	7.8	18.3	504825	7.9	22.1	56965	7.9	19.0	425995	8.0	21.0
406050	7.7	20.6	377416	7.8	22.2	188075	7.8	18.7	241082	7.9	21.0	191597	7.9	20.1	491274	8.0	21.3
402614	7.7	20.5	462014	7.8	20.3	120285	7.8	19.2	495925	7.9	19.8	193798	7.9	20.9	135474	8.0	20.7
241058	7.7	20.6	468291	7.8	20.5	402383	7.8	20.3	498556	7.9	22.1	497982	7.9	20.1	41845	8.0	18.4
236732	7.7	21.3	209514	7.8	20.7	452525	7.8	21.1	500221	7.9	21.2	128699	7.9	19.7	111297	8.0	19.1
371250	7.7	20.6	93483	7.8	18.4	369893	7.8	21.5	240534	7.9	20.9	350588	7.9	19.1	492547	8.0	22.0
460899	7.7	20.6	60167	7.8	17.9	341682	7.8	20.0	286011	7.9	20.4	372739	7.9	19.6	239894	8.0	20.5
134477	7.7	19.7	67956	7.8	19.2	428450	7.8	21.2	368082	7.9	20.3	174401	7.9	19.4	39230	8.0	18.6
365344	7.7	20.4	432186	7.8	20.5	338450	7.8	21.3	158853	7.9	20.9	166672	7.9	19.8	231410	8.0	20.1
160189	7.7	18.8	489576	7.8	21.8	460455	7.8	21.2	241978	7.9	19.9	88849	7.9	18.9	37337	8.0	18.3
183604	7.7	19.2	217453	7.8	20.0	87604	7.8	20.0	197967	7.9	18.7	208174	7.9	20.2	394805	8.0	21.3
432091	7.7	20.7	458812	7.8	21.4	56630	7.8	18.6	376180	7.9	21.3	158849	7.9	19.7	385422	8.0	19.5
499037	7.7	20.6	270437	7.8	19.3	136361	7.8	18.7	406463	7.9	20.6	70277	7.9	18.4	347552	8.0	20.5
10724	7.7	16.7	85701	7.8	17.4	374555	7.9	20.5	380010	7.9	20.8	451009	7.9	20.0	194548	8.0	17.6
329023	7.7	19.9	331664	7.8	20.8	134746	7.9	17.8	46872								

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

Nº	02	V															
163508	8.1	19.8	495917	8.1	21.3	42289	8.2	17.5	268567	8.3	20.7	34446	8.3	17.2	228268	8.4	19.5
454336	8.1	20.5	444398	8.1	21.6	401094	8.2	21.1	363552	8.3	20.6	160765	8.3	19.3	104237	8.4	19.6
445873	8.1	21.1	131695	8.1	23.2	420124	8.2	19.8	495384	8.3	21.8	162665	8.3	18.6	464978	8.4	21.2
178868	8.1	20.1	284650	8.1	20.1	188350	8.2	19.5	114193	8.3	18.5	263241	8.3	19.9	306033	8.4	20.5
51295	8.1	17.2	113113	8.1	19.9	444328	8.2	20.0	331291	8.3	20.4	344560	8.3	19.3	213592	8.4	19.9
416040	8.1	20.3	380502	8.1	19.3	473639	8.2	20.5	483568	8.3	20.4	69189	8.3	17.4	90364	8.4	19.0
85747	8.1	19.5	222784	8.1	20.0	497251	8.2	20.9	345058	8.3	21.6	424982	8.3	20.1	60707	8.4	18.8
217111	8.1	20.1	92953	8.1	17.9	8829	8.2	16.8	369908	8.3	19.7	34925	8.3	17.3	114229	8.4	18.3
398360	8.1	22.0	375507	8.1	21.0	471167	8.2	21.6	210719	8.3	18.6	465181	8.3	20.7	310913	8.4	20.9
310862	8.1	18.9	333007	8.1	20.2	411355	8.2	20.3	267479	8.3	20.5	287598	8.3	19.7	200353	8.4	20.5
288626	8.1	21.1	309218	8.1	20.7	356387	8.2	20.6	273752	8.3	20.8	425098	8.3	20.5	37071	8.4	19.1
83265	8.1	18.5	378863	8.1	20.4	36453	8.2	19.3	320727	8.3	20.2	258302	8.3	20.9	293291	8.4	19.0
323449	8.1	21.6	69026	8.1	17.2	416979	8.2	20.8	131433	8.3	19.2	345178	8.3	19.2	359156	8.4	20.4
116617	8.1	18.9	498373	8.1	20.5	457067	8.2	21.4	322792	8.3	21.0	502354	8.3	19.7	135289	8.4	19.2
152683	8.1	19.5	143580	8.1	19.2	300862	8.2	20.8	144045	8.3	19.0	459279	8.3	20.1	221703	8.4	20.2
283325	8.1	20.9	337491	8.1	20.6	157235	8.2	19.8	408865	8.3	21.0	59769	8.3	19.7	287440	8.4	19.9
165695	8.1	20.4	456208	8.1	20.6	310423	8.2	21.2	303261	8.3	21.3	262665	8.3	21.0	332375	8.4	19.5
140170	8.1	18.7	112441	8.2	17.8	67753	8.2	18.1	428496	8.3	20.7	168500	8.3	19.9	62632	8.4	17.7
497677	8.1	22.2	258489	8.2	19.4	422272	8.2	21.2	408910	8.3	21.6	392491	8.3	20.9	454379	8.4	20.9
464168	8.1	21.2	442626	8.2	21.1	433307	8.2	21.1	86543	8.3	18.9	253977	8.3	19.6	309257	8.4	20.7
240517	8.1	20.6	517631	8.2	21.2	420356	8.2	22.0	10602	8.3	17.4	474051	8.3	20.1	405523	8.4	19.7
216830	8.1	20.1	170490	8.2	19.8	366867	8.2	20.7	429896	8.3	21.2	303610	8.3	20.3	35813	8.4	17.3
82891	8.1	18.3	200561	8.2	20.3	420638	8.2	20.3	127893	8.3	19.0	148837	8.3	19.0	458365	8.4	20.7
380964	8.1	20.0	164572	8.2	19.7	114357	8.2	19.9	78313	8.3	19.4	283518	8.3	20.1	288827	8.4	20.0
383652	8.1	20.5	492509	8.2	21.7	20453	8.2	18.6	169177	8.3	20.1	298732	8.3	19.9	450158	8.4	18.3
502656	8.1	20.1	288437	8.2	18.6	20287	8.2	18.1	252605	8.3	20.3	76676	8.3	19.4	504342	8.4	21.2
124172	8.1	19.8	493734	8.2	20.6	67550	8.2	20.0	30877	8.3	18.2	295862	8.3	20.4	223717	8.4	20.6
472444	8.1	20.3	351649	8.2	19.2	120692	8.2	18.2	425692	8.3	21.0	433060	8.3	21.0	245052	8.4	20.3
341605	8.1	20.6	227601	8.2	20.1	326391	8.2	20.5	428415	8.3	20.3	470398	8.3	20.6	204102	8.4	20.1
81970	8.1	19.8	371750	8.2	20.1	135459	8.2	19.0	369612	8.3	19.9	194150	8.3	20.4	379082	8.4	19.9
406825	8.1	20.7	179767	8.2	19.6	101244	8.2	19.5	56694	8.3	18.9	49318	8.3	19.5	256916	8.4	20.2
466941	8.1	19.5	462878	8.2	20.7	246477	8.2	20.4	424692	8.3	20.6	287369	8.4	21.3	397829	8.4	20.5
201193	8.1	19.4	424802	8.2	21.3	48902	8.2	18.3	4130	8.3	16.7	437162	8.4	21.1	209035	8.4	20.6
246010	8.1	20.9	97941	8.2	19.1	260026	8.2	19.9	278003	8.3	20.2	408970	8.4	22.1	429027	8.4	21.1
90742	8.1	19.4	122497	8.2	20.0	173903	8.2	19.5	455430	8.3	22.0	229779	8.4	20.2	50154	8.4	17.5
518646	8.1	23.5	416034	8.2	20.6	243864	8.2	20.9	184016	8.3	19.8	133456	8.4	21.0	186110	8.4	19.9
354879	8.1	21.1	521196	8.2	19.7	140072	8.2	19.3	104813	8.3	19.4	47935	8.4	17.1	469200	8.4	20.7
298905	8.1	20.9	131963	8.2	19.4	448135	8.2	20.9	200086	8.3	20.0	106925	8.4	18.9	453797	8.4	20.8
151078	8.1	19.5	506870	8.2	21.3	455441	8.2	21.5	505664	8.3	19.6	406848	8.4	19.8	500411	8.4	21.4
421596	8.1	20.0	181652	8.2	20.1	245601	8.2	19.8	359629	8.3	21.0	1266	8.4	14.3	422394	8.4	20.9
381309	8.1	20.3	316716	8.2	21.3	323851	8.2	21.2	340834	8.3	20.0	125671	8.4	19.4	147854	8.4	19.9
52692	8.1	16.7	422195	8.2	21.8	268156	8.2	20.4	326311	8.3	20.9	28142	8.4	17.9	144591	8.4	19.7
8721	8.1	17.1	497111	8.2	19.7	302975	8.2	19.9	151816	8.3	20.0	460019	8.4	21.5	500975	8.4	21.3
363094	8.1	20.8	235554	8.2	19.7	48792	8.2	18.5	369427	8.3	20.7	327423	8.4	21.0	114861	8.4	20.0
203633	8.1	19.1	59241	8.2	17.1	170273	8.2	20.4	463283	8.3	21.6	95872	8.4	19.5	57787	8.4	19.0
272793	8.1	19.4	299518	8.2	20.5	464993	8.2	19.8	336542	8.3	19.6	91476	8.4	19.6	12592	8.4	18.1
240510	8.1	20.3	354029	8.2	21.2	288959	8.2	19.9	17010	8.3	17.2	36282	8.4	19.2	492500	8.4	21.1
329855	8.1	20.4	30834	8.2	17.1	17490	8.2	18.6	243660	8.3	21.3	95052	8.4	20.2	195510	8.4	19.5
176835	8.1	19.1	137010	8.2	20.0	400107	8.2	21.3	168923	8.3	19.0	375966	8.4	20.9	432229	8.4	20.0
66824	8.1	18.2	285321	8.2	18.1	428715	8.2	21.2	227781	8.3	19.6	383802	8.4	20.8	95915	8.4	19.1
426878	8.1	19.6	185626	8.2	19.6	345617	8.2	21.1	508622	8.3	21.4	12398	8.4	18.4	143422	8.4	19.1
17392	8.1	19.0	413135	8.2	19.4	371253	8.2	20.7	127844	8.3	20.0	491068	8.4	21.7	473437	8.4	19.9
266601	8.1	20.7	132056	8.2	19.3	374970	8.2	20.3	151873	8.3	20.1	416051	8.4	19.7	496613	8.4	20.6
332380	8.1	19.5	58727	8.2	17.8	137146	8.2	20.4	210402	8.3	20.2	402881	8.4	21.4	284991	8.4	20.0
419478	8.1	19.9	179012	8.2	20.7	308863	8.2	19.2	124232	8.3	20.2	37660	8.4	18.2	113172	8.4	19.5
81444	8.1	19.3	121319	8.2	20.5	320372	8.2	20.0	75194	8.3	20.1	120753	8.4	20.4	464727	8.4	20.6
454104	8.1	20.1	331263	8.2	21.3	367624	8.2	21.7	219396	8.3	19.7	312156	8.4	20.1	150253	8.4	19.1
5057	8.1	16.3	301819	8.2	21.2	250202	8.2	20.3	193768	8.3	20.8	465259	8.4	21.1	214203	8.4	20.1
233055	8.1	20.4	337809	8.2	21.1	454116	8.2	20.0	160762	8.3	20.2	344042	8.4	21.4	141394	8.4	19.7
413089	8.1	21.0	431631	8.2	20.7	312333	8.2	19.3	79997	8.3	17.5	36703	8.4	18.6	95610	8.4	18.8
405973	8.1	20.6	85384	8.2	19.5	491126	8.2	20.7	1635	8.3	15.3	330468	8.4	20.2	498382	8.4	20.8
102095	8.1	17.9	501072	8.2	22.1	125	8.2	13.1	44054	8.3	17.9	16864	8.4	17.0	117014	8.4	18.9
379007	8.1	20.2	42261	8.2	18.7	324080	8.2										

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
204190	8.4	19.5	362416	8.5	20.7	221100	8.6	20.9	453419	8.6	20.3	1006	8.7	16.1	170256	8.8	20.7
132179	8.4	18.8	521099	8.5	20.5	297454	8.6	19.7	324531	8.6	20.6	135417	8.7	19.5	170206	8.8	20.9
490529	8.4	21.7	350951	8.5	20.0	38486	8.6	19.0	279147	8.6	20.6	477579	8.7	19.9	190770	8.8	19.0
452144	8.4	21.3	374376	8.5	19.4	218773	8.6	19.9	427067	8.6	20.3	194276	8.7	19.9	465777	8.8	20.8
377093	8.4	20.7	296003	8.5	20.7	80202	8.6	18.5	104994	8.6	19.5	182549	8.7	20.6	211996	8.8	20.6
73996	8.5	17.6	53303	8.5	18.6	375610	8.6	21.1	201031	8.6	19.2	432116	8.7	21.2	341422	8.8	20.0
403808	8.5	20.7	220582	8.5	19.8	85348	8.6	20.5	417555	8.6	21.9	455771	8.7	21.4	100289	8.8	20.7
182540	8.5	19.8	417107	8.5	19.9	320667	8.6	19.7	90535	8.6	19.3	114587	8.7	18.4	240858	8.8	20.9
179842	8.5	20.3	464071	8.5	20.8	79348	8.6	19.7	130613	8.6	19.0	496348	8.7	22.3	337689	8.8	21.3
185425	8.5	20.8	288565	8.5	20.2	136240	8.6	18.6	331894	8.6	21.3	242807	8.7	20.6	453332	8.8	21.2
465651	8.5	21.4	430479	8.5	21.1	377227	8.6	21.0	411990	8.6	19.4	319395	8.7	20.7	180028	8.8	18.9
498943	8.5	20.3	218756	8.5	20.9	313067	8.6	19.6	8321	8.6	15.9	162990	8.7	19.7	479304	8.8	20.5
64300	8.5	18.6	55287	8.5	18.3	29423	8.6	17.0	495387	8.6	20.8	390064	8.7	20.4	406177	8.8	19.7
190330	8.5	20.4	165936	8.5	19.2	260804	8.6	19.6	322848	8.6	20.2	138791	8.7	20.9	239350	8.8	20.4
199475	8.5	19.2	432206	8.5	20.1	492887	8.6	21.2	31394	8.6	17.6	376152	8.7	21.0	425478	8.8	20.5
122637	8.5	20.1	461704	8.5	21.4	147376	8.6	18.6	309869	8.6	20.4	337579	8.7	20.6	59087	8.8	17.3
11414	8.5	18.8	368620	8.5	21.1	214276	8.6	19.9	123457	8.6	19.5	225279	8.7	21.0	496095	8.8	21.1
47022	8.5	17.4	315474	8.5	20.6	344542	8.6	20.7	254060	8.6	19.0	406026	8.7	22.0	429337	8.8	21.2
388068	8.5	20.8	107218	8.5	19.3	357487	8.6	20.0	496412	8.6	19.7	108975	8.7	20.0	351476	8.8	21.3
83822	8.5	19.7	88819	8.5	18.8	208693	8.6	19.8	493733	8.6	20.4	286848	8.7	20.7	196681	8.8	20.5
505543	8.5	21.0	431473	8.5	20.4	200954	8.6	19.6	151534	8.6	19.9	261000	8.7	19.8	268589	8.8	19.7
334185	8.5	20.6	426036	8.5	20.4	153958	8.6	21.1	379055	8.6	20.7	334644	8.7	19.9	286740	8.8	20.0
237346	8.5	19.1	339574	8.5	20.7	83640	8.6	19.2	34130	8.6	18.1	219383	8.7	20.2	64949	8.8	18.6
27983	8.5	18.4	420925	8.5	21.6	370190	8.6	20.0	358077	8.6	21.5	399558	8.7	21.5	429947	8.8	20.8
457549	8.5	20.3	95816	8.5	19.3	372896	8.6	20.3	425356	8.6	20.2	170105	8.7	19.1	40412	8.8	18.7
65732	8.5	19.5	423734	8.5	20.8	419874	8.6	20.3	389204	8.6	20.6	239523	8.7	19.3	429855	8.8	20.8
460858	8.5	20.6	52024	8.5	18.5	335905	8.6	21.4	207744	8.6	20.4	428913	8.7	21.0	67483	8.8	18.8
322214	8.5	20.5	385877	8.5	21.4	401808	8.6	20.3	325713	8.6	21.0	228083	8.7	20.1	341733	8.8	21.9
41435	8.5	19.0	159009	8.5	19.8	277969	8.6	20.1	92849	8.6	18.5	465494	8.7	22.0	119665	8.8	19.4
63719	8.5	18.2	153037	8.5	19.6	126747	8.6	19.7	465488	8.6	22.4	417268	8.7	19.9	323937	8.8	21.5
462056	8.5	20.4	196776	8.5	20.4	411630	8.6	21.0	242102	8.6	20.0	402671	8.7	20.0	214407	8.8	20.4
105181	8.5	18.1	419948	8.5	20.7	53052	8.6	18.5	397524	8.6	21.3	432102	8.7	20.4	366343	8.8	22.5
465222	8.5	20.7	315927	8.5	19.7	464893	8.6	22.1	328536	8.6	21.3	151863	8.7	19.5	378934	8.8	21.2
40498	8.5	18.9	284358	8.5	21.4	116760	8.6	19.7	14204	8.7	17.5	424318	8.7	21.4	11075	8.8	18.5
306896	8.5	20.5	27352	8.5	18.4	435322	8.6	20.1	161256	8.7	19.6	433171	8.7	21.1	462262	8.8	21.0
426495	8.5	21.5	239421	8.5	19.7	313409	8.6	19.5	213625	8.7	21.2	35168	8.7	19.2	150169	8.8	20.3
190084	8.5	20.1	93975	8.5	17.2	66561	8.6	19.1	363164	8.7	20.2	113972	8.7	20.1	287513	8.8	18.8
482806	8.5	20.2	498300	8.5	21.8	109022	8.6	19.2	126909	8.7	19.6	353265	8.7	20.1	511530	8.8	21.4
224656	8.5	20.7	412300	8.5	21.6	208224	8.6	21.1	64160	8.7	18.9	57055	8.7	19.1	150058	8.8	20.4
36757	8.5	16.9	503801	8.5	21.6	381281	8.6	21.6	439718	8.7	20.2	167084	8.7	20.0	114346	8.8	18.7
218708	8.5	19.8	146689	8.5	20.0	132301	8.6	20.0	203837	8.7	19.5	419742	8.7	21.9	420807	8.8	21.8
344129	8.5	19.7	124173	8.5	20.2	456453	8.6	21.0	165877	8.7	19.9	114778	8.7	19.7	102150	8.8	19.1
383645	8.5	21.4	164505	8.5	19.9	122732	8.6	20.0	184753	8.7	19.4	467238	8.7	20.1	518455	8.8	20.9
406054	8.5	21.4	236096	8.5	20.3	141853	8.6	19.7	26777	8.7	19.2	463261	8.7	21.3	304796	8.8	20.8
126282	8.5	19.9	87383	8.5	19.1	7784	8.6	18.0	461245	8.7	19.6	57994	8.7	20.2	368998	8.8	20.9
211628	8.5	21.0	132276	8.5	20.4	87403	8.6	20.1	471123	8.7	21.0	193776	8.7	19.5	120541	8.8	19.0
471756	8.5	21.5	2362	8.5	16.5	93664	8.6	18.7	313034	8.7	19.0	89723	8.7	19.5	170221	8.8	20.1
14757	8.5	19.2	451004	8.5	20.8	308760	8.6	20.3	99550	8.7	19.4	20531	8.7	17.9	279142	8.8	20.3
207470	8.5	20.3	419169	8.5	19.9	197602	8.6	21.1	397472	8.7	20.9	502779	8.7	20.7	40876	8.8	19.6
399117	8.5	20.3	329281	8.5	20.5	414990	8.6	22.3	434945	8.7	20.9	140238	8.7	19.3	433625	8.8	21.2
374098	8.5	21.1	492160	8.5	22.1	316881	8.6	20.7	10117	8.7	17.7	285415	8.7	21.7	53468	8.8	18.2
496826	8.5	22.4	280208	8.5	20.4	99322	8.6	18.8	147335	8.7	19.3	15555	8.7	17.9	415942	8.8	21.5
166991	8.5	19.8	120889	8.6	19.9	247868	8.6	20.2	413883	8.7	20.4	194280	8.7	20.1	24620	8.8	19.1
209056	8.5	20.8	414887	8.6	20.0	358509	8.6	20.4	302059	8.7	21.0	304974	8.7	20.4	480195	8.8	22.3
380702	8.5	19.5	274799	8.6	20.2	134152	8.6	19.9	32470	8.7	18.5	366760	8.8	21.1	311587	8.8	20.3
317001	8.5	20.8	240130	8.6	20.1	24879	8.6	17.4	265750	8.7	19.9	375307	8.8	21.0	205062	8.8	20.9
427187	8.5	21.6	411196	8.6	21.2	468373	8.6	20.2	429329	8.7	20.6	264710	8.8	20.0	472808	8.8	20.5
106227	8.5	20.1	57549	8.6	18.1	342924	8.6	19.9	522194	8.7	21.0	380054	8.8	20.8	15274	8.8	17.9
140660	8.5	20.1	34782	8.6	17.6	310029	8.6	21.3	40476	8.7	17.7	368187	8.8	20.5	378875	8.8	20.9
170054	8.5	19.7	490662	8.6	22.2	265646	8.6	19.9	133665	8.7	19.8	81453	8.8	19.0	163347	8.8	19.7
493467	8.5	20.7	490226	8.6	21.7	298784	8.6	21.6	211147	8.7	20.0	57060	8.8	19.2	493427	8.8	20.5
150777	8.5	21.0	83961	8.6	19.5	214391	8.6	20.2	165783	8.7	19.9	492733	8.8	22.0	289926	8.8	20.4
384236	8.5	20.6	428016	8.6	19.7	2429	8.6</td										

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
60110	8.8	18.2	80540	8.9	18.4	55601	8.9	18.6	191841	9.0	19.7	212053	9.1	19.7	48001	9.2	18.3
336569	8.8	21.0	282838	8.9	21.2	209368	8.9	19.8	119524	9.0	19.3	65672	9.1	20.1	59698	9.2	19.6
417662	8.8	21.1	212953	8.9	20.1	334105	8.9	20.4	79293	9.0	20.4	236199	9.1	20.2	200636	9.2	20.6
476810	8.8	20.6	401480	8.9	20.9	174802	8.9	19.5	434913	9.0	20.9	225605	9.1	19.5	429556	9.2	19.3
187869	8.8	19.7	166877	8.9	18.8	456207	8.9	20.5	382505	9.0	21.0	268103	9.1	20.4	89498	9.2	18.1
12065	8.8	18.7	304940	8.9	20.4	130657	8.9	18.7	135123	9.0	20.3	225983	9.1	20.1	109933	9.2	20.3
221351	8.9	20.4	114557	8.9	19.5	32994	8.9	17.9	288629	9.0	21.4	401495	9.1	20.7	325526	9.2	20.9
497810	8.9	21.8	323480	8.9	21.0	159869	8.9	20.4	500990	9.0	21.9	174922	9.1	19.7	373360	9.2	20.5
424261	8.9	21.2	200073	8.9	20.5	91419	8.9	18.3	402552	9.0	21.0	179953	9.1	20.1	101387	9.2	18.6
1689	8.9	15.1	65758	8.9	19.4	456573	8.9	19.9	434327	9.0	21.1	227065	9.1	20.1	89345	9.2	19.6
247582	8.9	20.6	409260	8.9	20.3	400278	8.9	21.8	310098	9.0	21.3	21423	9.1	18.3	213914	9.2	19.7
165916	8.9	19.8	45839	8.9	18.2	288023	8.9	19.5	272857	9.0	19.5	421694	9.1	19.8	379554	9.2	20.8
329802	8.9	20.5	140842	8.9	20.0	15227	8.9	18.0	54148	9.0	17.2	402538	9.1	20.9	202769	9.2	19.9
474104	8.9	21.7	205999	8.9	20.3	159967	8.9	19.9	116255	9.0	18.6	420552	9.1	20.0	313178	9.2	20.6
140639	8.9	19.3	136628	8.9	20.2	351573	8.9	20.0	169365	9.0	20.3	424304	9.1	20.5	163451	9.2	19.8
13361	8.9	17.1	209945	8.9	19.2	386496	8.9	19.6	429935	9.0	20.9	466445	9.1	21.2	364389	9.2	20.2
339559	8.9	21.6	237617	8.9	20.8	315791	8.9	20.4	281113	9.0	19.2	490000	9.1	22.3	288469	9.2	20.7
124217	8.9	20.2	463274	8.9	21.3	309324	8.9	21.6	505978	9.1	20.8	21507	9.1	18.9	469006	9.2	19.5
106287	8.9	20.3	139645	8.9	18.8	119631	8.9	18.0	286824	9.1	20.6	375645	9.1	20.6	230141	9.2	20.1
47126	8.9	18.1	385519	8.9	20.3	228653	8.9	18.5	402325	9.1	20.3	341536	9.1	20.3	51335	9.2	19.1
456727	8.9	21.8	399689	8.9	21.2	18319	8.9	17.6	322281	9.1	20.2	415844	9.1	21.7	290529	9.2	19.9
335936	8.9	21.4	451865	8.9	20.9	358479	8.9	21.3	338291	9.1	20.4	319860	9.1	19.6	210	9.2	13.0
79935	8.9	18.7	212118	8.9	20.3	184766	8.9	21.1	304805	9.1	20.2	8898	9.1	19.0	433099	9.2	21.6
55162	8.9	18.8	44069	8.9	18.5	378859	8.9	21.8	235993	9.1	19.6	52848	9.1	18.3	402704	9.2	21.0
14085	8.9	18.0	215857	8.9	20.0	83868	8.9	19.5	104138	9.1	19.2	37455	9.1	19.2	83252	9.2	18.8
143527	8.9	18.6	317381	8.9	21.5	460787	8.9	20.8	68073	9.1	19.0	447708	9.1	19.4	65214	9.2	18.8
3249	8.9	16.6	262454	8.9	19.8	40326	8.9	18.7	1887	9.1	15.5	80986	9.1	18.5	186250	9.2	19.1
481787	8.9	20.6	1571142	8.9	20.9	301679	8.9	20.8	169617	9.1	19.7	63534	9.1	18.8	72940	9.2	19.0
488979	8.9	21.9	341785	8.9	20.9	294753	8.9	21.0	216892	9.1	20.1	107713	9.1	19.0	412652	9.2	21.5
247486	8.9	20.8	102363	8.9	18.3	341483	8.9	20.8	377368	9.1	21.5	131864	9.1	19.3	421114	9.2	21.6
204965	8.9	20.5	79929	8.9	18.8	62317	8.9	19.2	92565	9.1	18.6	176756	9.1	19.7	193051	9.2	18.5
170119	8.9	19.6	355882	8.9	21.2	104715	8.9	19.1	496796	9.1	21.5	95900	9.1	19.6	171555	9.2	20.6
171583	8.9	20.3	258064	8.9	20.4	520838	8.9	21.4	327977	9.1	20.0	131780	9.1	19.9	177814	9.2	20.5
21265	8.9	18.7	107755	8.9	19.4	404369	8.9	19.8	211515	9.1	20.1	206755	9.1	19.2	417791	9.2	20.2
30728	8.9	20.2	334091	8.9	20.8	233482	8.9	20.2	400342	9.1	21.5	32808	9.1	17.6	113221	9.2	19.9
498124	8.9	21.3	79429	8.9	19.8	455541	9.0	19.8	163555	9.1	19.8	72017	9.1	18.8	488904	9.2	21.2
372645	8.9	19.8	426640	8.9	20.3	422243	9.0	19.8	285673	9.1	21.8	204918	9.1	20.6	12306	9.2	16.9
452613	8.9	22.1	492685	8.9	21.9	55865	9.0	18.2	207041	9.1	19.2	415831	9.1	21.8	423061	9.2	21.0
42865	8.9	19.2	70260	8.9	18.1	387213	9.0	20.9	15613	9.1	16.4	169137	9.1	19.4	369583	9.2	20.8
316075	8.9	20.0	416274	8.9	20.7	226901	9.0	20.7	95564	9.1	19.0	417593	9.1	20.1	182394	9.2	19.6
137202	8.9	20.7	390391	8.9	20.4	282970	9.0	20.2	494722	9.1	22.0	457097	9.1	21.3	100457	9.2	20.0
363302	8.9	20.1	51004	8.9	18.6	303348	9.0	19.9	405121	9.1	20.0	36971	9.1	19.2	412718	9.2	21.8
141146	8.9	19.3	229655	8.9	20.2	144402	9.0	19.8	493396	9.1	21.5	305607	9.1	20.4	279277	9.2	20.7
148549	8.9	18.7	101035	8.9	19.6	68386	9.0	19.6	273137	9.1	18.9	104348	9.1	19.0	200995	9.2	19.7
159460	8.9	20.5	193822	8.9	20.9	170402	9.0	20.4	491597	9.1	22.3	16907	9.2	17.3	202304	9.2	20.3
318065	8.9	19.7	412139	8.9	21.2	236106	9.0	20.0	372694	9.1	21.2	169311	9.2	20.5	237638	9.2	20.7
468333	8.9	20.2	129791	8.9	19.1	262361	9.0	20.8	496843	9.1	21.1	15666	9.2	17.4	310965	9.2	19.6
322849	8.9	20.6	44028	8.9	16.9	426459	9.0	21.7	423815	9.1	21.6	495953	9.2	21.0	316286	9.2	20.4
347295	8.9	20.5	226855	8.9	20.0	401745	9.0	20.7	308961	9.1	20.2	228201	9.2	20.4	172732	9.2	18.6
212056	8.9	20.4	459644	8.9	21.1	241149	9.0	20.3	334749	9.1	18.6	433636	9.2	21.0	328399	9.2	20.9
261031	8.9	20.5	61020	8.9	18.4	263321	9.0	19.7	81659	9.1	18.8	121132	9.2	18.3	512286	9.2	21.6
17097	8.9	18.9	205878	8.9	20.2	242018	9.0	18.9	50573	9.1	16.5	249080	9.2	19.7	433375	9.2	21.3
66398	8.9	19.0	124666	8.9	19.8	351720	9.0	19.7	247440	9.1	19.7	467866	9.2	20.9	136555	9.2	18.6
104534	8.9	19.7	166879	8.9	20.0	470904	9.0	20.4	429732	9.1	20.8	156536	9.2	20.0	236392	9.2	19.5
377608	8.9	22.5	345985	8.9	20.8	344490	9.0	20.7	58142	9.1	19.3	31399	9.2	16.5	104493	9.2	19.9
459402	8.9	20.7	493326	8.9	20.9	433169	9.0	21.0	146259	9.1	19.7	536739	9.2	19.1	85411	9.2	19.8
455498	8.9	21.2	78721	8.9	18.9	282559	9.0	21.1	145327	9.1	20.1	314734	9.2	20.0	292255	9.2	20.6
72201	8.9	19.2	454216	8.9	20.4	186131	9.0	19.9	93290	9.1	19.4	98077	9.2	18.5	237307	9.2	20.0
196588	8.9	19.7	33968	8.9	19.0	297390	9.0	21.4	201214	9.1	20.2	20327	9.2	19.3	226923	9.2	20.1
232943	8.9	20.3	70418	8.9	17.8	222327	9.0	20.3	330135	9.1	20.9	486107	9.2	20.2	128552	9.2	20.1
408657	8.9	21.5	156055	8.9	19.5	66383	9.0	20.5	49347	9.1	18.8	52713	9.2	17.3	208426	9.2	20.7
74553	8.9	18.3	433794	8.9	20.0	387197	9.0	20.2	74943	9.1	20.2	22536	9.2	18.4	337447	9.2	20.4
456728	8.9	21.5	58766	8.9	18.7	296091	9.0	19.6	496809</								

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

Nº	02	V															
489563	9.3	22.1	503085	9.3	20.5	202762	9.4	19.7	53840	9.5	18.7	378713	9.5	21.1	398015	9.6	20.2
280881	9.3	21.2	173921	9.3	20.1	290132	9.4	19.7	276283	9.5	21.4	466827	9.5	21.0	419547	9.6	19.4
109923	9.3	19.9	285237	9.3	20.4	418389	9.4	20.5	337465	9.5	21.2	90918	9.5	19.0	384265	9.6	19.6
80465	9.3	18.3	325783	9.3	19.7	465913	9.4	19.9	211799	9.5	20.1	403335	9.5	20.5	51834	9.6	18.3
428950	9.3	20.0	289876	9.3	20.9	509523	9.4	24.9	277814	9.5	20.8	460549	9.5	20.6	9003	9.6	17.0
319519	9.3	21.9	245055	9.3	19.5	199512	9.4	20.8	170429	9.5	19.2	203651	9.5	19.0	468656	9.6	21.4
328977	9.3	20.0	82001	9.3	20.1	437800	9.4	21.0	7816	9.5	17.8	206345	9.5	20.0	192280	9.6	20.6
492655	9.3	21.5	410495	9.3	20.6	229182	9.4	19.3	207928	9.5	20.5	14358	9.5	17.1	429028	9.6	19.1
330971	9.3	20.8	102256	9.3	19.8	238967	9.4	20.7	169515	9.5	18.8	355811	9.5	20.1	140106	9.6	19.3
66299	9.3	18.4	148390	9.3	19.6	373354	9.4	20.8	236086	9.5	21.2	325217	9.5	20.5	199843	9.6	20.8
496077	9.3	21.6	402685	9.3	21.5	165417	9.4	19.1	412150	9.5	20.0	164310	9.5	19.7	208226	9.6	21.0
365793	9.3	20.4	264115	9.3	20.2	3413	9.4	16.1	131235	9.5	19.4	107640	9.5	18.7	239802	9.6	20.7
240421	9.3	19.1	186895	9.3	20.3	253952	9.4	20.2	245190	9.5	20.6	71971	9.5	17.7	169356	9.6	20.3
62880	9.3	19.1	11876	9.3	18.2	22891	9.4	18.7	244679	9.5	21.5	51311	9.6	19.0	386556	9.6	20.6
219073	9.3	20.3	254675	9.3	20.3	81502	9.4	19.4	81144	9.5	18.2	16526	9.6	17.1	111529	9.6	18.6
55188	9.3	18.3	483696	9.3	21.8	329038	9.4	21.0	496610	9.5	21.2	402711	9.6	20.9	305842	9.6	20.5
77841	9.3	18.4	303452	9.3	19.9	329327	9.4	20.1	432902	9.5	21.0	309230	9.6	21.4	243072	9.6	19.9
51820	9.3	18.6	81823	9.3	19.0	155454	9.4	19.9	33669	9.5	18.9	284976	9.6	19.6	92411	9.6	19.7
284195	9.3	20.7	105871	9.3	20.0	475942	9.4	20.2	400374	9.5	20.7	160760	9.6	20.6	257854	9.6	19.5
32780	9.3	17.8	7089	9.3	16.4	321655	9.4	20.4	240290	9.5	20.1	131461	9.6	19.3	33225	9.6	18.6
502649	9.3	20.9	378682	9.3	22.2	122851	9.4	19.7	443923	9.5	22.6	237379	9.6	21.0	207839	9.6	18.9
52232	9.3	19.4	182621	9.3	21.1	253099	9.4	20.8	409008	9.5	20.8	334471	9.6	20.3	225862	9.6	20.8
315294	9.3	20.5	283225	9.3	21.1	503051	9.4	20.6	428251	9.5	20.6	182107	9.6	20.5	57652	9.6	18.2
17255	9.3	18.3	284472	9.3	20.2	18254	9.4	17.4	179055	9.5	19.7	61559	9.6	21.0	126049	9.6	18.6
216321	9.3	20.4	191935	9.3	20.6	44713	9.4	18.1	426540	9.5	21.5	1770	9.6	15.1	19623	9.6	17.6
292189	9.3	20.6	88510	9.3	19.5	200755	9.4	19.2	247935	9.5	19.7	408990	9.6	21.6	57881	9.6	18.4
448181	9.3	21.2	62410	9.3	19.4	261260	9.4	20.4	63250	9.5	19.6	109092	9.6	19.3	419981	9.6	21.2
307043	9.3	20.5	58483	9.3	19.4	271784	9.4	20.6	104722	9.5	18.8	376429	9.6	20.1	118254	9.6	18.1
242971	9.3	20.8	437932	9.3	21.1	217913	9.4	21.4	421301	9.5	20.9	294069	9.6	20.5	254729	9.6	20.3
204902	9.3	20.0	94689	9.3	18.5	254943	9.4	20.7	209414	9.5	19.9	264778	9.6	18.6	111552	9.6	19.8
345068	9.3	20.8	401001	9.3	21.1	153430	9.4	20.1	34340	9.5	18.5	437327	9.6	20.6	186910	9.6	19.5
203599	9.3	19.8	462848	9.3	20.5	351737	9.4	19.7	149312	9.5	20.0	128700	9.6	20.0	304873	9.6	20.4
1842	9.3	15.8	496716	9.3	20.6	453318	9.4	21.5	471364	9.5	21.3	465744	9.6	21.2	408217	9.6	21.5
53315	9.3	18.1	416842	9.3	21.6	64042	9.4	18.6	246412	9.5	19.2	296387	9.6	20.4	47147	9.6	19.3
71515	9.3	18.7	333191	9.3	21.0	160734	9.4	19.7	113579	9.5	20.3	248916	9.6	19.9	163252	9.6	21.8
442924	9.3	20.6	432172	9.3	20.9	47813	9.4	17.8	225498	9.5	20.8	139197	9.6	18.7	473118	9.6	20.6
99863	9.3	20.0	568	9.3	13.7	89676	9.4	20.0	366933	9.5	21.4	136664	9.6	20.5	414868	9.6	20.3
350232	9.3	20.1	245237	9.3	20.2	214292	9.4	19.8	190777	9.5	20.5	167029	9.6	20.0	502528	9.6	21.3
63192	9.3	18.9	28906	9.3	17.6	117263	9.4	19.9	56540	9.5	18.7	300767	9.6	20.2	428146	9.6	21.1
98135	9.3	18.3	372428	9.3	22.0	87635	9.4	19.4	31307	9.5	18.1	271337	9.6	20.6	317092	9.7	20.1
349892	9.3	20.5	503696	9.3	20.5	49076	9.4	19.0	90700	9.5	20.1	124204	9.6	20.0	269075	9.7	19.8
322478	9.3	20.8	260568	9.3	21.1	304929	9.4	19.6	315635	9.5	20.3	343658	9.6	20.0	38715	9.7	18.1
267224	9.3	19.3	421857	9.3	20.5	382813	9.4	20.8	423060	9.5	20.5	200005	9.6	20.7	118262	9.7	17.6
245082	9.3	20.5	464000	9.3	20.2	256249	9.4	18.7	457226	9.5	20.9	4652	9.6	17.4	306045	9.7	20.7
296183	9.3	19.6	430838	9.3	21.6	83767	9.4	19.5	437447	9.5	20.5	464970	9.6	20.4	127501	9.7	19.3
410266	9.3	22.6	337496	9.3	20.8	86660	9.4	18.6	43060	9.5	19.2	450999	9.6	22.2	121595	9.7	19.5
223257	9.3	20.0	129801	9.3	20.1	256850	9.4	19.7	132151	9.5	20.0	406478	9.6	22.6	197311	9.7	18.8
210558	9.3	20.1	109979	9.4	19.9	155609	9.4	19.1	241727	9.5	21.0	419041	9.6	21.1	104376	9.7	18.7
29328	9.3	18.3	126154	9.4	21.2	447222	9.4	21.8	55533	9.5	18.7	75204	9.6	19.3	371287	9.7	20.4
496272	9.3	21.7	8416	9.4	17.3	473955	9.4	20.7	280240	9.5	20.3	225153	9.6	20.7	201011	9.7	18.6
229893	9.3	20.5	167591	9.4	19.7	23161	9.4	17.5	354892	9.5	20.6	357146	9.6	19.9	340491	9.7	21.1
402046	9.3	21.8	106359	9.4	19.5	256341	9.4	20.6	422108	9.5	21.0	6606	9.6	18.2	203113	9.7	20.2
70225	9.3	20.0	97465	9.4	19.2	380065	9.4	21.1	313182	9.5	20.4	87487	9.6	19.5	432166	9.7	20.1
436254	9.3	20.9	212462	9.4	20.8	510025	9.4	21.6	397849	9.5	21.3	202216	9.6	18.7	382274	9.7	20.4
121949	9.3	18.9	106295	9.4	19.7	375519	9.4	21.0	420979	9.5	21.1	13551	9.6	17.2	126028	9.7	20.0
304070	9.3	20.2	384842	9.4	20.5	251006	9.4	20.3	337361	9.5	21.0	300399	9.6	19.5	179891	9.7	19.1
80085	9.3	19.7	409401	9.4	20.3	239255	9.5	20.8	466371	9.5	21.1	312095	9.6	21.0	411172	9.7	21.4
323439	9.3	21.1	379065	9.4	20.6	399472	9.5	21.7	46767	9.5	18.1	63733	9.6	18.7	184476	9.7	20.5
347903	9.3	19.3	207622	9.4	20.2	446869	9.5	20.2	13063	9.5	18.0	287421	9.6	20.0	323447	9.7	20.9
289948	9.3	20.7	403848	9.4	20.1	431917	9.5	21.7	337717	9.5	20.5	344067	9.6	20.7	408838	9.7	20.7
500269	9.3	19.6	33477	9.4	18.3	310746	9.5	19.4	135221	9.5	19.5	399490	9.6	21.7	251500	9.7	20.4
337912	9.3	20.5	168299	9.4	19.2	63897	9.5	18.6	208697	9.5	20.0	408243	9.6	19.9	55959	9.7	18.6
243609	9.3	19.3	423724	9.4	20.7	63695	9.5	18.3	284859								

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

Nº	02	V	Nº	02	V	Nº	02	V									
255956	9.7	21.1	146383	9.8	20.7	132890	9.8	20.3	414900	9.9	21.2	468350	9.9	20.7	65455	10.0	18.7
319657	9.7	20.9	331496	9.8	20.9	226900	9.8	20.3	208966	9.9	19.2	45274	9.9	18.7	143154	10.0	19.0
114584	9.7	18.6	422597	9.8	21.0	57648	9.8	17.5	32581	9.9	19.1	402886	9.9	22.1	11322	10.0	18.7
304023	9.7	20.4	223780	9.8	20.6	307934	9.8	20.1	112548	9.9	19.9	456974	9.9	20.5	138501	10.0	17.9
335970	9.7	21.2	157442	9.8	19.4	329801	9.8	20.7	217755	9.9	20.5	241059	9.9	19.8	215514	10.0	19.6
206339	9.7	20.2	231422	9.8	19.3	453361	9.8	21.0	462322	9.9	20.4	179939	9.9	19.6	158889	10.0	21.0
145696	9.7	20.4	421374	9.8	20.8	163844	9.8	20.0	117170	9.9	20.0	136020	9.9	20.1	428163	10.0	21.0
159490	9.7	20.4	226803	9.8	21.0	96765	9.8	18.3	155998	9.9	19.9	153946	9.9	19.6	464963	10.0	21.0
381295	9.7	19.8	85208	9.8	19.4	407567	9.8	20.4	372472	9.9	20.9	463647	9.9	21.1	282862	10.0	21.1
499438	9.7	20.6	462064	9.8	20.4	246149	9.8	21.0	236089	9.9	21.2	57253	9.9	17.6	467660	10.0	21.2
375621	9.7	20.2	88600	9.8	18.0	292455	9.8	22.2	33001	9.9	22.5	407415	9.9	20.9	247851	10.0	21.1
415031	9.7	20.6	495015	9.8	21.1	340719	9.8	21.4	223760	9.9	20.4	453253	9.9	21.8	292586	10.0	22.8
368763	9.7	21.4	413864	9.8	22.5	360150	9.8	19.4	196541	9.9	20.3	337436	9.9	21.6	274075	10.0	19.2
503789	9.7	20.6	135502	9.8	20.1	83602	9.8	18.9	15755	9.9	18.8	78947	9.9	19.0	206815	10.0	19.4
491123	9.7	20.2	240767	9.8	21.2	112409	9.8	19.9	337645	9.9	20.4	401191	9.9	20.5	104767	10.0	20.0
504310	9.7	21.1	237721	9.8	21.3	12630	9.8	18.4	426581	9.9	20.9	239690	9.9	20.3	49321	10.0	19.1
49351	9.7	17.6	347762	9.8	18.0	17356	9.8	18.3	363127	9.9	21.2	79694	9.9	19.6	371781	10.0	20.2
40540	9.7	18.9	223701	9.8	20.1	334192	9.8	22.0	283918	9.9	20.2	436916	9.9	20.8	282220	10.0	20.6
464171	9.7	20.8	419971	9.8	20.7	18512	9.8	18.3	363634	9.9	20.5	50406	9.9	19.0	463470	10.0	21.9
194693	9.7	19.3	456347	9.8	21.2	450400	9.8	20.9	153099	9.9	19.0	20465	9.9	18.2	211172	10.0	20.7
421463	9.7	21.3	401017	9.8	21.7	38687	9.8	18.8	337384	9.9	19.7	451028	9.9	20.7	78628	10.0	18.9
337023	9.7	20.4	70197	9.8	20.0	117028	9.8	19.9	329607	9.9	18.7	42741	9.9	19.1	456634	10.0	21.9
219799	9.7	20.0	19897	9.8	18.0	460448	9.8	21.0	351689	9.9	19.3	288570	9.9	20.8	400319	10.0	21.1
212612	9.7	20.5	169547	9.8	19.8	213257	9.8	19.5	73823	9.9	19.5	286036	9.9	20.5	455445	10.0	21.0
500519	9.7	20.8	345641	9.8	21.2	172536	9.8	20.7	432218	9.9	20.6	461803	9.9	20.7	498969	10.0	19.5
380056	9.7	21.3	180029	9.8	19.8	248212	9.8	19.7	405856	9.9	20.2	275334	9.9	20.0	257456	10.0	19.5
522426	9.7	21.5	456841	9.8	21.5	181193	9.8	21.2	502101	9.9	20.8	29302	9.9	20.0	107161	10.0	18.5
424973	9.7	20.7	364677	9.8	19.9	374103	9.8	21.9	117280	9.9	20.4	244714	9.9	21.2	462676	10.0	20.9
453004	9.7	21.2	54715	9.8	19.2	143724	9.8	19.9	214068	9.9	20.6	105616	9.9	19.7	371300	10.0	20.8
280877	9.7	20.9	451939	9.8	20.1	25059	9.8	18.1	205540	9.9	20.3	16677	9.9	18.1	136630	10.0	20.1
431608	9.7	20.8	371770	9.8	20.5	442652	9.8	20.4	488730	9.9	20.9	308161	9.9	19.6	227435	10.0	20.5
203725	9.7	20.7	281868	9.8	20.7	202573	9.8	20.3	161793	9.9	19.4	296563	9.9	20.4	237649	10.0	20.7
458039	9.7	21.6	351593	9.8	20.0	373020	9.8	20.4	297419	9.9	22.2	141602	9.9	18.2	6433	10.1	17.1
130775	9.7	19.2	260038	9.8	20.1	412107	9.8	21.7	467404	9.9	21.1	432937	9.9	21.0	43294	10.1	17.4
112798	9.7	20.0	178288	9.8	21.0	362078	9.8	21.3	217772	9.9	19.8	456813	9.9	21.2	168394	10.1	17.7
129391	9.7	18.8	20990	9.8	17.8	240084	9.8	19.7	181583	9.9	19.4	434414	9.9	21.7	433573	10.1	20.8
459843	9.7	20.9	361313	9.8	20.6	29640	9.8	19.3	200752	9.9	18.8	322252	9.9	20.6	519181	10.1	20.8
135512	9.7	19.0	123576	9.8	18.5	157270	9.8	19.8	360553	9.9	21.1	143156	9.9	19.8	238477	10.1	20.2
284346	9.7	21.1	58434	9.8	18.8	110504	9.8	19.6	341725	9.9	20.1	74286	9.9	17.7	371211	10.1	21.3
98774	9.7	17.6	142463	9.8	19.4	178104	9.8	20.8	252313	9.9	19.5	355838	9.9	20.1	238381	10.1	19.7
283524	9.7	21.3	344259	9.8	20.8	341305	9.8	20.5	453265	9.9	21.3	455476	9.9	21.2	522454	10.1	21.5
85421	9.7	20.0	29653	9.8	18.0	488874	9.8	21.7	226073	9.9	19.0	457068	9.9	20.3	17568	10.1	17.2
274589	9.7	20.9	431577	9.8	20.7	343041	9.8	20.3	453310	9.9	21.4	51460	9.9	19.4	106769	10.1	18.2
385520	9.7	21.0	102679	9.8	19.3	444215	9.8	20.9	397008	9.9	20.5	37436	9.9	19.5	229178	10.1	20.5
55056	9.7	18.5	503687	9.8	21.8	255764	9.8	21.0	371966	9.9	20.8	244691	9.9	21.0	38948	10.1	18.2
403107	9.7	20.2	189122	9.8	19.0	165237	9.8	20.2	45777	9.9	18.7	189307	9.9	20.3	220343	10.1	19.5
101655	9.7	19.0	202939	9.8	19.0	206351	9.8	20.6	194824	9.9	19.2	473002	9.9	20.1	187307	10.1	19.4
502945	9.7	21.3	114104	9.8	19.9	469100	9.8	20.3	462670	9.9	21.8	90213	9.9	18.2	186861	10.1	19.4
338400	9.7	20.0	375663	9.8	18.7	148852	9.8	19.5	244849	9.9	20.9	492663	9.9	20.4	266332	10.1	20.6
101480	9.7	19.7	174483	9.8	18.8	324484	9.8	20.1	111066	9.9	17.8	177626	9.9	21.3	114395	10.1	18.5
33007	9.7	18.9	50780	9.8	18.4	159891	9.8	20.0	164793	9.9	19.1	432140	9.9	20.8	196687	10.1	19.6
337886	9.7	20.6	328974	9.8	20.2	268467	9.8	20.0	238452	9.9	20.6	362112	9.9	19.7	333684	10.1	20.9
452746	9.7	20.7	263335	9.8	18.7	218653	9.8	20.6	416892	9.9	21.3	411828	9.9	19.9	350584	10.1	21.2
209879	9.7	20.6	399557	9.8	20.9	194328	9.8	19.4	151927	9.9	19.6	9581	10.0	17.7	318020	10.1	20.1
129215	9.7	18.7	112283	9.8	19.7	464047	9.8	21.6	146348	9.9	19.6	343620	10.0	19.7	363950	10.1	21.3
65868	9.7	19.7	117567	9.8	19.9	233590	9.8	20.5	306192	9.9	20.1	425118	10.0	20.7	345584	10.1	20.6
27993	9.7	17.5	59086	9.8	18.0	210103	9.9	20.1	402506	9.9	20.5	57105	10.0	19.2	113514	10.1	19.1
286983	9.7	20.7	114467	9.8	19.9	183894	9.9	19.9	276297	9.9	21.4	160730	10.0	20.5	522393	10.1	21.2
195081	9.7	18.6	208263	9.8	19.6	1954	9.9	16.8	448141	9.9	22.0	87701	10.0	19.9	163469	10.1	19.4
14103	9.7	18.2	53410	9.8	18.4	199228	9.9	18.9	293965	9.9	21.2	411332	10.0	20.6	126034	10.1	19.7
81707	9.7	19.4	164377	9.8	19.6	387428	9.9	20.2	114199	9.9	20.4	133538	10.0	19.8	427541	10.1	21.2
431488	9.7	20.5	10033	9.8	17.5	336009	9.9	21.1	168485	9.9	20.0	265767	10.0	19.9	354553	10.1	20.8

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

Nº	02	V															
134336	10.1	21.0	146331	10.2	19.8	407550	10.2	20.7	84694	10.3	19.8	414814	10.4	21.1	361626	10.4	20.2
104649	10.1	18.9	503546	10.2	21.4	168300	10.2	19.3	70650	10.3	18.0	365370	10.4	21.9	33841	10.4	19.6
216849	10.1	19.6	334666	10.2	20.4	364366	10.2	22.5	65910	10.3	18.5	221221	10.4	20.5	245900	10.4	21.1
40187	10.1	18.4	405944	10.2	22.6	33737	10.2	18.7	362155	10.3	20.6	22814	10.4	18.9	371095	10.4	19.7
256344	10.1	20.0	208715	10.2	20.3	109714	10.2	19.0	368047	10.3	19.8	405795	10.4	19.2	362147	10.4	20.1
100983	10.1	19.6	209389	10.2	19.5	397991	10.2	20.5	368141	10.3	20.8	223619	10.4	21.4	252884	10.4	20.9
44791	10.1	19.8	12984	10.2	18.2	328627	10.2	20.8	110305	10.3	19.7	363188	10.4	21.2	280288	10.4	19.7
194051	10.1	20.1	330035	10.2	21.0	163158	10.2	19.2	467883	10.3	21.0	81584	10.4	19.0	367537	10.4	21.8
154737	10.1	19.8	219978	10.2	19.8	155034	10.2	18.6	199470	10.3	18.7	41396	10.4	17.7	298840	10.4	20.4
230412	10.1	20.6	63019	10.2	19.5	463842	10.2	19.9	96802	10.3	19.4	171493	10.4	20.8	416066	10.4	20.3
491289	10.1	20.5	410218	10.2	21.9	234815	10.2	20.4	283557	10.3	20.4	315439	10.4	20.1	94713	10.4	19.6
409837	10.1	21.2	155214	10.2	20.0	472404	10.2	20.5	299562	10.3	21.2	464921	10.4	20.2	489646	10.4	21.8
383630	10.1	20.9	128365	10.2	20.3	337193	10.2	20.4	234836	10.3	19.6	495112	10.4	21.5	259192	10.4	18.4
151570	10.1	19.7	305092	10.2	20.4	147978	10.2	21.2	491874	10.3	20.3	410795	10.4	20.3	449111	10.4	20.0
286262	10.1	20.3	144280	10.2	19.3	467299	10.2	20.5	272842	10.3	18.8	400240	10.4	22.2	6553	10.4	17.1
453783	10.1	21.3	428200	10.2	21.3	193923	10.2	20.3	461971	10.3	21.9	35022	10.4	18.7	207480	10.4	20.7
248838	10.1	21.2	449162	10.2	20.5	212412	10.2	21.1	122584	10.3	20.0	128865	10.4	20.5	522575	10.4	19.5
4587	10.1	19.5	264734	10.2	19.3	252686	10.2	19.7	462895	10.3	20.6	236448	10.4	20.8	132196	10.4	20.0
193749	10.1	20.5	331182	10.2	20.4	265355	10.2	20.5	162849	10.3	19.0	233132	10.4	20.3	187208	10.4	21.3
353472	10.1	20.3	427457	10.2	20.5	194345	10.2	19.3	95476	10.3	19.5	396641	10.4	21.1	147274	10.4	19.0
457205	10.1	21.2	407436	10.2	20.0	129673	10.2	20.3	402551	10.3	20.9	369288	10.4	20.6	342706	10.4	20.0
373185	10.1	20.6	258117	10.2	20.6	362511	10.2	21.2	168344	10.3	21.1	26603	10.4	17.6	282982	10.4	20.7
282511	10.1	21.1	374483	10.2	21.3	460179	10.2	20.0	189864	10.3	20.8	325492	10.4	20.7	238067	10.4	20.2
325110	10.1	20.9	6753	10.2	16.9	49485	10.2	17.6	120217	10.3	19.0	324402	10.4	19.7	137021	10.4	19.0
28985	10.1	18.9	108502	10.2	20.3	229996	10.2	19.1	365343	10.3	21.5	378368	10.4	20.5	371055	10.4	21.3
337486	10.1	20.9	26688	10.2	18.7	57460	10.3	18.6	263355	10.3	21.1	464202	10.4	21.2	500579	10.4	21.7
29545	10.1	18.7	451020	10.2	21.0	83135	10.3	19.2	19990	10.3	18.6	92479	10.4	20.1	345593	10.4	21.1
238072	10.1	20.4	109935	10.2	19.6	54758	10.3	18.9	238323	10.3	19.3	28718	10.4	18.7	454330	10.4	21.6
469070	10.1	20.5	62988	10.2	18.9	268319	10.3	20.7	216018	10.3	20.1	12993	10.4	18.5	492708	10.4	21.9
338312	10.1	19.6	35644	10.2	18.0	113432	10.3	18.8	162702	10.3	19.8	521037	10.4	19.7	377137	10.5	20.5
426225	10.1	21.5	208980	10.2	19.4	161250	10.3	19.7	79799	10.3	19.5	57567	10.4	18.7	271309	10.5	21.1
209612	10.1	18.7	232702	10.2	19.7	465065	10.3	22.2	340698	10.3	20.2	464685	10.4	21.8	182436	10.5	20.9
196018	10.1	20.8	239885	10.2	20.6	216199	10.3	20.5	265721	10.3	19.1	417530	10.4	20.4	89158	10.5	18.5
95553	10.1	19.7	105020	10.2	20.2	81389	10.3	20.0	325119	10.3	20.3	488728	10.4	21.5	412570	10.5	21.6
79288	10.1	19.9	17949	10.2	18.1	89556	10.3	19.1	240483	10.3	19.4	259346	10.4	18.7	210797	10.5	19.5
380020	10.1	21.1	424913	10.2	21.0	324454	10.3	20.2	359109	10.3	20.4	54007	10.4	18.7	148686	10.5	20.6
158630	10.1	18.4	372421	10.2	22.1	320328	10.3	21.2	130571	10.3	19.9	111661	10.4	17.9	122576	10.5	19.8
496349	10.1	20.9	164807	10.2	19.9	205847	10.3	18.8	349955	10.3	19.5	162766	10.4	20.2	331342	10.5	20.5
172778	10.1	19.2	500223	10.2	21.7	210119	10.3	20.9	34737	10.3	18.3	268491	10.4	20.4	18579	10.5	18.6
412584	10.1	20.6	432203	10.2	20.7	373990	10.3	20.0	238885	10.3	19.7	200574	10.4	21.0	285141	10.5	20.5
384773	10.1	20.8	416591	10.2	18.1	292532	10.3	21.6	282471	10.3	19.0	411274	10.4	20.5	106671	10.5	18.4
234242	10.1	20.5	209151	10.2	19.1	120741	10.3	20.5	240257	10.3	18.9	62812	10.4	18.8	175228	10.5	19.9
322184	10.1	20.0	408654	10.2	20.5	200869	10.3	18.6	231530	10.3	20.1	381660	10.4	19.7	299082	10.5	20.6
225301	10.1	20.5	241726	10.2	20.2	211879	10.3	20.1	523596	10.3	24.1	131696	10.4	23.0	502654	10.5	20.2
162962	10.1	19.2	376724	10.2	21.4	232362	10.3	19.8	21899	10.3	18.1	56563	10.4	18.8	290278	10.5	20.6
210435	10.1	19.2	406232	10.2	21.0	141368	10.3	19.7	178933	10.3	19.8	113348	10.4	20.6	154875	10.5	20.3
463826	10.1	21.5	146512	10.2	21.0	168274	10.3	20.3	53127	10.3	18.2	282089	10.4	20.8	139673	10.5	18.8
385092	10.1	20.1	227872	10.2	20.2	153956	10.3	19.2	462272	10.3	21.4	381247	10.4	19.9	42028	10.5	18.1
305586	10.1	19.5	523634	10.2	21.7	301769	10.3	20.8	240771	10.3	21.3	187765	10.4	21.0	15969	10.5	17.3
289745	10.1	20.5	518828	10.2	19.8	333369	10.3	20.1	500370	10.3	20.4	296299	10.4	20.7	281717	10.5	20.2
242370	10.1	19.2	69178	10.2	20.2	337651	10.3	20.5	245833	10.3	20.8	187927	10.4	19.9	300578	10.5	20.7
219793	10.1	19.9	496569	10.2	20.7	219458	10.3	19.4	122654	10.3	18.2	506306	10.4	21.7	171882	10.5	20.0
140524	10.1	20.2	29039	10.2	17.8	249194	10.3	20.5	343044	10.3	20.0	38042	10.4	17.9	219363	10.5	20.9
238390	10.1	18.8	101400	10.2	20.2	211547	10.3	20.3	453371	10.3	20.5	137813	10.4	20.8	62252	10.5	19.1
463308	10.1	20.7	82385	10.2	19.4	203782	10.3	20.0	426531	10.3	21.4	243157	10.4	21.1	280536	10.5	19.8
523367	10.1	24.1	436251	10.2	20.8	124835	10.3	19.9	30454	10.3	18.6	422176	10.4	21.8	270558	10.5	19.7
67816	10.1	19.2	110236	10.2	20.0	162675	10.3	18.9	272577	10.3	20.0	225104	10.4	20.0	29027	10.5	18.3
13691	10.1	17.3	278396	10.2	20.8	59752	10.3	19.9	255999	10.3	20.4	378866	10.4	20.9	87569	10.5	19.2
453331	10.1	20.8	406536	10.2	20.4	52636	10.3	18.6	462960	10.3	20.1	431453	10.4	20.7	188336	10.5	21.1
499955	10.1	21.2	518028	10.2	20.5	74435	10.3	18.7	506205	10.3	20.3	318879	10.4	20.7	318341	10.5	21.1
237719	10.1	20.4	136076	10.2	18.3												

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

Nº	02	V															
185895	10.5	20.4	275617	10.6	21.1	109818	10.6	19.1	153194	10.7	19.6	289661	10.8	19.8	142938	10.8	18.4
14105	10.5	17.9	83420	10.6	20.0	217088	10.6	20.9	32468	10.7	17.6	458149	10.8	21.5	133942	10.8	17.9
132688	10.5	19.7	25037	10.6	18.5	59784	10.6	19.2	186176	10.7	19.9	294201	10.8	19.5	313089	10.8	20.4
57718	10.5	18.5	325790	10.6	19.8	268125	10.6	20.0	279731	10.7	20.3	463837	10.8	21.3	365808	10.8	21.8
419052	10.5	19.8	185433	10.6	19.4	122875	10.6	19.1	10078	10.7	17.9	371130	10.8	20.5	358058	10.8	20.9
137556	10.5	18.7	165679	10.6	19.8	253074	10.6	20.4	468410	10.7	22.0	127111	10.8	18.8	105409	10.8	20.0
459906	10.5	21.1	422661	10.6	20.9	183393	10.6	18.1	109631	10.7	19.4	465297	10.8	21.4	17524	10.8	18.9
307351	10.5	20.4	231600	10.6	20.1	240049	10.6	20.3	415704	10.7	20.7	366750	10.8	21.2	451431	10.8	20.8
193778	10.5	21.0	463275	10.6	21.5	223256	10.6	19.9	200338	10.7	20.6	452382	10.8	19.6	195546	10.8	19.6
500778	10.5	21.2	284905	10.6	20.4	207549	10.6	20.6	126537	10.7	19.3	229256	10.8	19.4	454129	10.8	20.0
136965	10.5	19.5	52171	10.6	18.8	206972	10.6	19.6	114488	10.7	18.7	79627	10.8	18.6	445859	10.8	21.3
323779	10.5	21.0	109240	10.6	19.2	71675	10.6	18.4	427706	10.7	21.6	246788	10.8	20.4	222807	10.8	19.7
138630	10.5	18.9	69577	10.6	18.6	205515	10.6	20.3	234849	10.7	19.7	15696	10.8	17.4	187902	10.8	18.8
13953	10.5	16.7	325257	10.6	20.2	180080	10.7	19.2	298866	10.7	20.3	362326	10.8	20.1	307665	10.8	21.6
310910	10.5	21.3	108949	10.6	18.5	348604	10.7	19.9	119555	10.7	19.3	352718	10.8	20.4	145552	10.9	19.9
128608	10.5	20.3	377355	10.6	21.6	312649	10.7	21.5	122985	10.7	18.8	226776	10.8	20.3	516392	10.9	21.0
110353	10.5	18.9	35709	10.6	18.2	343676	10.7	20.9	289177	10.7	20.2	53194	10.8	17.8	4019	10.9	17.6
519196	10.5	20.9	132263	10.6	20.2	116441	10.7	19.8	199798	10.7	19.7	52391	10.8	18.4	310973	10.9	20.1
86408	10.5	18.6	102257	10.6	20.4	123302	10.7	18.6	328769	10.7	21.5	338267	10.8	19.8	371936	10.9	20.4
68091	10.5	19.3	329854	10.6	21.0	15196	10.7	19.1	84875	10.7	19.1	105482	10.8	20.2	213262	10.9	19.7
334362	10.5	17.7	500494	10.6	21.4	23312	10.7	18.2	332423	10.7	20.7	210391	10.8	20.2	208998	10.9	18.3
519290	10.5	20.7	19030	10.6	18.6	17910	10.7	17.8	68608	10.7	17.9	314657	10.8	20.4	48625	10.9	19.0
449120	10.5	17.9	492668	10.6	21.4	468774	10.7	22.2	403854	10.7	21.2	485739	10.8	20.8	502244	10.9	21.2
308077	10.5	20.7	499094	10.6	20.5	468219	10.7	21.0	500389	10.7	21.7	137181	10.8	20.0	504531	10.9	21.9
409972	10.5	20.4	68705	10.6	19.2	209140	10.7	20.8	470879	10.7	19.9	303989	10.8	20.6	275426	10.9	19.7
488506	10.5	21.2	186113	10.6	19.2	229797	10.7	19.4	60018	10.7	19.4	167685	10.8	18.3	285194	10.9	20.7
152921	10.5	19.3	134471	10.6	20.0	496797	10.7	20.5	360484	10.7	20.3	462674	10.8	20.1	83709	10.9	19.0
44575	10.5	19.7	462693	10.6	20.8	82105	10.7	19.0	89031	10.7	17.2	93055	10.8	19.0	503847	10.9	23.1
337850	10.5	19.8	53775	10.6	18.5	169495	10.7	19.7	496246	10.7	20.3	65990	10.8	18.9	461806	10.9	19.9
14650	10.5	17.3	63819	10.6	19.6	498626	10.7	21.1	89490	10.7	19.1	217432	10.8	20.8	234902	10.9	19.9
352646	10.5	20.5	426022	10.6	20.8	329563	10.7	19.9	259089	10.7	18.4	153337	10.8	20.1	293790	10.9	19.2
35283	10.5	18.8	377054	10.6	20.2	39322	10.7	17.3	233148	10.7	20.3	19998	10.8	18.6	502857	10.9	21.0
27732	10.5	18.9	522767	10.6	21.1	453383	10.7	20.9	429930	10.7	21.3	372430	10.8	21.2	69313	10.9	20.2
32209	10.5	17.9	157378	10.6	20.1	201442	10.7	19.4	266848	10.7	20.4	206489	10.8	20.0	466141	10.9	20.9
411998	10.5	19.2	296730	10.6	20.2	268504	10.7	20.6	223347	10.7	20.2	161102	10.8	20.6	354074	10.9	20.4
246603	10.5	19.7	390861	10.6	21.2	123244	10.7	20.1	403214	10.7	21.7	420918	10.8	21.3	98412	10.9	19.1
183586	10.5	20.7	178884	10.6	20.7	326441	10.7	19.7	279896	10.7	20.4	182035	10.8	18.5	194848	10.9	17.6
429375	10.5	21.1	65515	10.6	17.4	104831	10.7	20.2	58372	10.7	20.8	424650	10.8	21.0	183972	10.9	19.6
292100	10.5	21.1	411179	10.6	20.6	354884	10.7	20.5	92423	10.7	19.9	370547	10.8	19.4	149823	10.9	20.6
329328	10.5	20.2	279996	10.6	21.5	203814	10.7	19.1	148136	10.7	19.6	95394	10.8	19.7	256188	10.9	19.6
212730	10.5	20.5	19958	10.6	20.4	294073	10.7	19.9	371151	10.8	21.9	354097	10.8	20.3	462038	10.9	19.7
220452	10.5	20.2	144724	10.6	20.6	317636	10.7	19.3	159042	10.8	20.2	43392	10.8	18.4	130745	10.9	19.5
340798	10.5	20.6	29739	10.6	17.7	154740	10.7	20.5	280513	10.8	21.3	468429	10.8	20.6	456373	10.9	21.1
184443	10.5	20.6	195778	10.6	20.3	466313	10.7	21.4	228405	10.8	18.8	310376	10.8	21.3	348918	10.9	20.3
341534	10.5	20.6	520996	10.6	21.7	40636	10.7	19.1	335641	10.8	20.8	376465	10.8	21.0	466526	10.9	20.0
413748	10.5	19.5	162920	10.6	19.3	15239	10.7	18.1	496335	10.8	21.2	429846	10.8	20.2	229986	10.9	20.7
25788	10.5	17.3	336209	10.6	20.8	263678	10.7	19.8	39928	10.8	17.4	278900	10.8	20.4	182459	10.9	19.8
313804	10.5	19.9	491171	10.6	20.7	462885	10.7	21.8	239434	10.8	20.0	426317	10.8	21.1	274355	10.9	20.9
468083	10.5	21.1	131697	10.6	23.4	6468	10.7	17.2	467279	10.8	21.4	42669	10.8	17.7	34263	10.9	18.3
218864	10.5	20.6	433884	10.6	20.5	216563	10.7	19.3	155351	10.8	19.1	176840	10.8	19.4	163414	10.9	19.5
12712	10.5	17.4	370711	10.6	21.6	508583	10.7	21.5	218900	10.8	19.9	419873	10.8	20.6	414830	10.9	21.3
184831	10.5	18.7	433328	10.6	21.5	77462	10.7	19.7	335959	10.8	20.8	419142	10.8	21.0	432539	10.9	20.5
135480	10.5	18.7	56160	10.6	17.8	127747	10.7	20.1	109404	10.8	20.0	211018	10.8	20.6	203537	10.9	18.8
221369	10.6	19.6	194611	10.6	19.4	4904	10.7	15.2	137766	10.8	18.7	298790	10.8	21.2	419897	10.9	21.2
7724	10.6	17.5	81241	10.6	19.2	256078	10.7	20.1	110486	10.8	20.2	451412	10.8	20.4	21463	10.9	18.6
306204	10.6	21.3	369891	10.6	20.0	194331	10.7	19.6	451653	10.8	21.8	491201	10.8	21.6	498863	10.9	20.4
243169	10.6	21.1	85684	10.6	19.6	461440	10.7	19.5	378803	10.8	20.7	336659	10.8	19.7	309265	10.9	21.3
186071	10.6	21.0	204792	10.6	20.0	179207	10.7	21.1	378804	10.8	21.4	88873	10.8	19.4	21614	10.9	18.0
49033	10.6	17.1	65310	10.6	19.1	327865	10.7	20.1	506300	10.8	21.0	338847	10.8	20.7	188675	10.9	19.6
85302	10.6	19.0	167972	10.6	19.5	359155	10.7	19.9	297167	10.8	20.8	19473	10.8	17.7	91439	10.9	20.3
456557	10.6	20.6	322106	10.6	20.2	146											

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

Nº	02	V															
252932	10.9	21.0	46778	10.9	17.9	88325	11.0	19.4	208677	11.1	19.4	167587	11.2	18.5	428899	11.2	20.6
34984	10.9	18.4	432500	10.9	20.5	174937	11.0	19.6	34542	11.1	19.2	415893	11.2	21.7	343426	11.2	19.8
503552	10.9	20.4	84853	10.9	17.4	74417	11.0	19.9	202012	11.1	19.4	81622	11.2	19.7	191047	11.2	19.3
68669	10.9	19.4	119973	10.9	19.3	390375	11.0	21.0	264709	11.1	20.0	459868	11.2	20.6	220632	11.2	18.5
320842	10.9	21.1	82017	10.9	19.3	453240	11.0	21.9	109231	11.1	18.5	468693	11.2	20.3	343595	11.2	20.2
125562	10.9	19.9	57620	10.9	19.2	464896	11.0	21.3	259200	11.1	19.2	325909	11.2	19.9	365864	11.2	20.0
325243	10.9	20.8	383628	10.9	21.8	499815	11.1	21.4	423346	11.1	20.5	158481	11.2	19.3	91267	11.2	19.2
160720	10.9	19.4	280814	10.9	20.9	14304	11.1	16.9	92878	11.1	19.3	496458	11.2	21.8	14471	11.2	18.3
372665	10.9	20.5	326449	10.9	20.5	21719	11.1	18.7	148313	11.1	19.3	32377	11.2	18.7	278947	11.2	20.6
178160	10.9	20.7	261895	10.9	20.1	192793	11.1	19.9	137063	11.1	18.6	75007	11.2	18.2	492763	11.2	22.2
166950	10.9	20.4	164865	10.9	19.5	218639	11.1	21.5	420897	11.1	21.3	17087	11.2	18.4	381612	11.2	21.1
453784	10.9	21.1	85346	10.9	18.8	305877	11.1	19.8	275401	11.1	20.2	54415	11.2	18.0	332796	11.2	21.3
167583	10.9	19.7	426328	10.9	20.5	210710	11.1	19.2	303991	11.1	20.1	172042	11.2	19.7	192091	11.2	19.6
122369	10.9	20.4	366734	10.9	19.9	420328	11.1	20.7	134439	11.1	19.5	412057	11.2	21.1	163452	11.2	19.3
454469	10.9	20.7	431394	10.9	22.8	268526	11.1	19.7	219425	11.1	19.6	489507	11.2	21.2	282028	11.2	21.1
490182	10.9	21.2	424341	10.9	20.8	134620	11.1	19.4	8465	11.1	18.2	14207	11.2	16.6	420582	11.2	19.1
340816	10.9	20.7	311951	10.9	19.2	4312	11.1	16.6	284409	11.1	21.9	427236	11.2	20.1	498839	11.2	22.0
219805	10.9	19.8	469584	10.9	22.4	380668	11.1	20.0	82675	11.1	18.7	520103	11.2	21.2	45957	11.2	17.6
373945	10.9	21.2	325292	10.9	21.4	179921	11.1	20.3	436888	11.1	20.8	24148	11.2	18.3	282146	11.2	20.6
242601	10.9	20.5	495536	10.9	21.4	430746	11.1	21.2	492589	11.1	21.3	109506	11.2	19.7	407476	11.2	20.9
469103	10.9	20.1	136123	10.9	20.8	258053	11.1	20.4	61913	11.1	19.3	301347	11.2	20.5	473567	11.2	20.8
351622	10.9	20.8	468529	10.9	20.6	493487	11.1	20.5	205546	11.1	21.1	306854	11.2	20.3	38784	11.2	19.5
131004	10.9	19.6	182144	10.9	20.2	281811	11.1	19.9	17251	11.1	16.9	322900	11.2	18.9	140766	11.2	20.5
283907	10.9	20.3	210299	10.9	20.7	154502	11.1	19.3	429385	11.1	20.9	423161	11.2	19.8	265683	11.2	19.4
328711	10.9	21.0	55420	10.9	18.1	372603	11.1	20.3	458574	11.1	19.8	134209	11.2	19.7	403277	11.2	20.3
324041	10.9	20.8	426436	10.9	21.8	291937	11.1	20.6	135264	11.1	20.2	236954	11.2	20.3	331405	11.3	20.6
369812	10.9	21.3	219827	11.0	19.1	502010	11.1	20.6	119064	11.1	19.4	145874	11.2	19.9	340821	11.3	19.9
25036	10.9	18.0	46615	11.0	19.1	443879	11.1	20.1	376419	11.1	20.0	408866	11.2	20.1	366919	11.3	21.9
372103	10.9	21.1	467349	11.0	20.4	102566	11.1	19.2	298777	11.1	21.3	373301	11.2	19.7	338953	11.3	20.3
170152	10.9	19.3	413942	11.0	20.4	213256	11.1	18.8	367755	11.1	20.2	410282	11.2	21.4	110227	11.3	19.8
258056	10.9	20.0	519860	11.0	21.4	46377	11.1	19.2	132366	11.1	19.0	378811	11.2	20.9	512291	11.3	21.2
463556	10.9	20.7	344569	11.0	19.7	72926	11.1	19.5	295472	11.1	20.3	135193	11.2	19.9	305639	11.3	19.2
334534	10.9	21.5	212064	11.0	19.3	243095	11.1	20.1	130731	11.1	19.9	219339	11.2	19.7	30061	11.3	18.9
239458	10.9	20.1	29245	11.0	18.7	199498	11.1	19.7	421552	11.1	21.5	464985	11.2	20.4	502631	11.3	20.6
468446	10.9	22.5	110012	11.0	17.8	332198	11.1	21.4	54572	11.1	18.3	306795	11.2	19.2	423381	11.3	20.3
106070	10.9	20.1	99502	11.0	19.0	367951	11.1	20.9	354960	11.1	20.8	286355	11.2	20.6	383009	11.3	21.2
172782	10.9	20.4	346071	11.0	21.3	496822	11.1	21.4	458299	11.1	20.1	369372	11.2	20.7	341694	11.3	20.8
175634	10.9	20.4	45698	11.0	18.1	381232	11.1	20.3	148565	11.1	19.3	135878	11.2	19.4	122912	11.3	19.6
503019	10.9	20.2	460497	11.0	21.2	157811	11.1	19.5	286000	11.1	21.5	416969	11.2	20.4	388034	11.3	21.4
169164	10.9	20.4	337662	11.0	20.0	169181	11.1	20.0	163688	11.1	19.2	53182	11.2	17.9	425140	11.3	20.8
455957	10.9	20.4	432039	11.0	20.6	466406	11.1	20.7	301505	11.1	20.6	90260	11.2	19.0	423688	11.3	20.0
421265	10.9	20.7	456696	11.0	21.6	395764	11.1	19.9	333816	11.1	20.1	104073	11.2	19.4	128584	11.3	19.7
417066	10.9	20.3	433572	11.0	20.6	342956	11.1	19.6	225299	11.1	20.6	358969	11.2	20.6	381962	11.3	20.3
245457	10.9	19.0	204899	11.0	20.3	208527	11.1	20.4	51536	11.1	18.8	110845	11.2	19.8	315326	11.3	20.0
432153	10.9	21.4	314829	11.0	20.5	303301	11.1	19.7	89298	11.1	18.4	85206	11.2	19.2	100180	11.3	19.3
346026	10.9	19.8	207040	11.0	19.8	172937	11.1	20.4	165806	11.1	20.0	294417	11.2	20.4	213573	11.3	20.6
259179	10.9	17.7	169324	11.0	20.3	240542	11.1	20.2	244613	11.1	19.6	31327	11.2	18.4	237520	11.3	20.9
63808	10.9	18.9	243307	11.0	20.9	420508	11.1	20.5	498195	11.1	21.5	520013	11.2	20.9	72941	11.3	18.9
87434	10.9	19.4	267612	11.0	19.0	383192	11.1	19.2	497754	11.1	22.8	465817	11.2	20.9	312569	11.3	19.2
28889	10.9	17.8	30410	11.0	18.7	36321	11.1	18.1	151152	11.1	20.2	284747	11.2	19.3	209666	11.3	19.0
227682	10.9	20.7	393887	11.0	20.4	419312	11.1	20.2	465199	11.1	20.3	31535	11.2	18.4	244982	11.3	19.2
140622	10.9	19.2	209469	11.0	20.3	371994	11.1	20.9	96203	11.1	20.1	283067	11.2	21.8	202406	11.3	19.9
8800	10.9	18.4	55355	11.0	18.5	322110	11.1	20.1	376151	11.1	20.6	50519	11.2	17.8	75836	11.3	18.0
447296	10.9	20.5	371644	11.0	20.3	157433	11.1	19.0	259862	11.1	19.1	322791	11.2	20.5	357145	11.3	20.6
491975	10.9	20.9	336014	11.0	20.7	311946	11.1	19.7	427454	11.2	20.4	458400	11.2	21.0	491073	11.3	20.8
496614	10.9	20.7	19879	11.0	17.7	290991	11.1	20.4	324008	11.2	20.5	453017	11.2	20.9	249427	11.3	20.5
34891	10.9	18.7	233026	11.0	19.7	489918	11.1	21.4	502663	11.2	20.3	233948	11.2	19.6	177663	11.3	19.1
295947	10.9	20.8	301102	11.0	19.8	285928	11.1	20.3	358537	11.2	21.8	520961	11.2	21.3	412208	11.3	20.4
8325	10.9	18.4	140379	11.0	18.8	198954	11.1	20.3	503587	11.2	21.0	241871	11.2	19.2	368587	11.3	19.8
18471	10.9	17.2	433862	11.0	20.2	342995	11.1	20.0	242158	11.2	18.9	297281	11.2	19.8	117279	11.3	19.1
492262	10.9	21.0	115830	11.0	19												

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

Nº	02	V															
7915	11.3	16.8	33197	11.4	18.7	163690	11.4	17.9	90961	11.5	19.2	293894	11.5	20.8	375921	11.6	20.3
59787	11.3	19.3	112415	11.4	19.3	307599	11.4	20.1	229203	11.5	20.3	131677	11.5	18.4	286686	11.6	19.4
265321	11.3	20.6	375390	11.4	21.1	495450	11.4	20.4	306710	11.5	19.8	58024	11.5	18.5	28790	11.6	18.3
108777	11.3	18.9	66803	11.4	17.5	142712	11.4	19.8	63442	11.5	18.4	15553	11.5	18.1	199017	11.6	19.4
176112	11.3	18.9	433092	11.4	21.2	239240	11.4	20.7	397890	11.5	22.3	163236	11.5	20.2	426426	11.6	20.5
115061	11.3	19.7	102448	11.4	20.4	82366	11.4	19.4	332885	11.5	19.9	385190	11.5	19.6	301214	11.6	20.9
121390	11.3	19.4	47017	11.4	17.4	417737	11.4	19.4	488390	11.5	20.8	326977	11.5	20.2	301587	11.6	21.1
67810	11.3	18.0	201076	11.4	19.1	398540	11.4	20.6	21494	11.5	16.9	455434	11.5	20.9	311296	11.6	20.0
506206	11.3	21.3	219552	11.4	21.0	343313	11.4	19.8	145449	11.5	18.8	429891	11.5	20.3	251644	11.6	20.5
347505	11.3	18.2	351679	11.4	19.9	56166	11.4	19.2	411377	11.5	20.5	455211	11.5	21.8	2523	11.6	15.5
371965	11.3	21.0	297023	11.4	20.8	406438	11.4	21.8	3566	11.5	15.0	83583	11.6	19.2	364204	11.6	21.9
358535	11.3	20.3	341588	11.4	20.2	79480	11.4	17.9	429128	11.5	20.5	250317	11.6	20.0	275588	11.6	21.8
210440	11.3	19.2	495002	11.4	21.4	222850	11.4	19.2	63134	11.5	19.2	413085	11.6	19.9	227376	11.6	19.7
403361	11.3	19.6	341346	11.4	20.3	252943	11.4	20.9	523691	11.5	22.0	486879	11.6	21.0	160756	11.6	18.4
310977	11.3	19.7	298788	11.4	21.3	35378	11.4	18.6	292373	11.5	21.1	394346	11.6	20.0	202133	11.6	20.4
31764	11.3	19.2	400285	11.4	21.4	69027	11.4	18.3	309288	11.5	20.4	425532	11.6	20.4	377428	11.6	21.1
292238	11.3	20.8	317133	11.4	20.3	331633	11.4	20.1	435980	11.5	20.9	286022	11.6	19.9	131940	11.6	18.8
426524	11.3	20.9	466170	11.4	20.5	211581	11.4	20.6	184424	11.5	19.6	493710	11.6	20.9	206952	11.6	20.3
169602	11.3	19.1	172528	11.4	18.7	203761	11.4	20.2	181053	11.5	20.6	61461	11.6	18.3	208259	11.6	18.6
123374	11.3	18.3	87084	11.4	19.1	416972	11.4	19.6	375582	11.5	19.9	150304	11.6	19.8	346788	11.6	19.8
128790	11.3	19.6	452249	11.4	21.1	522669	11.4	21.6	103465	11.5	18.0	498874	11.6	20.3	200612	11.6	19.7
272613	11.3	21.8	404782	11.4	19.6	212871	11.4	19.7	359432	11.5	20.0	452658	11.6	22.4	14309	11.6	19.5
125563	11.3	18.3	135354	11.4	19.7	246717	11.4	19.5	85682	11.5	19.2	371246	11.6	19.1	234408	11.6	20.1
55840	11.3	17.6	323883	11.4	19.5	59490	11.4	19.0	28798	11.5	18.2	109033	11.6	19.7	469174	11.6	20.1
121647	11.3	19.5	133724	11.4	19.8	271100	11.4	20.2	185657	11.5	20.0	118034	11.6	19.4	387394	11.6	20.1
359649	11.3	20.3	23391	11.4	18.2	262880	11.4	20.2	412526	11.5	20.6	343981	11.6	20.5	13206	11.6	18.5
362146	11.3	19.8	491273	11.4	20.4	518946	11.4	20.9	293136	11.5	20.5	171908	11.6	21.0	76689	11.6	19.3
378340	11.3	21.4	84562	11.4	18.0	278807	11.4	20.4	117413	11.5	18.4	206226	11.6	19.3	121401	11.6	19.0
366843	11.3	21.7	372652	11.4	21.3	324566	11.4	20.4	232367	11.5	19.6	491220	11.6	20.7	401978	11.6	20.8
165945	11.3	19.0	341242	11.4	20.9	66281	11.4	18.7	376575	11.5	21.2	250309	11.6	20.5	202257	11.6	18.6
13740	11.3	16.9	125653	11.4	19.5	135192	11.4	19.1	348805	11.5	20.8	152669	11.6	19.2	275187	11.6	19.9
136783	11.3	20.5	250217	11.4	19.8	94997	11.4	19.5	431147	11.5	20.6	517658	11.6	20.9	334109	11.6	20.7
83365	11.3	18.7	350635	11.4	20.5	489227	11.4	21.4	179751	11.5	20.4	189007	11.6	18.7	117455	11.6	18.8
168988	11.3	18.6	86016	11.4	18.6	140441	11.4	19.5	166170	11.5	19.6	88663	11.6	18.9	299451	11.6	19.0
348150	11.3	19.8	399752	11.4	21.4	456921	11.4	21.1	421258	11.5	20.8	205248	11.6	20.1	295933	11.6	19.5
166578	11.3	19.7	239814	11.4	19.9	332173	11.4	20.5	91368	11.5	18.7	221335	11.6	19.8	272538	11.6	20.8
463870	11.3	20.3	409978	11.4	20.0	428792	11.4	19.6	519852	11.5	22.0	341559	11.6	20.9	285918	11.6	21.2
472588	11.3	19.9	49472	11.4	18.7	467183	11.4	20.0	265644	11.5	20.6	165311	11.6	20.6	413882	11.6	21.4
279329	11.3	20.2	221334	11.4	19.6	215891	11.4	20.1	463825	11.5	20.5	242462	11.6	19.3	142524	11.6	20.2
39983	11.3	17.9	56768	11.4	18.1	193815	11.4	20.8	296380	11.5	20.0	320233	11.6	21.0	384862	11.6	20.7
16375	11.3	17.9	360570	11.4	20.2	289205	11.4	18.8	21742	11.5	19.2	306617	11.6	20.7	518978	11.6	21.0
229112	11.3	20.7	65558	11.4	19.2	29849	11.4	18.3	340617	11.5	20.5	81000	11.6	19.0	171316	11.6	20.3
80290	11.3	18.0	491821	11.4	20.5	286525	11.4	19.5	307602	11.5	20.6	116473	11.6	18.9	162731	11.6	19.6
19058	11.3	18.5	135488	11.4	20.0	350305	11.4	20.3	56472	11.5	18.3	144814	11.6	19.6	385325	11.6	19.7
501440	11.3	20.7	249410	11.4	19.9	258447	11.4	19.8	319430	11.5	20.9	206666	11.6	18.6	249265	11.6	19.6
288535	11.3	20.3	500009	11.4	22.0	335989	11.4	20.3	198640	11.5	19.5	415304	11.6	20.8	30377	11.7	17.9
204178	11.3	19.6	306664	11.4	21.8	351644	11.4	20.6	382559	11.5	19.7	51700	11.6	18.2	466153	11.7	20.8
503721	11.3	20.1	181584	11.4	19.7	417038	11.4	20.9	12409	11.5	20.4	110253	11.6	20.9	256095	11.7	20.2
250237	11.3	19.6	465725	11.4	20.1	501395	11.4	20.4	372687	11.5	20.3	423817	11.6	19.9	15983	11.7	18.0
33271	11.3	17.8	423508	11.4	21.5	264737	11.5	18.5	72116	11.5	17.9	286481	11.6	18.0	207624	11.7	20.1
417051	11.3	20.9	413374	11.4	20.1	412520	11.5	20.3	99921	11.5	18.5	366757	11.6	21.0	394867	11.7	21.1
489554	11.3	22.2	354371	11.4	20.4	119962	11.5	18.6	320688	11.5	19.6	44253	11.6	18.7	381978	11.7	20.1
10550	11.3	17.2	65024	11.4	18.9	425416	11.5	20.1	180788	11.5	20.3	473671	11.6	19.9	56854	11.7	18.5
457714	11.3	20.6	335990	11.4	20.4	414815	11.5	21.2	126976	11.5	19.7	522297	11.6	21.2	135396	11.7	20.4
258395	11.3	20.1	149161	11.4	18.5	399591	11.5	21.0	158214	11.5	19.7	299356	11.6	21.2	259225	11.7	18.9
430834	11.3	19.8	103575	11.4	17.7	14188	11.5	17.4	330133	11.5	19.8	428483	11.6	20.7	419471	11.7	20.7
443878	11.3	21.4	78314	11.4	19.3	211554	11.5	19.9	296857	11.5	19.3	468590	11.6	21.2	407330	11.7	21.4
302031	11.3	21.2	21908	11.4	19.0	263769	11.5	19.9	29571	11.5	18.1	328053	11.6	20.2	249421	11.7	20.2
104299	11.3	18.7	242087	11.4	20.0	64770	11.5	19.9	83622	11.5	19.3	415812	11.6	20.8	310908	11.7	20.4
495401	11.3	20.6	65271	11.4	19.9	407966	11.5	18.6	40643	11.5	19.1	200828	11.6	18.6	469144	11.7	21.1
299055	11.3	19.2	345637	11.4	20.9	2											

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

Nº	02	V															
426704	11.7	20.9	178393	11.7	18.6	452499	11.8	21.0	130710	11.9	18.5	385304	11.9	20.1	310269	12.0	20.4
165323	11.7	18.0	214887	11.7	19.4	171287	11.8	20.7	500037	11.9	22.6	278785	11.9	19.9	465665	12.0	20.1
130756	11.7	19.6	222362	11.7	19.1	119231	11.8	20.0	205290	11.9	20.7	410771	11.9	20.3	135359	12.0	19.7
428134	11.7	21.4	376447	11.7	21.3	264984	11.8	19.0	227931	11.9	20.2	323890	11.9	20.2	265632	12.0	21.2
519845	11.7	21.0	83237	11.7	18.5	184037	11.8	20.7	288669	11.9	20.1	365828	11.9	19.5	193185	12.0	18.2
282170	11.7	21.1	107325	11.7	18.8	505018	11.8	21.6	256126	11.9	19.6	331110	11.9	20.9	362332	12.0	20.2
46119	11.7	18.9	340802	11.7	20.2	226904	11.8	19.4	6477	11.9	16.6	265815	11.9	20.2	210105	12.0	19.6
95770	11.7	19.1	288835	11.7	20.3	13639	11.8	17.3	462080	11.9	20.4	157236	11.9	20.1	258510	12.0	17.8
54944	11.7	19.1	134692	11.7	19.5	269696	11.8	19.7	343076	11.9	20.1	149669	11.9	19.5	54871	12.0	17.8
159581	11.7	20.5	39081	11.7	19.8	183105	11.8	20.3	487080	11.9	20.7	434627	11.9	20.6	233472	12.0	20.5
425535	11.7	19.7	210858	11.7	19.7	151576	11.8	19.1	143280	11.9	18.8	503237	11.9	20.0	127117	12.0	20.1
109595	11.7	19.0	230481	11.7	20.2	128628	11.8	20.4	77866	11.9	18.2	406829	11.9	20.0	7146	12.0	18.2
241298	11.7	19.5	233124	11.7	20.2	422360	11.8	21.5	434315	11.9	20.3	453892	11.9	21.0	419349	12.0	21.2
87638	11.7	19.3	218046	11.7	20.5	419779	11.8	21.1	308691	11.9	20.0	91431	11.9	19.9	288857	12.0	21.8
344830	11.7	20.0	199423	11.7	19.6	394794	11.8	21.3	136253	11.9	19.2	361620	11.9	20.3	57562	12.0	18.1
450226	11.7	21.5	375002	11.7	20.0	366905	11.8	20.7	157373	11.9	19.7	216809	11.9	20.0	503490	12.0	19.7
322787	11.7	19.6	171939	11.7	20.0	412671	11.8	20.7	386575	11.9	20.9	415476	11.9	21.4	173136	12.0	19.7
288007	11.7	20.2	498597	11.7	22.0	310926	11.8	20.2	123551	11.9	19.3	468231	11.9	20.3	284960	12.0	20.7
109367	11.7	19.8	32200	11.7	18.8	19314	11.8	18.2	83646	11.9	18.3	331282	11.9	20.5	357968	12.0	20.0
359697	11.7	21.2	354947	11.8	19.1	243390	11.8	20.1	93777	11.9	19.5	135407	11.9	20.1	50985	12.0	18.2
414192	11.7	20.9	448257	11.8	19.6	98044	11.8	18.0	467773	11.9	20.9	324597	11.9	20.3	317496	12.0	20.7
85969	11.7	19.8	167886	11.8	19.4	344851	11.8	19.7	111318	11.9	18.4	149573	11.9	19.2	6507	12.0	16.8
245066	11.7	18.6	73627	11.8	19.7	426915	11.8	20.4	319843	11.9	20.4	258507	11.9	18.5	45725	12.0	18.6
497271	11.7	21.7	228281	11.8	19.9	184553	11.8	20.6	464972	11.9	21.1	77221	11.9	19.3	339005	12.0	20.4
212005	11.7	19.4	251259	11.8	19.8	125549	11.8	17.6	281854	11.9	20.5	151112	11.9	19.4	235042	12.0	19.6
502618	11.7	20.8	150082	11.8	19.6	120031	11.8	18.8	275755	11.9	20.5	233971	11.9	21.0	211589	12.0	21.0
156560	11.7	19.4	77765	11.8	19.3	242610	11.8	20.4	4920	11.9	16.6	212350	11.9	20.5	245146	12.0	19.9
50438	11.7	18.9	88160	11.8	19.1	29357	11.8	18.4	332676	11.9	19.8	283900	11.9	20.0	148776	12.0	18.9
330805	11.7	21.6	366910	11.8	21.8	469306	11.8	21.7	332802	11.9	20.7	13890	11.9	18.2	246017	12.0	19.8
436347	11.7	20.9	325100	11.8	21.0	170766	11.8	19.8	192279	11.9	19.6	83085	11.9	19.6	498577	12.0	22.5
167033	11.7	19.9	460541	11.8	20.0	9331	11.8	18.2	358068	11.9	20.2	80050	11.9	18.7	25811	12.0	18.3
166175	11.7	19.2	17431	11.8	17.2	271138	11.8	20.9	23056	11.9	17.5	461728	11.9	21.3	146461	12.0	19.0
496072	11.7	21.7	500523	11.8	21.2	340747	11.8	20.7	95654	11.9	19.2	278772	11.9	20.1	187412	12.0	20.7
459290	11.7	20.2	166967	11.8	19.7	341644	11.8	20.8	202595	11.9	20.4	114272	11.9	19.2	196476	12.0	19.9
15174	11.7	17.4	489480	11.8	20.5	237058	11.8	19.0	492682	11.9	22.0	226899	11.9	20.0	67030	12.0	18.4
467564	11.7	21.3	80991	11.8	19.2	205227	11.8	19.8	261432	11.9	19.9	496466	11.9	21.7	200765	12.0	20.4
405900	11.7	21.3	382508	11.8	20.6	142310	11.8	21.0	417190	11.9	20.0	166622	11.9	19.3	172392	12.0	19.2
43002	11.7	19.6	488942	11.8	20.5	331954	11.8	20.3	385067	11.9	20.3	93524	11.9	19.3	415813	12.0	20.2
212002	11.7	19.4	325453	11.8	20.2	242124	11.8	19.5	415871	11.9	21.8	111645	11.9	19.6	397540	12.0	20.9
27673	11.7	19.3	341203	11.8	20.4	377240	11.8	19.4	93187	11.9	18.6	162524	11.9	19.7	104285	12.0	18.4
74413	11.7	18.4	23498	11.8	18.1	244597	11.8	18.6	498607	11.9	21.9	107122	11.9	18.3	431550	12.0	20.5
255853	11.7	21.3	203473	11.8	20.2	171332	11.8	20.5	415825	11.9	21.2	519955	11.9	20.5	255941	12.0	20.8
86978	11.7	19.3	317591	11.8	20.4	465941	11.8	20.6	426687	11.9	20.9	364206	11.9	20.2	243446	12.0	19.1
171289	11.7	21.1	36672	11.8	19.1	313851	11.8	19.6	174986	11.9	20.1	430330	11.9	20.7	135146	12.0	18.9
263318	11.7	20.1	55262	11.8	18.1	334154	11.8	20.1	296670	11.9	20.4	338907	11.9	19.9	132114	12.0	20.0
292149	11.7	20.8	6069	11.8	16.3	256954	11.8	19.8	450467	11.9	20.9	450217	11.9	21.4	502154	12.0	20.4
50655	11.7	17.9	451025	11.8	20.9	278508	11.8	19.5	38389	11.9	20.0	151571	11.9	20.0	262438	12.0	19.2
244790	11.7	20.6	130721	11.8	19.2	83371	11.8	17.8	395717	11.9	19.6	490012	11.9	21.0	446141	12.0	19.7
31742	11.7	17.5	103207	11.8	19.4	359166	11.8	20.4	251312	11.9	19.9	7353	11.9	16.4	263789	12.0	20.3
247490	11.7	20.2	162042	11.8	20.6	9812	11.8	16.3	210666	11.9	20.4	353463	11.9	21.3	461779	12.0	21.4
36333	11.7	19.0	431534	11.8	20.0	95660	11.8	19.1	146365	11.9	20.1	217846	11.9	20.3	413140	12.0	20.5
175292	11.7	20.6	401344	11.8	20.0	166793	11.8	19.5	67857	11.9	19.6	121085	11.9	19.2	97903	12.0	18.3
62048	11.7	18.6	346782	11.8	20.0	200702	11.8	20.2	250207	11.9	20.2	341375	11.9	19.9	278909	12.1	20.6
431156	11.7	21.4	62240	11.8	19.5	386544	11.8	19.0	291118	11.9	20.2	446934	11.9	19.8	268099	12.1	20.8
428918	11.7	20.9	15846	11.8	18.2	429867	11.8	20.6	11665	11.9	18.3	472714	11.9	20.7	334595	12.1	20.2
220769	11.7	19.4	148771	11.8	19.1	176356	11.9	20.5	162038	11.9	18.4	35580	11.9	17.8	401442	12.1	20.9
4064	11.7	16.4	354906	11.8	20.1	397821	11.9	21.4	323869	11.9	19.6	348821	11.9	20.7	283928	12.1	20.9
360560	11.7	19.7	276522	11.8	20.1	221284	11.9	20.1	242404	11.9	19.9	133907	11.9	19.7	424302	12.1	20.4
368257	11.7	20.0	399335	11.8	20.9	474	11.9	15.1	51814	11.9	16.9	310342	11.9	20.5	243436	12.1	19.5
7254	11.7	17.7	219334	11.8	20.0	341797	11.9	20.2	422727	11.9	19.2	81758	11.9	17.6	17976	12.1	16.9
305628	11.7	18.7	136823	11.8	19.6	365686											

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

Nº	02	V															
455800	12.1	20.8	277580	12.1	21.4	277510	12.2	20.1	31071	12.3	18.7	319663	12.3	20.1	110193	12.4	20.0
205219	12.1	19.8	98319	12.1	19.8	275000	12.2	21.3	516155	12.3	21.0	325310	12.3	19.2	419036	12.4	20.0
41179	12.1	18.2	428429	12.1	21.0	29070	12.2	18.8	311604	12.3	20.7	246172	12.3	21.0	146416	12.4	20.3
488753	12.1	21.2	333184	12.1	20.7	133422	12.2	19.5	272377	12.3	20.6	461942	12.3	20.1	58234	12.4	19.3
334724	12.1	21.1	196387	12.1	19.2	256015	12.2	20.2	322270	12.3	20.0	310917	12.3	19.7	200623	12.4	20.6
433446	12.1	20.0	100176	12.1	19.6	465977	12.2	20.6	165883	12.3	18.9	233744	12.3	19.7	143255	12.4	20.0
354949	12.1	19.3	260013	12.1	19.1	35824	12.2	17.6	82567	12.3	18.6	153168	12.3	19.5	320664	12.4	19.8
165683	12.1	19.1	88823	12.1	18.3	258547	12.2	19.0	319637	12.3	19.7	462066	12.3	20.6	498976	12.4	20.8
350031	12.1	20.7	466131	12.1	21.3	466219	12.2	20.7	27851	12.3	16.8	495566	12.3	21.8	81984	12.4	19.5
160526	12.1	19.6	178388	12.1	20.7	375405	12.2	21.0	170373	12.3	20.2	252479	12.3	20.3	106495	12.4	19.5
102285	12.1	19.8	165797	12.1	20.4	166714	12.2	19.4	296709	12.3	20.2	310750	12.3	20.2	316935	12.4	18.6
265756	12.1	19.9	395713	12.1	20.2	152072	12.2	19.6	424152	12.3	20.5	185935	12.3	20.0	337875	12.4	20.5
11562	12.1	17.1	384245	12.1	20.1	31321	12.2	18.1	265238	12.3	20.1	207627	12.3	20.6	150982	12.4	19.1
382245	12.1	20.6	30193	12.1	18.4	430468	12.2	21.0	10249	12.3	17.8	429002	12.3	20.3	212459	12.4	20.2
330885	12.1	20.4	156346	12.1	19.3	398718	12.2	20.5	192307	12.3	20.2	98253	12.3	18.6	431870	12.4	21.0
453013	12.1	20.9	343573	12.1	19.2	508603	12.2	22.0	172531	12.3	20.3	408088	12.3	20.0	472741	12.4	21.5
289170	12.1	20.8	468503	12.1	21.0	283433	12.2	19.9	92903	12.3	17.3	23373	12.3	19.0	207759	12.4	19.6
166954	12.1	19.9	170835	12.1	20.5	7497	12.2	17.4	400598	12.3	20.6	353926	12.3	19.3	328709	12.4	20.7
102553	12.1	19.0	391409	12.2	20.1	12421	12.2	17.9	294262	12.3	20.2	384994	12.3	20.6	85582	12.4	19.9
10528	12.1	15.7	285089	12.2	20.1	429365	12.2	21.3	57022	12.3	19.1	163589	12.3	16.9	304897	12.4	20.4
383374	12.1	21.2	78541	12.2	17.9	436634	12.2	21.0	35325	12.3	19.5	346755	12.3	20.8	119671	12.4	19.1
398555	12.1	20.9	506102	12.2	19.7	133226	12.2	19.8	322549	12.3	20.2	368806	12.3	20.7	494187	12.4	20.4
249438	12.1	19.1	445071	12.2	20.4	8391	12.2	16.5	498320	12.3	20.5	131862	12.3	18.6	130676	12.4	20.0
400292	12.1	21.4	221998	12.2	20.2	439906	12.2	20.9	433125	12.3	20.6	444136	12.3	19.8	33666	12.4	19.0
496915	12.1	21.8	466672	12.2	21.0	136655	12.2	19.8	166986	12.3	20.4	383339	12.3	20.2	500588	12.4	21.2
179142	12.1	20.1	485853	12.2	20.1	151114	12.2	19.4	465147	12.3	20.2	12466	12.3	17.0	81763	12.4	17.9
498546	12.1	20.6	40415	12.2	18.5	166737	12.2	19.6	234393	12.3	20.0	457630	12.3	20.3	425431	12.4	19.9
153148	12.1	20.1	497450	12.2	20.3	327327	12.2	20.8	153094	12.3	19.0	237433	12.3	21.5	34630	12.4	18.1
353097	12.1	20.3	93882	12.2	18.1	278761	12.2	20.0	24410	12.3	17.0	367208	12.3	21.2	377839	12.4	19.4
76433	12.1	18.3	147566	12.2	19.5	429757	12.2	19.8	171303	12.3	20.7	353605	12.3	20.2	99338	12.4	18.5
381691	12.1	20.8	111967	12.2	19.7	116906	12.2	18.4	146363	12.3	20.9	418886	12.3	19.8	47196	12.4	18.4
116436	12.1	18.8	226766	12.2	19.9	435351	12.2	20.7	285522	12.3	20.3	310899	12.3	20.6	20477	12.4	18.1
142349	12.1	19.4	130724	12.2	19.0	150847	12.2	19.9	147819	12.3	20.5	335837	12.3	21.1	262558	12.4	20.8
269795	12.1	19.5	83476	12.2	19.2	331118	12.2	20.7	429061	12.3	20.5	66801	12.3	19.0	88759	12.4	18.4
104983	12.1	19.7	248305	12.2	18.1	223612	12.2	20.1	31051	12.3	18.3	54650	12.3	17.8	111791	12.4	19.5
365884	12.1	20.0	56857	12.2	19.2	345970	12.2	21.4	22537	12.3	17.8	471181	12.3	21.1	137182	12.4	18.5
461791	12.1	20.9	143273	12.2	17.3	120759	12.2	20.1	252471	12.3	19.4	310430	12.3	20.8	125451	12.4	20.3
334248	12.1	21.5	151061	12.2	18.8	503076	12.2	20.8	240590	12.3	20.6	96121	12.3	19.3	330029	12.4	20.7
413455	12.1	20.7	288668	12.2	21.1	459386	12.2	19.8	184067	12.3	19.6	208037	12.3	19.4	208216	12.4	20.2
57694	12.1	18.3	47820	12.2	18.1	47789	12.2	19.8	191112	12.3	19.6	110152	12.3	18.9	496274	12.4	21.6
293393	12.1	20.1	415041	12.2	19.9	200832	12.2	18.2	167176	12.3	19.3	403208	12.4	21.8	67523	12.4	18.7
305599	12.1	19.8	296791	12.2	20.4	233137	12.2	19.5	246310	12.3	20.8	481240	12.4	20.8	351600	12.4	20.6
385048	12.1	20.1	200589	12.2	21.8	85813	12.2	18.8	123776	12.3	19.2	463680	12.4	21.0	217052	12.4	19.4
467485	12.1	22.1	39628	12.2	18.6	266610	12.2	20.0	201319	12.3	19.0	79360	12.4	21.6	149248	12.4	19.4
318858	12.1	19.6	385865	12.2	21.2	362154	12.2	21.0	306921	12.3	19.0	177568	12.4	20.2	429901	12.4	20.7
61584	12.1	19.3	62922	12.2	18.7	463678	12.2	20.5	216740	12.3	19.2	413068	12.4	21.2	171973	12.4	19.8
494712	12.1	22.1	496279	12.2	21.1	286595	12.2	20.1	83334	12.3	19.3	489968	12.4	21.4	254737	12.4	20.2
348415	12.1	20.5	163262	12.2	17.9	430170	12.2	20.8	317729	12.3	20.2	205839	12.4	19.2	130751	12.4	19.8
330119	12.1	20.4	455817	12.2	22.0	310301	12.2	20.9	314273	12.3	19.7	431492	12.4	20.4	193825	12.4	19.7
200802	12.1	19.3	290164	12.2	21.3	425442	12.2	21.0	24990	12.3	18.0	404462	12.4	20.9	120755	12.4	18.0
496517	12.1	20.3	483067	12.2	20.6	341770	12.2	21.2	36197	12.3	17.3	148072	12.4	19.6	271120	12.4	21.2
425058	12.1	21.6	8599	12.2	18.3	33567	12.2	19.7	5004	12.3	16.3	308155	12.4	19.2	409169	12.4	21.8
443951	12.1	19.6	296973	12.2	19.5	26634	12.2	19.0	122250	12.3	19.8	272835	12.4	18.3	466839	12.4	20.5
473067	12.1	20.6	128668	12.2	19.9	133912	12.2	19.7	280193	12.3	19.7	333770	12.4	20.3	145002	12.4	20.3
328575	12.1	21.1	520731	12.2	21.4	205472	12.2	19.7	152173	12.3	19.4	242127	12.4	20.2	423621	12.4	21.1
275345	12.1	19.7	165128	12.2	19.8	31500	12.2	18.0	410201	12.3	21.5	205633	12.4	20.3	493878	12.4	20.0
331241	12.1	20.2	462275	12.2	21.3	295301	12.2	20.4	348890	12.3	20.6	286406	12.4	19.9	47797	12.4	17.6
128089	12.1	19.2	448196	12.2	20.3	108297	12.2	19.6	347643	12.3	20.8	447262	12.4	21.4	165659	12.4	20.3
155541	12.1	19.6	278647	12.2	20.7	113984	12.2	19.6	224449	12.3	19.8	500548	12.4	21.4	212999	12.4	20.1
40798	12.1	17.7	76253	12.2	17.2	384789	12.2	20.7	219403	12.3	20.0	500303	12.4	21.2	433574	12.4	19.6
297291	12.1	19.8	12039	12.2	16												

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

Nº	02	V															
331232	12.4	20.4	34037	12.5	18.0	150235	12.6	19.5	368804	12.7	20.6	177484	12.7	19.8	12217	12.8	17.1
240875	12.4	19.1	414824	12.5	20.4	202505	12.6	19.0	467640	12.7	21.3	124638	12.7	19.6	246050	12.8	20.9
42079	12.4	19.2	363204	12.5	21.5	93776	12.6	18.2	414808	12.7	19.8	462293	12.7	20.1	96165	12.8	18.8
518581	12.4	21.1	280236	12.5	19.9	464987	12.6	20.2	331824	12.7	20.4	89658	12.7	20.1	501279	12.8	20.4
189433	12.4	19.9	219446	12.5	19.9	36380	12.6	18.8	318618	12.7	19.6	60309	12.7	18.0	353323	12.8	19.8
450965	12.4	22.0	170342	12.5	20.6	301682	12.6	20.5	165371	12.7	19.0	309352	12.7	20.0	140431	12.8	20.0
178947	12.5	20.3	21286	12.5	17.4	368801	12.6	20.7	416672	12.7	20.2	367731	12.7	20.8	265597	12.8	20.4
184670	12.5	20.7	164671	12.5	19.2	237421	12.6	19.3	23861	12.7	18.1	276302	12.7	20.8	167117	12.8	20.7
120137	12.5	19.4	281751	12.5	20.5	205001	12.6	20.7	144604	12.7	19.7	182427	12.7	19.4	406169	12.8	21.2
258408	12.5	20.2	152356	12.5	19.7	415754	12.6	21.2	360148	12.7	19.3	521017	12.7	20.9	120605	12.8	19.6
256339	12.5	19.3	292593	12.5	21.0	309336	12.6	21.1	330037	12.7	20.7	282337	12.7	20.6	327933	12.8	20.6
46770	12.5	18.6	470923	12.5	20.4	338081	12.6	20.5	362085	12.7	20.2	301021	12.7	20.4	187805	12.8	20.5
350689	12.5	20.1	297603	12.5	20.9	108982	12.6	19.1	435805	12.7	19.7	186888	12.7	20.2	29153	12.8	19.0
149598	12.5	19.4	456312	12.5	20.4	370745	12.6	20.2	143240	12.7	19.0	149818	12.7	19.8	489500	12.8	20.7
154388	12.5	19.1	413557	12.5	20.9	23262	12.6	18.0	135364	12.7	19.7	161499	12.7	19.0	415853	12.8	21.6
349966	12.5	21.1	434311	12.5	20.0	458826	12.6	21.6	400543	12.7	21.5	210017	12.7	20.6	331226	12.8	20.7
209150	12.5	20.3	465678	12.5	21.6	373140	12.6	19.1	205551	12.7	20.5	207869	12.7	20.8	190063	12.8	19.4
358095	12.5	20.7	185929	12.5	20.0	472887	12.6	21.1	500662	12.7	21.3	429834	12.7	20.4	132883	12.8	19.1
370729	12.5	20.7	501725	12.5	20.3	22472	12.6	18.3	427036	12.7	21.2	33168	12.7	18.7	435358	12.8	19.9
340702	12.5	20.3	445864	12.5	20.2	90965	12.6	18.6	341568	12.7	20.4	184595	12.7	20.3	435886	12.8	20.3
427387	12.5	20.4	460148	12.5	21.4	497653	12.6	21.9	490104	12.7	21.2	412181	12.7	21.0	333877	12.8	20.0
383394	12.5	21.2	453255	12.5	19.8	295813	12.6	19.1	206250	12.7	19.2	205	12.7	13.3	278856	12.8	20.0
61799	12.5	19.3	108913	12.5	19.2	463329	12.6	21.1	294283	12.7	20.0	21134	12.7	18.5	242136	12.8	19.5
495873	12.5	21.2	520786	12.5	20.2	386600	12.6	19.7	389792	12.7	20.6	406497	12.7	19.7	61409	12.8	19.2
503831	12.5	20.7	394803	12.5	21.1	314106	12.6	19.9	190348	12.7	19.3	135286	12.7	20.1	271771	12.8	20.6
447187	12.5	21.1	284094	12.5	20.8	145354	12.6	20.5	139870	12.7	19.0	226047	12.7	19.4	319743	12.8	19.1
285702	12.5	20.1	20784	12.5	18.5	105125	12.6	19.8	95418	12.7	19.0	416462	12.7	19.6	346175	12.8	19.9
205863	12.5	18.9	357149	12.5	19.1	322727	12.6	21.9	501476	12.7	19.9	165853	12.7	19.6	138257	12.8	19.9
426168	12.5	20.6	132452	12.5	19.5	233077	12.6	20.7	101151	12.7	19.3	433509	12.7	20.1	14545	12.8	18.1
496237	12.5	21.5	123480	12.5	20.0	411418	12.6	20.3	427594	12.7	20.3	8540	12.8	17.4	274383	12.8	20.3
223609	12.5	20.7	359198	12.5	20.4	471563	12.6	19.9	428416	12.7	20.5	122718	12.8	19.4	375811	12.8	21.3
1745	12.5	15.7	397882	12.5	20.8	417001	12.6	20.9	162628	12.7	20.0	40818	12.8	19.8	376433	12.8	21.5
296184	12.5	20.3	190154	12.5	20.4	503402	12.6	20.6	73794	12.7	19.0	189250	12.8	20.4	366025	12.8	20.6
422109	12.5	20.7	462936	12.5	20.6	129962	12.6	20.1	350649	12.7	20.2	218045	12.8	19.7	63539	12.8	19.2
431595	12.5	20.2	209109	12.5	20.7	263994	12.6	21.1	190098	12.7	20.5	198919	12.8	20.2	272708	12.8	20.4
254446	12.5	18.3	182317	12.5	20.5	290255	12.6	19.5	82151	12.7	18.8	429747	12.8	20.8	73624	12.8	18.7
77785	12.5	18.6	186055	12.5	20.1	343110	12.6	19.8	105178	12.7	18.8	242378	12.8	20.1	131900	12.8	18.1
65423	12.5	17.6	106935	12.5	19.4	158955	12.6	19.7	282340	12.7	21.2	399549	12.8	21.4	416260	12.8	19.8
266787	12.5	20.0	482389	12.5	19.2	434539	12.6	20.8	364359	12.7	20.6	329601	12.8	20.5	289060	12.8	20.2
412999	12.5	21.7	53378	12.5	18.2	210111	12.6	19.8	487392	12.7	21.0	314844	12.8	20.1	318601	12.8	20.2
409036	12.5	21.6	362140	12.5	20.2	404322	12.6	20.1	307167	12.7	19.1	295448	12.8	20.8	104028	12.8	19.3
338138	12.5	20.2	145323	12.5	19.2	385962	12.6	20.7	253049	12.7	21.4	336005	12.8	21.3	404943	12.8	20.9
142245	12.5	20.2	354080	12.5	19.8	116861	12.6	19.7	430482	12.7	21.7	4470	12.8	17.7	309181	12.8	19.5
307462	12.5	19.9	871113	12.5	19.3	213594	12.6	20.9	422281	12.7	21.3	388337	12.8	21.0	203875	12.8	18.3
145720	12.5	20.2	466574	12.5	20.1	237673	12.6	19.9	56980	12.7	18.7	355261	12.8	20.2	242805	12.8	19.7
492429	12.5	21.8	347595	12.5	21.0	82905	12.6	18.1	460304	12.7	20.9	474223	12.8	17.7	92379	12.8	20.0
4910	12.5	17.9	457194	12.6	21.2	462629	12.6	20.1	456765	12.7	21.1	327882	12.8	20.8	306848	12.8	20.3
344503	12.5	20.9	81254	12.6	19.0	237243	12.6	20.9	413487	12.7	21.1	190143	12.8	20.8	391405	12.8	20.6
90192	12.5	17.7	467063	12.6	20.3	186194	12.6	20.0	241449	12.7	19.3	488302	12.8	20.4	256863	12.8	19.9
433114	12.5	20.7	205456	12.6	20.0	88221	12.6	18.7	223250	12.7	19.9	519906	12.8	21.5	450971	12.8	21.1
265325	12.5	20.0	422962	12.6	19.4	280189	12.6	20.2	295708	12.7	19.7	444334	12.8	19.9	66289	12.8	18.2
135797	12.5	19.0	182546	12.6	20.1	426337	12.6	20.1	503477	12.7	21.2	426151	12.8	21.6	425018	12.8	20.3
224521	12.5	19.1	237429	12.6	20.1	364411	12.6	21.7	160101	12.7	20.0	309272	12.8	21.2	380414	12.8	19.3
42977	12.5	19.9	123467	12.6	18.0	502514	12.6	21.0	2522	12.7	15.4	456981	12.8	19.8	503790	12.8	20.3
431583	12.5	20.7	146591	12.6	19.2	411272	12.6	22.1	467005	12.7	21.1	122336	12.8	18.3	500841	12.8	21.6
66605	12.5	18.5	151793	12.6	18.9	228391	12.6	19.0	159182	12.7	19.4	148923	12.8	19.6	221072	12.8	19.1
375311	12.5	19.7	118134	12.6	19.2	380932	12.6	20.5	299329	12.7	20.6	502622	12.8	20.1	436985	12.8	20.5
295295	12.5	19.9	451867	12.6	21.2	219376	12.6	19.3	431188	12.7	21.0	214859	12.8	20.2	101642	12.8	18.8
46006	12.5	18.4	23287	12.6	17.9	220586	12.6	20.7	245903	12.7	20.4	69123	12.8	19.2	81728	12.8	18.5
83917	12.5	19.0	65835	12.6	19.7	145456	12.6	19.3	468665	12.7	20.7	205499	12.8	19.1	172006	12.8	20.1
463528	12.5	20.7	340436	12.6													

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

Nº	02	V															
483165	12.9	19.9	170832	12.9	18.9	197522	12.9	18.3	224583	13.1	20.0	336545	13.1	20.2	39709	13.2	18.3
337362	12.9	20.6	306124	12.9	20.2	447425	12.9	20.8	509520	13.1	21.3	224535	13.1	20.7	88309	13.2	20.1
23956	12.9	17.9	419778	12.9	21.5	508577	12.9	20.1	329992	13.1	20.1	347092	13.1	21.2	145263	13.2	19.8
260196	12.9	19.8	334112	12.9	20.1	232600	12.9	18.7	44021	13.1	18.3	157557	13.1	19.6	183983	13.2	20.4
110879	12.9	20.3	125627	12.9	19.9	16923	12.9	18.5	18986	13.1	16.6	208727	13.1	18.5	522548	13.2	21.2
221960	12.9	20.4	335997	12.9	20.2	455233	12.9	22.0	467555	13.1	21.6	53795	13.1	18.6	233453	13.2	20.7
120831	12.9	19.0	467225	12.9	19.6	227455	12.9	19.8	295825	13.1	20.6	249434	13.1	20.5	426425	13.2	21.1
377138	12.9	20.7	316852	12.9	20.2	317025	12.9	20.3	332935	13.1	20.5	413944	13.1	19.9	375448	13.2	20.5
221247	12.9	19.7	126446	12.9	19.0	33917	12.9	18.0	364729	13.1	19.8	330038	13.1	19.9	467438	13.2	19.8
8708	12.9	16.2	53276	12.9	17.7	146484	12.9	19.3	244090	13.1	20.1	197092	13.1	19.7	407309	13.2	19.7
405021	12.9	20.8	50910	12.9	18.1	340739	12.9	20.6	7394	13.1	16.8	129034	13.1	19.5	46601	13.2	18.7
379381	12.9	20.2	236666	12.9	20.6	264754	12.9	18.9	370827	13.1	20.2	167605	13.1	19.4	357583	13.2	20.3
15148	12.9	18.8	74910	12.9	20.0	119396	12.9	18.6	489028	13.1	20.8	143147	13.1	19.9	37008	13.2	18.8
105973	12.9	18.4	242649	12.9	20.3	122133	12.9	19.8	449214	13.1	19.4	186152	13.1	20.0	463996	13.2	21.1
310428	12.9	20.7	265715	12.9	19.7	207589	12.9	19.9	28965	13.1	18.5	497705	13.1	21.4	465086	13.2	20.9
202898	12.9	19.5	74457	12.9	18.1	384204	12.9	20.1	500657	13.1	22.5	283540	13.1	20.4	282620	13.2	21.0
30114	12.9	17.8	341432	12.9	20.7	467524	12.9	20.8	240158	13.1	20.6	163461	13.1	19.0	42631	13.2	18.6
408459	12.9	20.2	371251	12.9	19.8	369297	12.9	21.6	301089	13.1	20.1	95769	13.1	18.1	401310	13.2	19.9
292776	12.9	21.3	268086	12.9	20.0	455195	13.0	22.8	354935	13.1	20.4	265507	13.1	21.0	417280	13.2	20.2
225640	12.9	19.7	339481	12.9	20.2	349047	13.0	21.4	11750	13.1	18.1	506307	13.1	21.6	109856	13.2	19.4
125261	12.9	19.2	263653	12.9	18.7	367802	13.0	20.8	473125	13.1	18.8	433041	13.1	21.7	277136	13.2	20.3
320676	12.9	20.0	83927	12.9	19.4	245882	13.0	20.8	503597	13.1	21.4	358633	13.1	21.3	460422	13.2	20.7
236788	12.9	20.9	505376	12.9	20.8	165072	13.0	19.0	417117	13.1	20.9	296059	13.1	19.8	372016	13.2	19.5
285784	12.9	20.1	112781	12.9	19.7	381286	13.0	19.9	194279	13.1	20.1	453922	13.1	20.7	290213	13.2	21.2
340763	12.9	20.8	128322	12.9	19.0	219346	13.0	19.8	229883	13.1	20.4	290891	13.1	19.6	387347	13.2	21.4
226811	12.9	20.4	223628	12.9	20.3	361193	13.0	22.0	352727	13.1	20.2	284639	13.1	19.9	150509	13.2	19.7
28144	12.9	19.7	116569	12.9	17.3	171532	13.0	19.1	111384	13.1	18.7	410364	13.1	20.9	273082	13.2	20.9
471449	12.9	21.8	102945	12.9	19.4	40503	13.0	19.1	432071	13.1	20.3	135095	13.1	19.9	328792	13.2	20.5
361628	12.9	20.9	254019	12.9	20.0	6490	13.0	20.0	522416	13.1	21.2	178640	13.1	20.5	117615	13.2	19.5
291950	12.9	21.7	66859	12.9	18.7	69795	13.0	18.7	495220	13.1	20.1	378869	13.1	20.7	381470	13.2	20.3
125293	12.9	19.7	299256	12.9	20.4	81775	13.0	18.4	337858	13.1	20.8	319861	13.1	20.6	341512	13.2	19.9
19393	12.9	18.0	170762	12.9	18.9	503203	13.0	20.4	455794	13.1	20.5	163261	13.1	18.8	265634	13.2	20.3
13798	12.9	18.6	56758	12.9	19.1	496688	13.0	21.1	384172	13.1	20.5	447361	13.1	20.4	138550	13.2	19.6
290104	12.9	20.3	284206	12.9	20.9	461525	13.0	21.5	500586	13.1	21.7	62741	13.1	19.0	357353	13.2	21.1
410289	12.9	20.1	11721	12.9	18.4	134335	13.0	20.2	429853	13.1	20.6	93971	13.1	17.6	140634	13.2	19.9
119373	12.9	18.3	82507	12.9	17.0	463703	13.0	19.7	375011	13.1	20.9	354874	13.2	19.2	169166	13.2	21.2
136797	12.9	18.3	312810	12.9	21.0	116451	13.0	17.9	89173	13.1	18.6	457494	13.2	20.5	222262	13.2	20.8
110083	12.9	20.5	38055	12.9	20.8	56167	13.0	19.4	84940	13.1	18.5	27789	13.2	16.6	288286	13.2	19.9
317844	12.9	20.3	52766	12.9	19.0	182382	13.0	20.8	116313	13.1	19.1	250262	13.2	19.4	233615	13.2	20.3
16658	12.9	19.2	355263	12.9	19.9	211199	13.0	20.0	56033	13.1	17.4	283911	13.2	19.9	432086	13.2	20.6
165758	12.9	19.5	323901	12.9	21.4	381913	13.0	19.9	11564	13.1	17.6	423495	13.2	21.2	433920	13.2	19.9
407264	12.9	21.3	184105	12.9	19.7	293479	13.0	20.7	123256	13.1	19.1	235440	13.2	19.6	80927	13.2	18.9
383790	12.9	20.4	236029	12.9	20.4	503224	13.0	20.1	343508	13.1	20.5	500462	13.2	21.8	40955	13.2	19.4
357368	12.9	20.8	165830	12.9	20.2	182579	13.0	20.8	96397	13.1	17.9	425243	13.2	19.7	467978	13.2	21.5
309417	12.9	19.8	162660	12.9	20.5	124899	13.0	18.7	432130	13.1	20.5	370936	13.2	19.2	407484	13.2	20.9
66659	12.9	17.2	132973	12.9	19.5	185887	13.0	19.7	341753	13.1	20.0	306366	13.2	21.4	503	13.2	12.0
389153	12.9	20.8	72231	12.9	18.0	521125	13.0	21.0	168505	13.1	19.5	51279	13.2	17.7	496503	13.2	21.0
147223	12.9	19.5	212985	12.9	19.6	217063	13.0	20.7	406440	13.1	21.6	245420	13.2	20.1	9994	13.2	17.4
239918	12.9	21.2	372333	12.9	19.7	264444	13.0	20.6	222834	13.1	19.9	61448	13.2	19.1	7411	13.2	16.3
325017	12.9	20.2	365126	12.9	20.8	276552	13.0	20.1	30656	13.1	16.2	400763	13.2	20.3	424361	13.2	20.2
354951	12.9	20.2	170137	12.9	19.0	379349	13.0	21.5	199194	13.1	20.3	17943	13.2	17.7	137075	13.2	19.8
332547	12.9	20.7	422743	12.9	22.2	166246	13.0	18.7	412774	13.1	20.9	211475	13.2	19.0	126351	13.2	18.6
184484	12.9	20.3	466682	12.9	21.1	494769	13.0	21.1	172056	13.1	20.0	267194	13.2	20.5	355949	13.2	20.2
197530	12.9	20.5	464973	12.9	19.8	198950	13.0	19.9	180528	13.1	19.0	118708	13.2	19.4	496062	13.2	19.6
44583	12.9	17.7	196333	12.9	18.6	408211	13.0	20.1	112561	13.1	19.1	259107	13.2	18.4	134726	13.2	18.3
307600	12.9	20.1	360771	12.9	20.7	172795	13.0	19.5	198514	13.1	18.9	204218	13.2	19.3	325394	13.2	19.6
415487	12.9	20.0	490665	12.9	21.4	36779	13.0	19.2	318109	13.1	20.6	350596	13.2	21.3	375036	13.2	20.4
302083	12.9	21.1	336546	12.9	20.0	456038	13.0	19.6	184874	13.1	20.6	435989	13.2	20.9	49825	13.2	20.8
70251	12.9	18.0	102772	12.9	20.2	62819	13.0	19.2	318809	13.1	19.8	26975	13.2	19.8	149443	13.2	18.7
221108	12.9	19.7	53313	12.9	18.6	145686	13.0	19.7	234981	13.1	19.0	468390	13.2	20.5	309866	13.2	20.1
88062	12.9	20.0	171027	12.9	19.3												

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

Nº	02	V															
218733	13.3	20.3	161122	13.3	18.8	409976	13.4	21.5	336012	13.4	20.3	423178	13.5	20.7	251226	13.6	19.5
280206	13.3	19.8	368702	13.3	21.1	372709	13.4	19.8	159223	13.4	19.3	62319	13.5	19.7	191605	13.6	20.6
222370	13.3	19.7	215160	13.3	18.6	10877	13.4	17.9	496104	13.4	21.5	409876	13.5	21.8	105195	13.6	20.8
417819	13.3	19.5	381634	13.3	20.6	280668	13.4	20.2	151190	13.4	19.2	440242	13.5	19.2	407313	13.6	20.3
99601	13.3	19.3	423941	13.3	21.1	40606	13.4	19.4	251019	13.4	21.3	181681	13.5	20.3	251563	13.6	20.4
49625	13.3	18.2	426299	13.3	19.6	33866	13.4	19.3	306154	13.4	19.9	522623	13.5	21.3	279200	13.6	20.4
193821	13.3	20.9	44988	13.3	18.7	338199	13.4	21.2	473958	13.4	20.5	489370	13.5	20.6	394862	13.6	21.3
320366	13.3	20.9	31747	13.3	17.8	382451	13.4	20.8	167053	13.4	19.5	26187	13.5	17.0	329604	13.6	19.8
376468	13.3	21.0	234990	13.3	19.2	92529	13.4	19.4	462298	13.4	21.4	18209	13.5	17.6	420163	13.6	20.0
70355	13.3	19.0	504827	13.3	22.3	520781	13.4	20.8	405164	13.5	21.9	351667	13.5	19.7	41715	13.6	18.4
429064	13.3	20.5	54051	13.3	16.9	85129	13.4	19.3	454639	13.5	19.1	330985	13.5	20.5	244560	13.6	18.4
90949	13.3	18.3	427590	13.3	21.5	340755	13.4	20.8	52290	13.5	19.6	103933	13.5	19.3	35222	13.6	17.4
504822	13.3	21.0	138542	13.3	20.2	298786	13.4	21.5	492392	13.5	21.2	491265	13.5	20.9	290834	13.6	20.6
428485	13.3	21.0	35601	13.3	18.6	380459	13.4	21.5	173254	13.5	20.6	300328	13.5	20.3	310545	13.6	19.3
2332	13.3	15.9	225616	13.3	18.8	309932	13.4	19.6	429197	13.5	20.2	110670	13.5	20.2	270781	13.6	21.3
217100	13.3	20.1	268081	13.3	20.6	494837	13.4	21.9	519591	13.5	21.5	322612	13.5	19.9	374569	13.6	20.3
227290	13.3	21.6	60626	13.3	18.8	401974	13.4	20.6	341805	13.5	21.3	143089	13.5	19.0	421341	13.6	20.6
348566	13.3	20.0	465995	13.3	20.6	415765	13.4	20.7	473864	13.5	20.8	53525	13.5	17.2	77018	13.6	18.8
239320	13.3	19.5	229218	13.3	19.0	328597	13.4	20.1	8624	13.5	18.4	26988	13.5	18.7	167957	13.6	19.8
488850	13.3	21.4	124599	13.3	18.9	142856	13.4	19.4	383657	13.5	21.1	83668	13.5	19.1	350272	13.6	20.0
217571	13.3	19.8	82882	13.3	17.0	281426	13.4	20.6	315577	13.5	19.7	200480	13.5	19.1	206175	13.6	18.8
342802	13.3	19.7	429308	13.3	20.4	418317	13.4	20.8	27381	13.5	17.8	22840	13.5	18.2	101630	13.6	18.8
62569	13.3	19.3	109570	13.3	19.5	138349	13.4	18.3	398573	13.5	20.7	157568	13.5	20.0	282831	13.6	20.8
266788	13.3	19.7	83747	13.3	18.7	427578	13.4	21.5	387000	13.5	20.6	456701	13.5	21.8	92542	13.6	17.8
109167	13.3	20.1	135464	13.3	21.3	206248	13.4	20.1	133359	13.5	19.5	298775	13.5	21.6	203580	13.6	19.6
152864	13.3	20.4	123795	13.3	18.7	500226	13.4	21.7	121060	13.5	18.1	426852	13.5	19.8	109283	13.6	21.2
505869	13.3	21.0	450492	13.3	20.4	351636	13.4	20.7	53369	13.5	18.1	363019	13.5	20.5	282246	13.6	20.3
266370	13.3	20.4	365180	13.3	21.0	329345	13.4	20.7	155604	13.5	18.9	375508	13.5	20.6	206824	13.6	19.3
422181	13.3	21.4	208306	13.3	19.2	137970	13.4	19.1	171964	13.5	19.4	275183	13.5	20.4	332909	13.6	19.7
91622	13.3	19.3	67530	13.3	18.1	302219	13.4	19.9	204577	13.5	19.7	397262	13.5	22.1	422239	13.6	21.3
300959	13.3	19.7	253964	13.3	19.7	27160	13.4	18.0	86665	13.5	19.0	381633	13.5	20.7	250441	13.6	19.8
401467	13.3	20.4	267498	13.3	18.9	59208	13.4	17.6	30658	13.5	17.8	209464	13.5	20.1	120617	13.6	19.1
14890	13.3	17.9	31762	13.3	16.9	81232	13.4	19.1	414810	13.5	21.3	5193	13.5	15.5	108901	13.6	20.4
368186	13.3	21.0	33006	13.3	17.8	206753	13.4	19.8	406024	13.5	21.3	188531	13.5	19.1	399607	13.6	20.8
161584	13.3	20.4	255759	13.3	22.6	116875	13.4	18.5	168291	13.5	21.2	304036	13.5	19.9	234470	13.6	20.4
501401	13.3	21.0	468845	13.3	21.7	77821	13.4	17.7	408426	13.5	20.0	429838	13.5	21.2	21245	13.6	18.9
142380	13.3	19.2	272910	13.3	19.2	277488	13.4	19.8	28255	13.5	17.7	195	13.5	12.7	407546	13.6	20.8
333696	13.3	20.9	350144	13.3	20.8	158314	13.4	19.0	500932	13.5	21.8	494177	13.5	20.9	3140	13.6	15.5
492635	13.3	21.0	150987	13.3	18.9	321375	13.4	20.4	281867	13.5	20.2	95880	13.5	19.9	275383	13.6	20.6
131622	13.3	18.8	104842	13.3	19.2	393420	13.4	20.9	358476	13.5	21.2	262820	13.5	19.1	54389	13.6	19.0
222312	13.3	19.7	395444	13.3	20.9	56354	13.4	18.3	226791	13.5	20.0	238085	13.5	20.2	219435	13.6	19.9
349851	13.3	20.6	129591	13.3	19.2	6155	13.4	17.0	238011	13.5	20.0	409580	13.5	20.2	156190	13.6	19.6
234896	13.3	19.6	245968	13.3	20.9	466448	13.4	21.4	194191	13.5	20.2	73114	13.5	19.4	147776	13.6	19.9
378947	13.3	21.1	429012	13.3	20.0	335943	13.4	20.3	432904	13.5	21.8	414791	13.5	21.4	217095	13.6	21.4
288950	13.3	20.4	335894	13.3	20.1	203495	13.4	19.0	142873	13.5	20.5	294289	13.5	20.6	332841	13.6	20.6
38981	13.3	18.5	332372	13.3	20.3	69092	13.4	18.1	95870	13.5	19.2	384140	13.5	20.2	183371	13.6	20.5
122533	13.3	19.0	562124	13.3	18.6	240506	13.4	20.2	362128	13.5	19.5	204878	13.5	19.8	293826	13.6	21.3
466431	13.3	21.1	26158	13.3	16.5	459160	13.4	20.8	56779	13.5	18.6	24205	13.5	18.0	326706	13.6	19.9
474709	13.3	20.2	102231	13.3	20.0	150556	13.4	20.4	165079	13.5	19.4	51950	13.5	18.5	252271	13.6	20.4
110530	13.3	17.9	293233	13.3	19.5	487072	13.4	20.9	102710	13.5	19.5	453388	13.5	19.9	234791	13.6	20.8
400331	13.3	19.5	309268	13.3	21.0	249292	13.4	20.1	32203	13.5	17.6	156065	13.5	19.8	421311	13.6	21.1
383019	13.3	21.0	55567	13.3	18.3	458835	13.4	21.5	295164	13.5	19.3	75151	13.5	18.8	341610	13.6	21.0
293439	13.3	19.4	334309	13.4	20.6	296030	13.4	20.4	108595	13.5	18.3	244725	13.5	20.7	108993	13.6	20.9
358545	13.3	21.6	190171	13.4	20.3	459612	13.4	21.3	501999	13.5	20.9	157080	13.5	18.8	113696	13.6	19.0
351665	13.3	20.5	176786	13.4	19.9	285443	13.4	20.9	358531	13.5	21.6	246725	13.5	19.7	393236	13.6	21.3
60656	13.3	18.2	124516	13.4	19.8	184131	13.4	19.6	49386	13.5	17.2	428882	13.6	20.9	20203	13.6	18.6
275485	13.3	20.0	461102	13.4	20.2	240323	13.4	20.5	496533	13.5	20.4	156996	13.6	19.9	104328	13.6	18.7
498801	13.3	21.4	195353	13.4	19.6	325435	13.4	21.3	220455	13.5	20.3	165727	13.6	19.0	69082	13.6	18.7
170112	13.3	19.8	36323	13.4	19.2	354016	13.4	21.2	99755	13.5	19.7	24027	13.6	18.2	496560	13.6	21.2
72240	13.3	18.6	428404	13.4	20.6	165667	13.4	20.5	401218	13.5	20.5	109093	13.6	20.3	239239	13.6	20.5
468752	13.3	20.6	155293	13.4	19.6	4599											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
245751	13.6	19.7	354919	13.7	20.1	238166	13.8	20.0	352728	13.9	19.9	171990	13.9	19.7	364024	14.0	20.9
401121	13.6	20.5	366219	13.7	19.7	460626	13.8	20.6	5085	13.9	17.6	96096	13.9	19.9	85196	14.0	18.5
340586	13.6	20.6	503665	13.7	20.8	381497	13.8	21.2	283482	13.9	20.9	61546	13.9	18.6	276648	14.0	20.6
62320	13.6	19.2	153057	13.7	20.1	243145	13.8	20.6	151169	13.9	18.8	66459	13.9	19.4	451892	14.0	20.5
9595	13.6	16.6	15625	13.7	18.6	240118	13.8	19.3	218665	13.9	20.8	289136	13.9	20.5	378986	14.0	20.6
16800	13.6	17.5	138834	13.7	19.7	137055	13.8	19.8	310993	13.9	19.1	290759	13.9	20.3	500379	14.0	21.5
6787	13.6	16.6	344864	13.7	19.7	212219	13.8	19.0	376322	13.9	20.8	82469	13.9	18.0	20950	14.0	18.2
493791	13.7	21.0	83840	13.7	19.0	271971	13.8	19.6	225549	13.9	20.9	432133	13.9	20.8	400560	14.0	19.9
345093	13.7	19.8	334417	13.7	19.7	279882	13.8	22.0	194160	13.9	19.8	372021	13.9	21.1	73301	14.0	18.7
248104	13.7	20.4	158532	13.7	19.2	252230	13.8	19.3	360780	13.9	19.7	115336	13.9	18.7	352741	14.0	20.2
243519	13.7	20.7	43858	13.7	17.6	319088	13.8	21.1	325233	13.9	20.7	492625	13.9	19.9	121152	14.0	19.1
63456	13.7	19.3	367227	13.7	20.3	76162	13.8	17.8	362980	13.9	19.3	428453	13.9	20.2	350618	14.0	21.0
88426	13.7	17.6	210024	13.7	20.2	56794	13.8	18.4	427761	13.9	21.4	153704	13.9	19.4	31920	14.0	18.7
113191	13.7	19.2	340654	13.7	20.7	424245	13.8	20.4	301991	13.9	21.6	301033	13.9	20.3	347617	14.0	21.8
188722	13.7	20.6	321910	13.7	20.0	382665	13.8	20.7	427948	13.9	20.3	282315	13.9	19.5	32431	14.0	19.2
152005	13.7	20.2	44457	13.7	17.9	274277	13.8	19.8	8412	13.9	18.7	419908	13.9	20.9	221690	14.0	19.7
226609	13.7	19.3	432999	13.7	21.3	330147	13.8	20.2	488971	13.9	22.1	486858	13.9	21.8	459223	14.0	20.6
331788	13.7	20.1	100396	13.7	19.3	44110	13.8	18.7	31938	13.9	18.8	154803	13.9	20.9	280758	14.0	21.4
363620	13.7	21.8	519844	13.7	20.9	467030	13.8	20.4	63572	13.9	19.1	322709	13.9	20.7	430348	14.0	20.6
378906	13.7	20.9	34758	13.7	16.8	134858	13.8	20.0	154690	13.9	18.9	147174	13.9	18.6	495212	14.0	20.5
395306	13.7	21.7	495271	13.7	21.2	67393	13.8	19.1	354917	13.9	20.6	201957	13.9	20.7	313859	14.0	18.8
152354	13.7	19.7	111499	13.7	19.2	209420	13.8	19.2	238423	13.9	20.6	62558	13.9	19.6	148701	14.0	19.6
58027	13.7	16.7	62723	13.7	19.1	89234	13.8	19.7	262735	13.9	19.8	400807	13.9	20.7	359751	14.0	20.2
407529	13.7	19.5	74492	13.7	18.3	169169	13.8	19.8	463241	13.9	20.9	10565	13.9	16.7	341399	14.0	20.3
29805	13.7	17.2	423806	13.7	21.3	466183	13.8	21.8	243096	13.9	20.3	29348	13.9	17.4	334584	14.0	19.8
31942	13.7	17.9	149449	13.7	18.7	30106	13.8	18.1	106541	13.9	18.5	114449	13.9	18.6	377809	14.0	20.7
68895	13.7	18.6	372892	13.7	20.7	137067	13.8	18.9	232543	13.9	19.5	496592	13.9	21.0	166723	14.0	18.4
105228	13.7	18.8	208956	13.7	20.7	284669	13.8	20.5	455777	13.9	21.5	498072	13.9	20.8	125900	14.0	19.4
76619	13.7	18.4	221271	13.7	19.9	260587	13.8	20.6	343619	13.9	20.5	457722	13.9	19.8	231801	14.0	19.0
233636	13.7	20.8	287422	13.7	20.1	359968	13.8	20.1	122626	13.9	19.1	340715	13.9	21.2	209453	14.0	19.9
495468	13.7	21.1	33181	13.7	18.3	354922	13.8	19.9	117789	13.9	19.8	81163	13.9	18.7	431458	14.0	19.0
58764	13.7	17.9	56867	13.7	19.6	491812	13.8	21.1	269535	13.9	19.7	342887	13.9	19.7	429859	14.0	20.4
386253	13.7	20.7	231315	13.7	19.6	148504	13.8	19.9	190820	13.9	19.3	368598	13.9	20.2	355938	14.0	20.0
500413	13.7	20.9	54516	13.8	17.5	491056	13.8	20.6	234936	13.9	19.7	263700	13.9	20.4	206909	14.0	18.8
132134	13.7	19.3	497714	13.8	22.1	400789	13.8	20.3	393817	13.9	20.6	296959	13.9	19.7	140159	14.0	17.8
181682	13.7	19.8	157691	13.8	19.6	397420	13.8	19.8	29576	13.9	17.2	410028	13.9	20.3	207640	14.0	20.2
31689	13.7	18.9	440289	13.8	17.9	457751	13.8	20.0	32224	13.9	18.0	325648	13.9	21.1	283509	14.0	19.5
469222	13.7	20.7	126382	13.8	19.6	34107	13.8	19.6	24520	13.9	18.1	177770	13.9	20.6	455565	14.0	21.2
318145	13.7	20.8	133736	13.8	19.7	312178	13.8	20.3	50579	13.9	18.1	94793	13.9	18.6	91812	14.0	18.5
86462	13.7	18.6	145601	13.8	19.6	331958	13.8	20.5	413054	13.9	21.0	279689	13.9	20.8	371945	14.0	20.4
222294	13.7	19.5	491039	13.8	21.5	374058	13.8	20.3	180667	13.9	20.5	30331	13.9	18.5	211514	14.0	19.8
145759	13.7	19.5	381284	13.8	21.1	362073	13.8	19.9	462678	13.9	21.7	428874	13.9	20.5	364387	14.0	21.5
226903	13.7	19.9	246593	13.8	20.3	417008	13.8	20.7	173835	13.9	19.2	132614	13.9	20.0	416130	14.0	21.9
430272	13.7	20.4	349045	13.8	21.3	444230	13.8	20.2	337258	13.9	21.2	126990	13.9	19.4	360552	14.0	20.6
353813	13.7	20.3	468995	13.8	21.0	172677	13.8	18.9	283003	13.9	21.2	217041	13.9	21.1	494666	14.0	21.7
405961	13.7	21.2	53876	13.8	18.1	419172	13.8	20.9	200844	13.9	20.4	264267	13.9	21.3	320860	14.0	20.3
62482	13.7	18.4	4111353	13.8	22.0	448249	13.8	20.3	169265	13.9	19.4	271211	13.9	20.2	340769	14.0	20.4
140145	13.7	20.0	195613	13.8	19.6	83538	13.8	18.4	127044	13.9	19.3	209209	13.9	19.4	499423	14.0	20.7
110071	13.7	18.9	240032	13.8	20.1	61756	13.8	19.4	480891	13.9	20.4	89209	13.9	18.4	428360	14.1	20.8
353436	13.7	19.5	87193	13.8	17.2	388342	13.8	20.5	93831	13.9	18.4	13232	13.9	17.9	267441	14.1	19.1
150552	13.7	19.3	243369	13.8	18.5	496199	13.8	20.6	199088	13.9	21.6	220549	13.9	19.1	210242	14.1	20.4
328354	13.7	19.8	182091	13.8	20.3	144631	13.8	19.0	138767	13.9	19.8	307348	13.9	20.4	248413	14.1	19.7
246228	13.7	19.9	56760	13.8	17.5	196819	13.8	20.9	179037	13.9	20.5	522248	13.9	20.8	361173	14.1	21.0
456508	13.7	20.0	410734	13.8	21.1	402096	13.8	20.6	456866	13.9	21.8	173129	13.9	20.0	249543	14.1	19.5
386573	13.7	20.0	327343	13.8	21.2	171277	13.8	19.8	51740	13.9	19.4	264714	13.9	19.7	384214	14.1	20.1
51769	13.7	19.1	162754	13.8	18.8	385510	13.8	21.0	366671	13.9	21.3	110709	13.9	18.8	244311	14.1	18.8
80812	13.7	18.8	433549	13.8	19.9	165811	13.8	18.9	222271	13.9	20.0	463273	13.9	21.4	94752	14.1	18.1
203538	13.7	19.0	424994	13.8	19.8	462274	13.8	21.0	244650	13.9	19.8	201944	13.9	20.3	57313	14.1	19.2
321645	13.7	19.8	140147	13.8	20.2	103998	13.8	19.1	212048	13.9	20.5	302081	13.9	20.8	459767	14.1	21.0
489375	13.7	22.1	90670	13.8	19.3	372441	13.8	20.5	73542	13.9	19.1	217071	13.9	20.8	432210	14.1	20.6
345538	13.7	21.0	40472	13.8	19.3	188											

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

Nº	02	V															
386232	14.1	20.9	204288	14.1	20.6	375487	14.2	21.3	423773	14.3	20.4	230503	14.4	19.1	310950	14.4	21.0
52299	14.1	19.5	295763	14.2	20.2	270287	14.2	21.5	497700	14.3	21.8	147281	14.4	19.0	326992	14.4	20.2
103592	14.1	18.9	3725	14.2	18.1	64479	14.2	18.4	442673	14.3	20.3	354086	14.4	19.7	239831	14.4	19.2
418264	14.1	19.9	176972	14.2	20.0	119751	14.2	19.2	359611	14.3	20.4	407765	14.4	19.8	456855	14.4	20.9
226947	14.1	20.2	42570	14.2	15.9	465713	14.2	21.2	152498	14.3	19.7	282147	14.4	21.2	69866	14.4	18.5
460496	14.1	21.0	363563	14.2	19.5	306019	14.2	22.4	319800	14.3	21.2	406202	14.4	20.7	361991	14.4	21.1
385029	14.1	20.8	497462	14.2	20.8	164653	14.2	20.5	343555	14.3	21.2	87775	14.4	19.5	145672	14.4	19.2
459370	14.1	21.3	340599	14.2	20.4	16641	14.2	17.5	493399	14.3	19.7	426774	14.4	20.2	189182	14.4	19.5
214387	14.1	20.3	291496	14.2	19.3	463538	14.2	21.5	107213	14.3	19.1	24697	14.4	17.8	48807	14.4	18.4
314706	14.1	20.7	175407	14.2	20.4	92915	14.2	17.6	45422	14.3	18.5	454126	14.4	20.8	136450	14.4	19.8
495268	14.1	21.0	105046	14.2	19.7	99625	14.2	20.1	378743	14.3	20.7	360224	14.4	20.7	313180	14.4	20.6
218677	14.1	19.5	369896	14.2	20.3	282793	14.2	22.0	456678	14.3	21.2	417235	14.4	21.4	360399	14.4	20.2
364775	14.1	21.0	131871	14.2	19.0	463360	14.2	22.2	460911	14.3	20.6	319516	14.4	20.3	415905	14.4	21.1
264447	14.1	20.0	218683	14.2	21.2	140624	14.2	18.8	233035	14.3	19.4	504114	14.4	22.3	90973	14.4	18.6
158956	14.1	20.3	350289	14.2	20.0	426463	14.2	21.1	186107	14.3	21.0	353708	14.4	20.9	109982	14.4	19.1
203464	14.1	19.2	436379	14.2	20.3	116843	14.2	19.2	189648	14.3	20.1	209461	14.4	19.8	229175	14.4	20.2
225512	14.1	20.6	32282	14.2	19.4	140085	14.2	19.0	377016	14.3	20.4	39328	14.4	18.3	81560	14.5	19.7
346116	14.1	21.3	379297	14.2	20.3	503484	14.2	20.2	310998	14.3	19.7	79844	14.4	18.4	48613	14.5	18.8
372026	14.1	20.2	55770	14.2	19.2	56092	14.2	18.0	237609	14.3	19.9	447172	14.4	22.1	383699	14.5	20.5
428373	14.1	21.2	376357	14.2	20.5	228210	14.2	20.3	163462	14.3	20.3	290186	14.4	20.1	319878	14.5	20.5
208354	14.1	20.0	207540	14.2	19.6	466780	14.2	21.2	51245	14.3	17.6	341681	14.4	21.7	247310	14.5	20.2
402344	14.1	19.6	156407	14.2	18.7	243006	14.2	20.5	189191	14.3	20.5	415851	14.4	21.4	352710	14.5	21.0
222763	14.1	19.4	455155	14.2	20.8	289039	14.2	21.1	28813	14.3	19.0	500402	14.4	21.5	142690	14.5	19.9
435915	14.1	19.3	44658	14.2	19.0	11508	14.2	16.4	36732	14.3	18.9	497110	14.4	20.6	182105	14.5	21.0
409996	14.1	20.4	322360	14.2	20.1	486795	14.2	20.5	135216	14.3	19.8	232583	14.4	20.6	77772	14.5	18.1
83573	14.1	20.1	268582	14.2	20.1	432506	14.2	20.4	205694	14.3	19.1	68702	14.4	19.8	257083	14.5	19.4
466179	14.1	21.5	59287	14.2	17.7	479987	14.2	20.5	518653	14.3	21.1	123068	14.4	19.4	229376	14.5	19.2
155088	14.1	19.0	456723	14.2	20.0	455507	14.2	21.5	294045	14.3	21.2	416324	14.4	21.9	465952	14.5	21.1
120865	14.1	19.4	67750	14.2	19.2	173097	14.2	19.6	418243	14.3	19.7	25928	14.4	17.5	51227	14.5	18.4
277000	14.1	20.3	425438	14.2	20.3	354570	14.2	21.7	187689	14.3	20.5	375745	14.4	20.3	88845	14.5	19.4
34651	14.1	18.4	233226	14.2	19.7	234153	14.3	20.1	373209	14.3	20.4	324407	14.4	20.6	40269	14.5	18.0
90293	14.1	18.8	417669	14.2	20.1	465912	14.3	20.6	151966	14.3	19.4	12978	14.4	18.0	215138	14.5	19.7
151818	14.1	19.1	273300	14.2	21.2	182041	14.3	19.9	42389	14.3	18.4	130996	14.4	19.3	124891	14.5	19.0
380674	14.1	20.9	145583	14.2	19.6	102575	14.3	20.0	424656	14.3	22.0	413069	14.4	20.0	462088	14.5	21.1
188625	14.1	20.2	340808	14.2	20.5	246109	14.3	20.7	426029	14.3	20.5	376682	14.4	20.2	367564	14.5	21.5
280205	14.1	20.2	229643	14.2	20.2	143356	14.3	19.3	155805	14.3	20.0	2248	14.4	15.0	500356	14.5	22.2
132243	14.1	20.0	62232	14.2	19.4	317145	14.3	19.9	498034	14.3	22.2	41108	14.4	19.4	151139	14.5	17.5
222720	14.1	20.1	37463	14.2	18.5	35071	14.3	17.5	232300	14.3	20.7	20234	14.4	16.7	417293	14.5	20.8
293660	14.1	21.1	24875	14.2	18.1	100862	14.3	19.4	372977	14.3	19.8	33711	14.4	18.0	283489	14.5	21.3
169312	14.1	19.2	307943	14.2	19.6	35119	14.3	18.1	292499	14.3	20.4	335915	14.4	20.3	336463	14.5	20.0
166181	14.1	19.6	194614	14.2	18.9	361172	14.3	19.8	162057	14.3	19.6	149947	14.4	20.5	123427	14.5	19.7
323590	14.1	20.8	385961	14.2	21.1	30767	14.3	17.9	408306	14.3	20.5	287538	14.4	19.2	508220	14.5	20.6
28898	14.1	17.7	413038	14.2	22.1	329868	14.3	20.1	254537	14.3	20.9	375049	14.4	20.4	454682	14.5	20.1
218285	14.1	18.5	165156	14.2	21.5	518390	14.3	20.7	35041	14.3	19.5	369828	14.4	20.8	76553	14.5	18.3
290285	14.1	20.7	236914	14.2	20.5	378808	14.3	21.0	114892	14.3	19.3	111650	14.4	19.1	331505	14.5	21.6
85330	14.1	20.1	502360	14.2	21.0	297398	14.3	20.0	33048	14.3	16.7	289092	14.4	20.9	241080	14.5	21.1
129479	14.1	19.3	384758	14.2	20.9	93589	14.3	19.1	144617	14.3	18.9	233868	14.4	18.8	306082	14.5	20.9
122358	14.1	20.9	170139	14.2	19.8	360293	14.3	21.1	296358	14.3	20.3	498161	14.4	21.5	284323	14.5	21.1
423018	14.1	21.4	286672	14.2	20.0	469022	14.3	20.9	334087	14.3	20.3	153724	14.4	19.2	430846	14.5	21.0
490854	14.1	21.8	288984	14.2	19.9	233086	14.3	19.3	324001	14.3	20.9	83167	14.4	18.7	32127	14.5	18.8
408991	14.1	21.0	396757	14.2	21.6	339524	14.3	20.8	429635	14.3	20.2	269654	14.4	20.4	209931	14.5	18.3
254440	14.1	17.3	375571	14.2	21.0	247717	14.3	18.9	377667	14.3	20.0	186247	14.4	19.9	131102	14.5	19.1
152868	14.1	20.4	501382	14.2	20.5	27922	14.3	17.0	83079	14.3	19.5	282585	14.4	20.6	240248	14.5	19.2
82087	14.1	20.0	243421	14.2	19.6	276844	14.3	19.8	16360	14.3	16.6	79508	14.4	19.5	428743	14.5	20.6
154830	14.1	20.5	390692	14.2	19.8	161147	14.3	20.0	360413	14.3	20.7	452341	14.4	21.1	324581	14.5	20.2
102116	14.1	19.1	158536	14.2	19.4	4562	14.3	16.7	489492	14.3	21.6	147925	14.4	19.5	148517	14.5	19.0
408829	14.1	20.2	214633	14.2	21.5	197264	14.3	19.6	344500	14.4	21.9	240301	14.4	19.4	237224	14.5	19.7
383762	14.1	20.9	395625	14.2	21.0	352141	14.3	20.5	493343	14.4	22.0	222281	14.4	20.2	460384	14.5	20.3
129346	14.1	20.3	189500	14.2	18.4	11416	14.3	17.8	160722	14.4	18.9	61128	14.4	18.2	414455	14.5	21.9
248818	14.1	19.9	465694	14.2	21.0	130964	14.3	18.3	274339	14.4	21.1	498879	14.4	20.5	163557	14.5	19.4
416187	14.1	21.4	181415	14.2													

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

Nº	02	V															
501097	14.5	20.4	247740	14.6	20.6	58034	14.7	18.7	239511	14.7	20.0	171979	14.8	20.0	519294	14.9	21.7
522502	14.5	21.2	288750	14.6	20.3	233125	14.7	20.3	333688	14.7	20.8	63013	14.8	18.7	104877	14.9	18.7
430002	14.5	21.4	108673	14.6	20.0	277789	14.7	21.1	116367	14.7	19.5	176717	14.8	19.7	356308	14.9	21.2
52788	14.5	17.9	429243	14.6	20.2	472792	14.7	20.1	159456	14.7	18.7	118128	14.8	20.5	339032	14.9	19.8
272595	14.5	21.6	472683	14.6	20.4	153318	14.7	19.3	245179	14.7	20.5	212287	14.8	20.6	261534	14.9	19.8
205301	14.5	19.3	307603	14.6	19.8	336910	14.7	20.1	390958	14.7	21.4	237377	14.8	20.9	275751	14.9	21.6
166830	14.5	19.0	1609	14.6	15.2	343572	14.7	19.7	414864	14.7	21.2	82193	14.8	19.4	369092	14.9	21.6
122115	14.5	19.3	519793	14.6	20.6	49756	14.7	19.7	369345	14.7	20.4	322646	14.8	20.1	503575	14.9	20.9
93654	14.5	17.6	390539	14.6	20.9	366983	14.7	20.3	154912	14.7	20.1	396858	14.8	21.6	403851	14.9	21.6
134304	14.5	20.3	366937	14.6	20.7	358045	14.7	19.2	452612	14.7	21.5	413079	14.8	20.2	66447	14.9	19.1
382741	14.5	19.3	162080	14.6	18.3	519356	14.7	20.9	370756	14.7	20.7	180883	14.8	20.3	443706	14.9	20.4
500199	14.5	20.5	506309	14.6	22.1	403276	14.7	19.7	114665	14.7	19.3	330101	14.8	20.5	101620	14.9	17.8
183314	14.5	19.8	460132	14.6	21.2	468600	14.7	19.8	121987	14.7	20.0	165377	14.8	20.0	92896	14.9	18.1
116046	14.5	19.0	297316	14.6	19.3	417039	14.7	20.6	286266	14.7	20.0	95294	14.8	19.3	505022	14.9	21.5
99257	14.5	18.3	3805	14.6	16.8	459274	14.7	20.1	318154	14.7	20.3	27669	14.8	17.4	424125	14.9	20.5
151145	14.5	19.7	68378	14.6	18.9	142357	14.7	19.7	317027	14.7	21.0	175023	14.8	20.1	51494	14.9	18.2
115310	14.5	19.4	156559	14.6	19.5	42578	14.7	19.9	303970	14.7	20.5	462706	14.8	20.6	176958	14.9	19.5
88156	14.5	18.4	249127	14.6	19.6	228739	14.7	20.0	301321	14.7	19.9	368681	14.8	20.6	490084	14.9	21.1
376235	14.5	19.8	140916	14.6	19.6	96117	14.7	18.6	14185	14.7	17.8	185865	14.8	19.9	403589	14.9	20.1
458275	14.5	20.0	217928	14.6	20.9	292315	14.7	21.5	411296	14.7	21.4	265812	14.8	20.6	56826	14.9	18.1
364348	14.5	21.7	53603	14.6	19.2	130730	14.7	19.0	46326	14.7	18.6	94646	14.8	19.0	506315	14.9	21.3
268097	14.5	20.2	43405	14.6	18.6	282816	14.7	20.8	9745	14.8	18.0	226786	14.8	19.6	495518	14.9	21.4
282309	14.5	19.7	376633	14.6	21.6	450419	14.7	20.1	192536	14.8	20.4	125845	14.8	19.3	107223	14.9	19.4
215722	14.5	19.2	344842	14.6	20.3	308652	14.7	20.7	188016	14.8	20.3	425	14.8	13.5	359062	14.9	20.6
466810	14.5	20.6	30239	14.6	17.9	32679	14.7	19.0	283217	14.8	20.8	417466	14.8	21.4	102520	14.9	18.8
186266	14.5	20.0	89271	14.6	19.4	83964	14.7	19.5	16786	14.8	16.3	268045	14.8	20.0	234394	14.9	20.3
276249	14.5	20.9	198510	14.6	19.8	83439	14.7	18.6	282822	14.8	21.0	169112	14.8	20.1	61045	14.9	19.8
236691	14.5	20.4	236079	14.6	19.4	301703	14.7	20.9	498110	14.8	21.2	100755	14.8	19.1	31419	14.9	17.9
123402	14.5	19.3	124402	14.6	19.6	411224	14.7	21.7	122403	14.8	19.1	463683	14.8	21.2	218676	14.9	20.6
501709	14.5	20.7	411382	14.6	21.7	500408	14.7	21.4	130431	14.8	18.9	206228	14.8	19.2	18721	14.9	18.2
415331	14.5	21.4	354046	14.6	20.7	229177	14.7	20.3	210369	14.8	20.7	101079	14.8	19.7	350599	14.9	19.9
496085	14.5	21.3	349229	14.6	20.3	245998	14.7	19.7	421726	14.8	21.8	109705	14.8	20.4	492526	14.9	20.7
102433	14.5	18.7	233516	14.6	19.4	253151	14.7	21.1	16711	14.8	18.1	496351	14.8	21.7	337681	14.9	20.3
25873	14.5	18.7	340709	14.6	19.8	420229	14.7	20.0	137018	14.8	20.0	244752	14.8	21.2	178633	14.9	20.0
434631	14.5	21.2	245943	14.6	20.0	170361	14.7	19.4	465968	14.8	21.3	325264	14.8	20.8	85428	14.9	19.5
49623	14.5	16.2	465735	14.6	20.9	110984	14.7	18.7	366849	14.8	20.5	268431	14.8	20.5	79498	14.9	18.9
19812	14.5	18.5	239916	14.6	20.9	403340	14.7	21.1	414863	14.8	21.1	462844	14.8	20.8	325353	14.9	21.3
416854	14.6	21.8	454134	14.6	20.1	361610	14.7	20.2	497495	14.8	20.1	369524	14.8	20.9	270993	14.9	20.1
63487	14.6	19.1	60225	14.6	20.0	97162	14.7	19.6	325756	14.8	20.2	35302	14.8	18.3	285067	14.9	20.3
157185	14.6	20.8	375304	14.6	20.2	415834	14.7	21.0	91515	14.8	18.9	72924	14.8	19.2	399732	14.9	19.5
432903	14.6	21.4	281341	14.6	20.9	246240	14.7	19.9	494208	14.8	20.9	139698	14.8	20.5	123016	14.9	20.0
193579	14.6	18.3	290575	14.6	21.1	60755	14.7	18.2	210434	14.8	19.3	164639	14.8	19.3	132285	14.9	19.8
208331	14.6	17.9	282647	14.6	20.1	150501	14.7	19.2	341717	14.8	19.5	321700	14.8	20.0	371212	14.9	20.8
370930	14.6	19.4	10481	14.6	18.2	237283	14.7	20.2	3367	14.8	15.9	398757	14.8	20.4	79096	14.9	19.2
162466	14.6	19.7	40553	14.6	18.2	374855	14.7	21.2	401962	14.8	21.1	56259	14.8	18.8	268598	14.9	19.9
481827	14.6	20.2	430669	14.6	21.2	193279	14.7	19.0	321147	14.8	20.7	210878	14.8	19.5	170296	14.9	20.1
263862	14.6	19.7	68589	14.6	18.2	338938	14.7	19.6	417758	14.8	19.4	341712	14.8	20.2	215674	14.9	19.7
33209	14.6	18.4	66589	14.6	19.2	466346	14.7	21.4	495291	14.8	21.7	360029	14.8	19.6	81896	14.9	19.5
76502	14.6	19.0	407847	14.6	20.4	382749	14.7	19.4	252300	14.8	19.8	453316	14.8	21.3	220559	14.9	19.8
424961	14.6	19.4	169332	14.6	19.7	370697	14.7	20.0	66445	14.8	19.6	367344	14.8	19.6	399593	14.9	21.0
491619	14.6	20.3	130502	14.6	20.3	57908	14.7	17.7	341645	14.8	19.5	268447	14.8	20.1	340855	14.9	19.5
52820	14.6	19.0	62751	14.6	18.1	344835	14.7	19.6	379512	14.8	18.9	322596	14.8	20.0	48155	14.9	18.2
461975	14.6	21.0	241664	14.6	20.3	286164	14.7	21.6	231447	14.8	19.9	220277	14.8	19.3	276142	14.9	19.9
496516	14.6	20.8	385023	14.6	21.1	501890	14.7	19.2	160118	14.8	20.7	219412	14.8	19.5	107180	14.9	18.4
201454	14.6	19.3	256934	14.6	19.4	502036	14.7	20.7	428408	14.8	21.0	130902	14.8	19.1	347835	14.9	21.5
281758	14.6	20.8	322731	14.6	20.9	231789	14.7	20.5	492976	14.8	21.3	218766	14.8	21.3	254534	14.9	19.7
263707	14.6	20.2	61453	14.6	18.7	292674	14.7	20.9	297818	14.8	19.4	454493	14.8	19.9	288427	14.9	19.6
20150	14.6	18.1	501998	14.6	20.9	244140	14.7	20.7	459650	14.8	21.8	9760	14.8	18.5	120337	14.9	19.3
485045	14.6	20.5	426595	14.6	20.4	139906	14.7	19.8	415337	14.8	21.9	7985	14.8	16.9	19467	14.9	18.2
8915	14.6	16.9	119966	14.6	19.4	225905	14.7	19.3	7651	14.8	17.5	185331	14.9	19.7	197309	14.9	18.3
501366	14.6	20.5	57949	14.6	20.2	286971											

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

Nº	02	V															
58852	14.9	19.3	305554	14.9	20.9	331161	15.1	20.1	332639	15.1	20.5	466172	15.2	21.1	54355	15.3	17.2
188096	14.9	19.4	279870	14.9	20.3	244349	15.1	19.5	402870	15.1	20.9	116554	15.2	19.1	502123	15.3	20.9
369091	14.9	20.6	236886	14.9	19.5	466913	15.1	20.7	166238	15.1	19.5	467247	15.2	20.4	467865	15.3	20.4
522610	14.9	21.1	206211	14.9	19.7	207498	15.1	20.1	285281	15.1	20.0	421253	15.2	20.3	285371	15.3	21.3
29510	14.9	18.6	412080	14.9	20.0	160757	15.1	19.5	498273	15.1	21.2	328756	15.2	21.0	462935	15.3	20.4
83121	14.9	19.7	374062	15.0	21.1	432182	15.1	20.3	220321	15.1	18.7	274146	15.2	20.1	92513	15.3	19.8
364452	14.9	20.9	240545	15.0	20.1	237532	15.1	20.3	432202	15.1	20.1	502686	15.2	19.8	363141	15.3	21.7
51966	14.9	18.7	427405	15.0	21.5	129799	15.1	19.6	370778	15.1	21.2	140901	15.2	20.3	197337	15.3	20.9
143441	14.9	19.5	414427	15.0	21.6	405925	15.1	21.0	328343	15.1	20.7	209484	15.2	20.1	56230	15.3	18.8
454333	14.9	20.8	260981	15.0	18.9	40662	15.1	19.0	205857	15.1	19.5	30443	15.2	17.0	506347	15.3	21.4
21574	14.9	17.5	363865	15.0	20.9	202006	15.1	18.4	225977	15.1	19.9	209480	15.2	19.9	133541	15.3	21.2
245248	14.9	19.4	152499	15.0	20.4	506343	15.1	21.2	221150	15.1	20.3	353314	15.2	21.6	27990	15.3	17.2
163422	14.9	19.1	403592	15.0	21.4	97878	15.1	19.7	313801	15.1	19.8	110512	15.2	19.7	433079	15.3	20.7
221114	14.9	20.4	349839	15.0	19.8	247385	15.1	19.5	154935	15.1	20.6	388628	15.2	20.4	98684	15.3	18.7
217995	14.9	19.8	170807	15.0	19.2	408900	15.1	21.2	413042	15.1	21.1	355301	15.2	20.8	38836	15.3	18.1
451711	14.9	19.9	265642	15.0	20.0	208944	15.1	19.2	25434	15.1	18.4	146408	15.2	19.4	367745	15.3	20.1
451878	14.9	20.9	433921	15.0	20.6	47308	15.1	19.0	205343	15.1	20.1	81811	15.2	19.0	399341	15.3	21.2
341613	14.9	21.1	42110	15.0	18.8	502508	15.1	20.8	158301	15.1	19.9	383731	15.2	20.2	280757	15.3	20.4
208390	14.9	19.6	284395	15.0	21.8	462661	15.1	21.1	116917	15.1	20.1	362547	15.2	21.6	465751	15.3	20.1
365774	14.9	20.7	241122	15.0	20.1	393804	15.1	21.4	440060	15.1	21.3	202500	15.2	20.7	411363	15.3	19.3
427062	14.9	20.6	376653	15.0	21.5	90082	15.1	18.5	255810	15.1	20.4	158478	15.2	19.6	414845	15.3	21.4
173288	14.9	19.9	240539	15.0	20.4	296135	15.1	20.1	319798	15.1	21.1	362243	15.2	21.7	17500	15.3	18.9
498609	14.9	20.5	166873	15.0	19.7	449588	15.1	20.1	310081	15.1	20.4	500553	15.2	21.4	375897	15.3	21.1
409575	14.9	19.9	259184	15.0	19.6	505747	15.1	21.0	291254	15.1	19.4	88955	15.2	17.9	139613	15.3	18.5
40330	14.9	19.3	229025	15.0	19.4	58497	15.1	19.3	428934	15.1	20.5	305555	15.2	20.6	497739	15.3	21.0
206831	14.9	20.3	166203	15.0	20.2	161675	15.1	18.8	281385	15.1	21.3	370171	15.2	19.6	465453	15.3	21.1
488654	14.9	21.6	211877	15.0	19.8	229156	15.1	19.6	501318	15.1	20.2	301278	15.2	20.6	410227	15.3	20.7
275927	14.9	20.7	20869	15.0	18.2	452205	15.1	20.4	217622	15.1	19.6	367514	15.2	21.6	479415	15.3	20.6
166952	14.9	19.8	44437	15.0	19.6	409881	15.1	20.6	190369	15.1	20.2	306351	15.2	20.4	1485	15.3	16.5
184027	14.9	19.3	50981	15.0	18.6	217754	15.1	19.4	445877	15.1	21.4	443578	15.2	20.2	132671	15.3	19.7
126494	14.9	19.0	93315	15.0	19.1	361630	15.1	20.8	154520	15.1	19.1	7173	15.2	16.7	59797	15.3	18.6
493387	14.9	21.8	466394	15.0	21.2	191048	15.1	18.9	258329	15.1	19.7	409636	15.2	20.0	506312	15.3	20.5
152158	14.9	20.0	453305	15.0	21.4	486764	15.1	20.8	412254	15.1	21.0	508703	15.2	21.3	243010	15.3	20.5
498938	14.9	19.5	320526	15.0	20.6	406302	15.1	21.6	199338	15.1	19.5	206922	15.2	20.0	32896	15.3	18.6
117258	14.9	19.2	362099	15.0	20.3	334107	15.1	20.1	231470	15.1	19.9	300281	15.2	21.0	274510	15.3	20.4
276350	14.9	20.8	389054	15.0	21.0	493683	15.1	20.6	128370	15.1	19.4	405898	15.2	21.0	49159	15.3	20.3
355764	14.9	20.9	496492	15.0	19.6	182685	15.1	19.7	223773	15.1	20.1	429743	15.2	21.3	158641	15.3	19.2
165723	14.9	19.5	285957	15.0	21.3	279655	15.1	20.0	272618	15.1	21.5	98164	15.2	18.6	170065	15.3	19.2
194179	14.9	20.0	167032	15.0	20.4	145269	15.1	20.5	337685	15.2	20.9	508687	15.2	21.9	339582	15.3	20.2
282834	14.9	21.0	265725	15.0	20.6	204871	15.1	20.2	28169	15.2	17.6	221212	15.2	20.6	331787	15.3	20.1
121036	14.9	18.3	466206	15.0	21.5	416951	15.1	20.4	473709	15.2	19.7	354079	15.2	20.9	2374	15.3	16.7
178389	14.9	21.0	493841	15.0	20.8	184545	15.1	20.8	92418	15.2	20.1	383813	15.2	19.7	256763	15.3	20.6
112410	14.9	20.5	174119	15.0	20.7	455402	15.1	19.2	447223	15.2	21.6	49200	15.2	19.1	239444	15.3	20.0
44469	14.9	19.5	374481	15.0	20.2	63689	15.1	19.3	204976	15.2	20.1	458959	15.2	20.8	228278	15.3	19.3
447312	14.9	20.6	241613	15.0	20.0	241148	15.1	20.4	116401	15.2	17.6	287492	15.2	19.0	459334	15.3	19.3
87664	14.9	17.8	341636	15.0	20.3	141235	15.1	19.4	171383	15.2	20.2	67935	15.2	18.2	78998	15.3	18.9
457204	14.9	20.4	343637	15.0	20.0	426275	15.1	20.1	407308	15.2	20.4	253133	15.2	21.3	400806	15.3	21.2
241542	14.9	20.6	192291	15.0	20.0	169570	15.1	18.8	253069	15.2	22.5	419140	15.2	21.3	81424	15.3	19.1
152279	14.9	20.1	164446	15.0	19.2	296180	15.1	20.6	83597	15.2	19.0	274054	15.2	20.6	427449	15.3	20.7
55065	14.9	18.3	406523	15.0	21.0	122944	15.1	18.2	362424	15.2	21.4	387055	15.2	21.6	126383	15.3	19.8
152619	14.9	19.9	320710	15.0	19.8	57021	15.1	17.8	98514	15.2	18.3	56924	15.2	18.7	75196	15.3	20.2
288638	14.9	21.3	34872	15.0	18.1	98129	15.1	19.0	522590	15.2	21.6	432185	15.2	20.6	85871	15.3	17.6
232325	14.9	20.3	369622	15.0	20.8	52842	15.1	19.1	109988	15.2	20.7	498391	15.2	20.8	473188	15.3	21.2
319741	14.9	19.9	156515	15.0	19.7	102232	15.1	20.0	40981	15.2	19.6	454612	15.2	20.1	369741	15.3	19.5
379393	14.9	21.5	282197	15.0	20.6	189499	15.1	18.5	435939	15.2	20.6	437741	15.2	20.7	357214	15.3	20.6
322835	14.9	20.6	72294	15.0	18.7	223821	15.1	19.4	124289	15.2	19.5	52970	15.2	18.4	29695	15.3	16.7
492447	14.9	20.7	494839	15.0	21.5	82037	15.1	19.7	459522	15.2	20.8	123274	15.2	19.8	24569	15.3	19.0
73030	14.9	20.2	102022	15.0	18.4	95112	15.1	19.4	355754	15.2	21.0	51342	15.2	18.8	160979	15.3	19.3
198153	14.9	21.2	431542	15.0	21.0	292726	15.1	20.9	290987	15.2	20.4	241048	15.2	21.9	502074	15.3	20.9
161129	14.9	19.7	276314	15.0	20.9	502739	15.1	20.5	65425	15.2	20.2	41116	15.2	18.6	420464	15.3	19.6
330951	14.9	21.4	271861	15.0	20.1												

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

Nº	02	V															
172389	15.3	19.3	8456	15.4	17.3	366995	15.5	20.8	104361	15.5	18.8	464956	15.6	20.9	211599	15.7	20.1
500187	15.3	21.4	105426	15.4	19.8	328808	15.5	21.4	268525	15.5	19.9	98086	15.6	18.5	211470	15.7	19.1
277371	15.3	21.0	67335	15.4	18.0	488849	15.5	21.9	384822	15.5	21.3	503629	15.6	19.4	30559	15.7	18.6
132407	15.3	20.0	21723	15.4	19.2	365745	15.5	20.4	307834	15.5	20.0	33514	15.6	18.3	156453	15.7	18.9
463989	15.3	20.0	261877	15.4	20.2	271715	15.5	20.6	331094	15.5	20.4	18133	15.6	18.2	33766	15.7	18.5
114420	15.3	18.1	130881	15.4	19.2	519601	15.5	21.3	229879	15.5	20.3	198670	15.6	19.7	129797	15.7	18.8
164157	15.3	19.9	66103	15.4	17.9	433217	15.5	21.4	321054	15.5	20.8	261064	15.6	20.2	414453	15.7	21.3
519242	15.3	20.8	227217	15.4	19.6	375050	15.5	19.9	326017	15.5	20.4	385863	15.6	20.8	34633	15.7	18.8
375302	15.3	21.8	383658	15.4	20.9	496581	15.5	20.7	147330	15.5	18.5	119538	15.6	18.2	423543	15.7	21.0
397853	15.3	21.4	118778	15.4	19.1	351850	15.5	21.7	189852	15.5	20.4	490194	15.6	21.3	17291	15.7	19.4
417035	15.3	21.0	188368	15.4	19.6	64989	15.5	20.0	136800	15.5	19.8	105038	15.6	19.2	446871	15.7	20.1
360219	15.3	21.2	264322	15.4	20.6	3479	15.5	16.3	462621	15.5	20.9	453268	15.6	21.6	114417	15.7	19.0
240397	15.3	20.3	223845	15.4	20.7	288601	15.5	19.7	290170	15.5	21.2	316791	15.6	20.7	243563	15.7	21.2
134032	15.3	18.4	39370	15.4	19.0	399478	15.5	21.0	472463	15.5	20.9	504505	15.6	24.2	382553	15.7	20.3
162041	15.3	20.2	95513	15.4	19.6	377235	15.5	19.2	165476	15.5	18.6	2471	15.6	16.4	94696	15.7	19.1
193519	15.3	18.8	100484	15.4	19.6	27913	15.5	17.9	59467	15.5	18.0	63845	15.6	17.6	153118	15.7	19.5
384564	15.3	20.7	263001	15.4	19.2	79158	15.5	19.8	296045	15.5	20.1	459323	15.6	20.7	83870	15.7	18.9
122341	15.3	19.8	33708	15.4	17.3	100797	15.5	19.6	416636	15.5	20.4	333568	15.6	19.3	340582	15.7	20.2
80025	15.3	19.1	266638	15.4	20.1	241346	15.5	20.6	418362	15.5	19.8	82779	15.6	18.8	423927	15.7	20.9
255609	15.3	20.8	360220	15.4	21.0	151165	15.5	19.8	453899	15.5	19.5	319735	15.6	20.8	110207	15.7	18.7
90361	15.3	18.7	31219	15.4	17.1	136090	15.5	18.7	503265	15.5	20.7	92446	15.6	19.5	468980	15.7	20.8
2960	15.3	15.3	61829	15.4	19.7	335863	15.5	20.4	213834	15.6	19.9	289126	15.6	20.7	116486	15.7	18.7
122664	15.3	19.8	412962	15.4	21.2	323472	15.5	19.3	142024	15.6	20.3	136432	15.6	20.1	28995	15.7	19.1
73113	15.3	19.6	197642	15.4	20.3	270566	15.5	19.7	125634	15.6	18.6	214245	15.6	21.0	95068	15.7	19.0
326958	15.3	20.8	163774	15.4	19.1	375877	15.5	21.0	148753	15.6	18.9	334079	15.6	21.4	132915	15.7	20.6
457759	15.3	20.3	334604	15.4	20.6	432195	15.5	20.7	497844	15.6	21.2	401192	15.6	22.1	380404	15.7	19.8
279415	15.3	19.8	254948	15.4	19.6	157734	15.5	19.6	430265	15.6	20.6	284792	15.6	20.2	404212	15.7	20.3
344833	15.3	20.5	473814	15.4	20.0	286654	15.5	18.9	297446	15.6	20.2	206027	15.6	20.5	373886	15.7	20.3
182369	15.3	20.2	417759	15.4	20.5	360796	15.5	21.1	367607	15.6	20.6	465081	15.6	21.3	372154	15.7	20.5
214732	15.4	21.3	189700	15.4	20.5	455796	15.5	21.3	158218	15.6	19.9	318029	15.6	19.0	289791	15.7	19.7
240319	15.4	19.0	133095	15.4	20.4	7315	15.5	16.5	409809	15.6	20.2	498621	15.6	21.3	269283	15.7	20.1
301247	15.4	20.2	169326	15.4	19.9	331338	15.5	20.2	79994	15.6	18.7	255481	15.6	18.8	320531	15.7	20.3
148855	15.4	19.4	151229	15.4	19.3	58125	15.5	19.0	3959	15.6	16.5	473974	15.6	20.3	155447	15.7	19.2
297396	15.4	21.0	145376	15.4	19.5	93239	15.5	17.5	39311	15.6	19.1	136485	15.6	20.4	461792	15.7	20.3
471100	15.4	20.8	414833	15.4	21.0	20215	15.5	18.8	500479	15.6	22.4	112443	15.6	18.4	397154	15.7	20.1
202935	15.4	19.9	369722	15.4	19.1	288542	15.5	19.9	466933	15.6	20.2	290421	15.6	21.1	498998	15.7	20.2
338240	15.4	20.1	14559	15.4	18.4	496109	15.5	21.0	252404	15.6	20.4	433128	15.6	20.9	166860	15.7	19.1
63672	15.4	17.9	253186	15.4	19.6	503207	15.5	20.2	160703	15.6	20.7	103709	15.6	17.9	496508	15.7	21.0
405911	15.4	21.7	284203	15.4	20.5	45880	15.5	17.5	241079	15.6	21.1	83562	15.6	18.9	44548	15.7	18.2
506177	15.4	20.5	68607	15.4	17.8	402213	15.5	19.3	142154	15.6	20.2	160774	15.6	20.4	503627	15.7	20.1
217058	15.4	20.8	413913	15.4	21.5	290106	15.5	20.0	57056	15.6	18.4	82329	15.6	19.7	117080	15.7	19.6
332773	15.4	20.8	213605	15.4	20.6	209077	15.5	20.1	282807	15.6	21.6	500245	15.6	22.2	57523	15.7	18.5
310773	15.4	20.7	488379	15.4	21.0	179877	15.5	19.4	436001	15.6	20.2	215092	15.6	20.7	48381	15.7	18.2
309320	15.4	20.3	273510	15.4	19.5	384232	15.5	20.2	55763	15.6	19.3	253164	15.6	18.0	323500	15.7	21.3
423315	15.4	20.7	419044	15.4	21.6	108759	15.5	19.9	110663	15.6	19.2	280802	15.6	20.9	245457	15.7	20.0
193820	15.4	21.0	58026	15.4	17.9	433090	15.5	20.9	246972	15.6	20.7	124803	15.6	19.2	463685	15.7	20.6
411352	15.4	20.8	230507	15.4	18.9	309422	15.5	19.4	229466	15.6	19.9	83627	15.6	18.7	246287	15.7	19.6
100316	15.4	19.8	407793	15.4	20.3	304807	15.5	21.1	171018	15.6	19.5	413856	15.6	21.9	152325	15.7	19.5
87883	15.4	19.4	22349	15.4	18.6	400235	15.5	20.6	354522	15.6	20.5	35995	15.6	18.2	104115	15.7	20.2
186077	15.4	20.8	456724	15.4	21.0	371210	15.5	21.1	127994	15.6	19.8	499090	15.6	20.5	38118	15.7	18.7
365690	15.4	21.9	492317	15.4	20.4	208978	15.5	18.6	18129	15.6	16.1	70652	15.6	19.0	432213	15.7	20.3
222524	15.4	21.3	51230	15.4	18.7	504118	15.5	20.9	340605	15.6	21.0	273584	15.6	20.6	99735	15.7	18.7
240736	15.4	21.0	122310	15.4	19.5	452610	15.5	21.3	272951	15.6	20.9	335638	15.6	20.4	491038	15.7	20.9
235080	15.4	19.5	217569	15.4	20.4	273336	15.5	21.1	182316	15.6	21.0	27664	15.6	18.5	519948	15.7	22.4
360731	15.4	20.2	203626	15.4	18.6	183701	15.5	20.2	440407	15.6	20.7	120674	15.7	19.6	180903	15.7	20.2
53836	15.4	17.9	206947	15.4	19.6	44964	15.5	18.0	281294	15.6	21.0	184996	15.7	21.0	335002	15.7	19.3
433844	15.4	20.8	3231	15.4	16.8	450764	15.5	19.9	256357	15.6	19.2	242752	15.7	19.5	186203	15.7	20.2
420009	15.4	20.7	451654	15.4	21.0	241856	15.5	20.1	182631	15.6	20.2	383742	15.7	21.1	84068	15.7	17.7
330141	15.4	20.0	498910	15.4	20.4	421545	15.5	21.1	419129	15.6	20.8	488656	15.7	21.8	419751	15.7	21.3
142029	15.4	19.0	152071	15.4	20.4	157084	15.5	19.1	419023	15.6	21.3	403559	15.7	20.9	228049	15.7	21.5
417705	15.4	20.2	30210	15.4	19.5	14											

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

Nº	02	V															
429246	15.7	20.2	498858	15.8	20.3	143334	15.9	18.6	228279	15.9	19.9	274043	16.0	20.5	458609	16.1	21.2
493507	15.7	20.8	181201	15.8	18.2	151124	15.9	19.6	169128	15.9	19.4	419985	16.0	20.3	268100	16.1	20.5
414799	15.7	20.1	188248	15.8	18.1	306111	15.9	21.7	228274	15.9	21.2	494758	16.0	20.4	73764	16.1	19.8
189187	15.7	19.7	279534	15.8	21.0	351651	15.9	20.1	172645	15.9	19.3	310179	16.0	20.5	599	16.1	14.0
422790	15.7	21.5	224371	15.8	19.9	243766	15.9	21.2	190747	15.9	19.8	203540	16.0	19.7	499419	16.1	21.0
457201	15.7	20.2	432924	15.8	20.4	498526	15.9	21.2	375024	15.9	21.2	378908	16.0	20.6	47662	16.1	17.7
412112	15.7	21.2	192962	15.8	19.9	495926	15.9	21.5	423017	15.9	20.1	285338	16.0	19.5	264750	16.1	18.5
421683	15.7	20.3	465976	15.8	20.4	415945	15.9	20.6	170236	15.9	20.0	463262	16.0	21.0	338970	16.1	19.6
368566	15.8	20.7	328523	15.8	21.3	326726	15.9	19.2	162673	15.9	19.8	417010	16.0	20.6	169304	16.1	21.1
472445	15.8	21.0	203919	15.8	20.4	426971	15.9	19.9	116863	15.9	20.0	500316	16.0	21.5	105179	16.1	18.5
256409	15.8	20.3	33796	15.8	17.8	267462	15.9	20.3	248691	15.9	20.3	368573	16.0	21.2	138520	16.1	18.7
249113	15.8	20.4	428192	15.8	20.5	48995	15.9	17.4	466305	15.9	21.7	165553	16.0	18.8	367985	16.1	20.6
390377	15.8	20.6	27102	15.8	17.3	58158	15.9	19.6	127890	15.9	19.3	496173	16.0	20.8	279663	16.1	20.2
429673	15.8	21.2	242435	15.8	20.7	456758	15.9	20.5	324617	15.9	20.1	468902	16.0	21.1	460263	16.1	21.5
330174	15.8	20.7	422241	15.8	21.1	459408	15.9	20.1	415464	15.9	21.8	290682	16.0	19.6	248682	16.1	20.5
298878	15.8	20.3	170096	15.8	18.7	238531	15.9	19.9	463290	15.9	21.9	136992	16.0	18.5	333445	16.1	20.2
226775	15.8	20.1	274642	15.8	20.5	450390	15.9	22.2	344837	15.9	19.8	354945	16.0	19.9	402013	16.1	21.8
82965	15.8	18.5	100785	15.8	19.1	190387	15.9	20.4	498946	15.9	20.6	62962	16.0	19.2	201252	16.1	20.4
225133	15.8	21.0	50304	15.8	17.9	296450	15.9	20.3	20437	15.9	18.5	96442	16.0	18.3	426680	16.1	21.1
498188	15.8	20.6	466148	15.8	20.7	137860	15.9	17.9	88812	15.9	19.6	233466	16.0	20.5	208234	16.1	20.7
303313	15.8	20.6	81335	15.8	19.3	368756	15.9	20.7	251100	15.9	20.0	377846	16.0	20.4	323929	16.1	21.4
58018	15.8	18.8	243837	15.8	20.2	410257	15.9	22.1	221130	15.9	20.3	338878	16.0	19.5	163615	16.1	19.7
47183	15.8	18.0	309775	15.8	20.1	83428	15.9	19.0	101763	15.9	18.7	250135	16.0	21.8	366710	16.1	21.1
429270	15.8	20.6	423620	15.8	19.6	247684	15.9	19.5	101847	15.9	19.4	110862	16.0	18.7	449516	16.1	20.5
19298	15.8	17.3	42456	15.8	19.4	10586	15.9	17.9	32697	15.9	19.5	6036	16.0	18.2	463286	16.1	20.5
206707	15.8	19.7	1568	15.8	15.1	354537	15.9	21.2	54252	15.9	18.3	54989	16.0	18.8	142507	16.1	19.8
21573	15.8	17.6	120713	15.8	19.4	169182	15.9	19.9	454337	15.9	21.3	448245	16.0	20.8	381273	16.1	20.9
187624	15.8	20.0	81957	15.8	20.3	383798	15.9	21.1	468210	15.9	20.6	325983	16.0	19.9	68763	16.1	19.3
359186	15.8	20.3	31867	15.8	19.0	233660	15.9	20.3	112581	15.9	20.1	423843	16.0	20.4	354835	16.1	21.1
337533	15.8	20.1	421529	15.8	20.9	335932	15.9	21.0	4759	15.9	17.7	226364	16.0	20.1	80958	16.1	18.5
37858	15.8	18.5	174327	15.8	19.7	285719	15.9	20.0	504324	15.9	21.4	370516	16.0	21.2	340629	16.1	20.7
334164	15.8	20.2	242385	15.8	19.7	330399	15.9	19.9	380044	15.9	20.7	461683	16.0	21.1	83599	16.1	18.3
425257	15.8	21.3	345757	15.8	20.0	169147	15.9	20.7	234433	15.9	20.0	239729	16.0	19.8	151049	16.1	19.7
455589	15.8	21.4	229814	15.8	20.3	151874	15.9	18.5	375451	15.9	20.6	172761	16.0	18.7	384237	16.1	20.2
338121	15.8	20.9	96108	15.9	20.5	99613	15.9	19.3	18791	15.9	17.6	66934	16.0	16.4	93062	16.1	18.9
92803	15.8	19.0	408750	15.9	21.3	222290	15.9	20.1	448193	15.9	20.3	505011	16.0	22.0	77687	16.1	19.5
354090	15.8	20.0	187864	15.9	20.7	55796	15.9	19.6	244603	15.9	20.2	64125	16.0	18.4	495927	16.1	21.3
371268	15.8	19.9	115020	15.9	18.6	150754	15.9	20.7	214189	15.9	19.0	469171	16.0	20.3	301333	16.1	20.6
429062	15.8	20.5	466872	15.9	19.9	202121	15.9	19.1	415529	15.9	20.3	401041	16.0	20.4	491017	16.1	20.6
258435	15.8	20.7	69389	15.9	20.0	337597	15.9	20.4	500200	15.9	20.7	102717	16.0	20.6	360699	16.1	20.3
322724	15.8	21.5	353844	15.9	20.4	174199	15.9	20.1	325263	15.9	20.1	200749	16.0	19.7	369270	16.1	22.0
193638	15.8	17.6	419143	15.9	20.0	307657	15.9	20.5	174942	15.9	19.6	379410	16.0	19.3	261897	16.1	19.5
219335	15.8	19.6	39359	15.9	18.8	154316	15.9	19.4	284318	15.9	20.3	207093	16.0	20.4	156729	16.1	19.0
193993	15.8	19.1	419842	15.9	20.2	426384	15.9	21.8	121409	15.9	20.3	8872	16.0	17.9	290288	16.1	21.0
397149	15.8	20.9	94937	15.9	18.6	372463	15.9	20.6	123288	15.9	19.6	405232	16.0	21.8	5099	16.1	16.5
197613	15.8	20.6	379910	15.9	21.5	452196	15.9	21.9	502664	15.9	20.2	185517	16.0	20.1	255967	16.1	18.9
201806	15.8	18.8	61251	15.9	19.2	199100	15.9	20.5	381274	15.9	20.4	217885	16.0	19.8	439845	16.1	20.9
435546	15.8	19.4	309262	15.9	20.2	409902	15.9	21.0	383713	15.9	20.8	10865	16.0	17.1	291246	16.1	20.8
209098	15.8	20.3	433140	15.9	21.2	258067	15.9	20.1	259742	15.9	19.1	236192	16.0	19.5	419301	16.1	19.9
391979	15.8	19.9	310887	15.9	20.7	434567	15.9	21.0	463243	15.9	20.5	258306	16.0	20.6	28731	16.1	17.9
193177	15.8	19.8	319808	15.9	19.7	272868	15.9	19.6	496329	15.9	21.3	97673	16.0	17.9	162447	16.1	20.1
275704	15.8	21.0	62933	15.9	18.2	378793	15.9	21.0	241699	15.9	20.0	359108	16.0	19.6	30582	16.1	18.9
422030	15.8	21.0	267	15.9	14.3	374060	15.9	20.6	241718	15.9	20.6	467536	16.0	21.5	213386	16.1	19.8
499066	15.8	21.1	160768	15.9	20.9	134202	15.9	19.6	345559	15.9	20.6	148119	16.0	20.8	323829	16.1	20.4
265381	15.8	20.8	170428	15.9	20.7	436373	15.9	21.2	482401	15.9	20.6	14122	16.0	18.4	350864	16.1	20.0
79859	15.8	18.3	302072	15.9	20.6	49678	15.9	18.5	433569	15.9	20.1	111272	16.0	20.9	56361	16.1	18.0
247061	15.8	21.0	318005	15.9	19.5	134247	15.9	19.9	9741	15.9	15.8	305710	16.1	21.2	108625	16.1	19.7
483868	15.8	21.0	406408	15.9	21.9	163784	15.9	19.8	399488	15.9	21.1	369616	16.1	20.2	34757	16.1	16.9
267200	15.8	20.3	378416	15.9	19.2	412963	15.9	21.6	406526	15.9	21.3	393296	16.1	20.2	279211	16.1	21.4
428445	15.8	21.1	423250	15.9	21.0	431528	15.9	20.9	71049	15.9	18.6	81227	16.1	18.9	63661	16.1	18.4
304850	15.8	20.1	344619	15.9	18.9	4											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
449101	16.1	20.9	102221	16.2	19.3	432906	16.3	22.1	32561	16.3	18.5	293561	16.4	20.9	366853	16.5	21.7
461418	16.1	20.3	123028	16.2	19.9	227605	16.3	19.6	287559	16.3	19.5	120604	16.4	18.9	192534	16.5	20.0
405953	16.1	22.0	113190	16.2	19.8	426559	16.3	21.7	140970	16.3	19.0	357211	16.4	19.4	126989	16.5	19.6
143347	16.1	19.4	204699	16.2	20.2	307700	16.3	19.8	84770	16.3	18.3	12990	16.4	17.3	505918	16.5	20.8
488698	16.1	22.4	57741	16.2	19.2	88937	16.3	19.6	310404	16.3	21.5	306907	16.4	20.4	133038	16.5	19.5
224315	16.1	20.2	414230	16.2	20.0	405005	16.3	18.9	378893	16.3	20.9	15779	16.4	17.9	459756	16.5	20.3
145586	16.1	20.3	415515	16.2	21.2	43549	16.3	18.6	399621	16.3	20.4	101820	16.4	18.2	210102	16.5	19.5
114956	16.2	19.1	265667	16.2	21.5	429052	16.3	20.4	152627	16.3	18.0	341707	16.4	21.7	462291	16.5	21.2
57304	16.2	19.0	43683	16.2	19.6	246371	16.3	19.9	155983	16.3	20.1	282685	16.4	19.5	360533	16.5	20.8
502453	16.2	19.8	463285	16.2	20.3	501328	16.3	20.5	165889	16.3	19.1	76926	16.4	19.5	148626	16.5	19.5
26347	16.2	17.8	205896	16.2	18.9	335661	16.3	20.7	274321	16.4	20.4	92641	16.4	19.5	264506	16.5	21.2
221244	16.2	19.9	495005	16.2	19.9	473768	16.3	20.5	23540	16.4	17.6	243757	16.4	20.8	465441	16.5	21.7
31432	16.2	18.6	121010	16.2	19.3	100302	16.3	20.3	57453	16.4	18.2	88067	16.4	20.3	81954	16.5	19.6
146124	16.2	19.8	243177	16.2	20.8	60945	16.3	19.4	410500	16.4	20.4	434192	16.4	19.3	442809	16.5	21.2
453262	16.2	21.0	229194	16.2	19.8	160900	16.3	19.6	204303	16.4	19.9	359210	16.4	20.0	219421	16.5	20.6
280407	16.2	20.1	252330	16.2	20.2	241151	16.3	20.9	167097	16.4	19.8	461984	16.4	20.5	34749	16.5	18.3
465135	16.2	20.6	321280	16.2	19.5	381623	16.3	20.0	281619	16.4	20.3	342921	16.4	20.6	377340	16.5	21.3
465034	16.2	21.9	402539	16.2	20.0	337047	16.3	21.6	33557	16.4	18.4	101812	16.4	18.8	291112	16.5	20.9
61072	16.2	19.5	421417	16.2	19.7	192512	16.3	19.9	125764	16.4	18.9	458830	16.4	21.2	204353	16.5	20.7
224473	16.2	19.4	396605	16.2	22.2	359763	16.3	19.9	496249	16.4	21.9	279902	16.4	21.3	124483	16.5	19.5
31656	16.2	17.1	447219	16.2	21.9	473792	16.3	20.3	340675	16.4	20.2	331150	16.4	20.1	51824	16.5	19.1
194056	16.2	19.3	206164	16.2	20.0	31255	16.3	18.0	430256	16.4	20.2	188290	16.4	19.5	153172	16.5	18.4
342897	16.2	20.2	467466	16.2	21.3	483748	16.3	21.4	147098	16.4	18.9	84204	16.4	19.4	456644	16.5	21.3
34908	16.2	18.5	199684	16.2	20.3	150828	16.3	18.5	347302	16.4	21.4	24562	16.4	18.3	196942	16.5	19.7
99320	16.2	18.0	241877	16.2	21.0	174440	16.3	19.4	228153	16.4	20.8	502131	16.4	20.6	330942	16.5	21.0
341239	16.2	21.7	311286	16.2	19.5	13828	16.3	18.9	64062	16.4	19.0	371640	16.4	19.0	67798	16.5	18.7
267434	16.2	19.6	226055	16.2	19.8	151521	16.3	19.7	96470	16.4	19.4	313187	16.4	19.9	166970	16.5	20.5
1088	16.2	14.5	97658	16.2	18.6	431185	16.3	21.7	371751	16.4	20.1	55331	16.4	18.6	1176	16.5	14.9
371219	16.2	19.9	202366	16.2	19.6	351208	16.3	20.5	158992	16.4	19.7	318049	16.4	20.2	371775	16.5	20.0
453829	16.2	20.6	106764	16.2	20.1	65066	16.3	19.0	207439	16.4	19.7	49629	16.4	17.4	75929	16.5	17.9
338871	16.2	19.8	170368	16.2	20.0	330097	16.3	19.8	169227	16.4	18.7	378992	16.4	21.5	6009	16.5	17.0
224386	16.2	19.8	66956	16.2	18.8	345682	16.3	21.5	25851	16.4	17.8	503571	16.4	21.0	196555	16.5	20.8
415817	16.2	21.9	155367	16.2	19.9	1254	16.3	18.4	459070	16.4	19.8	90905	16.4	19.4	302228	16.5	21.6
437811	16.2	19.8	186260	16.2	19.9	202114	16.3	20.6	435227	16.4	20.7	421111	16.4	20.2	209137	16.5	20.2
321155	16.2	20.8	283914	16.2	19.6	4389	16.3	16.6	99513	16.4	19.6	267078	16.4	20.4	285922	16.5	21.4
433641	16.2	20.2	496103	16.2	20.2	258069	16.3	19.9	297691	16.4	19.8	452628	16.4	22.0	185270	16.5	19.8
258995	16.2	19.4	162568	16.2	20.5	413714	16.3	21.3	153966	16.4	19.5	94417	16.4	18.7	63436	16.5	19.6
20566	16.2	17.6	195480	16.2	19.6	502661	16.3	20.1	217946	16.4	21.3	509	16.4	13.4	296776	16.5	20.2
427527	16.2	20.9	288184	16.2	20.0	59514	16.3	18.7	184756	16.4	19.7	393248	16.4	19.6	163669	16.5	20.0
498592	16.2	21.3	243736	16.2	19.7	100190	16.3	18.7	508650	16.4	21.8	323170	16.4	20.4	468559	16.5	21.8
113257	16.2	19.2	181854	16.2	19.4	297073	16.3	20.1	114875	16.4	19.8	237381	16.4	20.2	337478	16.5	21.4
496175	16.2	20.2	148979	16.2	19.8	492712	16.3	21.6	3505	16.4	16.2	186186	16.4	20.4	465677	16.5	20.4
94698	16.2	19.5	153379	16.2	19.5	459549	16.3	20.2	308627	16.4	20.6	226315	16.4	19.2	330057	16.5	20.6
460228	16.2	21.1	208246	16.2	19.0	455625	16.3	22.4	178984	16.4	19.9	353937	16.4	21.6	80356	16.5	19.4
171534	16.2	20.6	281873	16.2	20.4	420403	16.3	20.5	97595	16.4	19.2	291334	16.4	19.3	373048	16.5	21.0
502111	16.2	20.4	378520	16.2	19.8	40856	16.3	19.0	466149	16.4	20.5	492487	16.4	20.1	244074	16.5	19.7
66150	16.2	17.4	56686	16.2	18.6	196147	16.3	19.7	338336	16.4	18.0	172580	16.4	19.6	492866	16.5	22.2
338523	16.2	19.6	301272	16.2	19.8	288781	16.3	19.6	364049	16.4	21.6	489610	16.4	21.4	218638	16.5	21.1
368782	16.2	20.4	456883	16.2	21.0	396737	16.3	22.1	313596	16.4	20.3	360420	16.4	19.5	110361	16.5	18.6
91119	16.2	19.5	372952	16.2	19.8	112358	16.3	18.8	36875	16.4	19.0	250160	16.4	20.1	171224	16.5	20.0
293802	16.2	21.3	427565	16.2	21.1	317338	16.3	20.0	59651	16.4	18.6	110903	16.4	20.5	423234	16.5	20.9
20237	16.2	17.4	431580	16.3	19.8	57288	16.3	18.1	163674	16.4	19.1	8173	16.4	17.6	414208	16.5	20.4
257658	16.2	19.3	501394	16.3	20.2	161786	16.3	19.3	43256	16.4	18.2	55565	16.4	19.9	205930	16.5	18.9
262651	16.2	20.4	382992	16.3	20.7	411467	16.3	21.1	381607	16.4	21.3	456610	16.4	19.7	176915	16.5	18.9
160116	16.2	20.2	256371	16.3	20.4	349545	16.3	19.8	386239	16.4	20.4	295290	16.4	20.1	422145	16.5	20.3
32386	16.2	19.1	456709	16.3	22.1	163394	16.3	20.0	462312	16.4	21.2	247070	16.4	20.3	258128	16.5	20.0
495984	16.2	21.2	104854	16.3	20.4	313387	16.3	21.6	150185	16.4	19.8	461571	16.4	21.4	47624	16.5	19.6
114072	16.2	18.7	349893	16.3	20.8	228700	16.3	20.8	220628	16.4	20.0	268123	16.4	19.7	165798	16.5	19.5
398361	16.2	20.4	150776	16.3	18.9	83441	16.3	18.5	164353	16.4	17.7	349036	16.4	20.5	6281	16.5	17.2
288565	16.2	20.1	111351	16.3	20.2	430365	16.3	20.2	233512	16.4	19.3	109950	16.5	18.9	221643	16.5	19.9
453928	16.2	20.0	428406	16.3	20.8	189777</td											

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

Nº	02	V	Nº	02	V												
231505	16.5	19.9	329983	16.6	20.9	409108	16.7	21.2	375291	16.7	21.0	92936	16.8	20.5	163482	16.9	19.6
148862	16.5	18.6	286966	16.6	22.1	67400	16.7	18.7	228725	16.7	19.3	313835	16.8	19.2	15627	16.9	18.3
370518	16.5	21.1	337956	16.6	20.9	120320	16.7	19.5	429040	16.7	19.7	128545	16.8	19.7	378721	16.9	20.9
48647	16.5	17.7	455610	16.6	20.9	94896	16.7	18.4	400180	16.7	20.6	241318	16.8	20.7	465991	16.9	20.5
340661	16.5	21.2	104583	16.6	19.3	434979	16.7	20.3	380341	16.7	20.2	337729	16.8	20.2	93445	16.9	19.6
159539	16.5	18.9	384464	16.6	20.1	450099	16.7	21.4	457013	16.7	20.5	170347	16.8	20.5	89675	16.9	18.9
127992	16.5	19.1	169301	16.6	20.1	245969	16.7	20.9	488510	16.7	22.1	462076	16.8	20.6	148511	16.9	19.6
502425	16.5	20.5	283586	16.6	19.3	184035	16.7	19.5	253081	16.7	20.2	459324	16.8	20.1	411190	16.9	21.4
237499	16.5	20.3	409893	16.6	20.2	203308	16.7	19.0	374552	16.7	20.9	350947	16.8	20.2	243756	16.9	20.4
222252	16.5	19.8	519612	16.6	20.5	396621	16.7	20.5	218684	16.7	19.6	203233	16.8	18.7	89656	16.9	19.5
236190	16.5	19.9	14582	16.6	16.5	56312	16.7	18.5	375402	16.7	20.5	126624	16.8	19.6	28322	16.9	18.0
355928	16.5	20.2	447281	16.6	21.3	74912	16.7	19.0	62608	16.8	19.3	62634	16.8	18.5	207583	16.9	21.1
453016	16.5	20.2	295629	16.6	20.3	87493	16.7	18.9	416947	16.8	20.6	465904	16.8	20.7	237667	16.9	20.1
461765	16.5	21.5	60416	16.6	17.8	14124	16.7	18.1	298957	16.8	20.0	498189	16.8	21.6	246186	16.9	20.3
41835	16.5	18.9	28537	16.6	18.7	384798	16.7	21.0	120168	16.8	19.3	477506	16.8	19.8	90151	16.9	18.9
462940	16.5	21.4	52802	16.6	18.9	396583	16.7	21.6	241674	16.8	20.6	90673	16.8	18.6	133111	16.9	19.8
466691	16.5	20.8	268381	16.6	20.3	469019	16.7	20.4	494671	16.8	22.2	261204	16.8	20.5	492832	16.9	21.5
406036	16.5	20.9	489514	16.6	22.1	289921	16.7	20.3	181732	16.8	20.4	341270	16.8	19.5	121035	16.9	17.1
98794	16.5	19.5	411741	16.6	20.3	498911	16.7	20.4	120879	16.8	19.5	18691	16.8	18.3	128948	16.9	19.8
324574	16.5	20.0	272828	16.6	20.9	410040	16.7	20.1	493727	16.8	21.2	501978	16.8	19.9	194443	16.9	19.6
248977	16.5	18.7	459943	16.6	21.0	255904	16.7	20.5	217793	16.8	20.1	129406	16.8	19.0	340640	16.9	20.7
496375	16.6	20.9	205636	16.6	21.2	488740	16.7	21.2	217840	16.8	20.2	501003	16.8	21.0	455158	16.9	21.0
384845	16.6	20.5	419063	16.6	20.9	93087	16.7	18.6	204614	16.8	20.0	456903	16.8	21.9	1132	16.9	15.9
52617	16.6	18.9	6678	16.6	16.7	273841	16.7	20.4	121278	16.8	19.3	104275	16.8	18.7	3833686	16.9	21.0
138527	16.6	20.1	457467	16.6	21.2	317388	16.7	20.0	301117	16.8	20.3	464176	16.8	21.5	165533	16.9	19.6
206982	16.6	20.0	13480	16.6	18.6	289066	16.7	21.0	80052	16.8	19.5	351619	16.8	20.8	172043	16.9	20.4
151924	16.6	20.3	115474	16.6	18.6	293649	16.7	20.1	298796	16.8	20.7	519365	16.8	21.2	113985	16.9	19.3
309394	16.6	20.5	255855	16.6	21.0	15587	16.7	18.7	205790	16.8	19.3	430621	16.8	19.6	217996	16.9	20.3
357517	16.6	19.9	200184	16.6	20.2	301695	16.7	20.5	182063	16.8	19.4	491419	16.8	21.1	197612	16.9	20.2
340824	16.6	20.3	45613	16.6	18.2	62846	16.7	18.2	462884	16.8	21.2	86294	16.8	18.6	133997	16.9	20.1
156511	16.6	20.1	269044	16.6	20.5	496385	16.7	21.7	189474	16.8	20.3	310412	16.8	20.6	172523	16.9	21.0
265681	16.6	20.8	37026	16.6	19.2	115068	16.7	19.6	417795	16.8	19.7	62113	16.8	18.6	215452	16.9	20.8
230077	16.6	20.4	183373	16.6	18.4	41681	16.7	18.6	83862	16.8	18.4	461923	16.8	21.1	158184	16.9	19.4
179867	16.6	20.0	520098	16.6	21.1	421738	16.7	20.3	498542	16.8	20.8	93938	16.8	19.3	171470	16.9	21.1
325290	16.6	20.8	56688	16.6	19.1	347990	16.7	19.9	465963	16.8	21.0	298968	16.8	20.8	50542	16.9	18.3
261456	16.6	20.9	268537	16.6	19.6	368208	16.7	20.7	205402	16.8	19.1	406897	16.8	20.2	120034	16.9	20.1
334610	16.6	20.6	303520	16.6	19.4	419157	16.7	21.6	209113	16.8	20.0	382404	16.9	20.3	41613	16.9	19.2
162786	16.6	19.2	240394	16.6	20.5	382131	16.7	20.3	211856	16.8	19.5	334125	16.9	20.7	34938	16.9	19.7
401323	16.6	20.4	406124	16.6	21.3	330915	16.7	20.5	515739	16.8	19.8	346936	16.9	19.5	237975	16.9	21.1
282212	16.6	19.0	367685	16.6	19.9	402070	16.7	21.6	357579	16.8	21.0	53367	16.9	18.6	19868	16.9	17.7
484347	16.6	19.5	154504	16.6	18.9	369904	16.7	21.2	436253	16.8	20.0	489358	16.9	21.1	304369	16.9	21.2
764445	16.6	18.7	450421	16.6	20.3	310749	16.7	19.1	313005	16.8	20.2	117316	16.9	19.2	458847	16.9	21.1
404652	16.6	21.7	382502	16.6	21.0	8429	16.7	17.8	341641	16.8	21.1	288762	16.9	21.0	152736	16.9	19.8
418324	16.6	21.0	21170	16.6	20.3	108773	16.7	18.7	416905	16.8	21.0	266598	16.9	20.6	506398	16.9	22.4
19601	16.6	19.5	117145	16.6	19.4	317567	16.7	20.2	448134	16.8	21.1	20775	16.9	18.3	375335	16.9	20.7
75083	16.6	19.4	419573	16.6	22.1	357391	16.7	21.1	178255	16.8	18.6	33664	16.9	18.3	48012	16.9	18.2
294268	16.6	20.8	436831	16.6	20.7	210581	16.7	20.4	498549	16.8	22.0	172689	16.9	19.4	168345	16.9	19.3
420784	16.6	21.8	338401	16.6	20.3	158322	16.7	19.8	217468	16.8	20.9	276856	16.9	21.0	187863	16.9	20.1
204244	16.6	19.9	159079	16.6	20.0	361178	16.7	21.1	405516	16.8	19.5	272798	16.9	19.1	445097	16.9	20.7
298917	16.6	21.0	28333	16.6	18.2	505930	16.7	20.4	9380	16.8	17.4	18196	16.9	17.6	240525	16.9	20.1
287108	16.6	20.9	200167	16.6	19.6	386212	16.7	20.2	501287	16.8	20.5	154539	16.9	20.0	93898	16.9	19.0
212637	16.6	20.3	428844	16.6	21.0	132168	16.7	19.1	162640	16.8	18.8	384602	16.9	19.8	460710	16.9	20.5
115942	16.6	18.8	451896	16.6	21.6	425511	16.7	20.8	360753	16.8	20.0	386959	16.9	20.3	405947	16.9	21.0
321418	16.6	20.2	428356	16.6	21.1	98482	16.7	18.3	411451	16.8	21.4	332930	16.9	20.3	420746	16.9	20.4
35619	16.6	18.0	454703	16.6	20.3	369294	16.7	21.2	373293	16.8	20.1	37311	16.9	17.8	83110	16.9	19.5
339467	16.6	20.7	82771	16.6	19.3	82604	16.7	19.9	267493	16.8	20.7	242638	16.9	20.1	55015	16.9	18.3
221231	16.6	20.7	354882	16.7	20.3	430729	16.7	20.2	6168	16.8	17.2	502439	16.9	20.1	290248	16.9	20.4
91373	16.6	19.9	168925	16.7	19.2	346837	16.7	20.2	49488	16.8	17.3	241175	16.9	20.7	96750	16.9	18.0
245505	16.6	20.6	85006	16.7	18.0	222269	16.7	20.2	173314	16.8	20.3	454633	16.9	20.6	500366	16.9	21.4
453278	16.6	21.7	104804	16.7	19.4	370777	16.7	20.4	508229	16.8	21.0	111562	16.9	19.4	81962	16.9	19.3
21653	16.6	18.9	429740	16.7	20.9	36											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
427603	16.9	20.8	244614	17.0	19.9	469162	17.1	20.9	126655	17.2	19.4	160893	17.2	20.2	383666	17.3	21.3
413971	16.9	20.9	353818	17.0	21.6	318054	17.1	20.1	151308	17.2	19.4	298899	17.2	20.3	194025	17.3	20.7
116465	16.9	19.5	5200	17.0	16.5	210040	17.1	20.1	231639	17.2	19.6	404920	17.2	20.8	37378	17.3	18.7
7689	16.9	18.3	168504	17.0	19.9	78431	17.1	19.4	111022	17.2	18.5	259030	17.2	20.3	193949	17.3	19.7
12676	16.9	17.9	518368	17.0	20.6	241601	17.1	19.3	214595	17.2	19.7	32340	17.2	17.4	354908	17.3	18.9
343047	16.9	20.6	158260	17.0	20.4	420793	17.1	21.0	9621	17.2	16.6	725	17.2	15.4	299316	17.3	21.5
109467	16.9	19.7	113897	17.0	20.4	14724	17.1	19.0	229155	17.2	20.2	140600	17.2	17.8	236696	17.3	20.0
409867	16.9	20.6	179920	17.0	21.1	396877	17.1	20.7	462008	17.2	21.4	467532	17.2	21.4	506226	17.3	20.7
430397	16.9	20.0	160743	17.0	19.6	269570	17.1	20.3	346806	17.2	19.8	498997	17.2	20.6	457079	17.3	19.6
408754	16.9	22.2	365166	17.0	21.1	334934	17.1	19.8	198956	17.2	19.9	14469	17.2	18.0	472619	17.3	20.7
315579	16.9	20.1	341761	17.0	20.6	456601	17.1	20.4	101529	17.2	18.8	686	17.2	14.7	459964	17.3	21.4
372514	16.9	21.6	360395	17.0	21.0	88916	17.1	18.5	112314	17.2	20.0	154274	17.2	19.1	60165	17.3	19.0
468591	16.9	20.8	496350	17.0	21.4	114982	17.1	20.0	432160	17.2	20.4	127101	17.2	20.1	87695	17.3	18.7
79200	16.9	20.0	139239	17.0	20.7	457049	17.1	20.4	309494	17.2	20.9	274865	17.2	21.2	27967	17.3	17.4
9055	16.9	19.0	79427	17.0	19.5	73090	17.1	18.7	201921	17.2	19.4	437551	17.2	20.6	222344	17.3	20.2
161881	16.9	19.4	403098	17.0	20.3	37495	17.1	19.0	234910	17.2	19.6	2713	17.2	15.4	3228	17.3	15.2
295839	16.9	19.5	151211	17.0	20.1	20357	17.1	18.4	144521	17.2	19.3	397255	17.2	20.0	159759	17.3	19.2
465944	16.9	20.4	345547	17.0	21.4	18426	17.1	17.4	225293	17.2	20.7	75129	17.2	19.3	381278	17.3	20.4
76848	16.9	17.8	375044	17.0	20.7	165671	17.1	19.9	168292	17.2	19.6	192310	17.2	19.5	131990	17.3	19.6
18996	16.9	16.6	85184	17.0	19.8	250598	17.1	21.0	192719	17.2	19.4	417600	17.2	21.0	170808	17.3	19.2
371967	16.9	21.2	295799	17.0	19.4	200569	17.1	20.4	93686	17.2	19.4	273733	17.2	20.7	282352	17.3	20.0
417298	16.9	19.7	163590	17.0	19.0	505823	17.1	20.6	4040	17.2	16.7	171912	17.2	19.8	152305	17.3	18.9
4398	16.9	15.5	343655	17.1	20.0	71266	17.1	19.3	159867	17.2	20.4	492999	17.2	21.6	143186	17.3	19.7
338210	16.9	19.8	276841	17.1	20.6	508352	17.1	21.1	293759	17.2	19.9	349847	17.2	20.0	279610	17.3	19.5
20480	16.9	18.1	433138	17.1	21.2	31498	17.1	17.9	125089	17.2	19.7	271158	17.2	21.1	147282	17.3	20.0
15594	16.9	17.2	335977	17.1	21.3	460377	17.1	20.2	212129	17.2	20.4	452654	17.2	20.4	167805	17.3	18.8
255234	16.9	20.5	209614	17.1	18.9	225078	17.1	19.4	8811	17.2	17.5	454430	17.2	21.2	336310	17.3	20.8
285774	16.9	20.0	294241	17.1	20.0	208256	17.1	20.1	463317	17.2	21.2	226819	17.2	20.1	281183	17.3	20.3
83797	16.9	18.7	194455	17.1	18.6	327879	17.1	20.5	473956	17.2	20.6	129992	17.3	18.8	9019	17.3	17.8
417668	16.9	19.6	169121	17.1	20.2	466364	17.1	20.2	69025	17.2	19.0	461692	17.3	21.8	330911	17.3	20.9
380110	16.9	20.8	465143	17.1	20.7	427050	17.1	20.1	20369	17.2	18.4	168492	17.3	20.5	487586	17.3	21.0
110764	16.9	18.1	137029	17.1	21.2	413067	17.1	21.5	169397	17.2	20.7	185215	17.3	20.8	300257	17.3	20.5
245805	16.9	20.6	262807	17.1	20.0	409999	17.1	22.3	129900	17.2	19.4	320419	17.3	20.0	167513	17.3	19.2
327350	16.9	20.2	296591	17.1	19.5	339555	17.1	20.3	275193	17.2	20.8	238762	17.3	20.7	211895	17.3	19.8
256566	16.9	20.6	247998	17.1	19.4	11076	17.1	17.8	14313	17.2	18.2	88456	17.3	20.3	327824	17.3	19.8
192957	16.9	19.2	500561	17.1	20.9	284826	17.1	19.9	192379	17.2	20.2	360589	17.3	20.1	32268	17.3	18.9
113525	16.9	19.3	330129	17.1	20.2	210091	17.1	19.9	417182	17.2	20.3	383635	17.3	20.3	160803	17.3	20.0
247601	16.9	19.4	239459	17.1	19.4	310922	17.1	19.8	308728	17.2	19.4	114613	17.3	19.6	158339	17.3	21.1
220461	16.9	20.0	145272	17.1	20.7	161532	17.1	18.9	26345	17.2	17.8	53777	17.3	17.6	469724	17.3	20.8
106456	16.9	19.1	95680	17.1	18.9	327391	17.1	20.2	428513	17.2	20.8	55234	17.3	17.4	50073	17.3	18.6
304944	16.9	20.6	353222	17.1	22.0	154544	17.1	19.5	98331	17.2	17.8	451536	17.3	20.6	316883	17.3	20.7
327913	16.9	20.4	89331	17.1	17.7	455214	17.1	21.2	341652	17.2	20.5	34889	17.3	19.8	522208	17.3	21.1
294179	16.9	20.6	240019	17.1	20.2	61399	17.1	19.1	370184	17.2	19.6	257467	17.3	20.9	419021	17.3	21.0
280039	16.9	19.1	333243	17.1	19.5	144549	17.1	19.4	276217	17.2	20.4	497305	17.3	22.2	412131	17.3	21.0
414875	16.9	21.5	273366	17.1	21.0	462947	17.1	20.3	62575	17.2	18.4	504548	17.3	22.4	370765	17.3	20.3
396253	16.9	20.1	242032	17.1	19.9	203883	17.1	19.5	490705	17.2	20.6	500250	17.3	21.2	459369	17.3	20.2
140446	16.9	18.6	236171	17.1	20.0	65034	17.1	19.7	359408	17.2	19.9	341573	17.3	20.1	429745	17.3	21.4
184070	17.0	20.9	306139	17.1	21.0	109156	17.1	19.0	374110	17.2	21.1	261219	17.3	20.4	92432	17.3	19.2
430701	17.0	20.2	367521	17.1	20.9	279167	17.1	20.3	320395	17.2	20.8	237194	17.3	20.9	121432	17.3	19.7
233083	17.0	20.1	197778	17.1	20.1	201276	17.1	20.4	422015	17.2	20.8	234948	17.3	20.8	97341	17.3	18.2
414907	17.0	20.9	93260	17.1	18.8	112849	17.1	19.5	489562	17.2	21.4	332413	17.3	20.8	232350	17.3	19.1
346077	17.0	20.9	346072	17.1	21.9	206852	17.1	19.2	417036	17.2	20.5	238826	17.3	20.8	69043	17.3	19.4
218656	17.0	19.6	450408	17.1	21.2	289565	17.1	19.9	462016	17.2	19.9	48575	17.3	17.8	419808	17.3	21.6
203587	17.0	20.4	267034	17.1	19.2	60291	17.1	19.7	291977	17.2	20.8	422153	17.3	20.5	243763	17.3	20.9
237311	17.0	20.7	352663	17.1	20.7	118274	17.1	19.4	123024	17.2	19.5	132101	17.3	19.3	38826	17.3	17.4
251035	17.0	20.7	251570	17.1	20.8	20291	17.1	18.2	363142	17.2	21.2	382647	17.3	20.6	233995	17.3	20.5
108796	17.0	19.1	384749	17.1	21.2	176569	17.1	18.5	57602	17.2	18.7	127221	17.3	18.8	453035	17.3	21.5
455394	17.0	19.2	138163	17.1	18.1	355915	17.1	19.3	20261	17.2	20.4	204378	17.3	20.3	301992	17.3	20.1
39952	17.0	18.7	400247	17.1	21.6	64725	17.1	17.5	207024	17.2	19.3	64473	17.3	19.7	429358	17.3	20.4
327303	17.0	20.4	3506	17.1	16.0	1026	17.1	16.1	208260	17.2	19.4	331942	17.3	20.8	48109	17.4	18.4
266776	17.0	20.3	59223	17.1	18.9	127630	17.1</										

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

Nº	02	V															
368705	17.4	20.7	108410	17.4	20.2	12924	17.5	18.8	430504	17.6	21.4	256697	17.6	19.5	380949	17.7	21.2
319642	17.4	20.2	130495	17.4	18.9	140765	17.5	19.5	126198	17.6	19.1	423624	17.6	21.3	207974	17.7	20.6
393617	17.4	20.5	378821	17.4	20.3	96664	17.5	18.8	365152	17.6	19.7	340837	17.6	20.3	433591	17.7	20.4
415810	17.4	20.6	16563	17.4	16.6	139299	17.5	18.6	498959	17.6	20.5	137092	17.6	19.9	242389	17.7	19.8
126999	17.4	20.1	159556	17.4	20.3	297768	17.5	20.5	365342	17.6	21.4	7519	17.6	18.6	445967	17.7	19.9
381189	17.4	20.1	231357	17.4	20.3	238687	17.5	20.2	292814	17.6	21.5	284397	17.6	21.3	258331	17.7	19.3
150504	17.4	19.9	135208	17.4	18.9	2771	17.5	17.4	503141	17.6	20.0	133957	17.6	19.3	251290	17.7	20.3
53536	17.4	18.6	58438	17.4	18.8	29791	17.5	18.2	364202	17.6	21.4	308659	17.6	20.5	499802	17.7	20.5
157004	17.4	20.2	498229	17.4	21.1	207570	17.5	20.3	138739	17.6	20.6	308769	17.6	20.3	126173	17.7	19.9
41937	17.4	18.5	46725	17.4	18.0	322717	17.5	21.0	496017	17.6	20.6	459364	17.6	20.7	56501	17.7	18.5
494714	17.4	21.8	402092	17.4	21.1	368600	17.5	20.7	320929	17.6	19.9	217331	17.6	19.9	24812	17.7	18.7
498070	17.4	21.1	45969	17.4	18.5	135218	17.5	19.5	45897	17.6	19.0	17555	17.6	17.4	429605	17.7	20.3
9088	17.4	17.8	73587	17.4	19.6	90968	17.5	20.4	302842	17.6	20.3	143219	17.6	18.0	121057	17.7	18.9
26370	17.4	16.8	82868	17.4	19.4	15953	17.5	18.3	205452	17.6	20.0	408173	17.7	19.8	429889	17.7	21.2
453403	17.4	20.1	465989	17.5	21.3	77898	17.5	17.7	425899	17.6	19.9	175710	17.7	19.6	373843	17.7	20.2
99640	17.4	18.8	186116	17.5	19.6	401360	17.5	20.3	522410	17.6	21.7	498883	17.7	20.6	296282	17.7	20.5
466798	17.4	20.7	232854	17.5	20.3	281775	17.5	19.9	178352	17.6	20.3	169256	17.7	19.7	508651	17.7	21.4
393971	17.4	21.2	37643	17.5	18.9	500590	17.5	21.1	491044	17.6	21.6	460054	17.7	21.8	326024	17.7	20.4
431587	17.4	20.9	55808	17.5	19.1	496871	17.5	22.2	134302	17.6	20.6	259005	17.7	19.9	299531	17.7	19.1
492421	17.4	21.3	35460	17.5	18.6	296933	17.5	18.8	493755	17.6	21.3	412218	17.7	20.2	29327	17.7	16.7
260035	17.4	18.8	432044	17.5	20.5	373226	17.5	20.5	112700	17.6	19.1	279881	17.7	20.5	127738	17.7	19.4
201476	17.4	19.3	248853	17.5	20.9	120640	17.5	18.6	304839	17.6	20.6	168458	17.7	19.9	463536	17.7	21.9
52228	17.4	18.9	449561	17.5	20.6	498545	17.5	21.9	146405	17.6	20.0	26463	17.7	17.4	103987	17.7	20.4
223737	17.4	20.4	16050	17.5	16.8	426602	17.5	20.4	38189	17.6	18.2	471648	17.7	19.2	126762	17.7	19.6
414162	17.4	19.9	352170	17.5	19.0	344197	17.5	20.4	1086	17.6	13.9	317134	17.7	20.8	425304	17.7	20.2
87982	17.4	19.8	361163	17.5	20.7	500777	17.5	20.0	293811	17.6	20.6	496380	17.7	21.5	293687	17.7	20.9
289162	17.4	21.0	414774	17.5	22.3	419505	17.5	20.4	500625	17.6	21.0	498242	17.7	21.0	134871	17.7	19.3
334448	17.4	19.7	156984	17.5	20.8	121110	17.5	19.8	222772	17.6	19.1	142502	17.7	20.2	343026	17.7	20.5
464125	17.4	20.8	259785	17.5	19.5	223245	17.5	19.6	58695	17.6	17.9	335895	17.7	20.9	430368	17.7	20.2
84947	17.4	18.6	428449	17.5	21.4	204664	17.5	18.8	305630	17.6	18.3	498559	17.7	20.7	122371	17.7	19.9
142290	17.4	19.5	384262	17.5	20.2	171384	17.5	20.1	195601	17.6	19.9	1714	17.7	15.6	221234	17.7	20.4
32843	17.4	18.5	411233	17.5	21.6	237232	17.5	20.4	173192	17.6	19.6	403308	17.7	19.7	422084	17.7	19.4
171907	17.4	20.9	109948	17.5	19.7	186570	17.5	19.5	345546	17.6	21.5	341669	17.7	20.3	6056	17.7	17.0
165269	17.4	21.2	343412	17.5	20.1	29416	17.5	18.6	496732	17.6	20.2	164152	17.7	18.9	462017	17.7	20.6
385229	17.4	21.2	164311	17.5	20.3	124271	17.5	19.8	54458	17.6	18.6	128279	17.7	19.6	231678	17.7	20.1
130757	17.4	20.0	14668	17.5	17.2	520100	17.5	20.7	114708	17.6	20.0	407811	17.7	20.3	251518	17.7	20.4
331295	17.4	20.7	337435	17.5	20.7	140874	17.5	19.7	287090	17.6	21.8	328735	17.7	20.5	456673	17.7	21.6
239897	17.4	21.1	226774	17.5	20.7	270402	17.5	20.3	400294	17.6	21.6	310952	17.7	20.7	288618	17.7	21.0
453056	17.4	20.6	138402	17.5	17.6	384864	17.5	20.6	243207	17.6	19.9	4677	17.7	16.8	367333	17.7	20.0
81296	17.4	19.5	114762	17.5	20.2	425601	17.5	20.4	383674	17.6	20.9	358453	17.7	20.6	32132	17.7	18.2
28215	17.4	17.4	251730	17.5	21.1	67299	17.6	18.9	13907	17.6	17.7	503472	17.7	21.1	241280	17.7	19.8
41672	17.4	17.5	273138	17.5	20.4	31908	17.6	18.9	508642	17.6	22.0	357364	17.7	21.5	205810	17.7	19.9
170114	17.4	20.1	473884	17.5	21.0	433256	17.6	21.1	243619	17.6	19.9	29945	17.7	16.4	324448	17.7	20.1
320704	17.4	19.5	463596	17.5	21.2	281058	17.6	21.5	418955	17.6	20.8	423444	17.7	21.9	90024	17.8	19.4
266410	17.4	20.0	178301	17.5	19.7	250256	17.6	19.7	229626	17.6	19.9	372596	17.7	21.0	260733	17.8	19.9
85138	17.4	19.8	89643	17.5	20.0	119706	17.6	19.5	329847	17.6	21.1	324507	17.7	20.6	69827	17.8	18.5
4319	17.4	17.7	456876	17.5	21.5	428997	17.6	21.3	199894	17.6	20.4	117459	17.7	19.6	312997	17.8	21.2
109880	17.4	19.1	497631	17.5	21.6	298932	17.6	20.7	86379	17.6	18.2	307250	17.7	19.4	206106	17.8	20.4
217896	17.4	21.0	375844	17.5	20.9	153979	17.6	19.5	401980	17.6	21.1	250379	17.7	20.5	17867	17.8	17.8
360787	17.4	21.4	371256	17.5	21.0	493033	17.6	21.2	90602	17.6	20.0	12821	17.7	17.2	306043	17.8	21.2
345714	17.4	21.7	415838	17.5	21.4	170858	17.6	19.3	241787	17.6	19.5	372013	17.7	20.8	205275	17.8	19.8
334601	17.4	21.0	284373	17.5	20.8	212343	17.6	20.2	11326	17.6	17.6	368629	17.7	20.9	429918	17.8	21.1
45130	17.4	18.2	181686	17.5	19.8	58721	17.6	17.0	176371	17.6	20.6	307960	17.7	19.6	417732	17.8	19.6
366874	17.4	21.7	470012	17.5	21.5	352702	17.6	20.6	419578	17.6	21.7	56845	17.7	19.3	425014	17.8	20.6
197517	17.4	19.1	468955	17.5	20.8	424999	17.6	20.7	501356	17.6	21.0	189480	17.7	20.1	8486	17.8	17.9
329830	17.4	21.4	147297	17.5	18.8	345550	17.6	20.1	329089	17.6	21.0	425927	17.7	20.9	173256	17.8	19.8
49266	17.4	18.2	383672	17.5	20.4	120591	17.6	19.3	241518	17.6	19.7	382385	17.7	21.4	233588	17.8	20.2
411356	17.4	20.3	163663	17.5	19.8	370545	17.6	20.6	420888	17.6	21.2	159591	17.7	19.7	421245	17.8	20.8
454318	17.4	21.1	128593	17.5	20.4	495835	17.6	22.6	119507	17.6	19.0	297046	17.7	21.3	228271	17.8	21.0
205308	17.4	20.7	258183	17.5	19.5	336030	17.6	20.0	236059	17.6	20.8	246738	17.7	20.0	323433	17.8	19.4
72060	17.4	17.7	14415	17.5	18.7	3798											

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

Nº	02	V	Nº	02	V	Nº	02	V									
17298	17.8	17.4	346858	17.9	20.4	458958	17.9	20.9	229028	17.9	19.7	441862	18.1	21.4	419097	18.1	21.2
465190	17.8	21.0	32214	17.9	18.7	205597	17.9	20.1	133188	17.9	20.1	403302	18.1	20.1	379100	18.1	20.6
71228	17.8	18.9	499942	17.9	20.7	28089	17.9	18.0	282135	17.9	20.3	89910	18.1	20.0	286192	18.1	20.8
159681	17.8	19.8	394828	17.9	21.2	340589	17.9	20.3	437738	17.9	21.0	109849	18.1	19.8	277835	18.1	20.9
102339	17.8	18.3	90	17.9	13.5	375847	17.9	20.2	464224	17.9	20.5	56889	18.1	18.6	108937	18.1	20.5
456734	17.8	21.2	383782	17.9	20.2	392749	17.9	21.7	281589	17.9	20.9	463612	18.1	21.0	190746	18.1	19.7
263848	17.8	19.6	456895	17.9	21.2	165695	17.9	20.2	241344	17.9	20.4	381334	18.1	18.8	366772	18.1	20.4
304034	17.8	20.6	419033	17.9	21.5	137263	17.9	19.8	45732	17.9	18.3	124947	18.1	19.6	72102	18.1	18.4
522468	17.8	20.3	512234	17.9	20.3	309373	17.9	20.7	381252	18.0	19.5	407770	18.1	19.9	94582	18.1	18.6
79218	17.8	19.6	310114	17.9	20.4	430920	17.9	20.8	229958	18.0	21.3	231780	18.1	20.5	255553	18.1	20.1
140971	17.8	20.0	192603	17.9	19.4	97975	17.9	19.7	172963	18.0	19.4	340711	18.1	20.3	400827	18.1	20.9
87890	17.8	19.1	6631	17.9	16.7	323780	17.9	20.1	399552	18.0	20.8	173140	18.1	20.6	453248	18.1	21.5
29244	17.8	17.4	9908	17.9	17.3	431442	17.9	20.8	56590	18.0	18.4	61080	18.1	19.5	150761	18.1	19.0
138261	17.8	18.2	4005	17.9	16.7	230804	17.9	19.5	415969	18.0	21.2	255907	18.1	20.4	265744	18.1	20.3
116127	17.8	19.7	152521	17.9	19.8	493045	17.9	22.2	457603	18.0	21.0	283617	18.1	19.2	383383	18.1	20.8
157334	17.8	20.0	1758	17.9	15.4	100589	17.9	19.8	208257	18.0	19.8	422645	18.1	21.8	47879	18.1	18.1
199375	17.8	20.1	246254	17.9	20.1	218047	17.9	19.8	266888	18.0	20.4	501344	18.1	20.5	42109	18.1	18.8
396975	17.8	20.3	411372	17.9	19.9	212783	17.9	19.3	506358	18.0	21.2	409911	18.1	21.5	212332	18.1	20.9
497694	17.8	21.9	346041	17.9	19.9	31844	17.9	18.7	132032	18.0	19.2	74664	18.1	19.7	197025	18.1	21.7
426854	17.8	19.6	402744	17.9	20.3	232941	17.9	20.3	150724	18.0	19.4	419987	18.1	20.5	63131	18.1	18.5
492747	17.8	21.7	40852	17.9	18.7	253255	17.9	19.3	380447	18.0	21.0	271297	18.1	20.7	456682	18.1	21.5
494813	17.8	22.0	304568	17.9	20.6	5292	17.9	16.6	387058	18.0	20.6	309340	18.1	21.7	166300	18.1	19.5
491071	17.8	22.0	341412	17.9	19.9	108752	17.9	19.5	413156	18.0	20.8	69528	18.1	18.4	506313	18.1	21.7
497017	17.8	20.0	206800	17.9	18.8	360292	17.9	20.6	348247	18.0	21.3	366435	18.1	21.3	306503	18.1	20.0
238858	17.8	20.1	506305	17.9	21.2	115619	17.9	19.8	231571	18.0	20.4	400578	18.1	20.5	224896	18.1	19.8
500448	17.8	21.1	277188	17.9	20.5	228109	17.9	19.4	500282	18.0	20.2	113935	18.1	19.8	461731	18.1	21.1
517195	17.8	21.3	8803	17.9	19.1	6554	17.9	18.0	376161	18.0	21.2	378817	18.1	21.1	506808	18.1	22.7
221279	17.8	19.5	383342	17.9	19.8	128924	17.9	19.2	404149	18.0	20.6	17006	18.1	17.4	121626	18.1	19.2
426785	17.8	21.3	500418	17.9	21.9	469156	17.9	21.4	374166	18.0	20.4	263598	18.1	20.7	58182	18.1	19.4
77862	17.8	18.6	122989	17.9	19.7	491747	17.9	21.3	455450	18.0	21.9	47772	18.1	18.7	379058	18.1	20.3
501423	17.8	20.7	242465	17.9	19.5	127048	17.9	19.7	468828	18.0	21.3	503659	18.1	21.7	274866	18.1	20.8
279518	17.8	20.2	358005	17.9	21.2	210094	17.9	20.3	343096	18.0	19.8	7799	18.1	16.8	194064	18.1	21.0
164822	17.8	19.8	230414	17.9	18.7	467449	17.9	20.8	93102	18.0	18.8	216431	18.1	20.7	203376	18.1	19.5
360758	17.8	19.9	38783	17.9	18.8	30922	17.9	17.6	30933	18.0	18.5	473184	18.1	21.3	502719	18.1	20.6
46333	17.8	18.2	194376	17.9	19.3	50545	17.9	16.9	59526	18.0	18.9	141127	18.1	18.5	112470	18.1	18.8
36935	17.8	18.1	519621	17.9	22.0	142516	17.9	19.5	520956	18.0	21.2	405956	18.1	21.1	484724	18.2	20.1
435916	17.8	20.2	413093	17.9	20.6	268059	17.9	20.6	29869	18.0	17.7	208324	18.1	19.8	407663	18.2	21.1
190433	17.8	19.6	363128	17.9	20.9	373239	17.9	20.6	33384	18.0	18.6	216323	18.1	19.9	161536	18.2	19.0
296907	17.8	20.0	273040	17.9	20.0	249532	17.9	20.6	7842	18.0	18.1	402056	18.1	21.5	154492	18.2	19.7
450461	17.8	21.7	133275	17.9	19.9	26541	17.9	17.9	409667	18.0	20.4	13581	18.1	15.9	519596	18.2	21.0
5659	17.8	18.4	36141	17.9	19.3	33299	17.9	18.5	284814	18.0	20.9	256949	18.1	19.8	131984	18.2	19.3
332888	17.8	20.0	415890	17.9	21.9	170944	17.9	20.0	495041	18.0	21.8	1328471	18.1	19.5	298886	18.2	20.7
138037	17.8	18.8	8215	17.9	16.9	280659	17.9	19.8	492472	18.0	21.7	28049	18.1	17.8	506725	18.2	21.9
171924	17.8	20.1	23214	17.9	18.5	437448	17.9	20.6	340553	18.0	21.1	224659	18.1	20.1	317555	18.2	20.6
439438	17.8	20.2	462864	17.9	21.2	138168	17.9	20.1	477386	18.0	20.8	2531	18.1	14.9	200791	18.2	20.8
135649	17.8	20.7	238749	17.9	20.3	46728	17.9	18.0	378813	18.0	20.9	88980	18.1	19.7	500217	18.2	21.4
309746	17.8	19.3	317072	17.9	20.3	149495	17.9	18.9	29800	18.0	17.9	32099	18.1	18.4	43827	18.2	18.2
140964	17.8	20.1	186278	17.9	20.3	250226	17.9	19.7	368268	18.0	20.0	470937	18.1	21.0	398642	18.2	20.4
341444	17.8	20.3	427451	17.9	21.4	427540	17.9	20.9	363644	18.0	20.8	215861	18.1	19.5	58737	18.2	18.1
18933	17.8	18.3	427563	17.9	20.9	386524	17.9	20.9	346872	18.0	20.0	291047	18.1	20.8	205262	18.2	20.0
116074	17.8	19.7	444426	17.9	20.1	417617	17.9	21.6	386525	18.0	20.9	240519	18.1	20.3	269069	18.2	20.4
199252	17.8	19.7	97754	17.9	19.7	459900	17.9	21.6	302699	18.0	21.1	83084	18.1	18.4	30812	18.2	18.8
19179	17.8	17.5	165450	17.9	19.4	467104	17.9	19.3	368673	18.0	21.9	403530	18.1	20.6	104247	18.2	19.5
226907	17.8	20.5	376972	17.9	21.1	492653	17.9	21.9	39350	18.0	19.2	328295	18.1	19.6	341627	18.2	20.8
129974	17.8	19.9	71687	17.9	18.7	428180	17.9	21.2	61270	18.0	19.5	95281	18.1	19.5	377629	18.2	21.8
459663	17.8	21.5	117412	17.9	19.3	296535	17.9	21.0	272925	18.0	21.3	436682	18.1	22.2	56833	18.2	18.8
91516	17.8	18.8	316268	17.9	20.4	401008	17.9	20.1	323763	18.0	20.7	421719	18.1	19.7	186015	18.2	20.9
171943	17.8	19.7	250185	17.9	21.2	153304	17.9	20.2	121204	18.0	18.3	171385	18.1	20.1	501435	18.2	20.9
224285	17.8	20.3	171267	17.9	19.8	132844	17.9	20.5	412957	18.0	20.1	482818	18.1	20.9	503733	18.2	20.7
275580	17.8	21.6	268981	17.9	20.8	135111	17.9	18.8	30695	18.0	18.7	208984	18.1	17.9	179760	18.2	20.5
446875	17.8	20.0	298879	17.9	20.8	380423	17.9										

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
61521	18.2	18.3	88058	18.2	18.9	313408	18.3	19.3	436346	18.4	21.4	128825	18.4	19.6	341513	18.5	20.1
294375	18.2	18.9	37132	18.3	17.2	14420	18.3	17.6	402703	18.4	21.4	232995	18.4	19.6	51547	18.5	19.5
281354	18.2	21.1	467329	18.3	21.9	140263	18.3	21.1	174373	18.4	19.4	182305	18.4	19.7	84731	18.5	17.9
68463	18.2	19.1	326374	18.3	20.6	96433	18.3	19.3	348565	18.4	20.9	92659	18.4	19.4	500047	18.5	21.4
64624	18.2	19.1	385076	18.3	20.0	337470	18.3	20.4	35387	18.4	18.6	289451	18.4	19.8	489180	18.5	21.6
499270	18.2	20.7	116489	18.3	19.7	301071	18.3	21.8	291881	18.4	20.9	455381	18.4	20.1	61441	18.5	18.7
493676	18.2	20.5	405921	18.3	21.9	87511	18.3	19.2	87626	18.4	18.7	467886	18.4	20.3	343015	18.5	20.9
435999	18.2	21.0	86730	18.3	20.6	432228	18.3	21.2	311306	18.4	19.6	285835	18.4	20.1	1704	18.5	15.0
10578	18.2	19.8	253283	18.3	18.4	456915	18.3	21.6	132377	18.4	19.6	63587	18.5	19.2	493048	18.5	21.4
237034	18.2	19.5	83134	18.3	19.0	275159	18.3	20.0	249062	18.4	20.3	249058	18.5	20.4	522675	18.5	21.1
40520	18.2	18.6	252249	18.3	19.9	37607	18.3	18.6	429022	18.4	20.7	390671	18.5	20.4	76188	18.5	18.9
208729	18.2	20.0	508574	18.3	20.8	81554	18.3	19.9	307340	18.4	20.5	30696	18.5	17.3	495383	18.5	21.8
234417	18.2	19.7	101706	18.3	19.6	190738	18.3	19.3	82798	18.4	19.4	508967	18.5	20.6	48055	18.5	18.6
209061	18.2	20.8	147191	18.3	19.3	329184	18.3	20.4	455661	18.4	20.3	263781	18.5	20.5	43334	18.5	17.2
28938	18.2	17.6	59359	18.3	17.8	517203	18.3	21.7	346695	18.4	20.5	150170	18.5	19.6	91559	18.5	19.2
331340	18.2	21.2	243789	18.3	20.8	513025	18.3	20.9	165547	18.4	19.0	371964	18.5	20.3	170234	18.5	19.7
378758	18.2	21.4	301660	18.3	20.1	30883	18.3	19.1	110147	18.4	20.1	164715	18.5	18.1	225591	18.5	19.8
4168	18.2	16.3	340593	18.3	20.6	302232	18.3	20.2	414794	18.4	22.5	329098	18.5	20.7	212316	18.5	20.5
294708	18.2	19.7	185210	18.3	20.1	124829	18.3	19.8	258667	18.4	20.2	246112	18.5	20.1	285437	18.5	20.4
181634	18.2	19.6	234261	18.3	20.9	165375	18.3	20.3	163635	18.4	19.8	487563	18.5	21.3	33849	18.5	19.6
419220	18.2	21.7	100776	18.3	18.7	22518	18.3	17.8	321786	18.4	20.6	119148	18.5	18.8	200359	18.5	19.8
27092	18.2	19.1	247658	18.3	20.6	519570	18.3	20.8	277971	18.4	20.0	456776	18.5	20.9	148836	18.5	20.7
274464	18.2	20.7	171547	18.3	20.0	462354	18.3	21.1	434474	18.4	22.0	22004	18.5	18.4	38414	18.5	19.7
130966	18.2	19.8	97018	18.3	18.9	297199	18.3	20.2	296905	18.4	20.5	83448	18.5	18.8	300132	18.5	21.5
244183	18.2	19.5	495354	18.3	20.8	303354	18.3	20.6	492574	18.4	21.3	266327	18.5	20.8	55616	18.5	17.9
307983	18.2	21.7	66817	18.3	19.5	257236	18.3	20.6	456842	18.4	22.0	466174	18.5	21.5	210041	18.5	20.9
309760	18.2	19.6	97881	18.3	19.7	377331	18.3	21.8	147947	18.4	19.7	71396	18.5	18.8	222292	18.5	20.0
372481	18.2	20.5	168289	18.3	20.6	258126	18.3	19.8	428876	18.4	20.3	315670	18.5	19.4	471346	18.5	21.4
26978	18.2	17.3	64434	18.3	17.1	511854	18.3	20.9	52231	18.4	17.9	211605	18.5	20.6	109568	18.5	18.6
378892	18.2	21.1	172952	18.3	19.7	445885	18.3	21.4	193791	18.4	19.9	346780	18.5	20.3	209417	18.5	19.1
488494	18.2	21.8	430344	18.3	21.0	387173	18.3	20.8	408358	18.4	20.9	3069	18.5	17.7	369626	18.5	19.4
438429	18.2	23.3	113355	18.3	20.2	13863	18.3	18.6	307037	18.4	21.0	421133	18.5	20.7	173146	18.5	19.3
97607	18.2	19.1	296014	18.3	19.9	134513	18.3	18.8	107672	18.4	18.5	113546	18.5	20.3	461587	18.5	21.5
325359	18.2	20.8	372292	18.3	20.0	237850	18.3	19.2	295083	18.4	20.6	192896	18.5	20.7	137104	18.5	18.5
290865	18.2	20.6	455929	18.3	21.5	303453	18.3	19.0	169211	18.4	19.5	407295	18.5	20.1	497998	18.5	21.1
105869	18.2	18.9	127124	18.3	19.4	202775	18.3	20.6	418215	18.4	21.1	128003	18.5	19.9	333089	18.5	20.6
151969	18.2	18.6	487923	18.3	21.1	428946	18.3	20.7	420992	18.4	20.6	380506	18.5	19.4	419964	18.5	21.5
503192	18.2	20.8	506336	18.3	21.7	353400	18.3	20.4	181706	18.4	19.2	87527	18.5	19.4	505119	18.5	21.8
48805	18.2	19.1	204749	18.3	19.7	61305	18.3	20.1	459907	18.4	21.1	189795	18.5	19.9	458841	18.5	20.9
1542	18.2	15.4	435329	18.3	19.6	428534	18.3	20.9	158524	18.4	19.5	96407	18.5	19.0	189044	18.5	20.2
313026	18.2	18.9	52096	18.3	20.2	284930	18.3	20.9	393415	18.4	20.8	161293	18.5	19.4	354071	18.5	20.6
55980	18.2	18.2	182603	18.3	20.2	88019	18.3	19.7	317624	18.4	19.2	375449	18.5	21.0	337776	18.5	19.7
205291	18.2	19.8	371946	18.3	21.4	370761	18.3	19.8	480893	18.4	19.7	36077	18.5	19.5	379626	18.6	20.4
56533	18.2	18.8	110334	18.3	19.3	499985	18.3	20.5	173891	18.4	20.4	372927	18.5	19.1	244469	18.6	20.2
84928	18.2	19.4	102168	18.3	20.0	252658	18.3	18.9	405935	18.4	20.0	171479	18.5	19.5	497533	18.6	20.7
241029	18.2	20.8	218362	18.3	18.4	237380	18.3	21.4	110420	18.4	18.8	178001	18.5	20.7	208976	18.6	19.1
310023	18.2	21.4	65845	18.3	18.1	226875	18.3	20.3	142694	18.4	20.0	412248	18.5	20.9	457723	18.6	20.5
493552	18.2	20.2	191923	18.3	20.9	377039	18.3	20.0	461588	18.4	21.4	277716	18.5	20.4	68877	18.6	19.1
379093	18.2	20.0	435593	18.3	19.4	473595	18.3	19.7	67952	18.4	19.9	55591	18.5	18.6	319831	18.6	20.2
122676	18.2	18.5	144090	18.3	18.5	426954	18.3	20.4	495422	18.4	21.3	285698	18.5	21.5	465806	18.6	20.8
415821	18.2	21.0	363276	18.3	20.0	238772	18.3	20.2	148324	18.4	20.2	215903	18.5	19.3	108857	18.6	19.1
36577	18.2	18.8	64243	18.3	17.2	293306	18.4	19.9	308159	18.4	21.0	335929	18.5	21.1	406881	18.6	20.1
413822	18.2	21.9	110101	18.3	18.6	109360	18.4	19.7	322402	18.4	21.0	114888	18.5	20.2	32704	18.6	17.5
56149	18.2	18.0	205800	18.3	19.7	490085	18.4	21.6	20562	18.4	17.7	350404	18.5	20.5	131364	18.6	19.6
288993	18.2	20.2	1372	18.3	14.8	336844	18.4	20.5	151000	18.4	18.9	468365	18.5	20.6	496181	18.6	21.7
462856	18.2	21.5	169600	18.3	19.6	104411	18.4	19.4	36521	18.4	16.5	450420	18.5	21.1	324504	18.6	19.6
312173	18.2	19.6	407477	18.3	20.7	234443	18.4	20.4	136468	18.4	19.4	200647	18.5	20.8	283168	18.6	20.7
98048	18.2	19.1	242113	18.3	19.0	235991	18.4	20.1	256356	18.4	19.0	295662	18.5	19.7	327474	18.6	20.7
34680	18.2	18.4	130572	18.3	19.3	335961	18.4	21.1	107118	18.4	18.5	252926	18.5	21.0	383627	18.6	20.3
186069	18.2	21.0	18899	18.3	19.8	312043	18.4	21.0	291300	18.4	21.2	86696	18.5	18.2	205755	18.6	19.4
474065	18.2	20.5	337643	18.3	20.8	111752</td											

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

Nº	02	V															
61861	18.6	19.3	109992	18.6	19.9	148799	18.7	19.9	162163	18.8	20.6	429942	18.8	20.8	7952	18.9	17.6
320406	18.6	20.1	423717	18.7	20.8	496408	18.7	22.4	62547	18.8	19.6	463899	18.8	20.5	378724	18.9	20.5
450536	18.6	21.6	519093	18.7	20.7	243035	18.7	20.7	201708	18.8	20.0	331916	18.8	20.8	503131	18.9	20.1
14208	18.6	17.5	157906	18.7	20.3	412330	18.7	20.4	57528	18.8	18.5	101106	18.8	19.4	195473	18.9	20.7
504170	18.6	22.2	372419	18.7	20.5	426478	18.7	20.5	345823	18.8	20.8	453898	18.8	21.2	1742	18.9	15.7
200565	18.6	20.0	25198	18.7	18.5	397428	18.7	20.1	15944	18.8	16.9	47677	18.8	17.6	163560	18.9	18.8
507475	18.6	22.4	83903	18.7	19.4	522073	18.7	21.4	417602	18.8	21.6	160903	18.8	20.1	221886	18.9	20.3
151566	18.6	19.9	303414	18.7	19.7	124410	18.7	18.3	323863	18.8	21.3	370720	18.8	20.8	498981	18.9	20.9
366754	18.6	20.7	410474	18.7	20.2	381683	18.7	19.4	499738	18.8	20.1	204120	18.8	19.6	250133	18.9	21.4
87057	18.6	20.0	124751	18.7	20.1	309243	18.7	21.6	233097	18.8	20.0	218755	18.8	19.7	291067	18.9	20.1
221139	18.6	21.0	340756	18.7	21.1	429944	18.7	20.8	147612	18.8	20.3	321699	18.8	19.8	416581	18.9	20.6
344558	18.6	20.8	285976	18.7	20.2	386220	18.7	21.0	88797	18.8	19.2	142034	18.8	20.5	402543	18.9	21.6
433221	18.6	21.0	320412	18.7	20.7	59532	18.7	19.2	423170	18.8	20.5	5805	18.8	15.6	103834	18.9	19.3
54104	18.6	18.3	175436	18.7	20.6	291382	18.7	19.9	466847	18.8	20.7	468897	18.8	20.7	445318	18.9	19.7
456726	18.6	21.4	282594	18.7	20.0	70817	18.7	20.3	427579	18.8	21.7	206336	18.9	20.4	302033	18.9	20.3
251813	18.6	21.5	413110	18.7	21.0	187351	18.7	20.5	190776	18.8	20.7	455780	18.9	19.9	40685	18.9	18.9
346151	18.6	20.5	408456	18.7	20.5	415355	18.7	20.5	235361	18.8	20.6	229174	18.9	20.6	425360	18.9	20.2
466834	18.6	20.9	377823	18.7	20.4	239230	18.7	20.8	254707	18.8	20.3	291237	18.9	20.4	230935	18.9	20.1
321634	18.6	20.6	236303	18.7	20.9	53388	18.7	17.9	497713	18.8	21.6	147717	18.9	20.5	118755	18.9	18.5
72668	18.6	19.1	56966	18.7	18.2	4088	18.7	16.1	427394	18.8	21.3	281326	18.9	20.3	202641	18.9	20.9
321202	18.6	20.1	108925	18.7	19.8	389221	18.7	20.7	108918	18.8	18.4	381440	18.9	20.6	387451	18.9	19.8
433134	18.6	21.0	196549	18.7	20.1	369578	18.7	20.7	264212	18.8	19.0	191591	18.9	19.9	482462	18.9	20.2
281285	18.6	20.2	359676	18.7	19.8	1095	18.7	14.7	61504	18.8	19.4	464969	18.9	20.9	376272	18.9	20.3
122132	18.6	18.9	172015	18.7	19.8	243572	18.7	20.7	159362	18.8	20.3	370810	18.9	20.2	278192	18.9	20.4
354076	18.6	20.6	341377	18.7	20.5	125937	18.7	18.2	134068	18.8	20.3	31616	18.9	17.2	108112	18.9	19.6
151942	18.6	19.9	283916	18.7	20.6	447655	18.7	22.2	472466	18.8	21.3	186846	18.9	21.8	352689	18.9	21.3
146093	18.6	18.6	239742	18.7	20.0	43524	18.7	18.7	250238	18.8	20.1	435257	18.9	20.8	55776	18.9	18.7
51968	18.6	16.7	242849	18.7	20.2	362053	18.7	20.0	499140	18.8	23.1	496907	18.9	22.5	164689	18.9	21.1
374052	18.6	20.1	498912	18.7	20.6	266906	18.7	20.1	429963	18.8	21.3	167556	18.9	19.6	133672	18.9	19.7
203433	18.6	20.3	503029	18.7	21.2	10466	18.7	17.5	262954	18.8	19.8	1395	18.9	16.5	20706	18.9	16.4
183299	18.6	19.4	221245	18.7	20.0	257182	18.7	18.8	259441	18.8	20.6	102546	18.9	18.9	318674	18.9	20.8
458753	18.6	22.0	494157	18.7	20.7	26996	18.7	18.7	434809	18.8	21.4	416964	18.9	21.4	6430	18.9	17.2
81697	18.6	19.5	163259	18.7	19.2	241063	18.7	20.6	483603	18.8	21.3	457010	18.9	19.9	52661	18.9	17.6
467343	18.6	21.5	281117	18.7	17.5	345595	18.7	21.2	2394	18.8	18.6	42635	18.9	18.2	291113	18.9	20.3
217216	18.6	19.3	418304	18.7	21.1	87871	18.7	19.8	378772	18.8	20.7	283929	18.9	20.5	193104	18.9	19.7
468433	18.6	21.0	244207	18.7	20.7	100143	18.7	20.1	464004	18.8	19.8	423211	18.9	21.8	50395	18.9	17.1
362137	18.6	20.8	204205	18.7	19.3	175063	18.7	19.8	436903	18.8	21.2	317780	18.9	20.3	60834	18.9	18.4
383735	18.6	20.1	459978	18.7	21.9	341398	18.7	21.0	264722	18.8	19.3	109146	18.9	17.5	353394	18.9	21.3
19699	18.6	18.4	501599	18.7	21.3	341469	18.7	21.2	429384	18.8	20.9	54640	18.9	18.0	500256	18.9	21.4
167691	18.6	19.2	401082	18.7	20.9	155077	18.7	19.1	82034	18.8	19.6	160709	18.9	19.5	49413	18.9	18.0
431196	18.6	21.2	429921	18.7	21.0	269672	18.7	20.1	244489	18.8	20.4	100747	18.9	19.5	105218	18.9	18.8
112789	18.6	19.2	213992	18.7	18.0	65220	18.7	19.4	120270	18.8	20.4	145322	18.9	20.9	248810	18.9	20.9
400557	18.6	20.5	412069	18.7	20.9	381967	18.7	20.1	87661	18.8	19.2	286530	18.9	20.2	238428	18.9	20.0
51501	18.6	19.1	412294	18.7	21.0	78751	18.7	19.9	172410	18.8	19.0	266849	18.9	20.5	98055	18.9	18.4
262203	18.6	20.3	430519	18.7	21.3	195397	18.7	19.7	303442	18.8	19.8	371675	18.9	20.3	4573	18.9	15.8
346028	18.6	20.5	34359	18.7	18.7	16904	18.8	17.7	152661	18.8	19.2	48417	18.9	17.2	168484	18.9	19.6
284120	18.6	21.0	322796	18.7	20.7	96941	18.8	18.2	463485	18.8	21.0	410514	18.9	20.4	51275	18.9	19.1
253428	18.6	20.6	128942	18.7	19.5	318063	18.8	19.5	492927	18.8	21.6	290536	18.9	20.5	423252	18.9	20.2
43328	18.6	18.3	331144	18.7	21.1	281495	18.8	20.6	286531	18.8	20.0	273748	18.9	20.7	417626	18.9	21.4
235933	18.6	18.6	502865	18.7	20.4	219650	18.8	20.0	284414	18.8	20.9	467870	18.9	20.5	38980	18.9	19.1
18617	18.6	16.7	490680	18.7	22.1	242989	18.8	19.6	25587	18.8	20.4	244489	18.8	19.5	105218	18.9	18.8
142662	18.6	21.3	293830	18.7	19.4	19828	18.8	16.3	428359	18.8	19.4	463629	18.9	20.8	54330	18.9	18.7
172604	18.6	19.2	359650	18.7	20.8	124861	18.8	18.3	110249	18.8	18.5	333345	18.9	20.5	130534	18.9	20.5
17063	18.6	16.5	5762	18.7	17.6	133179	18.8	20.1	503804	18.8	21.2	226233	18.9	19.7	436284	18.9	21.1
153038	18.6	19.9	493500	18.7	21.0	16680	18.8	16.0	150150	18.8	19.2	375770	18.9	21.9	375247	18.9	22.0
83567	18.6	18.7	143153	18.7	20.2	174499	18.8	20.1	262707	18.8	20.6	321668	18.9	19.9	157564	18.9	20.1
269077	18.6	19.4	481486	18.7	19.2	460389	18.8	20.7	466750	18.8	20.9	3454	18.9	15.7	237367	18.9	20.7
467474	18.6	21.6	251014	18.7	21.0	155301	18.8	20.2	328316	18.8	20.0	436842	18.9	20.5	285186	18.9	19.9
163176	18.6	19.3	289192	18.7	20.1	287499	18.8	19.7	195517	18.8	19.8	234961	18.9	20.2	399648	18.9	21.3
424726	18.6	20.8	124194	18.7	19.0	102873	18.8	21.4	412093	18.8	20.8	98227	18.9	18.5	46643	18.9	18.2
496497	18.6	20.6	430915	18.7	21.8	333104											

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

Nº	02	V															
188747	18.9	20.4	425136	19.1	21.3	465984	19.1	21.6	132006	19.2	18.9	467697	19.3	21.3	261577	19.3	19.6
154796	18.9	20.1	64074	19.1	17.2	427439	19.1	21.8	38702	19.2	18.4	286962	19.3	21.1	303394	19.3	20.2
265323	18.9	20.3	489302	19.1	21.5	367460	19.1	19.7	206870	19.2	19.9	436377	19.3	21.1	18342	19.3	20.0
21048	18.9	18.8	211898	19.1	20.3	371180	19.1	20.3	432568	19.2	20.7	83701	19.3	19.8	370710	19.3	20.9
226101	18.9	19.3	268169	19.1	20.3	22701	19.1	17.1	303280	19.2	21.4	335595	19.3	19.5	384985	19.3	21.1
435314	18.9	21.0	64232	19.1	18.1	169330	19.1	20.6	31070	19.2	18.5	204306	19.3	20.9	360412	19.3	18.8
85343	18.9	18.5	497733	19.1	21.3	465429	19.1	21.7	217091	19.2	20.3	135157	19.3	19.5	64896	19.3	19.7
428412	18.9	20.4	310978	19.1	19.6	459891	19.1	21.3	451226	19.2	20.3	421794	19.3	21.0	402098	19.3	20.7
109335	18.9	20.3	500502	19.1	21.7	151834	19.1	19.2	175534	19.2	19.8	362101	19.3	20.6	333415	19.3	21.2
399657	18.9	21.5	500573	19.1	21.3	372986	19.1	21.2	153625	19.2	19.3	352750	19.3	20.1	462032	19.3	20.5
294306	18.9	20.2	35262	19.1	17.3	265324	19.1	20.2	454095	19.2	20.6	317481	19.3	21.0	472018	19.3	20.3
225175	18.9	21.0	79761	19.1	19.3	283321	19.1	20.3	320841	19.2	19.5	278365	19.3	20.6	189466	19.3	19.6
427430	18.9	21.3	205831	19.1	19.8	354018	19.1	21.6	301543	19.2	19.5	498360	19.3	21.2	466299	19.3	21.4
280755	19.0	20.5	223637	19.1	20.3	21283	19.1	18.4	505547	19.2	19.9	1184	19.3	15.1	298720	19.3	21.1
4187	19.0	16.7	207110	19.1	20.4	265823	19.1	18.7	297504	19.2	20.4	109152	19.3	19.0	458406	19.3	20.8
245099	19.0	20.1	167898	19.1	19.8	13698	19.1	17.2	82922	19.2	19.6	64613	19.3	18.0	283060	19.3	20.7
460648	19.0	20.4	146563	19.1	20.4	93566	19.1	18.9	411505	19.2	20.6	348462	19.3	20.9	236736	19.3	20.2
159368	19.0	21.4	256090	19.1	20.3	392599	19.1	21.4	378731	19.2	21.3	65009	19.3	18.9	31657	19.3	16.8
92707	19.0	19.3	323846	19.1	20.2	172426	19.1	20.8	183955	19.2	19.7	322562	19.3	20.4	492650	19.3	22.2
38333	19.0	17.6	110880	19.1	19.7	348165	19.1	20.6	193962	19.2	21.2	79284	19.3	18.8	202473	19.3	19.8
412100	19.0	20.0	339024	19.1	19.6	10454	19.1	17.7	498393	19.2	21.0	430813	19.3	21.2	299312	19.3	20.4
801	19.0	14.8	285949	19.1	20.5	223645	19.1	20.5	147321	19.2	19.7	181690	19.3	20.0	505234	19.3	21.4
372461	19.0	20.6	136375	19.1	19.6	146411	19.1	19.1	318850	19.2	19.8	245429	19.3	20.6	385257	19.3	20.4
206249	19.0	19.0	85559	19.1	19.2	496786	19.2	20.2	140032	19.2	19.6	268653	19.3	20.0	63514	19.3	19.1
494668	19.0	19.6	378345	19.1	21.1	463595	19.2	21.6	497470	19.2	20.0	393224	19.3	20.2	98565	19.3	20.1
523681	19.0	21.5	381464	19.1	21.7	500203	19.2	21.9	147234	19.2	19.3	20487	19.3	19.3	240067	19.3	20.2
289960	19.0	20.7	133281	19.1	19.6	8717	19.2	17.8	289859	19.2	20.2	206302	19.3	19.8	306834	19.4	21.0
171962	19.0	19.7	492388	19.1	21.6	295317	19.2	20.8	328052	19.2	19.8	129766	19.3	19.0	175927	19.4	19.6
229904	19.0	19.5	267497	19.1	19.6	8620	19.2	18.5	130528	19.2	18.4	506213	19.3	22.1	347457	19.4	22.0
105935	19.0	18.4	95147	19.1	18.7	413488	19.2	21.1	481014	19.2	19.9	348800	19.3	21.3	29310	19.4	17.1
23817	19.0	17.9	154979	19.1	20.0	5785	19.2	15.8	11011	19.2	18.3	315908	19.3	20.5	59677	19.4	18.5
249210	19.0	19.9	464812	19.1	21.4	195436	19.2	20.5	55961	19.2	18.3	498448	19.3	21.0	82036	19.4	19.8
405169	19.0	21.2	124233	19.1	19.2	3294	19.2	16.2	233652	19.2	19.5	120469	19.3	18.4	466339	19.4	20.5
229309	19.0	20.6	248148	19.1	20.6	166903	19.2	19.2	462792	19.2	20.9	36373	19.3	18.7	418311	19.4	20.4
85038	19.0	19.6	95397	19.1	19.7	96920	19.2	19.3	39378	19.2	19.5	462068	19.3	20.6	206889	19.4	19.2
397815	19.0	21.2	29083	19.1	18.4	198641	19.2	20.5	68515	19.2	19.2	498038	19.3	21.2	435913	19.4	19.9
222309	19.0	19.9	10413	19.1	17.4	345703	19.2	20.9	431243	19.2	21.2	128636	19.3	19.9	454133	19.4	20.7
399675	19.0	21.3	61286	19.1	19.3	160808	19.2	20.1	84405	19.2	19.4	488779	19.3	21.1	70143	19.4	19.7
47084	19.0	18.4	350255	19.1	20.9	61356	19.2	19.4	225395	19.2	19.5	123022	19.3	19.9	322910	19.4	20.7
261191	19.0	20.1	66759	19.1	19.2	153289	19.2	19.6	463748	19.2	21.1	369163	19.3	20.5	155815	19.4	19.2
210754	19.0	18.6	411210	19.1	22.0	319515	19.2	20.7	341449	19.2	20.0	326732	19.3	23.2	139230	19.4	19.4
212753	19.0	20.2	268055	19.1	20.2	202678	19.2	19.6	60191	19.2	19.0	26779	19.3	19.5	25112	19.4	18.6
288502	19.0	20.0	95291	19.1	19.5	309803	19.2	19.6	345916	19.2	21.3	344068	19.3	22.0	377504	19.4	20.3
235598	19.0	19.9	547079	19.1	18.9	207558	19.2	21.2	430126	19.2	19.6	456066	19.3	21.1	415491	19.4	21.9
205856	19.0	19.3	496396	19.1	22.3	123494	19.2	18.2	125155	19.2	19.5	161492	19.3	19.5	462898	19.4	20.4
229207	19.0	20.3	350238	19.1	20.4	419671	19.2	19.2	226910	19.2	20.9	175527	19.3	19.2	131912	19.4	18.8
253154	19.0	21.3	65551	19.1	19.8	500385	19.2	22.4	370727	19.2	21.0	310411	19.3	20.9	62109	19.4	18.6
12151	19.0	16.7	302513	19.1	19.3	334585	19.2	21.2	211586	19.2	20.3	501648	19.3	20.8	385099	19.4	21.4
402742	19.0	20.6	190048	19.1	19.8	429355	19.2	20.6	381512	19.2	22.7	453021	19.3	21.1	249513	19.4	20.1
155235	19.0	19.1	109937	19.1	19.7	416592	19.2	20.4	18639	19.2	18.7	501378	19.3	20.7	212840	19.4	20.2
27584	19.0	18.3	322288	19.1	20.9	26876	19.2	18.1	366942	19.2	20.7	484609	19.3	20.2	471124	19.4	21.0
29162	19.0	17.3	313393	19.1	20.9	335237	19.2	21.2	66559	19.2	19.7	70408	19.3	19.7	169298	19.4	20.2
91118	19.0	19.2	407553	19.1	20.6	341668	19.2	19.9	325649	19.2	20.5	167130	19.3	19.8	382346	19.4	21.1
397841	19.0	21.7	445871	19.1	21.7	240601	19.2	21.3	450431	19.2	21.8	235616	19.3	20.8	26928	19.4	17.8
260924	19.0	20.4	237315	19.1	20.6	83021	19.2	19.3	244043	19.2	20.9	67926	19.3	18.7	241355	19.4	19.6
379061	19.0	20.6	329315	19.1	21.4	173993	19.2	19.3	218669	19.2	20.3	223621	19.3	19.9	384153	19.4	20.3
500347	19.0	22.4	40380	19.1	18.4	52550	19.2	17.5	461719	19.2	21.5	306824	19.3	20.3	372448	19.4	21.0
313863	19.0	19.4	159473	19.1	20.3	463903	19.2	20.2	306626	19.3	21.5	206809	19.3	20.4	172010	19.4	20.6
255870	19.0	18.4	380055	19.1	20.7	153988	19.2	18.7	162610	19.3	20.5	359044	19.3	20.0	240377	19.4	19.4
433089	19.0	21.2	95522	19.1	19.5	367462	19.2	21.3	365935	19.3	19.9	268553	19.3	20.1	422248	19.4	21.0
208272	19.0	19.6	297655	19.1	20.6	102277											

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

Nº	02	V															
285986	19.4	20.6	202896	19.5	19.5	298953	19.6	20.1	69467	19.6	19.5	1004	19.7	15.2	154040	19.7	19.7
177763	19.4	20.5	122165	19.5	20.3	5589	19.6	17.3	335618	19.6	20.7	90990	19.7	19.1	171858	19.7	21.2
193764	19.4	21.1	384193	19.5	20.5	221392	19.6	19.0	13225	19.6	17.6	306575	19.7	19.5	128770	19.7	20.7
343115	19.4	20.1	184036	19.5	19.9	63638	19.6	18.7	166897	19.6	18.6	55242	19.7	18.6	403520	19.7	21.2
107057	19.4	18.1	340628	19.5	21.5	138547	19.6	20.2	463583	19.6	21.5	403683	19.7	20.0	184315	19.7	20.9
23885	19.4	17.8	27699	19.5	17.3	133130	19.6	20.2	315716	19.6	19.7	508448	19.7	22.2	7454	19.7	18.6
268466	19.4	19.8	212812	19.5	20.3	152811	19.6	20.1	379287	19.6	20.8	32765	19.7	19.2	293289	19.7	19.6
432986	19.4	20.6	162732	19.5	20.2	170255	19.6	20.7	467447	19.6	21.0	84862	19.7	19.1	30230	19.7	19.3
375298	19.4	21.1	127238	19.5	20.2	206282	19.6	19.6	28300	19.6	17.9	408569	19.7	21.2	415925	19.8	21.3
15476	19.4	17.7	469780	19.5	22.3	335764	19.6	20.3	135074	19.6	19.5	169403	19.7	18.9	241357	19.8	20.3
451688	19.4	20.8	426303	19.5	20.3	16083	19.6	18.5	65493	19.6	19.7	374075	19.7	20.8	42244	19.8	18.4
291221	19.4	20.6	185258	19.5	20.1	437385	19.6	20.2	457327	19.6	21.8	289110	19.7	20.2	402629	19.8	20.8
428916	19.4	21.2	43157	19.5	17.6	183320	19.6	20.5	303260	19.6	20.5	165794	19.7	19.8	21621	19.8	18.7
175295	19.4	21.0	447759	19.5	18.8	372056	19.6	20.5	2639	19.6	16.4	466461	19.7	21.6	378788	19.8	21.6
440043	19.4	20.9	178276	19.5	19.1	518799	19.6	20.3	365681	19.6	21.0	217103	19.7	19.6	39765	19.8	19.7
347069	19.4	20.4	1843	19.5	16.3	280838	19.6	21.8	276248	19.6	20.1	466157	19.7	21.5	83228	19.8	18.7
201457	19.4	19.4	40753	19.5	19.6	269018	19.6	21.2	467992	19.6	22.3	246105	19.7	20.9	498705	19.8	21.6
323832	19.4	20.5	109061	19.5	19.4	179948	19.6	19.3	45815	19.6	18.8	177470	19.7	19.5	225396	19.8	20.8
312681	19.4	20.3	383751	19.5	19.7	261294	19.6	20.3	8524	19.6	17.5	14256	19.7	17.9	396872	19.8	21.8
41344	19.4	18.0	68773	19.5	18.9	9487	19.6	17.9	402982	19.6	21.7	344043	19.7	20.2	420074	19.8	19.5
497636	19.4	21.8	474043	19.5	21.1	406466	19.6	20.7	413651	19.6	21.3	90439	19.7	18.2	401076	19.8	21.5
100855	19.4	18.4	201095	19.5	19.4	337684	19.6	20.7	100181	19.6	19.9	505957	19.7	20.8	301686	19.8	19.6
156510	19.4	18.4	393806	19.5	21.4	435925	19.6	20.7	84651	19.6	19.5	105167	19.7	19.4	462084	19.8	21.0
399812	19.4	20.7	344054	19.5	21.1	183337	19.6	19.3	142259	19.6	19.0	282632	19.7	20.5	22779	19.8	18.1
229210	19.4	19.1	78881	19.5	19.4	427816	19.6	20.5	408615	19.6	22.0	423676	19.7	21.2	37087	19.8	19.4
224005	19.4	21.4	450405	19.5	21.9	326405	19.6	21.3	464081	19.6	19.7	168936	19.7	19.0	217792	19.8	19.2
420859	19.4	20.5	148857	19.5	19.4	131035	19.6	20.0	373383	19.6	20.2	381861	19.7	20.2	107427	19.8	18.8
456512	19.4	20.0	268375	19.5	20.8	495443	19.6	20.9	208271	19.6	19.9	126623	19.7	19.4	165919	19.8	20.2
8566	19.4	18.3	5001	19.5	16.7	69944	19.6	19.4	21962	19.6	18.5	331185	19.7	19.9	100450	19.8	19.0
454766	19.4	21.3	322842	19.5	20.1	220763	19.6	19.5	45810	19.6	18.3	268108	19.7	20.6	392757	19.8	21.1
186887	19.4	20.7	189171	19.5	20.2	402880	19.6	21.1	48654	19.6	19.6	22152	19.7	19.0	31220	19.8	17.3
377170	19.4	21.0	297797	19.5	19.1	238020	19.6	20.0	341393	19.6	20.1	88809	19.7	20.0	358121	19.8	21.1
417769	19.4	19.9	53800	19.5	18.3	62054	19.6	19.2	88907	19.6	19.8	344386	19.7	20.5	500383	19.8	21.7
412213	19.4	20.4	433633	19.5	20.1	284375	19.6	21.1	11097	19.6	18.9	358097	19.7	19.3	170531	19.8	19.4
359051	19.4	20.9	191798	19.5	19.7	369784	19.6	19.6	120300	19.6	19.4	203593	19.7	19.5	500511	19.8	21.2
432069	19.4	19.5	21691	19.5	17.5	423189	19.6	21.5	355880	19.6	21.2	343028	19.7	20.8	357402	19.8	20.6
363761	19.4	19.7	77179	19.5	20.0	430887	19.6	21.9	415856	19.6	22.0	278453	19.7	20.3	134598	19.8	19.8
22407	19.4	19.4	268966	19.5	19.8	291295	19.6	20.7	335923	19.6	20.5	337637	19.7	21.2	213954	19.8	20.2
463711	19.4	20.5	316995	19.5	20.9	36833	19.6	18.6	497655	19.6	20.8	349018	19.7	21.6	202449	19.8	20.2
348875	19.4	21.7	522381	19.5	21.6	192152	19.6	19.0	105742	19.6	19.0	237394	19.7	20.8	370782	19.8	20.6
233022	19.4	19.5	226718	19.5	20.9	502734	19.6	20.9	362335	19.6	21.0	373861	19.7	20.6	488661	19.8	22.7
142806	19.4	18.6	426325	19.5	21.1	345564	19.6	20.6	386553	19.6	21.1	373053	19.7	20.2	168977	19.8	19.4
98633	19.4	18.7	65655	19.5	19.6	455847	19.6	22.1	335672	19.6	20.5	154687	19.7	19.8	416883	19.8	20.9
104572	19.4	19.7	414200	19.5	20.3	87726	19.6	19.4	122473	19.6	19.3	162180	19.7	19.3	425085	19.8	21.0
258297	19.4	20.1	25801	19.5	18.7	450003	19.6	23.6	303454	19.6	19.9	327915	19.7	20.2	415883	19.8	21.4
72352	19.4	17.8	141370	19.5	20.0	465666	19.6	21.3	238042	19.6	20.0	129499	19.7	18.8	155247	19.8	19.7
255923	19.4	19.2	56310	19.5	18.9	474084	19.6	19.8	66352	19.6	18.4	84826	19.7	18.7	334642	19.8	20.4
160504	19.4	19.8	430337	19.5	20.9	352714	19.6	19.6	155977	19.6	19.8	57587	19.7	18.6	492642	19.8	21.4
232768	19.4	20.4	428371	19.5	20.5	210823	19.6	20.0	265590	19.6	20.5	43073	19.7	19.5	357404	19.8	20.6
493008	19.4	21.8	19496	19.5	17.0	419307	19.6	20.8	56225	19.6	18.7	218695	19.7	20.5	21159	19.8	18.0
385027	19.4	20.7	171177	19.5	20.9	375333	19.6	20.9	121064	19.6	19.1	122385	19.7	20.1	82975	19.8	19.1
374087	19.5	21.3	150489	19.5	19.4	474017	19.6	21.3	236725	19.6	20.6	138608	19.7	19.5	48863	19.8	19.0
161222	19.5	20.2	202697	19.5	19.6	359761	19.6	20.7	424610	19.6	20.9	59791	19.7	20.1	232615	19.8	20.2
28311	19.5	18.2	462030	19.5	20.9	130912	19.6	20.1	91387	19.6	18.7	130860	19.7	19.3	212768	19.8	19.9
341421	19.5	21.0	182477	19.5	19.8	55324	19.6	18.3	8775	19.6	18.9	190402	19.7	20.0	193946	19.8	21.3
268112	19.5	20.5	459981	19.5	21.9	370052	19.6	21.1	55064	19.6	18.5	498673	19.7	21.4	262200	19.8	22.7
275133	19.5	19.6	366862	19.5	20.6	401844	19.6	21.0	362064	19.6	19.8	352751	19.7	19.7	200809	19.8	19.3
225271	19.5	20.1	271838	19.5	19.8	40991	19.6	19.4	128063	19.6	19.7	365861	19.7	20.8	97999	19.8	19.1
500382	19.5	22.3	227062	19.5	20.0	284301	19.6	20.6	201451	19.7	19.1	149877	19.7	19.4	370062	19.8	20.4
243777	19.5	20.2	381526	19.5	20.9	419201	19.6	21.1	521088	19.7	20.9	119055	19.7	19.3	437606	19.8	20.8
112157	19.5	20.3	155350	19.5	19.7	192375	19.										

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

Nº	02	V															
128607	19.8	19.8	135509	19.9	20.7	339544	19.9	20.3	317029	20.0	20.1	95171	20.1	19.7	413927	20.1	21.4
467257	19.8	20.7	243178	19.9	20.4	126106	19.9	19.7	417241	20.0	20.3	284554	20.1	20.4	422405	20.1	21.7
91038	19.8	19.5	465339	19.9	17.2	355367	19.9	20.5	112275	20.0	19.7	217881	20.1	20.2	232265	20.1	20.5
147733	19.8	20.5	209898	19.9	20.4	428437	19.9	20.8	67737	20.0	19.1	169197	20.1	19.3	88216	20.1	18.9
96935	19.8	19.3	158492	19.9	18.2	291093	19.9	20.6	10815	20.0	19.7	239449	20.1	19.3	45750	20.1	18.9
435381	19.8	19.1	171191	19.9	20.1	280175	19.9	19.9	467516	20.0	21.3	185415	20.1	19.6	414235	20.1	20.8
236898	19.8	20.1	416074	19.9	20.9	467450	19.9	20.5	378784	20.0	20.9	221172	20.1	19.3	232489	20.1	21.0
386195	19.8	20.7	271883	19.9	20.0	260858	19.9	19.5	28611	20.0	17.7	24056	20.1	18.5	502146	20.1	20.0
170244	19.8	20.3	500772	19.9	21.0	462894	19.9	20.0	37343	20.0	20.2	133127	20.1	20.4	522135	20.1	19.7
273624	19.8	20.5	88798	19.9	19.0	266287	19.9	19.3	291778	20.0	19.9	30907	20.1	18.9	490119	20.1	21.7
500667	19.8	20.5	272490	19.9	21.4	427699	19.9	20.0	232354	20.0	18.9	129157	20.1	20.1	383636	20.1	20.9
432525	19.8	21.2	146971	19.9	20.5	450464	19.9	21.7	42426	20.0	19.5	145307	20.1	20.4	8857	20.1	18.6
68601	19.8	19.5	35107	19.9	15.3	3485	19.9	16.7	234882	20.0	19.9	119587	20.1	20.5	268105	20.1	21.4
331239	19.8	20.5	81443	19.9	18.4	239492	19.9	20.6	223650	20.0	20.2	465965	20.1	20.4	337754	20.1	20.1
406873	19.8	19.8	112048	19.9	19.2	341586	19.9	20.9	55507	20.0	19.2	359197	20.1	19.7	44251	20.1	18.2
414771	19.8	21.1	505291	19.9	20.9	473069	19.9	20.2	422560	20.0	21.8	251714	20.1	20.4	329853	20.1	20.3
234450	19.8	20.5	258580	19.9	20.3	334900	19.9	20.6	419607	20.0	22.8	377163	20.1	21.7	500368	20.1	20.7
69511	19.8	17.8	252326	19.9	19.7	182313	19.9	20.6	281329	20.0	20.8	256343	20.1	19.3	456635	20.1	20.9
133735	19.8	19.8	166742	19.9	20.1	246569	19.9	20.8	455544	20.0	20.9	384929	20.1	21.1	465257	20.1	20.8
164339	19.8	20.3	30867	19.9	17.9	37336	19.9	21.1	462646	20.0	21.2	206808	20.1	20.7	127942	20.1	19.2
273703	19.8	20.1	96543	19.9	19.5	240766	19.9	21.2	421280	20.0	20.6	461341	20.1	21.8	313008	20.1	20.1
400934	19.8	20.1	523512	19.9	20.5	90683	19.9	18.9	459819	20.0	20.8	66897	20.1	18.8	24009	20.1	18.5
277883	19.8	21.0	18227	19.9	18.6	127498	19.9	18.8	427126	20.0	21.9	320888	20.1	20.5	200573	20.1	20.4
338991	19.8	19.1	96412	19.9	17.7	104510	19.9	19.1	367578	20.0	21.3	326413	20.1	20.6	113173	20.1	18.6
20470	19.8	18.1	69473	19.9	17.7	56313	19.9	18.1	274416	20.0	20.7	284162	20.1	20.4	153089	20.1	18.8
98384	19.8	18.7	433249	19.9	22.1	37372	19.9	18.3	343256	20.0	20.4	248063	20.1	21.0	519275	20.1	21.6
204704	19.8	18.6	467519	19.9	20.6	458824	19.9	21.8	498302	20.0	21.8	362148	20.1	21.1	383786	20.1	20.4
229192	19.8	19.8	505740	19.9	20.5	451884	19.9	21.2	461401	20.0	21.3	323897	20.1	20.6	373365	20.1	20.7
345121	19.8	20.5	372474	19.9	20.9	501383	19.9	20.0	471849	20.0	22.1	462639	20.1	21.4	332429	20.1	20.1
323165	19.8	20.2	28987	19.9	19.3	382005	19.9	20.6	234499	20.0	20.0	136387	20.1	18.6	409991	20.1	19.9
2361	19.8	15.7	416866	19.9	21.3	59919	19.9	18.8	99777	20.0	18.5	169607	20.1	19.1	417763	20.1	21.1
214258	19.8	20.5	458590	19.9	21.3	500539	19.9	20.8	13165	20.0	17.4	153174	20.1	19.4	436303	20.1	20.7
455653	19.8	20.1	395747	19.9	21.0	175114	19.9	21.8	276570	20.0	20.2	191250	20.1	19.8	390608	20.1	21.2
39049	19.8	18.9	341628	19.9	20.8	519189	19.9	20.8	284647	20.0	20.1	264707	20.0	20.3	85285	20.1	20.3
466975	19.8	20.7	73607	19.9	19.8	238735	19.9	20.8	325824	20.0	20.3	88044	20.1	19.7	149398	20.1	19.0
330332	19.8	21.3	93999	19.9	18.9	441774	19.9	19.7	437210	20.0	20.3	237732	20.1	19.8	128923	20.2	19.9
429840	19.8	21.1	285574	19.9	21.9	317112	19.9	20.5	112887	20.0	19.1	195237	20.1	20.0	1378	20.2	15.2
240881	19.8	19.4	145721	19.9	19.4	109894	19.9	19.2	237730	20.0	21.3	165346	20.1	19.6	245954	20.2	20.5
245869	19.8	20.2	234167	19.9	21.2	465937	19.9	20.9	113584	20.0	18.3	384186	20.1	20.5	239889	20.2	20.0
344305	19.8	21.2	491069	19.9	21.5	97705	19.9	20.1	255997	20.0	20.4	245518	20.1	20.4	461920	20.2	21.4
22318	19.8	19.3	214087	19.9	19.2	284852	19.9	20.4	394016	20.0	20.7	34947	20.1	17.6	226732	20.2	20.4
110394	19.8	20.1	462024	19.9	19.6	384566	19.9	20.0	496244	20.0	22.1	175571	20.1	20.1	359033	20.2	19.4
110659	19.8	19.2	240855	19.9	19.9	499808	19.9	21.1	421194	20.0	20.7	53475	20.1	19.1	332171	20.2	20.8
294261	19.8	20.9	307598	19.9	20.7	97888	19.9	19.7	246740	20.0	19.5	133567	20.1	19.9	317584	20.2	20.4
42302	19.8	19.3	188251	19.9	18.8	227501	19.9	20.1	88527	20.0	19.4	64037	20.1	19.6	205484	20.2	20.3
19753	19.8	18.0	335671	19.9	21.2	377730	19.9	20.6	190188	20.0	20.4	443851	20.1	20.4	69132	20.2	19.7
166182	19.8	19.4	57263	19.9	19.2	328755	19.9	21.2	84884	20.0	19.4	357153	20.1	20.4	496585	20.2	21.3
400362	19.8	21.4	69749	19.9	19.0	143353	19.9	20.2	194121	20.0	19.1	242962	20.1	20.7	456256	20.2	20.9
456519	19.8	20.0	152830	19.9	19.3	217894	19.9	21.1	349361	20.0	19.8	43598	20.1	18.7	153795	20.2	20.6
467755	19.8	19.6	21016	19.9	18.4	385633	19.9	20.4	496731	20.0	20.2	429362	20.1	20.6	378272	20.2	20.7
98372	19.8	19.3	416832	19.9	20.8	2609	19.9	15.2	310446	20.0	18.9	187795	20.1	18.7	465120	20.2	19.7
62306	19.8	18.8	318239	19.9	21.3	306445	19.9	20.9	39308	20.0	19.1	203816	20.1	18.7	38351	20.2	19.1
462865	19.8	21.5	298996	19.9	19.7	105936	19.9	20.2	488505	20.0	21.2	268556	20.1	19.5	205543	20.2	20.5
391021	19.9	21.4	349931	19.9	20.6	212757	19.9	20.0	376824	20.0	19.4	247067	20.1	21.2	409010	20.2	20.3
45861	19.9	19.3	127166	19.9	19.3	314831	19.9	20.5	489910	20.0	21.3	125372	20.1	19.0	201255	20.2	20.0
51796	19.9	17.5	466777	19.9	20.6	501136	19.9	21.1	178632	20.0	19.7	427218	20.1	22.0	435956	20.2	20.6
390540	19.9	21.4	169055	19.9	19.0	465179	19.9	21.3	408183	20.0	19.9	272935	20.1	20.0	236013	20.2	21.0
352683	19.9	20.5	237453	19.9	19.9	408144	19.9	20.6	216623	20.0	21.2	427683	20.1	20.3	53674	20.2	18.8
203187	19.9	19.3	328552	19.9	20.2	110518	19.9	19.9	150885	20.0	20.6	463260	20.1	20.0	17526	20.2	19.6
239205	19.9	20.1	225039	19.9	20.0	291857	19.9	21.2	30216	20.0	18.1	466326	20.1	21.0	283578	20.2	20.9
138611	19.9	19.9	436369	19.9	20.2	284											

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

Nº	02	V															
200763	20.2	18.4	201134	20.2	20.9	506026	20.3	20.4	138419	20.4	20.5	302052	20.4	21.0	172556	20.5	20.7
21339	20.2	17.6	181561	20.2	20.5	138692	20.3	19.6	329520	20.4	21.1	240288	20.4	19.8	86813	20.5	19.6
109524	20.2	17.7	419104	20.2	21.2	271509	20.3	19.8	379742	20.4	19.9	73117	20.4	20.3	84169	20.5	18.4
424209	20.2	20.8	305609	20.2	21.2	378781	20.3	21.1	200690	20.4	20.3	208356	20.4	19.4	431298	20.5	22.3
165884	20.2	20.0	416552	20.2	19.8	241028	20.3	21.0	129552	20.4	20.6	293808	20.4	20.7	498948	20.5	19.8
491026	20.2	21.6	421272	20.2	20.3	503180	20.3	20.2	352130	20.4	20.7	44082	20.4	17.8	175487	20.5	20.1
167509	20.2	18.7	83914	20.2	20.5	213714	20.3	20.7	322785	20.4	21.4	16135	20.4	18.5	473560	20.5	21.0
268514	20.2	20.7	1308	20.2	19.4	408918	20.3	19.7	417092	20.4	21.5	162682	20.4	19.0	462044	20.5	20.3
133989	20.2	19.1	251465	20.2	20.0	370512	20.3	21.2	61815	20.4	18.0	507396	20.4	21.0	27824	20.5	19.7
124690	20.2	18.8	123188	20.2	19.9	47741	20.3	18.3	492451	20.4	22.3	303273	20.4	20.9	301854	20.5	19.7
505924	20.2	20.2	183390	20.2	20.3	342972	20.3	19.9	439908	20.4	20.4	192038	20.4	19.2	289397	20.5	20.0
294362	20.2	20.2	287475	20.2	19.4	482821	20.3	20.1	87154	20.4	19.8	153074	20.4	20.0	286109	20.5	21.6
105177	20.2	19.0	163171	20.2	19.1	210001	20.3	20.3	400262	20.4	21.5	232275	20.4	20.0	52326	20.5	18.1
291298	20.2	20.7	385032	20.2	20.2	44169	20.3	18.8	174558	20.4	19.0	341787	20.4	20.6	284824	20.5	20.5
432120	20.2	20.6	252911	20.2	20.7	498061	20.3	20.8	37074	20.4	18.1	272866	20.4	20.6	92782	20.5	19.0
383793	20.2	20.3	419752	20.2	22.1	131744	20.3	18.9	453863	20.4	20.6	205374	20.4	18.6	77849	20.5	18.0
362169	20.2	19.9	403806	20.2	20.1	343095	20.3	19.8	271058	20.4	18.1	214211	20.4	20.2	28345	20.5	17.1
213634	20.2	20.9	96481	20.3	18.4	30174	20.3	17.6	238483	20.4	20.2	393375	20.4	20.7	151823	20.5	19.2
109881	20.2	19.6	203809	20.3	20.2	359101	20.3	20.6	117997	20.4	18.2	190411	20.4	20.1	115418	20.5	18.9
133874	20.2	19.2	138183	20.3	18.7	461959	20.3	21.8	369273	20.4	21.7	7509	20.4	16.3	173152	20.5	20.0
258245	20.2	19.5	254671	20.3	20.2	253945	20.3	19.7	191982	20.4	20.8	117243	20.4	19.1	335885	20.5	20.1
230498	20.2	20.1	57890	20.3	18.5	224549	20.3	20.6	232994	20.4	19.7	431999	20.4	21.2	286379	20.5	21.3
422409	20.2	21.6	340775	20.3	20.1	257795	20.3	18.8	417226	20.4	20.9	434578	20.4	21.6	381216	20.5	21.0
209542	20.2	19.8	21943	20.3	18.0	267766	20.3	20.7	249411	20.4	19.8	521111	20.4	20.2	145868	20.5	20.5
325275	20.2	21.0	325115	20.3	21.4	495429	20.3	21.2	151027	20.4	19.6	245101	20.4	20.7	404385	20.5	20.0
491114	20.2	20.8	364747	20.3	20.2	113450	20.3	19.5	110899	20.4	19.3	252609	20.4	19.5	197541	20.5	20.1
10942	20.2	17.3	167811	20.3	18.7	37954	20.3	19.3	203387	20.4	20.6	11493	20.4	17.1	406146	20.5	20.7
429914	20.2	21.1	53267	20.3	18.1	96496	20.3	19.2	289079	20.4	20.9	467149	20.4	20.1	176355	20.5	19.0
22797	20.2	18.5	154298	20.3	20.2	463259	20.3	20.6	490033	20.4	21.4	170359	20.4	19.9	328310	20.5	21.1
453834	20.2	20.4	106410	20.3	19.6	337513	20.3	21.1	397522	20.4	21.0	336015	20.4	20.1	373374	20.5	20.8
101431	20.2	19.4	224587	20.3	19.7	212696	20.3	20.7	122953	20.4	19.5	164569	20.5	19.1	340621	20.5	20.3
340788	20.2	21.0	436260	20.3	19.6	187393	20.3	19.4	204109	20.4	19.2	101579	20.5	18.5	429919	20.5	20.2
95036	20.2	17.7	213615	20.3	20.3	306134	20.3	19.3	279103	20.4	20.5	26594	20.5	17.5	467882	20.5	21.2
432216	20.2	20.2	503162	20.3	20.4	458947	20.3	21.3	69831	20.4	18.9	239358	20.5	21.2	456992	20.5	20.3
496340	20.2	21.0	29426	20.3	16.6	239225	20.3	20.9	185682	20.4	20.5	425271	20.5	21.1	248698	20.5	19.6
502883	20.2	21.0	366363	20.3	20.5	29060	20.3	17.2	199408	20.4	20.2	66787	20.5	18.9	28103	20.5	17.5
154553	20.2	19.2	181871	20.3	23.7	285691	20.3	21.3	78861	20.4	19.8	169629	20.5	20.2	101772	20.5	17.8
109608	20.2	20.0	361736	20.3	20.2	230183	20.3	20.2	461977	20.4	21.5	462001	20.5	21.0	411354	20.5	20.6
164478	20.2	20.3	98706	20.3	18.5	205257	20.3	20.1	245034	20.4	20.0	411278	20.5	20.9	179901	20.5	20.0
50884	20.2	18.8	100555	20.3	18.7	243972	20.3	20.5	204956	20.4	19.3	490381	20.5	21.8	431179	20.5	21.5
462652	20.2	21.6	159203	20.3	19.9	421672	20.3	21.3	253179	20.4	19.8	282453	20.5	20.7	435926	20.5	20.8
249538	20.2	20.4	89416	20.3	20.3	90056	20.3	18.0	208181	20.4	20.0	148078	20.5	18.6	387128	20.5	20.4
380099	20.2	22.3	405083	20.3	20.1	498083	20.3	21.9	191326	20.4	20.2	318851	20.5	20.9	422148	20.5	21.0
84236	20.2	19.9	205522	20.3	21.4	13843	20.3	17.7	423858	20.4	20.6	74469	20.5	16.8	42748	20.5	20.0
412625	20.2	20.2	108612	20.3	19.5	367777	20.3	21.0	323791	20.4	20.5	82919	20.4	18.9	136805	20.5	21.0
420696	20.2	20.2	498886	20.3	21.0	205825	20.3	19.5	98818	20.4	17.6	422554	20.5	21.2	194284	20.5	18.5
486124	20.2	19.9	503189	20.3	20.3	248997	20.3	20.9	172910	20.4	19.3	152507	20.5	19.4	382308	20.5	20.3
429056	20.2	19.9	282489	20.3	19.6	363082	20.3	21.5	370473	20.4	19.1	129983	20.5	20.3	65795	20.5	19.5
201097	20.2	18.9	501313	20.3	20.9	3942	20.3	17.1	306250	20.4	22.3	96795	20.5	19.2	80139	20.5	19.0
309921	20.2	20.0	308730	20.3	20.2	350256	20.3	20.0	249832	20.4	19.5	81016	20.5	18.3	352720	20.5	21.5
329817	20.2	20.9	239359	20.3	20.3	414856	20.3	20.0	352757	20.4	20.7	266375	20.5	20.9	433635	20.5	20.6
416963	20.2	21.3	266228	20.3	17.6	207452	20.3	19.5	289683	20.4	19.3	277720	20.5	19.5	436910	20.5	20.2
287495	20.2	19.7	380352	20.3	20.2	56161	20.3	17.8	462650	20.4	21.2	47810	20.5	18.6	140048	20.5	17.0
114520	20.2	19.2	79469	20.3	18.7	9036	20.3	18.5	108709	20.4	19.7	343069	20.5	19.0	288837	20.5	21.3
219810	20.2	19.4	83465	20.3	19.4	103896	20.3	20.0	495531	20.4	20.9	451417	20.5	20.4	233622	20.5	21.0
41184	20.2	19.3	251997	20.3	19.5	89926	20.3	19.3	277145	20.4	21.1	276072	20.5	20.3	307613	20.5	21.0
450975	20.2	21.2	335868	20.3	20.4	497876	20.3	21.8	308356	20.4	20.7	56554	20.5	18.7	373874	20.5	20.9
466753	20.2	21.0	91221	20.3	19.1	207055	20.3	20.0	124249	20.4	19.0	276339	20.5	19.2	83866	20.5	19.3
406400	20.2	21.7	418174	20.3	20.4	158045	20.3	19.9	494711	20.4	21.4	135732	20.5	19.6	380261	20.5	20.0
28127	20.2	18.8	415829	20.3	21.3	423578	20.3	21.7	62001	20.4	19.6	326008	20.5	19.8	496608	20.5	19.7
4194	20.2	15.6	62559	20.3	18.3	1											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
88159	20.6	19.2	122843	20.6	19.1	522390	20.7	20.8	446873	20.8	20.2	295695	20.8	20.8	431471	20.9	21.4
465962	20.6	21.5	226798	20.6	19.0	412340	20.7	20.4	247693	20.8	19.8	271129	20.8	20.1	53691	20.9	18.3
196326	20.6	18.9	170123	20.6	18.8	290861	20.7	20.6	371242	20.7	20.9	309851	20.8	19.5	68972	20.9	19.7
297622	20.6	20.4	422160	20.6	21.0	365228	20.8	20.3	349238	20.8	20.0	65247	20.9	19.0			
435197	20.6	21.3	265826	20.6	21.1	157482	20.7	19.8	67696	20.8	19.3	62899	20.8	19.0	393623	20.9	20.3
402179	20.6	21.3	283201	20.6	20.9	95905	20.7	19.7	378913	20.8	20.6	165506	20.8	19.3	22553	20.9	19.0
149616	20.6	20.2	73053	20.6	19.7	187879	20.7	20.6	501389	20.8	19.8	293941	20.8	21.2	379774	20.9	19.6
462041	20.6	21.2	286574	20.6	19.7	62717	20.7	19.8	72532	20.8	18.4	135421	20.8	19.5	285919	20.9	20.3
10874	20.6	19.0	286186	20.6	21.2	8746	20.7	16.9	131462	20.8	20.4	171236	20.8	20.2	431898	20.9	21.2
377061	20.6	20.5	381668	20.6	19.7	149682	20.7	20.8	82356	20.8	18.2	52989	20.8	17.1	134662	20.9	20.7
14933	20.6	17.5	180751	20.6	18.7	332377	20.7	20.9	460250	20.8	21.7	172970	20.8	20.0	43776	20.9	18.4
16892	20.6	18.0	109084	20.6	18.9	36361	20.7	19.5	57079	20.8	17.1	410004	20.8	21.0	345634	20.9	21.0
222377	20.6	18.9	205460	20.6	20.6	499059	20.7	21.0	429030	20.8	20.8	142716	20.8	19.1	499869	20.9	21.1
494931	20.6	20.9	64361	20.6	17.8	124845	20.7	19.4	172959	20.8	20.0	451022	20.8	21.4	161338	20.9	18.7
285209	20.6	20.6	81994	20.6	19.3	337518	20.7	20.5	337627	20.8	20.5	421304	20.8	20.4	5221	20.9	17.2
170037	20.6	19.7	488527	20.6	22.2	61331	20.7	19.4	282670	20.8	21.4	189473	20.8	20.7	90731	20.9	19.7
269416	20.6	19.0	183407	20.6	19.7	303422	20.7	20.3	337586	20.8	20.5	39364	20.8	18.8	405323	20.9	21.0
82434	20.6	19.0	378845	20.7	20.6	57500	20.7	18.3	39853	20.8	17.7	175206	20.8	19.5	77892	20.9	18.1
309385	20.6	21.4	93435	20.7	18.7	239504	20.7	20.8	241	20.8	12.5	212136	20.9	19.1	417101	20.9	21.0
491825	20.6	20.4	216784	20.7	20.0	227913	20.7	20.5	188698	20.8	20.8	472627	20.9	20.9	368800	20.9	20.0
89990	20.6	20.1	335659	20.7	20.0	77965	20.7	20.2	266447	20.8	19.7	275153	20.9	21.3	345676	20.9	20.9
391535	20.6	20.9	497759	20.7	21.9	217087	20.7	21.2	113939	20.8	19.5	96991	20.9	19.9	324541	20.9	19.5
170313	20.6	20.6	138754	20.7	19.8	332758	20.7	20.3	86713	20.8	18.9	371756	20.9	20.1	110225	20.9	20.7
5790	20.6	17.9	277146	20.7	21.2	329994	20.7	21.0	161618	20.8	19.5	396630	20.9	21.6	6974	20.9	16.0
4705	20.6	15.7	461961	20.7	19.7	190414	20.7	20.8	216093	20.8	19.7	175751	20.9	20.0	198888	20.9	20.8
260030	20.6	20.1	306687	20.7	21.9	51145	20.7	17.3	498321	20.8	22.1	400241	20.9	21.4	206291	20.9	18.7
464036	20.6	20.9	474030	20.7	21.1	273204	20.7	20.7	357992	20.8	20.1	284686	20.9	20.3	58177	20.9	18.5
199271	20.6	19.9	393894	20.7	22.2	415609	20.7	21.8	419167	20.8	20.4	61782	20.9	19.4	171541	20.9	20.1
128377	20.6	20.9	498221	20.7	21.6	312485	20.7	19.5	111249	20.8	19.4	292376	20.9	20.5	337697	20.9	20.2
430868	20.6	21.1	215865	20.7	20.0	58624	20.7	18.7	231068	20.8	20.3	405654	20.9	20.8	104972	20.9	20.2
402776	20.6	20.2	249826	20.7	19.0	440890	20.7	21.1	166193	20.8	19.3	187806	20.9	21.1	429828	20.9	20.5
108904	20.6	18.8	451703	20.7	20.4	408294	20.7	20.7	499440	20.8	21.1	63698	20.9	18.2	523768	20.9	22.2
101141	20.6	19.9	131892	20.7	19.8	225606	20.7	19.7	240101	20.8	19.7	83144	20.9	19.7	384745	20.9	20.2
433228	20.6	20.4	188650	20.7	20.1	443916	20.7	21.0	314176	20.8	19.8	245996	20.9	20.6	240896	20.9	20.9
116560	20.6	19.1	425181	20.7	20.5	304909	20.7	20.9	271689	20.8	21.4	348798	20.9	20.8	98554	20.9	20.5
258413	20.6	19.8	133096	20.7	20.1	336426	20.7	20.5	65921	20.8	18.4	373396	20.9	20.2	143330	20.9	17.1
61126	20.6	18.8	61910	20.7	18.4	456785	20.7	21.2	361431	20.8	20.5	284983	20.9	20.2	519400	20.9	21.3
365857	20.6	19.3	202142	20.7	20.0	126802	20.7	19.7	500188	20.8	21.7	323451	20.9	20.0	132021	20.9	19.1
371955	20.6	21.9	74515	20.7	17.8	265319	20.7	20.3	182704	20.8	20.3	468173	20.9	20.4	90252	20.9	19.6
82684	20.6	19.2	65602	20.7	17.3	430389	20.7	20.3	57393	20.8	18.7	136636	20.9	19.2	140933	20.9	19.8
52430	20.6	19.0	234479	20.7	20.0	50801	20.7	18.9	456619	20.8	20.9	237603	20.9	20.1	66380	20.9	19.8
283466	20.6	20.3	432911	20.7	21.2	33412	20.7	18.7	361664	20.8	20.7	57206	20.9	19.1	192555	20.9	20.3
139564	20.6	18.8	130813	20.7	18.9	149882	20.7	20.6	238356	20.8	19.5	208670	20.9	20.5	431515	20.9	20.8
127208	20.6	19.2	376	20.7	12.5	522319	20.7	19.6	426486	20.8	21.6	268469	20.9	20.0	405539	20.9	19.5
256283	20.6	20.6	153915	20.7	19.6	369731	20.7	19.8	486856	20.8	20.4	284646	20.9	19.9	217964	20.9	21.4
454512	20.6	20.7	377378	20.7	22.0	111528	20.7	19.8	138749	20.8	20.6	465382	20.9	20.9	34863	20.9	17.5
224686	20.6	20.9	205631	20.7	20.7	450716	20.7	20.3	519969	20.8	22.1	142208	20.9	18.8	218711	20.9	21.4
149360	20.6	20.7	522384	20.7	21.0	221257	20.8	20.5	55487	20.8	18.7	183275	20.9	21.5	303463	20.9	18.8
243758	20.6	20.8	9570	20.7	17.5	293787	20.8	20.9	386551	20.8	20.7	353483	20.9	20.2	368601	20.9	20.3
370981	20.6	20.1	205893	20.7	19.4	257484	20.8	20.7	4355	20.8	16.4	21499	20.9	17.8	430817	20.9	21.4
315009	20.6	20.2	379029	20.7	20.4	455606	20.8	21.2	282957	20.8	20.3	290745	20.9	21.0	465446	20.9	22.0
219434	20.6	19.8	13970	20.7	18.0	297612	20.8	21.8	87227	20.8	20.9	73212	20.9	18.9	116231	20.9	18.8
85211	20.6	18.9	218643	20.7	20.7	148667	20.8	20.3	318071	20.8	19.9	115391	20.9	20.3	142882	20.9	18.6
410335	20.6	21.6	192783	20.7	20.4	135389	20.8	19.3	495485	20.8	21.4	372623	20.9	21.2	381242	20.9	20.7
503462	20.6	20.9	455555	20.7	21.5	339491	20.8	20.8	10219	20.8	18.1	326990	20.9	21.0	372431	20.9	20.7
200120	20.6	20.2	101714	20.7	18.5	490674	20.8	20.7	416650	20.8	21.4	165520	20.9	18.4	333452	20.9	20.1
155051	20.6	19.3	347082	20.7	19.7	340826	20.8	20.1	51280	20.8	18.9	200124	20.9	20.6	212975	20.9	19.9
504011	20.6	22.0	150738	20.7	20.5	503656	20.8	20.6	78225	20.8	19.3	233091	20.9	20.9	148748	20.9	20.5
448119	20.6	21.2	195279	20.7	19.1	70180	20.8	18.1	275498	20.8	20.4	265856	20.9	20.2	195469	20.9	19.9
375016	20.6	20.9	205060	20.7	19.9	411464	20.8	21.4	457334	20.8	21.9	166011	20.9	18.7	115154	20.9	19.4
227425	20.6	20.5	266052	20.7	20.5	46855	20.8	19.1</td									

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

Nº	02	V															
79763	20.9	17.9	406105	21.0	20.5	268145	21.1	20.3	224918	21.1	19.6	136028	21.2	18.8	23180	21.3	17.7
121488	20.9	19.2	404754	21.0	21.5	424715	21.1	21.2	331774	21.1	19.2	258292	21.2	19.8	205345	21.3	20.3
3066	20.9	15.3	496369	21.0	21.4	241325	21.1	19.5	107354	21.1	18.7	15566	21.2	18.2	500326	21.3	21.5
138140	20.9	19.2	498555	21.0	20.6	403529	21.1	19.9	414228	21.2	20.1	465486	21.2	21.4	463557	21.3	21.0
211225	20.9	20.9	290658	21.0	20.6	470926	21.1	20.1	384877	21.2	20.3	167997	21.2	20.5	228732	21.3	20.0
348599	20.9	20.4	432161	21.0	20.5	41887	21.1	19.4	221301	21.2	19.3	356497	21.2	21.1	209447	21.3	20.2
214876	20.9	20.7	11292	21.0	17.1	507382	21.1	21.3	285316	21.2	19.9	160103	21.2	19.9	96173	21.3	18.6
91272	20.9	19.0	283215	21.0	20.4	118915	21.1	20.5	313799	21.2	19.6	94670	21.2	18.6	169261	21.3	18.9
498570	20.9	21.1	68974	21.0	19.8	264761	21.1	19.7	368126	21.2	21.1	190276	21.2	20.9	83910	21.3	18.5
518898	20.9	20.7	168293	21.0	21.2	434836	21.1	21.3	436928	21.2	21.1	434321	21.2	19.4	492503	21.3	22.0
271876	20.9	20.2	204381	21.0	20.0	241580	21.1	19.7	423191	21.2	21.2	436721	21.2	20.8	381661	21.3	20.0
21416	20.9	18.6	153883	21.0	20.3	209364	21.1	19.3	429885	21.2	21.0	491161	21.2	21.4	91060	21.3	18.9
331236	20.9	20.5	487224	21.0	21.0	281308	21.1	20.5	113099	21.2	19.5	96768	21.2	19.3	102296	21.3	18.6
454011	20.9	20.5	359454	21.0	21.1	57273	21.1	18.1	115054	21.2	19.0	138510	21.2	20.0	409961	21.3	21.0
286225	20.9	20.2	94230	21.0	18.0	299689	21.1	20.4	426647	21.2	21.8	30409	21.2	18.7	498101	21.3	21.4
141412	20.9	19.3	457561	21.0	20.9	196013	21.1	20.0	130693	21.2	18.7	165709	21.2	19.6	273866	21.3	19.8
15471	20.9	17.1	46	21.0	12.2	125128	21.1	18.9	253085	21.2	20.2	117216	21.2	19.1	434443	21.3	20.8
382294	20.9	20.2	166999	21.0	20.8	151102	21.1	19.2	43033	21.2	20.6	172375	21.2	19.2	246975	21.3	20.9
471686	20.9	21.1	152437	21.0	19.7	369530	21.1	20.5	474115	21.2	20.8	408323	21.2	21.2	49249	21.3	19.2
167670	20.9	19.3	403255	21.0	20.3	497815	21.1	22.0	378917	21.2	20.9	495675	21.2	19.2	66808	21.3	19.2
470477	20.9	20.8	421105	21.0	21.1	264738	21.1	18.6	363131	21.2	21.7	497895	21.2	20.3	503190	21.3	20.6
327973	20.9	20.5	384931	21.0	19.8	212731	21.1	19.3	508097	21.2	21.4	123282	21.2	19.6	433151	21.3	20.5
338409	20.9	20.3	283915	21.0	20.2	369575	21.1	20.7	344607	21.2	19.5	290577	21.2	21.4	5539	21.3	16.6
132038	20.9	20.0	234905	21.0	20.3	274286	21.1	20.6	417702	21.2	19.9	107243	21.2	19.0	266831	21.3	19.9
237652	20.9	20.5	255830	21.0	20.2	171918	21.1	19.3	277945	21.2	21.0	32409	21.2	17.1	180520	21.3	19.0
448443	20.9	20.7	171986	21.0	19.7	58912	21.1	18.7	290719	21.2	20.0	282168	21.2	21.0	462045	21.3	20.8
360405	20.9	21.0	57401	21.0	18.8	34838	21.1	18.3	374099	21.2	20.9	272471	21.2	20.9	235779	21.3	20.6
48350	20.9	18.1	39937	21.0	17.3	496053	21.1	19.9	5483	21.2	16.4	455762	21.2	21.5	430715	21.3	20.2
331988	20.9	20.5	146085	21.0	19.4	352737	21.1	21.1	135090	21.2	18.9	123413	21.2	18.9	54561	21.3	18.9
253978	20.9	20.5	321695	21.0	19.9	157295	21.1	19.6	110007	21.2	18.0	496360	21.2	21.0	73859	21.3	18.3
38720	20.9	18.4	166371	21.0	19.0	37585	21.1	17.9	60576	21.2	19.1	5885	21.2	16.2	243615	21.3	19.9
381992	20.9	19.6	465949	21.0	20.7	241478	21.1	19.9	86437	21.2	18.9	308436	21.2	19.4	55958	21.3	18.3
109638	20.9	19.9	168939	21.1	18.3	146623	21.1	19.0	373357	21.2	20.9	145652	21.2	20.3	188433	21.3	19.6
152701	20.9	20.5	36320	21.1	18.1	93931	21.1	19.3	427850	21.2	20.5	160928	21.2	19.5	276801	21.3	21.2
151137	20.9	18.5	54407	21.1	18.3	246445	21.1	19.8	231	21.2	13.6	95449	21.2	19.4	262768	21.3	20.3
425251	20.9	21.1	464293	21.1	20.2	49688	21.1	17.8	343601	21.2	20.3	239252	21.2	20.7	264947	21.3	19.9
369062	20.9	19.8	235528	21.1	20.2	503191	21.1	20.0	323423	21.2	20.4	125585	21.2	17.5	221199	21.3	19.8
126033	20.9	19.3	427542	21.0	20.2	145259	21.1	19.5	330079	21.2	19.8	138783	21.3	20.0	470705	21.3	21.0
384553	20.9	20.3	511903	21.1	20.8	425101	21.1	22.0	503452	21.2	20.3	383041	21.3	20.6	4259	21.3	16.2
53031	20.9	17.6	166157	21.1	18.5	340780	21.1	20.6	188100	21.2	19.9	350641	21.3	20.9	223779	21.3	20.0
501456	20.9	19.7	433219	21.1	20.8	307650	21.1	20.5	296923	21.2	21.0	490631	21.3	20.8	218659	21.3	20.4
147327	20.9	19.8	252221	21.1	19.6	369810	21.1	19.6	502012	21.2	21.3	155147	21.3	19.4	519186	21.3	21.5
461734	20.9	21.4	11099	21.1	17.8	290063	21.1	20.8	452569	21.2	20.7	153091	21.3	20.5	343505	21.3	20.4
361625	20.9	20.4	341590	21.1	20.0	57826	21.1	19.1	4323	21.2	16.8	453274	21.3	21.1	276394	21.3	20.0
97865	20.9	19.4	317033	21.1	20.8	232589	21.1	20.2	369055	21.2	20.0	364656	21.3	20.2	340840	21.3	19.7
253083	20.9	19.0	98040	21.1	19.1	190193	21.1	19.6	62157	21.2	18.4	142881	21.3	19.1	207625	21.3	19.5
437617	20.9	20.7	209084	21.1	19.5	492471	21.1	20.9	411992	21.2	19.8	110871	21.3	20.0	308634	21.3	22.6
332881	20.9	20.9	51274	21.1	18.1	348822	21.1	21.7	498154	21.2	20.8	12471	21.3	18.7	200737	21.3	20.3
79871	20.9	17.3	348563	21.1	20.7	518164	21.1	21.3	63671	21.2	19.5	24707	21.3	18.9	64504	21.3	18.6
467528	20.9	21.0	221080	21.1	19.4	119755	21.1	19.4	106121	21.2	17.6	491659	21.3	20.1	439446	21.3	20.0
245948	20.9	20.8	356534	21.1	20.7	423648	21.1	21.7	365162	21.2	20.5	425264	21.3	21.7	365204	21.3	20.0
61746	20.9	18.5	466028	21.1	21.0	203887	21.1	18.8	190289	21.2	20.7	210343	21.3	19.6	282150	21.3	20.4
200671	20.9	20.1	459368	21.1	20.7	145600	21.1	19.8	45316	21.2	18.3	329818	21.3	20.5	84533	21.3	19.0
89087	20.9	18.3	151291	21.1	19.6	281297	21.1	19.8	207587	21.2	20.1	242338	21.3	19.9	49269	21.3	17.2
383681	20.9	20.6	424782	21.1	21.2	430046	21.1	20.8	462288	21.2	20.9	55888	21.3	18.3	423557	21.3	21.7
464294	20.9	20.2	496548	21.1	20.8	3109	21.1	15.4	324616	21.2	19.9	386535	21.3	20.2	60583	21.3	18.8
490048	20.9	21.1	40107	21.1	18.6	109553	21.1	19.5	332300	21.2	18.0	459162	21.3	20.0	310679	21.3	19.5
489624	20.9	22.1	135129	21.1	19.2	433119	21.1	20.3	340681	21.2	20.4	143305	21.3	19.4	301794	21.3	20.9
523523	21.0	19.9	15041	21.1	18.4	151904	21.1	20.3	13270	21.2	17.7	316840	21.3	20.4	61885	21.3	18.8
43933	21.0	18.4	325118	21.1	20.7	118638	21.1	20.1	230387	21.2	20.0	332183	21.3	20.6	299240	21.3	20.6
335999	21.0	20.0	195488	21.1	19.7	430471											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
88429	21.4	19.5	201940	21.4	18.3	23800	21.5	17.9	371046	21.5	20.6	21689	21.6	18.7	96698	21.7	18.0
229542	21.4	20.2	15842	21.4	18.1	169215	21.5	19.9	447306	21.5	20.7	28228	21.6	17.8	428954	21.7	20.4
423787	21.4	19.9	212085	21.4	20.1	215081	21.5	19.7	375421	21.5	21.0	107498	21.6	18.3	370770	21.7	21.4
465848	21.4	21.3	423985	21.4	22.4	1385	21.5	14.8	163431	21.5	19.7	51363	21.6	18.4	208332	21.7	20.4
517630	21.4	21.1	5078	21.4	18.2	79301	21.5	19.6	200768	21.5	19.5	469192	21.6	19.4	101750	21.7	19.0
162623	21.4	19.6	336757	21.4	18.9	340707	21.5	20.7	57876	21.5	18.9	432142	21.6	20.0	282676	21.7	20.8
169218	21.4	20.1	131799	21.4	19.6	29208	21.5	19.3	429298	21.5	20.9	148538	21.6	19.8	123763	21.7	17.9
90014	21.4	20.8	358089	21.4	20.1	503136	21.5	20.2	29600	21.5	17.9	107185	21.6	18.0	181311	21.7	20.2
3567	21.4	16.8	277996	21.4	19.7	51375	21.5	16.9	310900	21.5	19.9	13422	21.6	18.9	434413	21.7	20.5
196201	21.4	18.9	367774	21.4	20.5	270218	21.5	21.5	96247	21.5	19.3	191812	21.6	20.6	54456	21.7	18.0
467692	21.4	20.9	491816	21.4	22.3	505148	21.5	21.3	138598	21.6	20.1	511719	21.6	20.2	142707	21.7	19.7
322790	21.4	20.3	277126	21.4	19.5	496078	21.5	22.0	6783	21.6	17.5	13153	21.6	19.8	214646	21.7	19.5
110684	21.4	20.0	291684	21.4	20.6	508410	21.5	22.2	492560	21.6	21.0	329686	21.6	20.7	221067	21.7	20.3
248935	21.4	20.2	496324	21.4	22.3	87297	21.5	18.7	290505	21.6	20.3	421034	21.6	19.8	196494	21.7	19.3
81862	21.4	19.3	172325	21.4	19.5	417532	21.5	21.1	289897	21.6	20.3	159040	21.6	20.6	73142	21.7	18.6
191849	21.4	20.0	71446	21.4	17.7	334127	21.5	20.3	378703	21.6	21.0	213929	21.6	19.6	87951	21.7	20.1
201385	21.4	19.9	340615	21.4	21.4	409003	21.5	21.4	234916	21.6	20.6	433081	21.6	20.6	265221	21.7	19.4
173482	21.4	20.7	336369	21.4	20.7	35117	21.5	18.0	168928	21.6	19.0	81252	21.6	18.4	246405	21.7	20.4
312817	21.4	20.2	144941	21.4	19.0	32578	21.5	18.1	321788	21.6	20.2	386610	21.6	21.6	218046	21.7	20.2
1931	21.4	17.5	402931	21.4	20.3	309039	21.5	20.2	319833	21.6	20.2	451668	21.6	19.6	54382	21.7	18.4
206405	21.4	19.8	242362	21.4	19.6	190070	21.5	21.6	266206	21.6	21.0	413157	21.6	20.7	20371	21.7	18.5
88463	21.4	19.7	374614	21.4	21.1	383768	21.5	21.0	106313	21.6	18.6	95049	21.6	18.9	432508	21.7	20.7
403856	21.4	20.6	344566	21.4	20.3	152884	21.5	20.3	427198	21.6	20.8	379858	21.6	21.3	245181	21.7	20.2
368798	21.4	20.6	150736	21.4	19.8	140297	21.5	19.1	465919	21.6	21.3	380346	21.6	21.0	8638	21.7	16.5
127686	21.4	19.3	292588	21.4	20.8	300074	21.5	20.4	213574	21.6	20.4	105319	21.6	20.1	458891	21.7	20.4
461805	21.4	20.7	258771	21.4	19.8	407669	21.5	22.1	371734	21.6	20.5	27544	21.6	18.2	194496	21.7	19.2
39907	21.4	18.3	382838	21.4	20.6	80004	21.5	18.4	148895	21.6	19.2	202860	21.6	19.5	269614	21.7	19.9
326038	21.4	20.3	40448	21.4	18.8	245108	21.5	20.7	15439	21.6	17.1	274449	21.6	20.1	357374	21.7	20.8
226891	21.4	19.5	161575	21.4	19.1	49324	21.5	18.1	3831	21.6	16.2	152886	21.6	18.5	209008	21.7	19.5
522683	21.4	21.4	262929	21.4	18.8	55084	21.5	18.4	145645	21.6	20.1	341650	21.6	20.7	294830	21.7	20.1
406034	21.4	21.0	214226	21.4	19.0	214242	21.5	20.0	41983	21.6	19.0	408987	21.6	21.3	465887	21.7	20.7
140417	21.4	19.7	490129	21.4	21.6	362098	21.5	20.6	29908	21.6	16.8	37611	21.6	18.0	303733	21.7	21.3
89487	21.4	18.6	323766	21.4	21.2	427655	21.5	20.5	341624	21.6	20.2	173468	21.6	20.2	489556	21.7	21.7
247103	21.4	20.5	252511	21.4	19.8	67839	21.5	17.3	506007	21.6	21.0	482801	21.6	20.4	508586	21.7	20.4
70176	21.4	20.0	320441	21.4	18.9	454506	21.5	20.3	313426	21.6	19.5	462623	21.6	21.4	206157	21.7	19.9
17118	21.4	18.1	358087	21.4	20.1	1593	21.5	16.7	53190	21.6	18.1	496824	21.6	21.4	35237	21.7	18.8
320213	21.4	20.6	364355	21.4	20.9	114429	21.5	18.7	286353	21.6	20.6	400286	21.6	21.2	360587	21.7	20.5
253285	21.4	18.4	91486	21.4	19.8	412846	21.5	20.2	436297	21.6	20.7	426366	21.6	20.8	105128	21.7	19.4
4199	21.4	16.9	375940	21.4	20.4	274721	21.5	20.5	91447	21.6	18.8	458949	21.6	21.1	42362	21.7	18.8
33860	21.4	18.6	162533	21.4	19.6	45664	21.5	18.1	239891	21.6	20.0	33562	21.6	18.1	456001	21.7	20.7
328672	21.4	19.8	500512	21.4	21.4	204684	21.5	20.4	453817	21.6	20.4	182388	21.6	20.2	211854	21.7	19.5
372524	21.4	21.4	954448	21.4	19.5	492530	21.5	21.0	258014	21.6	20.4	404306	21.6	20.3	231864	21.7	20.1
402516	21.4	20.1	319581	21.4	20.6	490337	21.5	19.9	239561	21.6	19.8	293623	21.6	21.0	364446	21.7	20.5
348418	21.4	21.6	244384	21.4	20.3	173489	21.5	19.7	150941	21.6	20.3	258277	21.6	20.1	239494	21.7	20.4
423181	21.4	20.9	175490	21.4	19.3	226925	21.5	20.4	379833	21.6	19.7	211471	21.6	19.6	470363	21.7	20.5
341460	21.4	20.7	110581	21.4	17.6	283561	21.5	20.2	385910	21.6	20.8	206265	21.6	19.1	122512	21.7	20.3
304002	21.4	20.6	376249	21.4	20.3	277867	21.5	21.0	171225	21.6	20.5	125500	21.6	18.6	354894	21.7	20.2
405320	21.4	21.4	119719	21.4	19.7	358527	21.5	20.2	166709	21.6	20.1	500482	21.6	21.1	108577	21.7	18.8
498708	21.4	21.2	372269	21.4	20.7	245466	21.5	19.8	231908	21.6	19.2	501119	21.6	21.0	104993	21.7	20.6
411230	21.4	21.4	84662	21.4	19.2	93601	21.5	19.4	500344	21.6	21.5	243795	21.6	19.4	135419	21.7	20.5
103387	21.4	18.6	267823	21.4	20.1	98401	21.5	18.6	435384	21.6	20.0	157900	21.6	20.0	309334	21.7	19.8
218249	21.4	19.8	432532	21.4	21.2	297608	21.5	21.5	384598	21.6	20.0	152827	21.6	19.6	149890	21.7	20.0
497988	21.4	19.9	71340	21.5	17.7	432928	21.5	20.9	54793	21.6	19.2	453250	21.6	21.5	78937	21.7	20.1
371978	21.4	21.1	325214	21.5	20.5	368611	21.5	19.9	170178	21.6	20.6	153326	21.6	19.4	350380	21.7	20.0
109028	21.4	19.9	505975	21.5	21.2	88522	21.5	19.4	92942	21.6	18.1	405587	21.6	19.4	143020	21.7	18.4
61643	21.4	19.9	420855	21.5	21.1	119779	21.5	19.5	437505	21.6	20.3	39756	21.6	18.4	488748	21.7	21.5
430055	21.4	20.8	333162	21.5	20.6	365183	21.5	20.1	227505	21.6	19.6	465769	21.6	20.7	464413	21.7	19.9
261040	21.4	20.5	148757	21.5	18.2	227903	21.5	19.3	210726	21.6	19.2	55018	21.6	16.7	318807	21.7	19.7
29860	21.4	17.4	140908	21.5	19.0	232793	21.5	20.3	182483	21.6	20.3	322624	21.6	20.3	210011	21.7	20.6
244636	21.4	19.3	336875	21.5	19.9	56498	21.5	18.9	480209	21.6	20.9	4862	21.7	17.8	193940	21.7	21.1
151172	21.4	19.7	436286	21.5	20.2	161769</td											

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

Nº	02	V															
141211	21.7	20.4	205766	21.8	19.3	216529	21.9	20.8	113794	21.9	19.1	382848	22.0	18.7	430618	22.1	19.3
388852	21.7	20.4	366869	21.8	21.0	318799	21.9	20.8	415613	21.9	22.0	143224	22.0	18.6	165069	22.1	19.7
145012	21.7	20.6	10143	21.8	15.3	376738	21.9	21.6	133548	21.9	19.8	273661	22.0	19.9	341428	22.1	19.7
151768	21.7	18.4	49463	21.8	17.2	238473	21.9	20.0	75185	21.9	19.0	40704	22.0	19.0	428418	22.1	20.1
354943	21.7	20.1	286257	21.8	20.5	10215	21.9	19.2	43603	21.9	18.4	493518	22.0	20.2	202005	22.1	19.7
312069	21.7	20.9	69088	21.8	18.2	472411	21.9	20.4	495516	21.9	20.9	217089	22.0	20.5	262806	22.1	20.1
189796	21.8	20.7	144718	21.8	18.4	146342	21.9	19.5	310054	21.9	21.0	299046	22.0	19.3	83753	22.1	18.7
176668	21.8	21.1	271226	21.8	20.9	291661	21.9	20.6	29929	21.9	18.2	29439	22.0	17.3	291140	22.1	19.1
338951	21.8	19.8	12129	21.8	17.6	460056	21.9	21.2	84986	21.9	18.6	41947	22.0	18.1	472698	22.1	21.0
284381	21.8	21.4	292236	21.8	20.4	229548	21.9	20.2	152534	21.9	19.4	181530	22.0	19.6	421425	22.1	20.2
250149	21.8	20.8	116174	21.8	19.0	61056	21.9	19.2	296379	21.9	20.3	241137	22.0	21.7	271856	22.1	21.0
175976	21.8	20.3	408790	21.8	19.9	229158	21.9	20.6	271117	21.9	20.6	223772	22.0	19.0	89870	22.1	19.7
428410	21.8	21.6	244155	21.8	19.8	134355	21.9	19.7	461816	21.9	20.9	140347	22.0	19.5	361639	22.1	20.8
365959	21.8	20.3	246096	21.8	20.6	500442	21.9	21.3	45890	21.9	17.1	240571	22.0	19.7	87731	22.1	19.2
470606	21.8	20.7	200674	21.8	19.9	341672	21.9	20.0	403274	21.9	20.0	408887	22.0	20.6	61116	22.1	18.4
27224	21.8	18.0	128504	21.8	19.9	83361	21.9	18.3	280653	21.9	18.7	447334	22.0	21.4	29509	22.1	18.6
115186	21.8	20.1	55098	21.8	18.6	498742	21.9	22.1	496376	21.9	22.0	455175	22.0	21.0	355275	22.1	21.7
310213	21.8	19.5	341386	21.8	20.6	6617	21.9	17.5	462082	21.9	19.9	164812	22.0	19.7	372667	22.1	21.0
21212	21.8	18.7	256074	21.8	20.4	1946	21.9	15.7	201196	21.9	20.5	428905	22.0	20.7	461963	22.1	21.2
172514	21.8	19.6	463334	21.8	21.1	206341	21.9	20.8	425120	21.9	21.4	192779	22.1	20.0	125172	22.1	18.8
433563	21.8	20.4	187598	21.8	19.1	245063	21.9	19.5	171867	21.9	20.0	378865	22.1	20.9	210208	22.1	21.1
340728	21.8	20.5	245826	21.8	20.0	522281	21.9	20.1	468504	21.9	21.7	320442	22.1	20.0	245890	22.1	20.6
32858	21.8	17.5	492899	21.8	21.7	336389	21.9	20.8	374553	21.9	20.5	163165	22.1	19.6	227430	22.1	19.4
280409	21.8	19.8	68831	21.8	17.6	384202	21.9	20.1	459304	21.9	20.3	20332	22.1	16.7	264423	22.1	20.9
169855	21.8	18.8	150844	21.8	18.7	411469	21.9	20.8	226721	21.9	20.0	406206	22.1	20.1	269608	22.1	19.0
383799	21.8	20.2	246617	21.8	20.1	499023	21.9	20.1	319729	21.9	20.3	225982	22.1	19.3	271857	22.1	20.4
434915	21.8	21.4	353437	21.8	20.7	265782	21.9	19.2	231567	21.9	20.5	119514	22.1	20.1	519910	22.1	21.0
305776	21.8	19.4	238407	21.8	19.8	304109	21.9	19.9	469134	21.9	19.7	500361	22.1	20.9	177762	22.1	19.3
320792	21.8	20.6	30470	21.8	18.7	31379	21.9	17.2	80069	21.9	18.7	150090	22.1	20.1	406039	22.1	21.2
67566	21.8	17.2	422463	21.8	21.4	423216	21.9	21.1	508755	21.9	21.6	77432	22.1	19.1	62834	22.1	19.1
503198	21.8	20.2	79012	21.8	18.9	41978	21.9	17.2	105310	21.9	19.9	159590	22.1	20.2	505044	22.1	22.7
228596	21.8	20.0	89853	21.8	18.8	325203	21.9	20.2	97064	21.9	19.4	334701	22.1	19.7	426429	22.1	20.9
290625	21.8	21.0	364188	21.8	20.8	22140	21.9	18.5	151967	21.9	18.4	406921	22.1	20.5	58389	22.1	19.8
227293	21.8	19.6	34500	21.8	19.0	56380	21.9	18.5	197236	21.9	20.0	407789	22.1	20.5	298890	22.1	20.5
66869	21.8	18.2	377449	21.8	20.9	309393	21.9	19.8	197610	21.9	19.8	357544	22.1	21.0	71837	22.1	17.1
17285	21.8	17.8	162045	21.8	19.5	130830	21.9	19.2	84208	21.9	18.7	221750	22.1	19.5	212417	22.1	20.2
351621	21.8	20.3	229118	21.8	20.3	179006	21.9	19.9	366406	21.9	20.9	202187	22.1	19.9	429910	22.1	20.6
128873	21.8	19.4	212958	21.8	20.8	375734	21.9	21.0	66334	21.9	17.5	221298	22.1	20.2	365040	22.1	19.7
183548	21.8	19.3	523663	21.8	24.2	219735	21.9	19.7	381268	21.9	21.1	366246	22.1	20.9	355831	22.1	20.7
237169	21.8	20.8	149471	21.8	19.5	206920	21.9	20.3	423188	21.9	21.9	406859	22.1	20.6	123633	22.1	19.7
418885	21.8	20.4	125433	21.8	18.7	494747	21.9	19.9	92555	21.9	18.8	163677	22.1	19.8	451079	22.1	20.5
234036	21.8	20.4	163475	21.8	19.6	293771	21.9	20.8	264041	22.0	20.2	240753	22.1	20.3	113951	22.1	19.4
414187	21.8	20.0	244730	21.8	21.2	379595	21.9	20.0	27481	22.0	18.4	282264	22.1	20.8	139493	22.1	19.7
243434	21.8	19.8	92118	21.8	18.9	295967	21.9	19.6	378300	22.0	21.2	462046	22.1	20.4	250215	22.1	21.1
194014	21.8	19.7	518626	21.8	20.5	203073	21.9	20.7	358504	22.0	19.6	162542	22.1	20.5	91413	22.1	19.8
192855	21.8	20.6	213799	21.8	19.2	367338	21.9	20.3	8285	22.0	15.7	245531	22.1	19.6	446917	22.1	21.0
499988	21.8	20.5	292802	21.8	20.6	236932	21.9	19.2	324672	22.0	20.6	495739	22.1	20.3	146575	22.1	18.9
281099	21.8	19.8	274039	21.8	21.2	221374	21.9	20.6	207326	22.0	20.9	31162	22.1	17.5	87391	22.1	20.1
466254	21.8	21.5	298888	21.8	20.7	411643	21.9	20.6	250206	22.0	21.4	288534	22.1	20.3	354369	22.1	20.5
68074	21.8	18.6	245447	21.8	20.1	463843	21.9	19.7	330884	22.0	19.7	403834	22.1	19.9	132852	22.1	20.0
205580	21.8	20.4	231473	21.9	20.2	465936	21.9	20.5	288902	22.0	19.2	184846	22.1	20.4	209015	22.1	18.7
241778	21.8	20.0	128978	21.9	20.0	372567	21.9	21.1	190392	22.0	20.1	343234	22.1	20.3	415950	22.1	19.4
361685	21.8	19.9	118255	21.9	17.6	203762	21.9	20.1	240740	22.0	19.8	90688	22.1	19.0	17145	22.1	17.3
168360	21.8	20.5	418366	21.9	20.1	26387	21.9	16.3	132167	22.0	20.5	523762	22.1	21.8	343217	22.1	20.3
422900	21.8	20.5	413915	21.9	21.0	84379	21.9	18.5	516657	22.0	21.8	377778	22.1	20.4	2947	22.1	15.1
55860	21.8	18.7	294595	21.9	20.4	83681	21.9	18.5	77749	22.0	18.5	383753	22.1	20.5	108798	22.1	19.2
159299	21.8	19.6	253057	21.9	19.5	455747	21.9	20.8	479026	22.0	20.6	143380	22.1	19.7	240605	22.1	19.8
432551	21.8	21.0	357176	21.9	20.5	371963	21.9	20.8	405157	22.0	21.1	142469	22.1	20.8	420096	22.1	19.9
408860	21.8	20.9	16797	21.9	17.4	164533	21.9	19.9	492834	22.0	21.6	270950	22.1	20.8	492594	22.1	21.6
347437	21.8	21.0	199848	21.9	19.9	413086	21.9	20.9	472872	22.0	20.9	416012	22.1	20.4	374522	22.1	20.1
428145	21.8	20.7	428926	21.9	2												

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

Nº	02	V															
422593	22.1	21.1	249825	22.2	19.2	238470	22.3	19.8	25600	22.4	17.8	100678	22.4	20.4	391779	22.5	21.1
467876	22.2	21.3	318023	22.2	19.4	261585	22.3	19.8	458964	22.4	22.2	288868	22.4	20.5	171430	22.5	19.9
83281	22.2	18.2	78574	22.2	19.0	101680	22.3	17.7	173784	22.4	19.7	309358	22.4	20.6	480936	22.5	19.8
389452	22.2	20.8	498020	22.2	20.9	282830	22.3	21.5	146381	22.4	20.0	209939	22.4	20.6	390536	22.5	22.2
240480	22.2	19.0	74123	22.2	18.2	107528	22.3	18.4	17322	22.4	17.9	344	22.4	12.8	224539	22.5	19.0
93790	22.2	18.2	129423	22.2	21.1	293178	22.3	19.7	287547	22.4	19.3	88215	22.4	19.3	135118	22.5	19.5
433764	22.2	20.1	223627	22.2	20.3	377431	22.3	21.3	428309	22.4	19.6	57032	22.4	18.0	223786	22.5	19.6
447274	22.2	21.8	310923	22.2	20.4	428440	22.3	21.3	94602	22.4	18.4	334501	22.4	19.8	384175	22.5	19.9
138533	22.2	19.1	288175	22.2	20.8	395339	22.3	21.9	56128	22.4	17.9	30209	22.4	18.9	231098	22.5	20.8
203254	22.2	20.1	500536	22.2	21.2	456584	22.3	19.6	97006	22.4	19.8	118554	22.4	18.5	467024	22.5	20.2
121412	22.2	19.9	12256	22.2	15.8	391653	22.3	20.0	463407	22.4	21.7	307	22.4	14.0	166278	22.5	19.0
206890	22.2	19.6	473246	22.2	20.4	419636	22.3	21.4	41597	22.4	17.8	494514	22.4	19.3	337696	22.5	20.3
498571	22.2	22.2	211615	22.2	20.2	26738	22.3	18.3	261069	22.4	20.3	382683	22.4	21.0	16379	22.5	18.0
109076	22.2	18.3	243480	22.2	19.8	519929	22.3	21.1	305832	22.4	19.5	278760	22.4	20.6	260869	22.5	19.3
371194	22.2	20.3	163433	22.2	19.3	98568	22.3	19.6	19065	22.4	16.5	67960	22.4	18.2	209425	22.5	18.8
331892	22.2	19.5	499941	22.2	21.1	187239	22.3	21.0	341561	22.4	21.0	173498	22.4	19.6	158162	22.5	19.7
27657	22.2	19.1	85192	22.2	20.1	500674	22.3	22.0	46330	22.4	18.5	229854	22.4	20.0	321089	22.5	20.6
301298	22.2	19.8	82971	22.2	19.1	333780	22.3	20.4	270001	22.4	19.7	498148	22.4	21.3	50766	22.5	18.4
68505	22.2	18.6	296117	22.2	18.5	500598	22.3	21.8	36050	22.4	18.4	287907	22.4	19.6	189245	22.5	20.3
31256	22.2	17.9	88896	22.2	18.4	500719	22.3	21.4	431352	22.4	19.8	427810	22.4	21.0	370798	22.5	21.5
423248	22.2	21.5	199055	22.2	20.0	319883	22.3	20.7	168114	22.4	20.3	522556	22.4	21.8	501348	22.5	20.6
32807	22.2	18.4	162511	22.2	20.1	396073	22.3	20.1	165312	22.4	21.0	136189	22.4	20.2	252021	22.5	19.0
392464	22.2	20.6	130853	22.2	18.7	327918	22.3	20.3	175446	22.4	19.9	29564	22.4	17.2	146375	22.5	20.6
473972	22.2	19.7	246781	22.2	20.2	351609	22.3	19.8	318785	22.4	18.7	112785	22.4	19.4	38287	22.5	18.3
432098	22.2	19.8	432482	22.2	21.0	157400	22.3	19.4	26652	22.4	15.5	396957	22.4	20.9	317155	22.5	21.0
55785	22.2	18.7	305634	22.2	20.0	320940	22.3	19.8	284352	22.4	20.2	187305	22.4	19.6	67620	22.5	18.2
416940	22.2	20.3	495889	22.2	21.8	3376	22.3	15.2	163378	22.4	19.6	420882	22.4	21.1	450454	22.5	21.7
366408	22.2	21.4	136977	22.2	20.1	464337	22.3	20.4	307494	22.4	19.6	435231	22.4	19.9	463250	22.5	20.6
126215	22.2	19.7	132289	22.2	18.6	108872	22.3	19.6	206079	22.4	19.4	224552	22.4	20.4	14988	22.5	18.7
489598	22.2	20.6	366908	22.2	21.7	28944	22.3	17.9	281925	22.4	20.2	94657	22.5	18.5	68715	22.5	19.4
205625	22.2	19.9	26373	22.2	16.9	464232	22.3	20.2	501207	22.4	21.4	208970	22.5	20.3	327051	22.5	22.0
146058	22.2	19.1	148512	22.2	19.0	172137	22.3	19.8	12329	22.4	17.6	323777	22.5	20.7	503670	22.5	20.3
425219	22.2	20.7	386516	22.2	20.5	246072	22.3	20.1	465178	22.4	20.6	88590	22.5	18.7	154023	22.5	19.2
78682	22.2	19.0	456639	22.2	21.2	42639	22.3	17.8	472361	22.4	20.1	168996	22.5	18.0	278731	22.5	21.1
217878	22.2	21.4	181775	22.2	21.0	498967	22.3	20.2	261411	22.4	20.5	169246	22.5	19.3	100859	22.5	19.3
257542	22.2	19.8	299275	22.2	21.6	104989	22.3	19.6	2426	22.4	15.8	88312	22.5	20.0	169138	22.5	19.2
246814	22.2	20.3	303430	22.2	19.5	222357	22.3	19.8	503530	22.4	21.3	167004	22.5	20.6	359643	22.5	20.8
140394	22.2	20.4	146082	22.2	17.9	400275	22.3	21.5	199129	22.4	19.5	165153	22.5	19.9	231155	22.5	21.0
200627	22.2	20.6	99878	22.2	19.2	57314	22.3	17.5	170697	22.4	19.5	239688	22.5	20.2	184873	22.5	20.5
148823	22.2	20.1	408973	22.2	22.0	492406	22.3	21.7	81189	22.4	19.3	432495	22.5	20.9	368793	22.5	20.7
14834	22.2	18.8	296149	22.2	20.7	256119	22.3	19.9	149276	22.4	20.6	519359	22.5	21.2	208482	22.5	20.2
209706	22.2	19.4	242419	22.2	19.9	341705	22.3	22.2	384819	22.4	21.4	456637	22.5	21.0	286601	22.5	19.3
299496	22.2	19.9	199617	22.2	19.6	38885	22.3	18.4	422816	22.4	19.2	249601	22.5	21.2	213584	22.5	21.5
52207	22.2	18.5	465752	22.2	21.0	88679	22.3	19.9	234945	22.4	20.6	297566	22.5	20.7	461966	22.5	21.5
494662	22.2	21.7	396798	22.2	21.3	61241	22.3	18.3	464314	22.4	20.4	284388	22.5	20.5	187570	22.5	20.4
239501	22.2	19.8	288873	22.3	20.0	298739	22.3	20.2	133255	22.4	19.7	29972	22.5	18.3	370790	22.5	21.1
212301	22.2	20.6	341502	22.3	20.8	296303	22.3	20.5	149003	22.4	19.8	12123	22.5	17.7	341827	22.5	21.0
147844	22.2	19.4	160719	22.3	20.0	143591	22.3	19.1	242868	22.4	20.5	246494	22.5	20.5	13177	22.5	17.7
112704	22.2	19.2	266231	22.3	19.7	347436	22.3	19.9	279834	22.4	20.2	171954	22.5	20.3	19692	22.5	17.6
782	22.2	13.5	368581	22.3	21.3	263299	22.3	20.1	37447	22.4	18.5	522584	22.5	20.6	375486	22.5	20.2
80179	22.2	18.1	317499	22.3	20.7	256119	22.3	19.9	149276	22.4	20.6	519359	22.5	21.2	208482	22.5	20.2
126554	22.2	18.4	166768	22.3	18.9	341415	22.3	21.3	361762	22.4	20.6	61061	22.5	19.0	108997	22.5	20.5
23332	22.2	18.3	118322	22.3	18.4	234154	22.3	19.8	90482	22.4	19.1	55049	22.5	17.8	489329	22.5	21.2
461981	22.2	20.4	489498	22.3	21.3	246199	22.3	21.0	448268	22.4	20.4	95324	22.5	18.2	420699	22.5	19.2
329271	22.2	21.1	365528	22.3	20.8	314839	22.3	19.7	226805	22.4	19.5	37317	22.5	17.6	134374	22.5	20.6
159429	22.2	19.6	179114	22.3	20.9	88696	22.3	20.6	523593	22.4	23.5	405195	22.5	18.8	520060	22.5	20.4
350418	22.2	20.7	424044	22.3	19.7	181657	22.3	20.3	324532	22.4	21.2	407562	22.5	20.9	500435	22.5	21.6
352765	22.2	20.8	503705	22.3	21.7	434812	22.4	21.0	456938	22.4	22.7	399571	22.5	21.3	369323	22.5	20.4
55054	22.2	19.1	303943	22.3	19.2	390368	22.4	20.9	429830	22.4	19.9	127320	22.5	19.0	459775	22.5	20.1
131724	22.2	18.3	20200	22.3	17.8	386512	22.4	20.9	4870	22.4	16.2	58060	22.5	18.9	412517	22.5	20.7
165239	22.2	20.3	461339	22.3	21.6	277530											

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

Nº	02	V															
358615	22.5	21.1	272527	22.6	21.0	9942	22.7	17.0	122837	22.8	17.8	29787	22.8	18.3	315127	22.9	19.5
218693	22.5	19.8	413101	22.6	20.3	222716	22.7	19.7	500373	22.8	21.2	188725	22.8	20.2	22148	22.9	18.9
259150	22.6	19.0	409792	22.6	20.7	461421	22.7	19.8	277046	22.8	20.7	285568	22.8	19.7	55461	22.9	18.6
117538	22.6	18.9	519915	22.6	21.0	127838	22.7	17.7	18658	22.8	17.3	195326	22.8	19.8	320987	22.9	19.8
204610	22.6	19.4	89420	22.6	18.9	73796	22.7	19.8	267219	22.8	19.6	129428	22.8	19.2	321391	22.9	20.8
415907	22.6	20.1	489234	22.6	22.2	31129	22.7	18.2	30218	22.8	17.1	467434	22.8	19.9	317143	22.9	20.9
467356	22.6	21.6	202379	22.6	19.6	66551	22.7	19.1	249412	22.8	19.0	200419	22.8	18.7	373788	22.9	20.0
150020	22.6	19.7	499750	22.6	20.2	161253	22.7	19.4	6557	22.8	16.8	147369	22.8	19.6	161565	22.9	19.4
497837	22.6	21.4	161738	22.6	19.2	13535	22.7	17.4	18939	22.8	17.4	504152	22.8	21.4	125049	22.9	20.6
360424	22.6	20.5	144740	22.6	20.6	11900	22.7	18.7	87948	22.8	19.3	499239	22.8	21.9	423602	22.9	20.8
245875	22.6	19.4	98193	22.6	17.9	109672	22.7	19.0	258327	22.8	21.6	205711	22.8	17.9	498210	22.9	21.2
303468	22.6	19.7	114205	22.6	19.2	74987	22.7	18.8	199861	22.8	20.5	136404	22.8	18.5	244972	22.9	19.6
128676	22.6	18.6	298311	22.6	19.3	451656	22.7	21.3	465390	22.8	20.8	503006	22.8	20.8	286466	22.9	19.2
189463	22.6	20.4	193833	22.6	19.6	40860	22.7	18.8	327445	22.8	20.5	322858	22.8	21.0	496740	22.9	20.7
384859	22.6	21.0	241128	22.6	20.5	245124	22.7	20.8	362747	22.8	20.1	239576	22.8	19.5	218624	22.9	20.0
430414	22.6	19.7	119763	22.6	19.4	500194	22.7	20.9	456786	22.8	20.7	73649	22.8	18.6	144683	22.9	19.4
372008	22.6	19.5	187819	22.6	20.9	62835	22.7	18.5	456551	22.8	20.3	422832	22.8	20.0	51721	22.9	18.8
242085	22.6	19.9	384125	22.6	20.5	206570	22.7	19.9	281121	22.8	20.0	104314	22.8	19.3	39554	22.9	18.5
304900	22.6	19.7	132184	22.6	19.5	323835	22.7	19.2	328743	22.8	21.8	500044	22.8	20.2	503097	22.9	20.4
382409	22.6	21.6	283985	22.6	19.3	205875	22.7	18.7	383710	22.8	20.6	14658	22.8	17.5	26153	22.9	18.5
205573	22.6	20.5	432929	22.6	21.4	118806	22.7	19.5	500616	22.8	19.8	358000	22.8	20.3	96630	22.9	17.7
131358	22.6	19.6	57946	22.6	18.3	155364	22.7	20.6	62838	22.8	19.6	45991	22.8	18.3	519266	22.9	20.1
127638	22.6	18.8	107097	22.6	18.4	69802	22.7	19.1	200757	22.8	19.6	379054	22.8	21.1	271201	22.9	19.9
289801	22.6	20.0	40290	22.6	18.6	278093	22.7	18.7	391051	22.8	19.9	264191	22.8	19.3	466667	22.9	20.5
104697	22.6	19.7	387312	22.6	20.3	318675	22.7	20.0	506408	22.8	21.3	125119	22.8	19.9	402690	22.9	21.3
309741	22.6	22.9	378874	22.6	20.8	156475	22.7	19.7	340870	22.8	19.6	131475	22.8	18.8	225237	22.9	21.2
347112	22.6	20.8	248781	22.6	20.2	371039	22.7	20.9	299017	22.8	20.2	59764	22.8	19.5	135343	22.9	20.0
370475	22.6	19.8	67822	22.6	18.7	168842	22.7	20.6	497603	22.8	21.3	48397	22.8	18.2	448441	22.9	19.7
79438	22.6	19.7	99365	22.6	19.9	343305	22.7	20.5	143614	22.8	19.5	491614	22.8	20.8	409913	22.9	21.7
184040	22.6	20.2	401463	22.6	20.0	180706	22.7	20.4	247660	22.8	20.2	286251	22.8	20.5	31876	22.9	18.7
360698	22.6	20.7	223505	22.6	19.0	328541	22.7	19.6	205722	22.8	19.2	183385	22.8	19.0	178967	22.9	18.5
225006	22.6	19.9	431291	22.6	21.4	122489	22.7	19.6	207810	22.8	19.3	133687	22.8	19.3	170225	22.9	20.9
221377	22.6	20.1	43668	22.6	18.3	347001	22.7	21.3	1565	22.8	17.2	349001	22.9	20.9	247004	22.9	20.7
401359	22.6	20.5	110308	22.6	20.4	468329	22.7	19.9	425798	22.8	21.0	341378	22.9	20.0	144937	22.9	19.5
399807	22.6	21.0	333203	22.6	20.5	109980	22.7	19.8	270018	22.8	20.4	346861	22.9	19.8	146012	22.9	18.6
247021	22.6	19.5	466324	22.6	21.6	149745	22.7	19.3	310955	22.8	20.0	402625	22.9	20.9	124504	22.9	19.1
225031	22.6	19.9	200648	22.6	21.2	417645	22.7	20.0	116820	22.8	18.2	235627	22.9	19.8	306408	22.9	19.4
318738	22.6	21.4	431592	22.6	21.3	83227	22.7	18.8	64458	22.8	18.0	408695	22.9	20.2	172881	22.9	20.0
222762	22.6	19.2	408898	22.6	21.0	375270	22.7	20.6	20103	22.8	17.1	239698	22.9	20.3	188288	22.9	19.0
126229	22.6	19.5	256372	22.6	20.0	424808	22.7	20.8	200348	22.8	19.4	414466	22.9	20.1	122299	22.9	20.5
505071	22.6	21.1	142260	22.6	18.9	519190	22.7	22.5	238478	22.8	19.6	419010	22.9	22.0	459212	22.9	20.1
314343	22.6	19.4	74618	22.6	19.1	368713	22.7	20.9	329276	22.8	22.3	51557	22.9	19.5	491260	22.9	20.3
327255	22.6	20.8	184488	22.6	20.6	398754	22.7	20.4	173028	22.8	19.4	202706	22.9	20.7	109396	22.9	17.8
366840	22.6	21.9	160736	22.6	19.3	268111	22.7	20.3	225522	22.8	20.0	423201	22.9	21.0	111365	22.9	19.6
489520	22.6	21.4	497472	22.6	18.3	28185	22.7	17.1	53655	22.8	19.1	466158	22.9	19.2	235964	22.9	20.5
286048	22.6	20.8	17381	22.6	18.7	138511	22.7	19.0	191328	22.8	18.9	191963	22.9	20.8	211190	22.9	20.7
133324	22.6	20.4	7425	22.6	16.8	10419	22.7	15.5	151615	22.8	18.6	279315	22.9	20.3	332790	22.9	20.4
208445	22.6	19.7	253235	22.6	19.3	354924	22.7	19.4	210462	22.8	20.8	39866	22.9	16.7	211915	22.9	18.6
6647	22.6	18.3	407302	22.6	20.3	225295	22.7	20.8	262725	22.8	20.2	264500	22.9	21.1	310715	22.9	20.6
431219	22.6	21.6	226010	22.6	19.7	426996	22.7	20.8	428716	22.8	21.3	452537	22.9	20.9	94147	22.9	18.7
307999	22.6	21.0	265762	22.6	20.2	457169	22.7	19.3	372457	22.8	21.2	245367	22.9	19.9	182412	22.9	20.0
280233	22.6	20.8	470	22.6	12.7	400347	22.7	20.5	249075	22.8	19.8	312982	22.9	20.1	122279	22.9	18.6
305636	22.6	20.6	29466	22.6	17.4	162763	22.7	18.8	15127	22.8	17.4	474116	22.9	20.6	69724	22.9	18.2
410397	22.6	20.8	233452	22.6	20.4	349024	22.7	21.4	69086	22.8	18.4	276280	22.9	20.6	126002	22.9	18.8
430898	22.6	21.2	113980	22.6	19.4	353640	22.7	21.3	368819	22.8	21.3	491808	22.9	21.3	473133	22.9	20.2
498710	22.6	22.0	58908	22.6	18.6	50538	22.7	18.9	37812	22.8	18.6	41045	22.9	19.0	417416	22.9	21.3
138153	22.6	19.5	395758	22.6	20.6	229455	22.7	19.7	95252	22.8	17.8	100632	22.9	19.9	274758	22.9	20.0
4237	22.6	16.7	497680	22.7	22.3	413909	22.7	20.5	42188	22.8	19.2	500346	22.9	21.0	125695	22.9	19.2
492599	22.6	20.5	242635	22.7	21.2	284316	22.7	20.3	504671	22.8	21.2	204947	22.9	18.3	33751	22.9	18.6
85957	22.6	17.1	245899	22.7	20.0	238849	22.7	20.9	334645	22.8	20.0	496052	22.9	20.8	498749	22.9	21.4
57864	22.6	18.6	431222	22.7	21.3	462											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
163361	22.9	19.5	119508	23.0	20.0	211716	23.1	19.2	285794	23.2	20.4	113708	23.2	19.0	368066	23.3	19.7
419540	22.9	21.5	201659	23.0	20.6	464055	23.1	20.8	208525	23.2	20.4	6670	23.2	17.5	164813	23.3	20.0
499776	22.9	20.0	2554	23.0	15.6	403015	23.1	21.1	203784	23.2	20.2	222307	23.2	20.2	375608	23.3	20.3
461680	22.9	21.2	501449	23.0	20.7	43650	23.1	18.7	360416	23.2	21.1	183946	23.2	19.4	456767	23.3	21.2
82065	22.9	18.6	243493	23.0	21.8	297869	23.1	19.0	31497	23.2	18.2	361148	23.2	21.6	463606	23.3	19.9
179982	22.9	20.0	59678	23.0	18.4	128491	23.1	20.5	132314	23.2	19.6	243364	23.2	19.4	191765	23.3	20.3
189855	22.9	19.9	22310	23.0	19.1	391938	23.1	21.3	451052	23.2	19.8	326979	23.2	20.7	63071	23.3	19.2
335901	22.9	21.1	207122	23.0	18.8	328352	23.1	21.3	251089	23.2	21.0	313481	23.2	20.7	317966	23.3	20.4
192074	22.9	20.1	467958	23.0	21.2	45612	23.1	18.9	522460	23.2	20.4	294195	23.2	20.2	381238	23.3	20.4
341355	22.9	20.5	201152	23.0	20.4	203452	23.1	18.6	347443	23.2	21.3	235590	23.2	20.3	319592	23.3	20.9
93617	22.9	18.8	377389	23.0	21.1	501705	23.1	21.3	402030	23.2	20.9	212568	23.2	20.9	416103	23.3	22.1
204887	22.9	20.4	283488	23.0	20.3	499834	23.1	20.2	8180	23.2	16.2	256434	23.2	19.2	496659	23.3	19.6
408432	22.9	20.4	276190	23.0	20.6	65096	23.1	19.4	468549	23.2	21.6	279644	23.2	19.9	430714	23.3	19.2
522436	22.9	21.5	152631	23.0	20.2	465455	23.1	21.8	165746	23.2	20.0	215443	23.2	19.8	32353	23.3	17.1
159715	22.9	18.9	499778	23.0	20.8	498130	23.1	21.3	405376	23.2	19.2	193781	23.2	20.4	213013	23.3	19.8
243030	22.9	20.7	153132	23.0	18.8	496416	23.1	20.3	208175	23.2	20.7	67796	23.2	19.2	372532	23.3	21.1
461708	22.9	20.9	32393	23.0	18.7	133336	23.1	18.6	52556	23.2	18.5	437499	23.2	20.6	450456	23.3	21.2
462308	22.9	20.0	187626	23.0	19.6	118351	23.1	18.6	258742	23.2	19.8	250248	23.2	19.5	144434	23.3	18.9
504358	22.9	20.8	90840	23.0	19.1	36989	23.1	18.0	452608	23.2	21.7	325206	23.3	19.1	183513	23.3	19.4
413824	22.9	21.6	302048	23.0	20.6	100382	23.1	19.8	385497	23.2	20.5	497106	23.3	20.7	470163	23.3	21.3
193779	22.9	20.2	337870	23.0	20.2	235442	23.1	20.0	407778	23.2	21.8	78739	23.3	18.8	201936	23.3	19.0
412174	22.9	20.9	18784	23.0	19.0	350095	23.1	20.2	402533	23.2	21.2	183691	23.3	18.2	174940	23.3	19.0
500394	22.9	21.1	497734	23.0	21.7	101430	23.1	19.2	242975	23.2	20.0	4363	23.3	17.1	169149	23.3	19.8
431630	22.9	20.9	30291	23.0	18.7	134426	23.1	19.0	18842	23.2	16.5	508169	23.3	20.3	122973	23.3	19.7
495254	22.9	21.6	73626	23.0	20.1	385074	23.1	20.7	389686	23.2	20.7	74589	23.3	19.5	333208	23.3	21.2
485601	22.9	20.7	432157	23.0	20.4	301655	23.1	19.5	463237	23.2	20.4	462904	23.3	20.7	55363	23.3	18.6
163215	22.9	18.5	169572	23.0	19.6	108876	23.1	19.2	496323	23.2	21.3	93944	23.3	19.2	136670	23.3	20.1
91242	22.9	17.4	343612	23.0	20.4	271767	23.1	20.4	451038	23.2	20.7	279106	23.3	20.5	67460	23.3	18.5
414788	22.9	20.7	519963	23.0	21.1	194133	23.1	19.9	431490	23.2	20.9	259358	23.3	19.5	111443	23.3	19.0
274206	22.9	21.1	466408	23.0	20.7	256201	23.1	20.3	173115	23.2	20.8	427646	23.3	21.5	279562	23.3	20.6
5125	22.9	16.2	457114	23.0	20.1	333439	23.1	21.1	508742	23.2	20.9	217990	23.3	20.3	343108	23.3	19.8
433097	22.9	20.6	377380	23.0	21.6	450984	23.1	21.2	299252	23.2	21.2	426282	23.3	20.4	11372	23.3	17.9
145722	22.9	20.7	169529	23.0	19.1	211571	23.1	20.3	283986	23.2	21.2	70295	23.3	18.6	270464	23.4	19.0
138696	22.9	19.7	164402	23.0	19.5	422569	23.1	20.4	438661	23.2	18.3	88967	23.3	18.7	37410	23.4	18.8
206218	22.9	19.4	49645	23.0	17.2	401969	23.1	21.3	188466	23.2	19.1	402944	23.3	21.3	230529	23.4	19.9
82935	22.9	18.4	465393	23.0	20.7	55300	23.1	19.4	69297	23.2	18.1	219078	23.3	19.8	81550	23.4	18.5
144967	22.9	19.3	229673	23.0	19.8	517640	23.1	21.1	127255	23.2	19.3	389828	23.3	20.6	90431	23.4	18.7
68397	22.9	18.3	196350	23.0	19.1	412044	23.1	19.7	396831	23.2	21.4	141167	23.3	19.0	235604	23.4	20.3
58433	22.9	17.2	69817	23.0	18.9	358033	23.1	20.4	212035	23.2	20.3	188469	23.3	19.5	437721	23.4	20.4
399334	22.9	20.6	453256	23.0	20.6	34860	23.1	18.5	55439	23.2	18.8	230653	23.3	19.7	225410	23.4	19.0
103440	22.9	18.6	379723	23.0	21.2	426304	23.1	20.3	428078	23.2	20.4	445870	23.3	21.4	170689	23.4	20.0
417405	22.9	21.9	178912	23.0	20.4	336533	23.1	20.9	135639	23.2	19.9	54503	23.3	18.8	165287	23.4	19.9
206683	22.9	19.0	121116	23.0	19.5	260948	23.1	20.6	162054	23.2	20.1	416975	23.3	21.7	173267	23.4	19.9
86619	22.9	18.6	283017	23.0	19.8	225553	23.1	20.1	431195	23.2	21.7	357524	23.3	21.2	267088	23.4	19.8
206513	22.9	19.6	275189	23.0	20.1	437696	23.1	20.3	258383	23.2	19.3	135309	23.3	18.7	495231	23.4	20.2
197568	22.9	18.1	194066	23.0	19.2	500489	23.1	21.0	29828	23.2	18.1	263084	23.3	19.4	218613	23.4	20.5
162734	22.9	20.0	259491	23.0	20.3	167064	23.1	20.0	279702	23.2	20.4	308413	23.3	20.0	271816	23.4	20.2
272355	22.9	20.6	32395	23.0	17.1	157120	23.1	20.5	215273	23.2	20.7	11435	23.3	18.0	407744	23.4	20.2
169205	22.9	20.2	102948	23.0	19.9	402857	23.1	21.4	292114	23.2	20.6	431234	23.3	20.7	119204	23.4	19.0
188656	22.9	20.0	73178	23.0	19.1	407377	23.1	20.8	133450	23.2	19.5	335770	23.3	19.4	262809	23.4	20.4
144286	22.9	18.9	81916	23.0	19.0	182015	23.1	19.7	327020	23.2	20.5	104513	23.3	19.3	89600	23.4	20.0
432224	22.9	20.1	57028	23.0	19.7	317422	23.1	21.0	221972	23.2	20.6	23938	23.3	18.6	28231	23.4	17.0
225372	22.9	19.8	459511	23.1	20.5	405150	23.1	21.1	21624	23.2	17.4	218633	23.3	21.1	399837	23.4	20.2
94983	22.9	19.1	277967	23.1	19.6	129489	23.1	19.0	147237	23.2	19.6	288681	23.3	20.3	495900	23.4	20.8
406879	22.9	19.5	259045	23.1	22.1	375795	23.1	22.0	426797	23.2	20.7	174255	23.3	19.1	336039	23.4	19.6
499482	22.9	21.1	268578	23.1	20.1	29026	23.1	19.3	409907	23.2	20.7	363081	23.3	22.2	9138	23.4	16.7
414544	22.9	21.0	468256	23.1	20.8	265654	23.1	20.0	272794	23.2	20.3	388829	23.3	19.5	245762	23.4	20.0
199988	22.9	20.5	396230	23.1	20.6	341625	23.1	19.7	56751	23.2	19.1	449130	23.3	19.6	169616	23.4	19.4
186866	22.9	20.6	498965	23.1	20.4	329514	23.1	21.0	167720	23.2	19.2	69699	23.3	18.5	248902	23.4	19.5
325140	22.9	20.4	304569	23.1	20.9	64859	23.1	18.7	337747	23.2	21.3	245493	23.3	20.4	503540	23.4	21.1
144895	22.9	20.1	201666	23.1	21.3</td												

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

Nº	02	V															
260656	23.4	20.9	86544	23.5	18.7	241438	23.5	20.2	142645	23.6	19.2	210696	23.7	19.8	213427	23.7	20.6
69823	23.4	18.8	503027	23.5	20.8	207880	23.5	19.7	498893	23.6	21.3	379407	23.7	18.7	276425	23.7	18.6
419704	23.4	20.2	328681	23.5	20.8	186513	23.5	19.5	284684	23.6	20.5	312909	23.7	20.9	109068	23.7	19.8
319537	23.4	20.2	423700	23.5	20.4	337615	23.5	20.7	373931	23.6	21.5	59485	23.7	18.2	376613	23.7	21.4
506318	23.4	21.1	18725	23.5	16.8	93331	23.5	19.3	19090	23.6	17.6	387188	23.7	21.4	195422	23.7	19.2
521158	23.4	21.1	259154	23.5	20.2	171376	23.5	20.8	196586	23.6	19.2	207018	23.7	19.6	84306	23.7	19.0
375292	23.4	21.5	413885	23.5	21.2	353948	23.5	20.6	206825	23.6	19.6	148635	23.7	18.1	449153	23.7	20.7
462096	23.4	21.5	263839	23.5	20.1	162688	23.5	19.5	48502	23.6	19.5	110579	23.7	19.1	96011	23.7	19.8
105585	23.4	18.9	31852	23.5	19.1	96939	23.5	19.3	162495	23.6	20.6	203359	23.7	20.4	40853	23.7	18.7
181713	23.4	20.1	87100	23.5	18.4	81714	23.5	18.3	325107	23.6	20.6	156541	23.7	19.3	239540	23.7	20.1
362973	23.4	20.4	498171	23.5	21.0	90524	23.5	18.3	38964	23.6	19.4	294658	23.7	20.7	271305	23.7	20.2
252701	23.4	19.5	518688	23.5	21.2	462087	23.5	20.9	456733	23.6	21.2	52136	23.7	19.4	177877	23.7	21.1
275010	23.4	20.8	130666	23.5	19.3	348488	23.5	20.4	456848	23.6	21.4	134799	23.7	18.9	352653	23.7	20.8
366227	23.4	21.1	127128	23.5	19.6	133434	23.5	19.7	225608	23.6	19.3	128896	23.7	20.2	466155	23.7	21.3
113273	23.4	19.7	252594	23.5	18.9	149529	23.5	18.9	56752	23.6	19.0	261890	23.7	19.9	419642	23.7	20.8
371213	23.4	20.5	105115	23.5	19.9	413920	23.5	20.7	18125	23.6	18.7	312147	23.7	19.9	372605	23.7	20.1
498788	23.4	21.6	258411	23.5	19.3	284393	23.5	20.3	33887	23.6	19.2	386554	23.7	20.2	140185	23.7	19.5
52596	23.4	19.7	58668	23.5	18.4	402998	23.5	21.2	127649	23.6	19.0	432212	23.7	20.0	365165	23.7	20.1
423353	23.4	18.7	237238	23.5	20.0	361717	23.5	20.1	57063	23.6	18.8	265624	23.7	21.0	266799	23.8	21.0
350472	23.4	20.7	413071	23.5	21.4	488498	23.5	22.1	81257	23.6	18.6	79481	23.7	17.7	417050	23.8	21.7
402930	23.4	20.9	183469	23.5	19.8	409000	23.5	20.7	89663	23.6	19.7	245007	23.7	19.9	492428	23.8	20.7
132214	23.4	19.6	196525	23.5	21.1	334264	23.5	20.4	500055	23.6	20.9	298988	23.7	20.0	138290	23.8	18.9
372502	23.4	20.4	162746	23.5	18.0	401040	23.5	21.0	243227	23.6	19.2	505037	23.7	21.5	474108	23.8	21.0
166130	23.4	18.9	288936	23.5	21.3	149459	23.5	19.1	293395	23.6	20.5	168929	23.7	20.1	503608	23.8	21.6
212767	23.4	19.8	205590	23.5	19.7	506188	23.5	20.9	210064	23.6	20.6	59520	23.7	18.5	500528	23.8	21.9
387576	23.4	21.4	404974	23.5	21.3	81941	23.5	19.3	343997	23.6	21.0	284709	23.7	21.3	505005	23.8	21.9
462341	23.4	22.0	81539	23.5	19.7	431374	23.5	21.1	95118	23.6	19.6	424643	23.7	21.4	82687	23.8	18.3
309280	23.4	20.8	157263	23.5	19.3	445284	23.5	20.8	19785	23.6	17.0	381669	23.7	20.1	373136	23.8	19.5
212446	23.4	20.4	110910	23.5	18.9	261195	23.5	19.2	210713	23.6	20.0	293437	23.7	20.3	301847	23.8	20.9
441760	23.4	20.1	320785	23.5	20.0	166674	23.5	19.6	146101	23.6	19.9	109023	23.7	19.1	280200	23.8	20.4
18998	23.4	17.2	12401	23.5	18.4	37882	23.5	18.4	343589	23.6	19.1	455489	23.7	21.1	60082	23.8	18.5
123437	23.4	18.6	398689	23.5	19.7	239430	23.5	19.7	211527	23.6	20.4	360432	23.7	21.2	100135	23.8	20.8
206160	23.4	19.5	323104	23.5	20.1	270670	23.6	20.7	146711	23.6	20.2	85624	23.7	18.2	243769	23.8	20.9
236336	23.4	20.4	19273	23.5	18.0	495364	23.6	21.5	425017	23.6	20.1	367580	23.7	20.4	455191	23.8	21.6
491255	23.4	21.8	285135	23.5	20.3	162671	23.6	17.7	332345	23.6	18.9	144910	23.7	19.3	221277	23.8	20.7
165479	23.4	18.6	266997	23.5	20.1	67392	23.6	19.3	210909	23.6	20.2	303223	23.7	20.1	309295	23.8	20.3
491928	23.4	19.6	10475	23.5	17.9	45823	23.6	18.1	148103	23.6	19.7	166003	23.7	18.0	402984	23.8	20.7
350106	23.4	20.7	113721	23.5	19.0	105288	23.6	19.1	365092	23.6	20.4	422400	23.7	21.7	16052	23.8	17.9
378877	23.4	19.9	171678	23.5	20.2	233908	23.6	20.0	55470	23.6	18.3	296557	23.7	20.3	497279	23.8	21.7
343158	23.4	21.1	14455	23.5	17.5	219719	23.6	19.3	65808	23.6	20.2	301504	23.7	20.2	152870	23.8	20.5
177621	23.4	17.7	237353	23.5	20.6	134156	23.6	20.5	413910	23.6	20.9	283748	23.7	19.8	430825	23.8	20.2
340791	23.4	20.0	421384	23.5	20.5	67344	23.6	18.3	73044	23.6	18.4	289613	23.7	19.5	243112	23.8	20.4
453894	23.4	20.4	145573	23.5	20.1	262592	23.6	19.8	376165	23.6	21.0	240217	23.7	19.5	140582	23.8	19.9
109908	23.4	19.7	109754	23.5	17.3	462689	23.6	21.2	9405	23.6	17.2	467639	23.7	21.3	90267	23.8	18.7
214755	23.4	20.0	425217	23.5	20.9	83895	23.6	18.8	496512	23.6	20.3	464804	23.7	21.4	423650	23.8	19.7
506222	23.4	21.0	419721	23.5	21.0	268502	23.6	20.9	503159	23.6	20.6	243378	23.7	19.5	266742	23.8	19.9
195477	23.4	20.0	29034	23.5	17.1	289371	23.6	20.1	180932	23.6	20.4	269239	23.7	20.9	473518	23.8	20.6
496470	23.4	20.6	301118	23.5	20.3	161613	23.6	19.7	385058	23.6	20.2	33063	23.7	17.5	224494	23.8	19.9
427019	23.4	20.1	15923	23.5	17.5	197075	23.6	19.9	458912	23.6	20.8	257421	23.7	19.9	197518	23.8	19.5
129686	23.4	20.0	148720	23.5	20.2	142603	23.6	19.3	37474	23.6	19.3	29174	23.7	19.3	76346	23.8	18.7
428254	23.4	19.7	372942	23.5	20.7	192562	23.6	19.5	216521	23.6	20.6	460661	23.7	20.8	363767	23.8	19.8
269141	23.4	20.1	32026	23.5	19.2	375429	23.6	20.3	192173	23.6	20.3	396600	23.7	20.9	222345	23.8	20.4
272912	23.4	20.4	469000	23.5	21.2	335864	23.6	19.8	196327	23.6	19.3	432084	23.7	20.4	26584	23.8	17.7
416697	23.4	20.1	27738	23.5	17.8	244417	23.6	20.3	31790	23.6	16.2	333503	23.7	19.6	157238	23.8	19.3
342965	23.4	19.7	5005	23.5	16.8	348557	23.6	19.6	242736	23.6	19.9	16761	23.7	18.6	413078	23.8	20.4
45753	23.4	18.6	242657	23.5	20.5	78617	23.6	17.9	488878	23.6	22.6	305649	23.7	20.4	409461	23.8	20.0
433209	23.4	21.3	363015	23.5	21.0	492949	23.6	20.7	271192	23.6	20.3	54905	23.7	18.2	51206	23.8	17.6
153638	23.4	18.9	406494	23.5	21.2	341630	23.6	20.2	145647	23.6	18.9	502441	23.7	20.3	166859	23.8	19.8
225285	23.4	19.9	373307	23.5	20.2	234484	23.6	20.7	208458	23.6	19.7	304653	23.7	20.6	393381	23.8	20.7
376231	23.4	20.4	412121	23.5	21.4	456911	23.6	21.6	435942	23.6	20.1	108867	23.7	19.5	493816	23.8	21.2
69574	23.4	18.8	15641	23.5	18.												

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
173046	23.8	19.0	507342	23.9	22.0	493848	23.9	21.6	30801	24.0	19.6	166822	24.1	19.3	175272	24.1	20.7
281071	23.8	20.2	316757	23.9	20.2	497913	23.9	21.3	131382	24.0	19.6	213166	24.1	21.2	301750	24.1	21.2
156490	23.8	19.4	16351	23.9	18.1	487588	23.9	20.2	64017	24.0	19.3	503622	24.1	20.5	430268	24.1	20.9
459528	23.8	21.2	377432	23.9	20.9	56725	23.9	18.6	130746	24.0	19.9	374610	24.1	20.4	82537	24.1	17.7
406002	23.8	20.3	60444	23.9	17.9	43413	23.9	18.9	236297	24.0	19.7	472682	24.1	19.7	68708	24.1	19.5
385550	23.8	21.3	226741	23.9	20.3	109717	23.9	20.1	207997	24.0	19.8	96000	24.1	19.3	42790	24.1	17.5
412312	23.8	20.8	42935	23.9	19.8	4550	23.9	18.1	145406	24.0	19.7	27523	24.1	18.0	457179	24.1	20.9
114161	23.8	19.3	245410	23.9	19.9	204408	23.9	19.0	334598	24.0	19.8	292865	24.1	19.7	166955	24.1	21.0
197573	23.8	19.9	430336	23.9	20.2	135469	23.9	19.9	217550	24.0	20.6	5207	24.1	17.6	499997	24.1	20.7
463918	23.8	20.7	467427	23.9	19.9	159008	23.9	19.9	340708	24.0	19.9	432982	24.1	20.2	264667	24.1	20.7
151657	23.8	19.1	150956	23.9	19.1	354509	23.9	20.8	33538	24.0	17.6	27291	24.1	18.3	146201	24.1	20.5
32404	23.8	17.9	242412	23.9	20.6	56132	23.9	17.9	256354	24.0	19.4	164156	24.1	20.2	457758	24.1	20.5
193964	23.8	21.2	125958	23.9	18.0	296055	23.9	21.0	337557	24.0	20.9	457744	24.1	21.1	14968	24.1	17.0
404183	23.8	19.8	322871	23.9	20.3	284716	23.9	20.7	87072	24.0	19.5	387494	24.1	20.7	27917	24.1	18.7
403027	23.8	21.3	450351	23.9	21.3	326347	23.9	20.1	504044	24.0	20.9	464898	24.1	21.6	147243	24.1	19.8
369816	23.8	20.1	361681	23.9	21.3	463471	23.9	21.2	262840	24.0	19.6	10306	24.1	17.4	397804	24.1	21.0
468552	23.8	21.9	306734	23.9	20.4	232067	23.9	20.0	60635	24.0	18.9	503134	24.1	20.4	167770	24.1	18.8
416929	23.8	21.6	151945	23.9	19.6	481903	23.9	19.9	343122	24.0	20.6	5376	24.1	15.9	30307	24.1	17.9
144175	23.8	19.5	283591	23.9	20.1	131973	23.9	17.9	340742	24.0	21.1	10372	24.1	17.0	423194	24.1	21.6
54088	23.8	18.5	230982	23.9	20.1	488735	23.9	21.7	75038	24.0	20.2	275091	24.1	21.1	137123	24.2	18.1
298706	23.8	20.7	283467	23.9	20.7	159678	23.9	18.9	66321	24.0	17.6	190437	24.1	19.0	402074	24.2	20.8
412967	23.8	21.2	290364	23.9	21.8	321497	23.9	19.7	234826	24.0	19.6	288401	24.1	19.9	148312	24.2	19.2
117949	23.8	19.9	262772	23.9	20.2	76741	23.9	18.9	103878	24.0	19.7	472599	24.1	20.4	119717	24.2	18.9
112762	23.8	19.9	50380	23.9	17.8	93327	23.9	19.7	87708	24.0	19.9	497337	24.1	22.1	169677	24.2	19.5
229739	23.8	20.1	140336	23.9	19.8	170235	23.9	20.7	9091	24.0	18.1	466519	24.1	20.4	521027	24.2	21.1
71331	23.8	18.7	334574	23.9	21.0	29380	23.9	18.4	78532	24.0	18.3	81672	24.1	17.8	469054	24.2	21.1
87581	23.8	19.5	372631	23.9	20.6	57800	23.9	18.5	387085	24.0	20.5	399356	24.1	21.5	422456	24.2	21.3
354026	23.8	20.7	498589	23.9	21.4	315034	23.9	20.6	168262	24.0	20.1	82213	24.1	18.8	419553	24.2	21.3
348981	23.8	22.6	7010	23.9	16.8	437475	23.9	20.5	468347	24.0	20.1	247730	24.1	19.9	129174	24.2	19.0
181067	23.8	20.3	46066	23.9	18.7	253273	23.9	19.5	439403	24.0	21.1	498518	24.1	20.3	209438	24.2	18.8
73229	23.8	19.0	328230	23.9	20.4	117027	23.9	19.7	221986	24.0	20.6	172812	24.1	19.5	226808	24.2	19.7
88731	23.8	18.2	348486	23.9	21.4	13832	23.9	15.4	495553	24.0	21.2	87997	24.1	19.1	291884	24.2	20.9
393907	23.8	21.9	45746	23.9	18.3	110715	23.9	19.2	243656	24.0	19.4	408742	24.1	21.2	120259	24.2	20.3
115114	23.8	19.3	506726	23.9	22.5	166844	23.9	20.0	134863	24.0	21.3	320634	24.1	20.6	353947	24.2	18.6
164376	23.8	19.2	367779	23.9	20.0	492862	23.9	21.6	209656	24.0	19.6	118143	24.1	19.6	416046	24.2	18.3
463690	23.8	21.2	36480	23.9	18.1	270536	23.9	20.4	9248	24.0	17.8	496008	24.1	21.2	110355	24.2	19.6
26437	23.8	17.7	170271	23.9	20.5	262589	23.9	20.4	79978	24.0	22.4	308703	24.1	20.7	522497	24.2	20.6
118707	23.8	19.4	56023	23.9	18.8	210782	23.9	20.1	247074	24.0	20.6	82319	24.1	19.2	224008	24.2	19.9
41496	23.8	18.9	497828	23.9	21.3	298818	23.9	21.2	367330	24.0	20.2	247905	24.1	20.4	357126	24.2	21.4
204146	23.8	19.5	112265	23.9	18.9	339500	23.9	21.0	463310	24.0	20.1	191574	24.1	18.9	502590	24.2	20.7
239500	23.8	20.0	211671	23.9	19.6	467321	23.9	21.4	221376	24.0	19.3	340689	24.1	21.2	400980	24.2	19.4
424005	23.8	21.5	366773	23.9	20.5	323882	23.9	20.2	461286	24.0	21.3	459215	24.1	20.5	32389	24.2	19.4
135409	23.8	19.9	365595	23.9	20.7	343035	23.9	20.6	375336	24.0	20.4	110018	24.1	18.7	208167	24.2	21.1
463297	23.8	21.0	321744	23.9	19.1	222792	23.9	19.8	167574	24.0	20.0	172808	24.1	19.0	417698	24.2	18.7
206371	23.8	20.0	130224	23.9	19.2	101726	23.9	17.4	59336	24.0	17.9	4460	24.1	15.8	321528	24.2	20.6
369344	23.8	21.7	205702	23.9	19.0	426475	23.9	21.9	22818	24.0	18.5	64749	24.1	18.4	107013	24.2	19.4
450753	23.8	20.0	87620	23.9	19.0	223282	23.9	19.0	463646	24.0	21.7	148629	24.1	19.6	173723	24.2	19.9
63791	23.8	18.5	451934	23.9	20.2	268584	23.9	18.4	456888	24.0	21.9	497381	24.1	21.3	434931	24.2	21.1
46036	23.8	19.1	465664	23.9	21.4	428372	23.9	21.0	77883	24.0	17.0	94808	24.1	19.7	38654	24.2	18.9
229186	23.8	20.2	306604	23.9	20.0	31163	23.9	19.3	402053	24.0	21.3	426254	24.1	20.0	40144	24.2	19.5
338408	23.8	18.5	277773	23.9	20.6	93008	23.9	17.2	287544	24.0	19.1	135411	24.1	19.8	496836	24.2	21.6
281049	23.8	20.8	283104	23.9	21.6	76712	23.9	19.8	134168	24.0	19.4	83543	24.1	18.0	409760	24.2	20.0
453795	23.8	20.7	185886	23.9	20.4	282818	23.9	20.6	77901	24.0	18.5	118298	24.1	19.4	434890	24.2	21.3
237057	23.8	21.0	194250	23.9	18.7	234431	23.9	20.4	387842	24.0	20.9	288634	24.1	21.3	13494	24.2	18.1
502302	23.8	21.0	105055	23.9	20.6	135259	23.9	19.7	21592	24.0	18.6	169689	24.1	19.2	285749	24.2	20.8
39958	23.8	18.4	307587	23.9	20.9	283948	23.9	21.2	481813	24.0	20.5	413003	24.1	21.2	311005	24.2	19.2
141871	23.9	20.2	158753	23.9	20.6	41932	23.9	18.9	360541	24.0	20.6	128484	24.1	19.4	176805	24.2	19.8
422648	23.9	21.7	111257	23.9	18.7	334177	23.9	20.2	219722	24.0	19.6	464743	24.1	18.8	455744	24.2	20.2
497633	23.9	21.9	52189	23.9	18.8	263741	23.9	19.9	458987	24.0	21.4	415703	24.1	21.2	214865	24.2	19.5
64629	23.9	18.9	423257	23.9	20.9	84483	23.9	18.1	40845	24.0	19.1	374137	24.1	20.8	50900	24.2	19.2
465399	23.9	21.5	402756	23.9	20.5	136998	23.9</										

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

Nº	02	V															
493706	24.2	20.1	425119	24.3	21.9	507313	24.3	22.8	495218	24.4	20.7	415206	24.5	19.1	26848	24.6	18.1
375629	24.2	20.2	169268	24.3	18.8	500473	24.3	21.6	259182	24.4	19.1	417085	24.5	21.0	505138	24.6	21.7
72969	24.2	19.4	104388	24.3	18.7	502571	24.3	20.6	392483	24.4	20.4	109790	24.5	19.3	502209	24.6	21.4
258477	24.2	18.9	68530	24.3	18.7	450175	24.3	21.3	456819	24.4	21.3	262411	24.5	20.1	252393	24.6	19.7
82631	24.2	19.2	127356	24.3	19.4	22446	24.3	18.4	200607	24.4	20.8	175296	24.5	21.4	214427	24.6	20.1
490184	24.2	21.4	4012	24.3	16.6	87544	24.3	19.8	495656	24.4	21.1	522239	24.5	20.2	229534	24.6	19.4
8336	24.2	18.9	334635	24.3	19.4	35143	24.3	17.9	114228	24.4	19.3	109135	24.5	20.3	128016	24.6	19.2
207176	24.2	19.4	430141	24.3	20.7	32493	24.3	17.2	216743	24.4	20.7	340827	24.5	21.2	419181	24.6	20.9
290841	24.2	20.7	27703	24.3	16.4	420667	24.3	21.2	360573	24.4	21.1	164207	24.5	20.6	58242	24.6	18.9
283235	24.2	20.2	313729	24.3	20.9	466681	24.3	19.8	150915	24.4	18.6	19984	24.5	17.2	398320	24.6	20.7
492656	24.2	21.0	185363	24.3	20.5	84806	24.3	19.4	119882	24.4	19.1	497875	24.5	21.4	87097	24.6	18.2
109317	24.2	19.0	503214	24.3	20.5	28652	24.3	18.8	433172	24.4	20.8	373327	24.5	20.0	368774	24.6	21.5
209337	24.2	19.5	301044	24.3	19.2	501616	24.3	21.3	43764	24.4	17.6	420549	24.5	20.0	332190	24.6	20.5
423577	24.2	21.2	263669	24.3	20.2	156572	24.4	19.5	310257	24.4	21.1	102580	24.5	19.3	96228	24.6	19.5
211522	24.2	20.2	263866	24.3	20.3	319665	24.4	20.5	54322	24.4	19.1	154303	24.5	19.0	114806	24.6	19.9
463509	24.2	21.5	219009	24.3	20.0	10570	24.4	16.5	466796	24.4	20.9	201438	24.5	19.0	418895	24.6	19.8
85551	24.2	18.4	136905	24.3	19.1	209916	24.4	19.9	334874	24.4	20.2	420542	24.5	20.2	468724	24.6	21.9
80869	24.2	18.9	165511	24.3	19.2	80198	24.4	19.7	367512	24.4	21.8	464800	24.5	21.8	204626	24.6	20.0
163314	24.2	18.8	378787	24.3	20.8	54983	24.4	19.6	26036	24.4	17.6	214473	24.5	20.4	144359	24.6	18.8
258572	24.2	19.2	347435	24.3	20.7	171456	24.4	21.0	117989	24.4	18.2	193916	24.5	20.5	349042	24.6	21.2
429890	24.2	20.7	168561	24.3	19.8	3679	24.4	16.7	312051	24.4	20.2	427613	24.5	22.0	249648	24.6	20.9
376463	24.2	21.3	372677	24.3	20.7	211467	24.4	19.0	327046	24.4	20.7	168116	24.5	19.6	162022	24.6	20.5
468756	24.2	20.4	455728	24.3	20.8	28282	24.4	17.6	63966	24.4	17.0	89729	24.5	18.2	369776	24.6	19.6
124379	24.2	19.2	133070	24.3	20.2	140327	24.4	20.3	341440	24.4	19.9	114913	24.5	20.0	518846	24.6	20.7
367428	24.2	20.9	430727	24.3	20.0	306123	24.4	20.6	113836	24.4	19.6	37174	24.5	18.7	180640	24.6	18.8
300183	24.2	20.8	110331	24.3	18.9	519593	24.4	20.8	186620	24.4	19.3	382335	24.5	20.5	159071	24.6	20.1
431227	24.2	21.1	219610	24.3	20.7	133678	24.4	19.6	264747	24.4	19.4	155269	24.5	20.2	10852	24.6	17.4
501948	24.2	20.4	492439	24.3	21.3	237507	24.4	20.3	435690	24.4	21.0	219807	24.5	20.2	206958	24.6	19.9
143272	24.2	18.9	17707	24.3	18.1	435234	24.4	20.4	133009	24.4	19.6	207910	24.5	20.5	243550	24.6	20.4
240850	24.2	20.5	88606	24.3	20.0	419127	24.4	21.6	306720	24.4	20.2	356562	24.5	19.4	130413	24.6	19.5
155608	24.2	18.6	72158	24.3	19.1	426725	24.4	21.3	501501	24.4	19.2	504484	24.5	21.4	349926	24.6	20.6
130884	24.2	19.1	162742	24.3	20.0	309828	24.4	19.8	381909	24.4	20.0	244618	24.5	19.5	253027	24.6	20.1
110575	24.2	19.1	310882	24.3	20.5	73963	24.4	18.9	361139	24.4	20.2	337838	24.5	20.6	113807	24.6	19.1
496538	24.2	20.0	41442	24.3	18.2	79483	24.4	18.9	272695	24.5	20.3	399503	24.5	21.1	337708	24.6	20.3
169305	24.2	19.3	202553	24.3	19.7	496472	24.4	20.2	138563	24.5	19.6	258467	24.5	19.5	426953	24.6	20.2
293986	24.2	20.9	215894	24.3	21.5	300282	24.4	19.7	330969	24.5	20.4	174662	24.5	21.0	453330	24.6	20.2
348490	24.2	21.5	234939	24.3	20.2	58192	24.4	17.5	497688	24.5	21.8	503562	24.5	20.3	365224	24.6	21.6
350943	24.2	19.9	226908	24.3	20.1	221256	24.4	21.0	2444	24.5	15.7	113571	24.5	20.3	224546	24.6	20.5
130617	24.2	18.5	389782	24.3	20.8	326228	24.4	20.2	190162	24.5	20.0	352	24.5	12.9	111503	24.6	18.7
209070	24.2	20.3	182502	24.3	20.4	233126	24.4	19.4	489966	24.5	21.7	72218	24.5	19.3	145312	24.6	20.0
462094	24.2	20.8	55954	24.3	18.8	240243	24.4	19.7	456199	24.5	21.2	167561	24.5	19.8	131265	24.6	19.4
354905	24.2	20.1	146432	24.3	19.6	424279	24.4	20.5	163645	24.5	19.6	150048	24.5	19.3	144847	24.6	20.2
143015	24.2	17.6	164545	24.3	20.3	168128	24.4	20.8	154313	24.5	19.2	317356	24.5	20.5	348481	24.6	20.6
101591	24.2	18.8	417096	24.3	21.1	93387	24.4	18.6	193014	24.5	19.6	29894	24.5	17.5	504678	24.6	20.4
351615	24.2	20.6	450432	24.3	21.3	303227	24.4	21.4	135334	24.5	19.6	82568	24.5	19.5	431995	24.6	20.9
162933	24.2	19.1	380401	24.3	19.6	40934	24.4	18.1	138584	24.5	19.9	234934	24.5	20.6	215193	24.6	20.2
37921	24.3	18.7	123154	24.3	19.7	521142	24.4	20.2	463469	24.5	21.6	117030	24.5	19.1	447761	24.6	20.4
472802	24.3	21.2	227608	24.3	20.6	455540	24.4	20.7	70887	24.5	20.0	420547	24.5	19.9	237705	24.6	20.6
401361	24.3	20.8	37748	24.3	18.4	320296	24.4	20.2	406404	24.5	22.4	172114	24.5	19.7	345606	24.6	21.3
360826	24.3	21.4	159256	24.3	20.1	375730	24.4	20.6	116282	24.5	18.3	408337	24.5	20.7	256032	24.6	19.3
330062	24.3	20.1	35950	24.3	19.0	131576	24.4	19.6	499043	24.5	20.4	340610	24.5	20.4	191327	24.6	19.9
415473	24.3	21.2	283422	24.3	22.3	55028	24.4	19.6	274444	24.5	20.2	488524	24.5	21.8	124773	24.6	19.6
410222	24.3	21.8	502113	24.3	20.4	340687	24.4	19.1	449277	24.5	20.4	281306	24.5	20.8	131909	24.6	19.5
184676	24.3	20.2	189179	24.3	18.5	363017	24.4	20.6	171453	24.5	20.5	95034	24.5	17.8	328745	24.6	21.0
138224	24.3	19.7	329769	24.3	20.8	148352	24.4	19.2	169649	24.5	19.0	35180	24.5	18.3	210448	24.6	19.1
97178	24.3	19.6	437204	24.3	21.3	321519	24.4	20.8	144174	24.5	19.4	3363	24.6	15.3	122853	24.6	19.0
328294	24.3	21.3	431626	24.3	20.6	159624	24.4	18.8	423611	24.5	20.3	202183	24.6	20.3	221216	24.6	19.7
94539	24.3	18.3	313397	24.3	19.3	192072	24.4	20.2	450138	24.5	16.6	106646	24.6	19.3	516972	24.6	21.8
310980	24.3	19.9	202417	24.3	20.4	301301	24.4	19.8	180601	24.5	19.1	347188	24.6	20.7	222311	24.6	19.8
39668	24.3	19.5	206781	24.3	19.7	254638	24.4	20.9	196411	24.5	20.2	469543	24.6	21.6	209038	24.6	20.2
26772	24.3	18.7	12949	24.3													

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

Nº	02	V															
431588	24.6	21.7	90119	24.7	19.0	366770	24.8	20.3	21198	24.8	19.2	498999	24.9	21.6	322477	24.9	20.9
85419	24.6	19.2	236009	24.7	20.3	27199	24.8	16.7	156519	24.8	19.2	490623	24.9	19.9	70303	24.9	19.2
46323	24.6	18.1	154847	24.7	19.9	256117	24.8	21.4	201716	24.8	19.5	106569	24.9	19.8	64234	24.9	18.4
144856	24.6	19.6	473168	24.7	20.6	359103	24.8	20.8	190713	24.8	20.6	365097	24.9	20.1	355259	24.9	20.5
35791	24.6	19.0	45767	24.7	19.1	279104	24.8	20.6	460142	24.8	21.3	272568	24.9	20.3	213657	24.9	19.8
397504	24.6	21.0	57115	24.7	18.6	171965	24.8	19.8	432134	24.8	21.1	435350	24.9	20.5	207590	24.9	20.0
172520	24.6	21.0	64336	24.7	18.7	363089	24.8	21.0	248013	24.8	20.4	26014	24.9	19.2	143550	24.9	17.9
428826	24.6	21.4	289742	24.7	20.3	373081	24.8	20.7	365168	24.8	20.5	125982	24.9	19.7	305394	24.9	20.7
118896	24.6	20.1	421350	24.7	20.2	352897	24.8	20.4	6593	24.8	17.2	312038	24.9	20.9	467071	24.9	20.5
374046	24.6	20.8	341701	24.7	20.4	96095	24.8	19.8	210503	24.8	19.7	109859	24.9	19.3	29895	24.9	17.6
123359	24.6	18.7	468259	24.7	20.7	453291	24.8	21.2	338994	24.8	19.6	87950	24.9	18.9	211598	24.9	20.0
379244	24.6	21.1	170082	24.7	18.7	18627	24.8	17.2	500360	24.8	22.2	340805	24.9	19.7	32438	24.9	18.1
244081	24.6	20.8	413435	24.7	19.8	382514	24.8	20.1	56213	24.8	17.9	500672	24.9	20.8	176691	24.9	20.3
358048	24.6	20.0	40963	24.7	18.9	39867	24.8	19.1	207925	24.8	19.7	194525	24.9	18.8	203358	24.9	20.3
358051	24.6	20.3	364687	24.7	19.9	31551	24.8	16.9	284326	24.9	21.6	356501	24.9	20.7	365210	24.9	21.1
191848	24.6	20.1	66738	24.7	18.4	496903	24.8	22.1	217420	24.9	21.5	336352	24.9	20.3	131629	24.9	18.4
361146	24.6	20.3	191090	24.7	19.6	310383	24.8	20.7	285032	24.9	20.2	385277	24.9	20.6	169219	24.9	19.2
468184	24.6	20.4	404439	24.7	19.9	224674	24.8	19.8	16986	24.9	16.2	89367	24.9	18.8	276166	24.9	20.2
500995	24.6	20.7	726	24.7	15.5	354063	24.8	20.4	226735	24.9	20.3	427724	24.9	21.3	434611	24.9	20.7
326341	24.6	21.5	78025	24.7	19.8	197052	24.8	20.5	186564	24.9	20.0	59689	24.9	18.3	150499	24.9	19.9
343434	24.6	20.0	427416	24.7	19.1	432535	24.8	20.3	15586	24.9	18.4	378353	24.9	20.9	415753	24.9	20.5
140165	24.6	19.1	76928	24.7	17.3	244130	24.8	20.3	39702	24.9	19.7	82050	24.9	19.2	221695	24.9	19.9
154148	24.6	19.8	173892	24.7	20.1	105160	24.8	19.3	145343	24.9	20.3	279070	24.9	20.7	163753	24.9	20.3
309330	24.6	21.5	523753	24.7	21.5	37334	24.8	18.9	490297	24.9	20.1	163531	24.9	19.8	322822	24.9	20.5
193982	24.6	20.8	430111	24.7	20.9	218700	24.8	20.1	234455	24.9	20.1	91446	24.9	18.2	183254	24.9	20.3
368543	24.6	21.2	109357	24.7	17.7	505767	24.8	20.5	209640	24.9	19.8	143065	24.9	18.7	185343	24.9	20.6
211892	24.7	20.4	69305	24.7	18.5	323771	24.8	21.5	16322	24.9	17.3	120261	24.9	20.0	10253	24.9	17.0
192588	24.7	19.7	497716	24.7	22.1	109644	24.8	20.2	73980	24.9	19.8	210283	24.9	20.9	209679	24.9	20.3
27650	24.7	18.0	265843	24.7	20.0	343648	24.8	19.8	142454	24.9	19.0	118056	24.9	18.1	435958	24.9	20.4
149713	24.7	19.6	169276	24.7	20.2	9763	24.8	16.4	30491	24.9	17.9	146698	24.9	19.2	197105	24.9	19.0
24378	24.7	18.8	363326	24.7	20.9	3631	24.8	15.7	150967	24.9	19.3	310959	24.9	20.6	45771	24.9	17.8
65949	24.7	17.5	208322	24.7	19.8	231993	24.8	20.3	165731	24.9	19.5	269513	24.9	20.1	6916	24.9	15.9
523517	24.7	20.5	426554	24.7	21.0	301271	24.8	20.6	503013	24.9	20.7	361374	24.9	21.2	136508	24.9	19.6
312159	24.7	20.3	188711	24.7	20.3	345187	24.8	19.9	466321	24.9	21.5	97212	24.9	18.4	55168	24.9	17.6
22139	24.7	16.8	253003	24.7	21.2	57607	24.8	17.1	495234	24.9	22.1	417082	24.9	21.1	301165	24.9	20.9
146639	24.7	17.4	379654	24.7	20.5	75021	24.8	20.0	44946	24.9	18.6	329608	24.9	19.4	114647	24.9	18.9
499485	24.7	20.4	217431	24.7	21.0	87800	24.8	19.5	456101	24.9	20.0	76600	24.9	18.7	283445	24.9	21.6
58041	24.7	18.3	503454	24.7	21.4	18214	24.8	19.1	381187	24.9	21.3	464772	24.9	21.8	278810	24.9	20.9
303441	24.7	19.3	259522	24.7	21.3	327472	24.8	19.9	207628	24.9	20.6	197709	24.9	20.0	182931	24.9	18.0
348495	24.7	20.9	273243	24.7	21.0	459909	24.8	21.3	369568	24.9	19.8	205620	24.9	19.9	424760	24.9	20.5
163546	24.7	19.5	352128	24.7	19.9	296143	24.8	19.9	126700	24.9	19.3	381652	24.9	19.7	51939	24.9	17.4
120157	24.7	19.8	413930	24.7	20.4	118688	24.8	19.2	3088	24.9	15.5	301435	24.9	20.5	55233	24.9	17.4
269592	24.7	20.0	262736	24.7	19.8	281859	24.8	20.2	232620	24.9	20.4	283902	24.9	19.5	44739	24.9	19.3
160804	24.7	19.7	320637	24.7	19.7	147406	24.8	19.1	419053	24.9	20.9	75098	24.9	19.9	508246	24.9	21.9
226742	24.7	20.3	173295	24.7	19.9	226724	24.8	20.3	422285	24.9	21.8	110698	24.9	19.1	349040	25.0	20.0
451044	24.7	19.8	141938	24.7	19.5	161170	24.8	19.3	271885	24.9	19.8	480975	24.9	20.9	406183	25.0	21.7
457485	24.7	20.9	109836	24.7	21.1	360375	24.8	19.5	301127	24.9	20.0	183419	24.9	19.7	257630	25.0	20.6
488529	24.7	21.7	127086	24.7	19.3	174192	24.8	19.5	502092	24.9	21.2	399595	24.9	20.8	92710	25.0	17.8
40403	24.7	19.5	5646	24.7	19.5	341728	24.8	19.9	17902	24.9	17.7	178638	24.9	19.9	190715	25.0	20.3
107582	24.7	19.2	107691	24.7	18.8	294310	24.8	20.0	19835	24.9	17.9	301831	24.9	21.0	465663	25.0	20.3
298969	24.7	20.6	205263	24.7	20.0	140621	24.8	19.7	200770	24.9	18.9	203444	24.9	19.2	242951	25.0	20.7
178883	24.7	19.8	251575	24.7	20.3	309228	24.8	21.1	501851	24.9	20.3	371699	24.9	20.3	411183	25.0	20.2
466478	24.7	21.6	83525	24.7	18.8	325109	24.8	20.7	35576	24.9	18.8	64611	24.9	18.4	127005	25.0	19.5
379376	24.7	19.8	59672	24.7	18.4	6075	24.8	17.7	276817	24.9	21.2	95552	24.9	19.5	130051	25.0	19.5
393300	24.7	19.6	343048	24.7	20.3	457694	24.8	20.7	419179	24.9	21.1	244085	24.9	20.0	52263	25.0	19.2
114046	24.7	19.1	41513	24.7	18.1	340590	24.8	21.0	92808	24.9	17.4	69223	24.9	18.8	49393	25.0	18.8
203559	24.7	20.1	36067	24.7	19.4	56781	24.8	18.9	341734	24.9	20.4	297395	24.9	20.8	504320	25.0	22.5
22175	24.7	18.9	192001	24.7	19.6	317125	24.8	20.2	182422	24.9	21.1	199452	24.9	19.7	459306	25.0	20.5
343029	24.7	20.2	359837	24.8	20.5	419254	24.8	20.6	306341	24.9	20.6	205841	24.9	19.2	69264	25.0	19.8
310137	24.7	20.1	133528	24.8	19.8	15408	24.8	17.6	79446	24.9	19.8	289760	24.9	19.0	228202	25.0	21.0
405862	24.7	20.7	271050	24.8	20.8	149437	24.8										

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

Nº	02	V															
328635	25.0	20.0	152878	25.1	19.3	92405	25.2	19.4	182097	25.2	21.3	38732	25.3	17.8	83534	25.4	19.1
34455	25.0	18.7	138205	25.1	20.2	140136	25.2	18.5	246956	25.2	20.4	160680	25.3	19.0	33786	25.4	17.4
250853	25.0	20.8	138024	25.1	20.1	344590	25.2	19.9	177811	25.2	20.3	150972	25.3	19.7	278653	25.4	21.0
295954	25.0	19.7	245073	25.1	19.9	500985	25.2	21.8	107232	25.2	19.4	456945	25.3	21.7	122208	25.4	19.5
288588	25.0	20.8	271181	25.1	20.2	128901	25.2	20.7	292034	25.2	20.9	65152	25.3	19.0	217097	25.4	19.9
325706	25.0	20.8	474894	25.1	22.3	409020	25.2	19.4	455488	25.2	22.2	409816	25.3	21.2	234937	25.4	19.5
172039	25.0	18.4	456875	25.1	21.5	17261	25.2	17.3	430856	25.2	21.0	267490	25.3	20.2	430441	25.4	22.2
161897	25.0	19.3	210498	25.1	20.3	96102	25.2	19.5	235484	25.2	19.3	492877	25.3	21.9	374558	25.4	20.6
286181	25.0	20.2	323502	25.1	21.3	430489	25.2	21.0	491198	25.2	21.7	179793	25.3	20.6	57764	25.4	19.3
87363	25.0	19.6	285120	25.1	20.0	148896	25.2	19.9	55438	25.2	17.6	8312	25.3	17.9	341531	25.4	20.1
212901	25.0	20.8	270564	25.1	19.0	336217	25.2	20.6	321764	25.2	19.6	144408	25.3	19.2	522602	25.4	20.7
422842	25.0	19.8	66877	25.1	18.7	200668	25.2	18.7	258159	25.2	20.2	414225	25.3	19.9	232527	25.4	19.6
203399	25.0	18.7	401016	25.1	21.1	282911	25.2	19.5	203601	25.2	18.8	85597	25.3	17.0	9457	25.4	17.2
300315	25.0	20.9	213601	25.1	20.6	454546	25.2	20.4	94301	25.2	18.9	433392	25.3	21.4	210337	25.4	21.0
242346	25.0	19.1	337232	25.1	20.6	32197	25.2	18.9	303371	25.2	19.5	288549	25.3	20.7	461944	25.4	20.1
148919	25.0	19.4	127464	25.1	19.2	65708	25.2	19.4	331051	25.2	19.9	224343	25.3	20.9	369400	25.4	21.1
237608	25.0	19.9	254506	25.1	19.9	320713	25.2	20.0	194256	25.2	19.9	66322	25.3	19.5	146357	25.4	18.9
348164	25.0	20.3	488773	25.1	20.4	89702	25.2	18.8	467960	25.2	20.4	270822	25.3	20.2	29171	25.4	17.2
10095	25.0	16.9	119449	25.1	18.1	113936	25.2	18.5	53872	25.2	18.8	135341	25.3	18.9	325302	25.4	21.0
431241	25.0	20.7	171544	25.1	19.5	140063	25.2	20.1	24873	25.2	18.7	8218	25.3	17.8	411369	25.4	20.8
49704	25.0	18.8	376459	25.1	21.2	143711	25.2	20.0	309817	25.2	20.0	79069	25.3	20.8	499447	25.4	20.2
385944	25.0	21.2	210925	25.1	19.8	233753	25.2	20.9	327293	25.2	20.3	61349	25.3	19.2	402844	25.4	21.5
445906	25.0	20.3	118108	25.1	18.6	492513	25.2	20.7	416864	25.2	21.4	82178	25.3	18.6	397953	25.4	21.8
34265	25.0	19.2	256098	25.1	20.6	461388	25.2	21.5	235572	25.2	21.0	26381	25.3	17.8	41514	25.4	17.8
330709	25.0	20.2	86817	25.1	18.1	355812	25.2	20.4	354885	25.2	19.6	153800	25.3	19.3	431907	25.4	20.9
34399	25.0	18.4	465674	25.1	20.3	429962	25.2	20.9	346714	25.2	20.1	56983	25.3	18.8	356515	25.4	20.7
327413	25.0	21.0	179260	25.1	20.4	86446	25.2	18.7	465136	25.2	21.0	386831	25.3	20.3	324587	25.4	20.7
337896	25.0	20.3	312489	25.1	19.3	266425	25.2	20.4	128936	25.2	19.7	383669	25.3	20.2	456877	25.4	21.6
134010	25.0	19.8	409963	25.1	19.5	110026	25.2	19.2	55181	25.2	17.4	36923	25.3	18.2	110022	25.4	18.4
206227	25.0	19.0	79321	25.1	19.1	33297	25.2	17.3	60485	25.3	18.8	431569	25.3	20.8	422577	25.4	21.5
305820	25.0	20.4	273030	25.1	18.9	208920	25.2	19.4	468666	25.3	21.1	503547	25.3	21.6	466996	25.4	19.8
463776	25.0	20.5	175672	25.1	21.4	460359	25.2	21.6	89834	25.3	19.1	120139	25.3	17.6	125168	25.4	19.5
469726	25.0	21.5	205344	25.1	20.6	303445	25.2	19.6	163420	25.3	19.6	109091	25.3	20.1	318912	25.4	20.4
481399	25.1	21.2	116781	25.1	18.8	221855	25.2	20.5	469212	25.3	20.9	202703	25.3	19.8	312115	25.4	21.0
168791	25.1	23.3	309693	25.1	20.3	307804	25.2	19.6	22495	25.3	18.6	117358	25.3	18.7	436352	25.4	21.3
245664	25.1	19.6	464271	25.1	21.5	208072	25.2	19.5	496720	25.3	20.7	473336	25.3	20.8	582	25.4	11.4
46332	25.1	18.3	355926	25.1	20.9	357335	25.2	20.9	333704	25.3	20.7	406460	25.3	21.3	222514	25.4	21.4
376712	25.1	20.1	38765	25.1	18.1	376164	25.2	20.7	389177	25.3	20.9	82450	25.3	19.5	481822	25.4	20.4
223294	25.1	19.7	57781	25.1	18.3	361142	25.2	20.9	318889	25.3	21.0	215294	25.3	19.9	432197	25.4	21.1
337917	25.1	19.9	282129	25.1	19.5	430363	25.2	20.7	420997	25.3	20.5	310041	25.3	21.2	239731	25.4	19.9
169380	25.1	19.3	523665	25.1	23.9	143087	25.2	18.7	227559	25.3	20.3	210218	25.3	19.9	69133	25.4	18.5
310960	25.1	20.0	4368	25.1	16.5	64924	25.2	18.9	224392	25.3	20.1	463643	25.3	21.4	268359	25.4	19.7
18994	25.1	18.2	442301	25.1	20.7	28791	25.2	19.5	396635	25.3	21.4	246968	25.3	20.8	146436	25.4	20.8
495109	25.1	20.7	248725	25.1	20.8	257448	25.2	20.8	259961	25.3	20.1	109073	25.3	19.5	387307	25.4	20.1
101002	25.1	19.8	37489	25.1	18.7	19876	25.2	16.6	367990	25.3	19.8	430247	25.3	20.0	431235	25.4	21.3
520958	25.1	20.5	89120	25.1	18.8	127522	25.2	19.2	143397	25.3	19.5	150794	25.3	19.8	318127	25.4	19.9
207691	25.1	20.2	282128	25.1	20.9	254059	25.2	19.3	521170	25.3	20.8	438872	25.3	20.7	147620	25.4	18.7
296126	25.1	20.4	436699	25.1	21.3	243752	25.2	21.4	53714	25.3	18.0	48593	25.3	19.1	318042	25.4	20.6
246225	25.1	20.7	492491	25.1	21.5	250492	25.2	19.5	51462	25.3	19.0	157839	25.3	19.1	125557	25.4	19.3
163685	25.1	19.8	429057	25.1	19.6	397455	25.2	20.7	100735	25.3	19.1	499086	25.3	20.8	346088	25.4	20.1
170115	25.1	20.2	391038	25.1	20.9	189368	25.2	19.5	125112	25.3	20.1	198771	25.3	19.4	436358	25.4	20.6
375756	25.1	19.9	292964	25.1	20.0	224401	25.2	21.7	255707	25.3	20.8	480896	25.3	19.1	250999	25.4	19.9
286088	25.1	20.9	1441	25.1	17.9	282332	25.2	20.1	256114	25.3	18.7	285880	25.3	19.7	499996	25.4	20.6
76706	25.1	18.8	110224	25.1	19.0	109660	25.2	19.0	96138	25.3	19.8	79768	25.3	18.5	421386	25.4	20.5
181459	25.1	19.5	200159	25.1	19.5	63755	25.2	19.3	502493	25.3	21.2	350509	25.3	18.9	200578	25.4	21.4
423217	25.1	20.2	18804	25.1	17.0	405356	25.2	20.3	94967	25.3	18.8	281038	25.3	19.6	491234	25.4	22.0
173812	25.1	19.3	55309	25.1	19.1	470912	25.2	21.3	226884	25.3	20.2	130559	25.4	18.6	170261	25.4	20.3
196834	25.1	19.9	428958	25.1	20.1	406670	25.2	20.9	72925	25.3	19.2	134467	25.4	20.1	398831	25.4	19.9
193047	25.1	18.1	208179	25.1	20.2	434861	25.2	21.6	170106	25.3	19.1	445931	25.4	20.6	296740	25.4	19.6
211831	25.1	20.4	68894	25.1	18.8	271829	25.2	20.0	370800	25.3	21.4	54552	25.4	19.0	206843	25.4	18.6
496119	25.1	20.3	246752	25.1	20.8	37254											

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

Nº	02	V															
399624	25.4	21.6	211568	25.5	20.5	254647	25.6	19.7	340622	25.6	20.8	46361	25.7	18.2	249444	25.8	20.3
414851	25.4	21.1	423579	25.5	21.8	130410	25.6	20.5	432028	25.6	20.9	449105	25.7	20.1	403825	25.8	20.6
87256	25.4	19.1	108785	25.5	20.5	309236	25.6	19.9	350953	25.6	21.2	8678	25.7	18.4	101045	25.8	18.2
3651	25.4	16.3	383404	25.5	20.6	76432	25.6	19.5	348895	25.6	21.3	140029	25.7	18.7	266353	25.8	19.5
134817	25.4	19.1	409977	25.5	19.8	172568	25.6	20.3	365575	25.6	21.3	431570	25.7	21.0	408261	25.8	20.6
141801	25.4	20.2	468900	25.5	21.2	289293	25.6	19.5	189866	25.6	20.0	218925	25.7	19.8	352675	25.8	20.1
502447	25.4	21.3	228606	25.5	19.0	467975	25.6	21.1	415854	25.6	20.6	196631	25.7	19.8	420294	25.8	20.6
214843	25.4	20.1	496794	25.5	21.8	247331	25.6	20.2	26637	25.6	18.4	168373	25.7	20.1	310285	25.8	21.4
227127	25.4	19.7	104720	25.5	19.2	306949	25.6	20.7	377160	25.6	20.9	363329	25.7	21.8	287211	25.8	19.4
377969	25.4	20.2	298672	25.5	19.1	10579	25.6	16.8	343012	25.6	19.9	243749	25.7	20.2	416410	25.8	20.8
436766	25.4	19.9	334491	25.5	21.8	417043	25.6	21.2	472980	25.6	20.0	233639	25.7	19.7	115813	25.8	18.7
155167	25.4	20.0	463223	25.5	20.3	125036	25.6	19.8	206752	25.6	19.5	248103	25.7	20.2	522222	25.8	20.6
108745	25.4	19.2	18598	25.5	17.3	337817	25.6	21.7	401132	25.6	21.8	59184	25.7	18.5	261209	25.8	19.8
315238	25.4	20.4	345687	25.5	21.3	494730	25.6	21.2	83925	25.6	19.7	332987	25.7	20.9	406836	25.8	20.3
11607	25.4	17.3	505192	25.5	20.9	382365	25.6	20.5	18543	25.6	17.5	295417	25.7	19.8	326988	25.8	19.5
238600	25.4	19.2	500004	25.5	20.5	282208	25.6	21.1	243772	25.6	20.6	28880	25.7	17.8	473905	25.8	20.2
227257	25.4	20.2	288682	25.5	20.4	482412	25.6	20.0	270585	25.6	21.0	342884	25.7	19.9	105240	25.8	19.6
431541	25.4	20.6	100927	25.5	20.0	210062	25.6	19.6	107827	25.6	18.7	49133	25.7	17.2	496490	25.8	21.1
464184	25.4	20.4	305692	25.5	20.6	115509	25.6	20.0	12014	25.6	16.0	4504	25.7	16.9	35506	25.8	18.6
84278	25.4	19.2	44920	25.5	19.4	83848	25.6	18.7	211699	25.6	19.8	473493	25.7	20.0	38776	25.8	19.8
457582	25.4	20.6	190150	25.5	20.1	142583	25.6	19.1	357129	25.6	20.1	253335	25.7	17.8	461142	25.8	20.3
269312	25.4	20.2	498996	25.5	20.3	466154	25.6	21.1	419132	25.6	20.5	130499	25.7	18.6	140269	25.8	20.4
167186	25.4	18.9	152007	25.5	20.3	500143	25.6	20.2	374563	25.6	20.7	324056	25.7	20.6	289853	25.8	20.6
5950	25.4	17.3	223618	25.5	20.5	77019	25.6	18.8	169196	25.6	19.8	87103	25.7	19.4	333107	25.8	20.8
376279	25.4	20.6	16785	25.5	16.6	106461	25.6	19.1	447346	25.6	20.4	326987	25.7	21.0	506221	25.8	21.3
300112	25.4	20.2	425652	25.5	21.3	232921	25.6	20.1	465942	25.6	20.7	285871	25.7	20.5	175573	25.8	21.0
239010	25.4	20.9	417728	25.5	19.3	234439	25.6	20.7	182311	25.6	20.2	201963	25.7	19.8	88787	25.8	19.1
294071	25.5	20.1	27574	25.5	19.8	351643	25.6	19.6	210762	25.6	19.3	500406	25.7	21.1	275267	25.8	19.7
11301	25.5	17.2	329097	25.5	20.9	166421	25.6	20.7	461726	25.7	21.5	76701	25.7	19.1	341431	25.8	19.9
523740	25.5	21.3	496068	25.5	21.8	303447	25.6	20.3	2769	25.7	15.7	387104	25.7	20.4	494657	25.8	21.4
284129	25.5	21.0	148015	25.5	20.1	249004	25.6	20.6	412725	25.7	21.5	402285	25.7	20.7	15008	25.8	17.8
28823	25.5	18.6	343605	25.5	20.6	84439	25.6	19.5	146611	25.7	20.3	303928	25.7	20.6	135971	25.8	20.3
122865	25.5	19.3	21141	25.5	19.2	365484	25.6	21.3	194106	25.7	19.5	520917	25.7	20.8	464731	25.8	21.1
321688	25.5	19.5	99364	25.5	18.6	143680	25.6	19.0	326728	25.7	18.1	255490	25.7	18.3	417824	25.8	20.2
473757	25.5	20.9	461598	25.5	20.7	222808	25.6	19.5	430451	25.7	20.9	296732	25.7	20.3	456308	25.8	20.8
299332	25.5	20.7	336874	25.5	19.6	173075	25.6	19.6	359022	25.7	20.6	86901	25.7	19.5	57903	25.8	18.2
207793	25.5	20.6	393239	25.5	21.6	162760	25.6	18.9	20370	25.7	16.6	125938	25.7	19.2	156594	25.8	19.2
10345	25.5	17.5	423762	25.5	20.3	268965	25.6	20.9	56168	25.7	18.2	418377	25.7	21.1	254783	25.8	19.6
190202	25.5	19.4	169967	25.5	19.8	286431	25.6	19.0	175797	25.7	20.5	386179	25.7	20.1	298835	25.8	21.1
500419	25.5	21.7	203510	25.5	18.6	393526	25.6	21.2	43884	25.7	18.7	227628	25.7	19.9	79909	25.8	19.2
125457	25.5	18.1	321021	25.5	19.5	250127	25.6	21.3	410237	25.7	21.4	258407	25.7	19.1	502252	25.8	20.8
172878	25.5	20.1	372020	25.5	20.9	465966	25.6	20.4	246300	25.7	20.0	293519	25.7	20.3	499790	25.8	20.7
491660	25.5	20.9	109713	25.5	19.0	473139	25.6	20.2	17439	25.7	18.5	32566	25.7	18.4	164815	25.8	18.6
426697	25.5	20.5	177443	25.5	18.9	300177	25.6	21.0	430704	25.7	17.8	251901	25.7	20.8	457408	25.8	20.8
379890	25.5	19.7	83450	25.5	19.7	49872	25.6	19.3	411328	25.7	20.2	126292	25.7	18.3	462614	25.8	21.2
365761	25.5	21.0	32669	25.5	19.0	83626	25.6	19.0	285267	25.7	19.9	381299	25.7	20.0	142878	25.8	19.2
304540	25.5	20.7	203889	25.5	19.8	169004	25.6	19.3	206885	25.7	19.7	518439	25.7	21.1	444389	25.8	20.7
2244	25.5	15.9	497197	25.5	21.5	41826	25.6	18.4	192184	25.7	19.0	52196	25.7	18.1	303285	25.8	19.6
226330	25.5	19.9	412868	25.5	20.9	283589	25.6	20.1	274842	25.7	20.7	498220	25.7	20.4	508682	25.8	21.5
5370	25.5	22.3	153358	25.5	19.2	131746	25.6	19.0	57888	25.7	18.4	50803	25.7	18.0	346869	25.8	19.7
153093	25.5	19.8	37261	25.5	19.5	114019	25.6	19.6	62623	25.7	19.1	161480	25.7	18.6	218706	25.8	19.7
1604	25.5	15.3	191278	25.5	18.9	259229	25.6	19.8	456652	25.7	21.6	417799	25.7	19.1	239895	25.8	20.4
362253	25.5	21.0	208444	25.5	19.6	42172	25.6	19.0	499122	25.7	20.2	430470	25.7	21.1	433513	25.8	20.4
298305	25.5	19.2	499108	25.5	21.2	1864	25.6	18.1	503642	25.7	21.2	325144	25.7	20.3	12577	25.8	18.7
288886	25.5	20.8	224437	25.5	20.1	132414	25.6	19.9	310053	25.7	20.7	292234	25.7	20.0	307292	25.8	20.3
31474	25.5	17.2	125175	25.5	19.0	212740	25.6	19.9	402042	25.7	20.7	243050	25.7	20.1	326389	25.8	20.5
506000	25.5	20.1	153098	25.5	18.8	350423	25.6	20.8	301237	25.7	20.1	264991	25.7	19.5	91398	25.8	19.6
204512	25.5	19.9	432522	25.5	20.1	246245	25.6	20.8	507767	25.7	20.3	85303	25.7	19.4	186551	25.8	18.3
306435	25.5	20.0	40582	25.5	18.9	374529	25.6	20.7	110027	25.7	19.8	501891	25.7	20.1	35788	25.8	18.2
240491	25.5	19.0	254021	25.5	19.3	363229	25.6	21.2	20890	25.7	18.5	295975	25.7	20.7	330717	25.8	21.1
310939	25.5	20.9	46340	25.5	18.8	2096											

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

Nº	02	V															
201398	25.8	20.5	258319	25.9	20.8	89696	25.9	19.6	114867	26.0	20.2	341767	26.1	21.1	214917	26.1	20.0
208252	25.8	20.9	56780	25.9	18.3	363454	25.9	20.2	373068	26.0	20.7	492417	26.1	21.2	264567	26.1	21.4
54702	25.8	19.4	421362	25.9	20.1	211227	25.9	20.1	377967	26.0	20.1	461099	26.1	21.6	262821	26.1	19.4
278207	25.8	19.2	300127	25.9	20.1	375450	25.9	20.9	162827	26.0	19.2	22025	26.1	18.4	22307	26.2	18.2
28593	25.8	18.4	467525	25.9	21.0	434934	25.9	21.3	306706	26.0	21.1	138334	26.1	17.8	233737	26.2	20.9
459751	25.8	21.2	145105	25.9	19.8	111940	25.9	18.3	389243	26.0	20.0	140667	26.1	20.3	212674	26.2	20.8
147882	25.8	20.3	203995	25.9	19.3	348874	25.9	21.8	283134	26.0	20.6	55960	26.1	18.9	66499	26.2	19.5
12502	25.8	18.3	322850	25.9	21.4	464935	25.9	21.1	398930	26.0	20.6	192713	26.1	21.0	236832	26.2	20.5
180728	25.8	20.4	192425	25.9	19.5	520963	25.9	20.8	12587	26.0	17.4	365135	26.1	20.5	218622	26.2	22.2
273291	25.8	20.9	330431	25.9	20.5	147862	25.9	18.4	167676	26.0	18.4	152686	26.1	19.9	228888	26.2	19.8
423240	25.8	21.4	204609	25.9	20.4	417635	25.9	19.0	210016	26.0	19.2	124817	26.1	18.7	498141	26.2	22.2
89046	25.8	18.7	105193	25.9	20.3	236645	25.9	21.2	56043	26.0	19.1	21415	26.1	18.4	338156	26.2	21.3
192723	25.8	21.6	346874	25.9	19.9	402496	25.9	19.2	245032	26.0	20.1	358032	26.1	21.3	111054	26.2	20.0
426955	25.8	19.9	190412	25.9	19.5	462292	25.9	20.3	330120	26.0	20.7	521003	26.1	20.3	15504	26.2	23.6
188751	25.8	20.5	502315	25.9	19.6	363130	25.9	21.4	163457	26.0	19.8	418229	26.1	21.1	383417	26.2	20.1
102187	25.8	20.1	427014	25.9	20.8	24494	25.9	18.2	325508	26.0	20.8	375984	26.1	20.5	321306	26.2	19.6
16224	25.8	17.9	64104	25.9	18.4	120113	25.9	19.4	208346	26.0	20.7	126240	26.1	19.7	203436	26.2	19.9
9757	25.8	17.7	434292	25.9	19.6	357043	25.9	21.2	88148	26.0	19.9	123720	26.1	19.7	403261	26.2	21.1
288603	25.8	20.6	47455	25.9	20.0	55129	25.9	18.0	187828	26.0	20.5	421836	26.1	20.5	100292	26.2	17.7
228666	25.8	20.1	519974	25.9	21.6	497612	25.9	22.4	84996	26.0	19.3	212303	26.1	20.6	468357	26.2	21.0
125215	25.8	19.5	236601	25.9	20.3	414780	25.9	21.6	221269	26.0	19.3	461996	26.1	21.4	157927	26.2	20.4
309415	25.8	20.5	86078	25.9	19.1	286271	25.9	20.7	210952	26.0	18.9	498949	26.1	19.2	432991	26.2	20.5
188662	25.8	19.5	365223	25.9	19.9	208477	25.9	20.9	127672	26.0	19.5	431209	26.1	21.2	426578	26.2	22.1
285363	25.8	20.7	336413	25.9	20.7	182521	25.9	20.9	84317	26.0	19.3	90214	26.1	18.9	393301	26.2	20.7
367811	25.8	21.3	22336	25.9	18.9	226722	25.9	20.7	194427	26.0	19.7	240039	26.1	20.0	402178	26.2	20.9
143433	25.8	19.5	415833	25.9	21.6	210471	25.9	20.9	53971	26.1	18.7	275594	26.1	19.8	254484	26.2	19.6
166663	25.8	20.4	434190	25.9	19.8	357170	25.9	19.1	218929	26.1	19.2	137436	26.1	20.1	364655	26.2	20.1
431244	25.8	21.6	82022	25.9	19.2	415466	25.9	20.5	102683	26.1	19.8	113485	26.1	19.3	333450	26.2	20.9
378303	25.8	20.5	522598	25.9	20.9	492190	25.9	20.0	75084	26.1	19.6	419810	26.1	21.0	296790	26.2	21.1
60986	25.8	19.3	274953	25.9	20.0	17509	25.9	15.9	42318	26.1	18.6	354526	26.1	21.4	260481	26.2	19.4
252954	25.8	20.9	91100	25.9	18.8	164343	25.9	19.2	84356	26.1	18.9	81268	26.1	18.5	411880	26.2	20.8
522505	25.8	20.9	273217	25.9	19.8	142075	25.9	19.9	372070	26.1	19.9	457303	26.1	22.0	156170	26.2	19.9
54775	25.8	18.8	93374	25.9	18.9	369829	25.9	20.8	416860	26.1	20.6	219800	26.1	20.2	505233	26.2	20.7
165673	25.8	19.1	170929	25.9	18.9	506406	25.9	21.4	31623	26.1	17.5	131356	26.1	19.6	376998	26.2	21.2
66717	25.9	20.1	135170	25.9	18.9	39631	25.9	19.7	111205	26.1	19.9	6030	26.1	17.3	503752	26.2	21.8
498186	25.9	21.4	158546	25.9	19.3	90837	25.9	19.5	98693	26.1	19.6	192083	26.1	19.5	348498	26.2	20.7
247283	25.9	19.8	195036	25.9	19.4	358008	25.9	21.0	420556	26.1	20.1	172475	26.1	21.0	238783	26.2	20.8
374353	25.9	19.8	336681	25.9	19.9	344815	25.9	19.6	33402	26.1	18.5	15181	26.1	18.0	372017	26.2	21.2
433008	25.9	20.3	383750	25.9	20.2	157424	25.9	20.4	53232	26.1	18.7	98449	26.1	18.0	170275	26.2	20.7
186129	25.9	20.8	258105	25.9	20.5	435224	25.9	21.1	96901	26.1	19.1	496153	26.1	20.8	204242	26.2	20.9
234819	25.9	20.1	201827	25.9	18.6	450224	25.9	21.7	343416	26.1	20.4	491215	26.1	21.3	311110	26.2	21.2
417453	25.9	22.0	386502	25.9	20.1	434981	25.9	21.1	74315	26.1	19.4	280403	26.1	20.4	495543	26.2	22.2
178986	25.9	19.4	202041	25.9	19.6	229142	25.9	19.9	150478	26.1	20.2	523815	26.1	23.8	466942	26.2	20.0
406003	25.9	21.9	205288	25.9	19.7	382783	25.9	22.7	19720	26.1	17.7	385012	26.1	21.3	227562	26.2	20.5
265702	25.9	20.3	68928	25.9	18.5	463520	25.9	20.9	166833	26.1	18.7	319397	26.1	19.9	327332	26.2	21.2
496139	25.9	21.5	162559	25.9	19.5	421151	25.9	20.7	82980	26.1	19.9	221198	26.1	20.9	294394	26.2	21.2
150930	25.9	18.6	294550	25.9	20.5	140973	25.9	19.5	295965	26.1	19.9	438969	26.1	20.9	456953	26.2	20.0
401009	25.9	22.0	432233	25.9	20.2	182378	25.9	20.1	27453	26.1	19.2	122531	26.1	19.5	133230	26.2	19.7
42779	25.9	18.2	374101	25.9	21.2	201381	25.9	18.7	280199	26.1	21.3	284134	26.1	21.1	354114	26.2	19.3
489611	25.9	21.6	147589	25.9	20.1	102554	25.9	19.2	104573	26.1	19.3	28639	26.1	17.6	217098	26.2	19.8
336186	25.9	21.0	158225	25.9	20.7	33842	25.9	18.3	33811	26.1	17.7	231691	26.1	19.8	19881	26.2	17.9
202711	25.9	20.1	265749	25.9	20.7	146324	26.0	19.5	284340	26.1	20.3	90861	26.1	18.7	288758	26.2	20.5
335886	25.9	20.4	303244	25.9	21.1	221186	26.0	19.5	90818	26.1	19.5	231197	26.1	19.3	425247	26.2	21.9
214251	25.9	20.0	334873	25.9	20.7	190161	26.0	20.9	366409	26.1	21.3	420606	26.1	20.9	452794	26.2	19.9
490579	25.9	20.7	19413	25.9	17.8	431793	26.0	20.0	214147	26.1	20.2	101	26.1	12.3	160894	26.2	19.9
135460	25.9	20.2	343061	25.9	20.1	469507	26.0	20.6	141355	26.1	17.8	113850	26.1	19.8	66487	26.2	19.0
111746	25.9	18.6	455367	25.9	21.2	378890	26.0	21.2	285936	26.1	21.2	156518	26.1	19.4	418262	26.2	20.6
106068	25.9	19.6	322897	25.9	21.3	494709	26.0	22.2	423447	26.1	21.1	356709	26.1	19.8	456768	26.2	22.0
437607	25.9	20.9	203534	25.9	19.6	225272	26.0	20.2	39638	26.1	18.9	153182	26.1	19.2	320537	26.2	20.8
217908	25.9	21.6	334806	25.9	20.6	307597	26.0	20.4	428469	26.1	21.0	211904	26.1	19.3	292645	26.2	20.7
274623	25.9	21.1	80440	25.9	18.5	22837											

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

Nº	02	V															
83357	26.2	18.4	190255	26.3	19.9	146628	26.3	19.3	454279	26.4	21.1	423421	26.5	21.5	128661	26.6	19.6
167001	26.2	19.4	498377	26.3	21.0	325161	26.3	21.8	401133	26.4	21.8	496361	26.5	21.6	360517	26.6	20.9
163007	26.2	19.3	289834	26.3	21.2	426503	26.3	21.2	174016	26.4	19.4	134182	26.5	20.1	233494	26.6	19.4
183715	26.2	19.2	90617	26.3	19.9	376174	26.3	20.7	373501	26.4	20.4	204150	26.5	19.4	454125	26.6	20.5
340810	26.2	20.8	82048	26.3	19.8	130192	26.3	18.8	460444	26.4	21.2	135616	26.5	19.9	4351	26.6	16.6
405288	26.2	19.7	399311	26.3	21.8	431140	26.3	20.9	184074	26.4	17.7	228383	26.5	21.0	382876	26.6	20.5
87373	26.2	20.0	417472	26.3	21.9	292333	26.4	21.0	419314	26.4	20.2	492785	26.5	22.2	385308	26.6	20.7
219430	26.2	20.0	405221	26.3	21.6	419511	26.4	21.5	178197	26.4	19.3	210144	26.5	21.1	241413	26.6	19.9
56473	26.2	18.5	23647	26.3	18.2	57755	26.4	18.9	341562	26.4	20.9	500780	26.5	21.1	238889	26.6	19.6
422307	26.2	21.8	352651	26.3	21.3	317829	26.4	20.9	190140	26.4	20.1	72058	26.5	18.3	70313	26.6	19.4
84896	26.2	18.5	354861	26.3	19.7	65531	26.4	18.9	20341	26.4	17.7	271470	26.5	20.5	419202	26.6	20.6
185381	26.2	19.5	315282	26.3	19.8	460930	26.4	21.1	113962	26.4	19.1	170422	26.5	19.2	500318	26.6	21.8
119622	26.2	19.5	298975	26.3	20.3	186035	26.4	20.3	264010	26.4	19.6	453301	26.5	20.6	452631	26.6	21.8
384062	26.2	20.9	314304	26.3	19.1	202344	26.4	20.3	410633	26.4	20.8	313902	26.5	20.7	266285	26.6	21.4
246179	26.2	20.8	344518	26.3	21.3	253136	26.4	20.1	203490	26.4	19.3	303242	26.5	21.0	249643	26.6	19.8
363307	26.2	20.2	136052	26.3	18.9	304885	26.4	20.0	360586	26.4	20.6	147549	26.5	20.0	98160	26.6	18.2
406854	26.2	20.4	8640	26.3	17.7	408921	26.4	19.7	258279	26.4	20.6	136573	26.5	18.6	136747	26.6	20.0
436648	26.2	20.3	306334	26.3	20.5	343079	26.4	19.7	320810	26.4	19.9	465925	26.5	20.2	211505	26.6	20.7
238408	26.2	19.2	403804	26.3	21.2	338196	26.4	20.9	27896	26.4	19.9	73010	26.5	18.8	498351	26.6	20.7
498053	26.2	20.6	340814	26.3	20.4	163770	26.4	20.2	197242	26.4	19.4	243671	26.5	20.2	116774	26.6	19.3
405176	26.2	21.1	77668	26.3	19.4	269763	26.4	20.6	133360	26.4	19.7	88768	26.5	19.2	238588	26.6	19.8
407795	26.2	20.3	460024	26.3	22.1	21966	26.4	18.8	196801	26.4	20.4	170382	26.5	19.9	231785	26.6	19.8
340639	26.2	20.4	238867	26.3	19.9	402080	26.4	20.5	181697	26.4	20.5	402847	26.5	20.6	433195	26.6	21.3
498563	26.2	21.8	463539	26.3	21.7	262277	26.4	18.7	451655	26.4	21.2	266235	26.5	20.8	403538	26.6	20.0
307956	26.2	20.3	336753	26.3	20.3	328905	26.4	20.5	34105	26.4	18.3	130156	26.5	19.7	304970	26.6	20.3
90245	26.2	18.5	340616	26.3	20.8	456663	26.4	21.4	6007	26.4	16.2	170887	26.5	19.6	117485	26.6	19.4
414570	26.2	20.6	360434	26.3	19.8	403252	26.4	19.9	274340	26.4	21.3	245430	26.5	20.9	226801	26.6	19.9
343127	26.2	19.6	28804	26.3	18.9	212023	26.4	19.6	73106	26.4	19.1	502015	26.5	20.7	14537	26.6	18.7
267483	26.2	19.9	88292	26.3	20.4	95533	26.4	19.2	462656	26.4	22.0	402939	26.5	22.0	172387	26.6	18.5
250425	26.2	20.5	61761	26.3	18.3	87430	26.4	19.6	343066	26.5	20.6	412138	26.5	21.4	205019	26.6	19.4
191846	26.2	20.6	258428	26.3	19.3	225003	26.4	18.7	125182	26.5	19.4	325405	26.5	19.3	202282	26.6	19.9
7368	26.2	15.4	325622	26.3	21.1	215116	26.4	19.7	208212	26.5	21.2	353466	26.5	20.8	364706	26.6	21.4
350546	26.2	21.4	142743	26.3	19.1	143082	26.4	18.9	138757	26.5	19.0	272891	26.5	20.3	503109	26.6	20.3
332701	26.2	21.4	170164	26.3	19.1	232334	26.4	19.9	57235	26.5	18.3	120647	26.5	20.4	136938	26.6	21.1
329421	26.2	20.7	61255	26.3	19.2	217267	26.4	19.1	200797	26.5	19.7	121270	26.5	19.6	126860	26.6	18.9
243759	26.2	21.1	66989	26.3	18.7	498733	26.4	21.3	215546	26.5	20.9	371146	26.5	21.6	300001	26.6	21.1
270326	26.2	19.7	204342	26.3	20.6	233910	26.4	19.8	15523	26.5	18.0	468049	26.5	21.5	81739	26.6	19.2
317909	26.2	20.2	505165	26.3	21.7	197348	26.4	17.9	466794	26.5	20.9	378763	26.5	21.5	138306	26.6	20.4
212006	26.2	20.6	107181	26.3	19.1	55929	26.4	18.7	498925	26.5	21.0	88744	26.5	19.5	7686	26.6	16.1
212019	26.2	19.3	115790	26.3	19.0	121157	26.4	17.8	210552	26.5	20.6	273084	26.5	20.4	362621	26.6	20.9
82409	26.2	18.7	56262	26.3	18.7	427559	26.4	21.8	243543	26.5	20.2	419815	26.5	21.1	3384	26.6	16.9
505451	26.2	19.2	75940	26.3	18.5	445813	26.4	20.7	163179	26.5	18.8	435957	26.5	21.1	461990	26.6	20.7
12989	26.2	18.3	373971	26.3	19.9	102200	26.4	20.2	11901	26.5	16.5	113703	26.5	19.6	198327	26.6	20.1
498807	26.3	21.5	89306	26.3	19.6	407680	26.4	20.2	212987	26.5	19.6	480103	26.5	20.6	234027	26.6	20.6
386227	26.3	20.6	463320	26.3	20.7	119830	26.4	18.8	241516	26.5	19.9	360713	26.5	20.8	86855	26.6	19.2
297678	26.3	21.0	104392	26.3	19.2	73970	26.4	18.6	371971	26.5	20.9	423708	26.5	20.8	102453	26.6	19.3
270500	26.3	19.8	413521	26.3	20.4	73471	26.4	18.8	402919	26.5	21.3	52549	26.5	18.5	210979	26.6	19.9
123116	26.3	19.7	100416	26.3	18.1	116168	26.4	19.3	1236	26.5	16.2	208441	26.5	20.7	466137	26.6	20.4
208035	26.3	20.7	121228	26.3	18.3	113885	26.4	19.6	409941	26.5	21.6	412073	26.5	19.8	82932	26.6	19.0
208440	26.3	20.9	320202	26.3	19.4	269931	26.4	21.5	140100	26.5	19.4	496094	26.5	21.1	461597	26.6	20.7
458764	26.3	20.2	416887	26.3	21.5	111518	26.4	18.2	18210	26.5	19.3	89791	26.5	19.2	276457	26.6	19.9
275503	26.3	21.0	364888	26.3	19.6	461767	26.4	21.1	340774	26.5	20.2	496090	26.5	22.3	242487	26.6	19.5
498595	26.3	22.5	244301	26.3	19.5	404133	26.4	20.0	34063	26.5	18.1	502871	26.5	20.5	364443	26.6	21.1
272792	26.3	19.4	122156	26.3	20.1	65710	26.4	19.6	409891	26.5	21.2	254608	26.5	19.7	1111	26.6	15.2
140360	26.3	18.9	154283	26.3	19.7	284998	26.4	20.6	283490	26.5	19.7	11639	26.5	17.6	172036	26.6	20.0
43468	26.3	18.5	246151	26.3	21.2	280744	26.4	21.3	503744	26.5	20.8	496337	26.5	21.6	274895	26.6	20.6
344213	26.3	21.5	125269	26.3	19.3	451666	26.4	19.6	233907	26.5	19.6	37224	26.5	17.9	302446	26.6	19.2
182484	26.3	20.5	501373	26.3	19.9	200681	26.4	20.2	156994	26.5	19.8	394032	26.5	20.6	98861	26.6	16.6
395557	26.3	21.3	338870	26.3	20.5	453782	26.4	21.7	325716	26.5	20.5	329053	26.5	20.5	273906	26.6	20.2
457077	26.3	19.2	302077	26.3	20.6	368162	26.4	20.8	98167	26.5	19.0	5936	26.5	16.4	94050	26.6	18.8
264655	26.3	20.3	269002	26.3	19.7	6											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
52744	26.6	18.1	356336	26.7	19.9	394856	26.8	21.8	354921	26.8	20.7	195591	26.9	19.6	190055	26.9	20.6
31271	26.6	17.8	397431	26.7	19.9	253302	26.8	19.4	298856	26.8	20.2	175428	26.9	20.0	197020	26.9	20.2
454300	26.6	21.4	327231	26.7	20.6	229633	26.8	19.0	182543	26.8	20.2	137195	26.9	19.2	33855	26.9	19.6
150949	26.6	19.9	156508	26.7	18.8	333248	26.8	20.8	60458	26.8	22.5	205532	26.9	20.6	428816	26.9	21.1
34612	26.6	19.2	327410	26.7	20.3	122448	26.8	19.1	223710	26.8	19.8	410058	26.9	19.4	464178	26.9	20.4
165680	26.6	19.7	349011	26.7	21.7	256165	26.8	19.8	393960	26.8	21.5	454174	26.9	20.5	384542	26.9	20.1
246795	26.6	19.8	341382	26.7	19.8	500549	26.8	21.9	271496	26.8	20.4	91501	26.9	20.3	407664	26.9	20.5
323444	26.6	19.9	337502	26.7	20.5	219027	26.8	20.1	192047	26.8	20.9	462287	26.9	20.7	291976	26.9	20.8
458973	26.6	21.4	51646	26.7	18.2	172772	26.8	19.5	216015	26.8	20.6	332530	26.9	21.0	196310	26.9	18.5
14184	26.6	17.6	123643	26.7	19.0	73446	26.8	18.5	491203	26.8	22.4	36661	26.9	19.0	502742	26.9	20.7
351562	26.6	19.8	127083	26.7	19.2	15987	26.8	17.1	184135	26.8	20.4	105121	26.9	20.4	161611	26.9	20.3
324468	26.6	20.7	166891	26.7	19.7	199940	26.8	20.4	92515	26.8	19.7	221051	26.9	21.2	458923	26.9	21.8
164438	26.6	19.5	282819	26.7	20.3	301536	26.8	19.3	23769	26.8	16.8	209668	26.9	19.4	272953	26.9	20.0
469131	26.6	20.3	161630	26.7	19.5	64933	26.8	18.8	72944	26.8	19.3	271090	26.9	21.3	323998	26.9	20.6
210562	26.6	20.1	364018	26.7	21.5	261537	26.8	18.8	455067	26.8	21.7	500452	26.9	22.2	184053	26.9	18.9
326356	26.6	21.0	175138	26.7	19.9	403833	26.8	21.2	271706	26.8	20.9	498162	26.9	21.1	172572	26.9	20.1
152416	26.6	19.0	242031	26.7	19.8	325433	26.8	21.3	470095	26.8	21.7	414805	26.9	21.1	145378	26.9	19.4
467490	26.6	22.4	32743	26.7	19.5	378322	26.8	20.1	403812	26.8	20.2	491639	26.9	21.2	521126	26.9	21.6
309411	26.6	20.0	61093	26.7	19.5	273007	26.8	20.3	428076	26.8	20.7	362425	26.9	21.5	368736	26.9	21.3
502578	26.6	21.0	157081	26.7	19.0	305343	26.8	20.0	376163	26.8	19.8	241244	26.9	19.2	95389	26.9	19.1
244794	26.6	20.6	242139	26.7	19.6	217639	26.8	21.4	7884	26.8	17.5	374116	26.9	21.1	167627	26.9	19.6
400550	26.6	21.6	341758	26.7	20.1	115373	26.8	19.8	360359	26.8	19.8	163405	26.9	19.8	276791	26.9	21.4
97084	26.6	19.6	193801	26.7	21.3	229107	26.8	20.9	241071	26.8	20.9	166697	26.9	18.9	18645	26.9	18.1
492605	26.6	21.1	508417	26.7	22.0	414758	26.8	21.8	326425	26.8	21.7	52669	26.9	18.9	331208	26.9	20.1
365122	26.6	21.0	381616	26.7	20.8	279556	26.8	20.2	467560	26.8	21.6	202834	26.9	20.4	161029	26.9	19.5
84824	26.6	19.7	497936	26.7	20.9	1279	26.8	15.7	430296	26.8	20.9	462996	26.9	20.7	234533	26.9	20.5
221316	26.6	20.6	59824	26.7	18.5	34852	26.8	18.6	210201	26.8	20.8	320539	26.9	19.9	150311	26.9	19.7
462897	26.6	21.1	501425	26.7	20.6	500063	26.8	20.9	203820	26.8	20.0	110095	26.9	19.5	114597	26.9	19.0
8026	26.6	17.7	492541	26.7	21.6	29137	26.8	19.2	28679	26.8	18.0	193981	26.9	20.2	443931	26.9	21.6
327491	26.6	20.4	41465	26.7	18.7	426217	26.8	20.9	61964	26.8	18.7	481589	26.9	19.9	54336	26.9	19.2
455227	26.6	20.1	160806	26.7	20.8	206279	26.8	19.2	473927	26.8	20.7	56944	26.9	19.1	241131	26.9	20.1
108712	26.6	20.2	522701	26.7	21.7	277946	26.8	21.0	435389	26.8	20.6	174038	26.9	19.8	63095	26.9	19.3
240064	26.6	20.3	105339	26.7	17.1	193078	26.8	19.4	385305	26.8	21.1	430816	26.9	20.8	185107	26.9	19.4
146969	26.6	19.7	243812	26.7	20.2	280198	26.8	20.3	225236	26.9	20.4	184128	26.9	19.5	41639	26.9	18.6
419214	26.6	20.6	495407	26.7	20.8	168627	26.8	18.5	455624	26.9	21.2	327853	26.9	20.1	456787	26.9	21.8
118678	26.6	19.6	42925	26.7	19.0	411386	26.8	20.2	7618	26.9	17.6	270451	26.9	20.3	40624	26.9	19.1
118425	26.6	19.7	38373	26.7	18.1	298941	26.8	20.6	98687	26.9	19.5	518145	26.9	21.2	314704	26.9	19.4
454938	26.6	21.1	253761	26.7	20.3	486950	26.8	20.6	474085	26.9	20.6	50379	26.9	17.7	88055	26.9	19.2
110291	26.6	19.1	297579	26.7	21.4	402933	26.8	21.6	290049	26.9	20.6	363310	26.9	21.3	192554	26.9	20.5
145709	26.7	18.9	433179	26.7	20.9	429608	26.8	19.9	217082	26.9	21.1	499424	26.9	21.4	267205	26.9	20.0
680	26.7	14.7	217004	26.7	20.2	467654	26.8	21.4	362052	26.9	20.2	455852	26.9	20.6	363390	26.9	20.6
67494	26.7	18.7	461705	26.7	19.6	185120	26.8	20.1	310895	26.9	21.5	503135	26.9	20.8	47349	26.9	19.4
208589	26.7	19.2	240479	26.7	20.5	387006	26.8	20.5	90459	26.9	18.5	438802	26.9	19.8	356957	26.9	20.0
340694	26.7	20.7	420564	26.7	20.7	92801	26.8	19.1	397814	26.9	21.8	160823	26.9	19.5	217618	26.9	20.4
401164	26.7	20.8	258431	26.7	20.1	433632	26.8	20.5	92829	26.9	18.8	543638	26.9	18.1	118325	26.9	18.9
180559	26.7	18.7	132507	26.7	19.5	247866	26.8	20.6	29175	26.9	17.1	492818	26.9	21.7	39981	26.9	19.7
63951	26.7	19.4	29011	26.7	18.0	327015	26.8	20.8	55887	26.9	18.1	488633	26.9	21.4	166899	26.9	19.4
351646	26.7	19.8	489709	26.7	21.6	66889	26.8	19.4	465669	26.9	21.2	84239	26.9	19.1	421260	26.9	20.4
151032	26.7	19.7	245930	26.7	20.2	371216	26.8	21.2	290626	26.9	20.9	417794	26.9	20.7	335949	26.9	20.7
491269	26.7	21.8	27895	26.7	18.3	309365	26.8	20.5	155055	26.9	19.4	161867	26.9	19.4	490128	26.9	21.5
83662	26.7	18.8	149018	26.7	20.5	508714	26.8	21.5	215539	26.9	19.2	189009	26.9	21.0	457463	26.9	20.9
127943	26.7	19.2	220280	26.7	18.6	303997	26.8	20.4	390402	26.9	20.5	207015	26.9	19.6	234861	26.9	20.2
413100	26.7	20.1	360590	26.7	20.1	417597	26.8	21.1	393291	26.9	20.7	109897	26.9	19.6	135523	26.9	20.2
295843	26.7	20.4	283952	26.7	20.2	407730	26.8	21.2	468819	26.9	21.5	376145	26.9	20.4	252947	26.9	19.7
85283	26.7	20.2	109885	26.7	19.9	56253	26.8	18.1	117445	26.9	18.5	163681	26.9	19.8	364323	26.9	20.8
165844	26.7	20.2	389651	26.7	21.8	155812	26.8	19.4	433240	26.9	20.3	200821	26.9	20.3	19268	26.9	19.4
236200	26.7	19.3	426335	26.7	20.6	355800	26.8	21.1	393826	26.9	21.3	131101	26.9	19.4	461581	26.9	21.4
401491	26.7	19.5	147817	26.7	20.6	283919	26.8	20.3	494884	26.9	21.6	407337	26.9	21.3	212801	26.9	20.2
328235	26.7	20.4	12600	26.7	16.5	496603	26.8	20.3	234159	26.9	20.2	191763	26.9	20.3	81168	26.9	19.1
431294	26.7	21.5	341799	26.7	20.5	272897	26.8	20.6	337564	26.9	21.3	169115	26.9	20.2	107093	26.9	18.9
79198	26.7	18.1	378653	26.7	21.6</td												

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
275668	27.0	21.6	69771	27.1	18.6	218611	27.1	19.2	149990	27.2	19.2	283505	27.3	20.9	246448	27.3	20.0
83661	27.0	19.2	140531	27.1	20.3	196228	27.1	19.2	412094	27.2	21.0	245479	27.3	20.9	230902	27.3	20.1
459065	27.0	20.5	450414	27.1	20.0	327409	27.1	20.9	188009	27.2	19.5	215565	27.3	19.3	158953	27.3	19.8
27551	27.0	18.2	370477	27.1	19.6	362164	27.1	20.2	232311	27.2	19.9	184055	27.3	19.6	123357	27.3	18.7
131917	27.0	18.4	495938	27.1	21.5	236152	27.1	20.1	127097	27.2	19.8	500574	27.3	21.9	447298	27.3	20.2
500644	27.0	21.1	286407	27.1	20.2	432101	27.1	19.9	101641	27.2	17.6	290073	27.3	20.1	381332	27.3	20.4
59624	27.0	18.2	126456	27.1	18.5	523754	27.1	22.3	358094	27.2	20.7	290396	27.3	20.1	199248	27.3	19.4
212167	27.0	20.1	49427	27.1	18.7	432136	27.1	20.0	162152	27.2	20.2	20557	27.3	17.2	294213	27.3	21.2
274982	27.0	21.3	415935	27.1	21.9	268446	27.1	21.1	160531	27.2	19.5	503878	27.3	21.5	299812	27.3	20.2
309323	27.0	20.3	326027	27.1	20.8	15609	27.1	19.1	284700	27.2	20.5	171324	27.3	20.8	212131	27.3	19.3
253166	27.0	20.0	284321	27.1	20.5	437686	27.1	20.6	334523	27.2	21.0	462889	27.3	20.8	30579	27.3	18.2
154966	27.0	19.7	280022	27.1	20.2	88777	27.1	18.8	238079	27.2	19.7	370969	27.3	20.8	99342	27.3	19.2
217076	27.0	20.5	367796	27.1	20.8	434897	27.1	20.8	95310	27.2	18.9	111708	27.3	18.1	131496	27.3	19.9
205214	27.0	21.2	120021	27.1	18.9	378364	27.1	21.1	245476	27.2	20.6	287849	27.3	21.0	498039	27.3	20.4
323902	27.0	21.0	293436	27.1	20.3	264494	27.1	21.2	72607	27.2	18.9	381235	27.3	19.5	211035	27.3	20.2
249449	27.0	20.3	466333	27.1	20.8	505678	27.1	20.4	37989	27.2	18.1	238027	27.3	20.3	162496	27.4	19.3
436678	27.0	21.8	154296	27.1	20.5	51390	27.1	18.2	241078	27.2	21.2	102271	27.3	19.2	54934	27.4	17.3
46454	27.0	19.6	42368	27.1	18.1	424004	27.1	20.9	153847	27.2	19.0	295957	27.3	20.6	199538	27.4	19.6
187694	27.0	20.2	403309	27.1	20.6	386523	27.1	20.5	233604	27.2	18.3	426735	27.3	20.8	76909	27.4	18.2
467114	27.0	20.6	116984	27.1	19.5	96831	27.1	19.6	90132	27.2	19.1	7405	27.3	16.9	306607	27.4	21.4
218765	27.0	19.4	154525	27.1	19.0	119598	27.1	18.8	404165	27.2	19.9	282995	27.3	20.9	46735	27.4	17.9
81968	27.0	19.5	32694	27.1	18.1	155592	27.1	19.0	499476	27.2	21.0	162166	27.3	19.5	464897	27.4	21.6
135501	27.0	19.8	415824	27.1	21.5	456445	27.1	20.2	521080	27.2	20.5	233904	27.3	19.3	301079	27.4	20.6
425462	27.0	20.5	294228	27.1	20.2	58448	27.1	19.1	218678	27.2	20.3	241303	27.3	20.5	489512	27.4	22.0
196951	27.0	20.2	81210	27.1	19.0	498241	27.1	21.9	173781	27.2	20.7	351521	27.3	21.5	208222	27.4	20.3
161101	27.0	20.8	28440	27.1	18.1	217762	27.1	19.7	188095	27.2	20.1	341224	27.3	21.0	73668	27.4	18.6
229166	27.0	20.2	451696	27.1	20.7	333126	27.1	21.1	304916	27.2	20.1	256587	27.3	20.5	28188	27.4	16.4
496518	27.0	21.1	39777	27.1	19.1	236143	27.1	19.9	205866	27.2	19.5	330704	27.3	20.9	323796	27.4	19.8
68898	27.0	18.2	466749	27.1	20.6	297392	27.1	21.4	299905	27.2	20.4	451670	27.3	20.7	30892	27.4	19.2
5290	27.0	16.6	106053	27.1	18.4	365099	27.1	20.4	455615	27.2	21.9	325920	27.3	20.4	327221	27.4	20.3
188260	27.0	19.8	417194	27.1	19.9	207052	27.1	19.5	151572	27.2	19.8	405229	27.3	21.2	456736	27.4	21.2
518985	27.0	20.9	197545	27.1	18.0	150524	27.1	18.6	226602	27.2	19.5	416984	27.3	21.0	491144	27.4	21.5
459664	27.0	20.8	385120	27.1	20.1	230376	27.1	19.6	170094	27.2	19.7	473820	27.3	20.3	337762	27.4	20.8
424713	27.0	21.8	409933	27.1	21.1	207937	27.1	20.4	505099	27.2	20.5	309407	27.3	21.2	77922	27.4	19.9
249575	27.0	18.7	66491	27.1	19.6	189123	27.1	20.3	138578	27.2	19.3	155307	27.3	19.8	126228	27.4	19.4
402469	27.0	20.1	278108	27.1	19.9	87818	27.2	19.4	322811	27.2	21.0	455137	27.3	20.8	499783	27.4	21.1
325099	27.0	19.6	474053	27.1	20.6	149756	27.2	18.8	162519	27.2	20.7	38787	27.3	19.0	163121	27.4	19.0
39591	27.0	16.9	297441	27.1	20.5	331398	27.2	19.8	36109	27.2	19.7	328876	27.3	20.2	407435	27.4	19.8
345539	27.0	21.8	290854	27.1	20.3	126098	27.2	18.3	360542	27.2	20.9	412136	27.3	19.8	383643	27.4	20.7
122346	27.0	20.9	405360	27.1	20.5	372933	27.2	18.9	291764	27.2	20.7	282621	27.3	21.0	84750	27.4	18.5
61113	27.0	18.8	208218	27.1	20.1	304877	27.2	20.9	300267	27.2	20.3	210185	27.3	20.9	288525	27.4	20.0
27592	27.0	18.0	433231	27.1	21.3	88533	27.2	18.4	280654	27.2	20.3	332351	27.3	20.5	203410	27.4	20.4
471173	27.0	20.7	210076	27.1	19.9	73214	27.2	19.2	122740	27.2	18.7	196852	27.3	19.7	336552	27.4	20.0
165372	27.0	19.3	181236	27.1	20.2	81393	27.2	20.3	130642	27.2	20.3	185334	27.3	19.4	110842	27.4	19.4
424249	27.0	18.1	101787	27.1	18.4	342999	27.2	20.4	136391	27.2	19.5	459984	27.3	22.2	144511	27.4	20.0
92321	27.0	19.8	43273	27.1	18.4	168396	27.2	19.2	184153	27.2	19.8	336725	27.3	20.2	303237	27.4	21.4
385928	27.0	20.3	354177	27.1	19.9	363960	27.2	21.5	2958	27.2	16.4	293263	27.3	19.9	48097	27.4	18.2
229695	27.0	19.8	267450	27.1	19.5	366965	27.2	20.8	426146	27.2	21.5	466692	27.3	20.4	353826	27.4	20.7
116949	27.0	20.0	173722	27.1	20.7	244581	27.2	20.0	68499	27.2	19.1	134174	27.3	19.7	456113	27.4	20.7
371176	27.0	20.3	313791	27.1	19.4	401198	27.2	20.7	26389	27.2	19.0	138373	27.3	19.6	395779	27.4	19.8
16372	27.0	16.6	86671	27.1	19.2	20155	27.2	20.0	206075	27.2	19.8	160128	27.3	19.8	40405	27.4	18.7
41704	27.1	18.9	82386	27.1	19.8	255637	27.2	21.2	225599	27.2	20.3	501441	27.3	20.5	112560	27.4	19.0
430399	27.1	20.5	306421	27.1	22.6	425498	27.2	21.2	495478	27.2	20.6	286021	27.3	21.8	341459	27.4	20.6
502628	27.1	21.1	495898	27.1	21.9	182520	27.2	20.0	93100	27.2	18.9	462714	27.3	20.9	496089	27.4	22.3
224458	27.1	19.9	456852	27.1	21.2	125197	27.2	19.2	167144	27.2	20.4	359896	27.3	20.8	433555	27.4	20.5
365438	27.1	20.3	201172	27.1	19.0	467273	27.2	20.7	135092	27.2	19.2	241703	27.3	19.9	279168	27.4	21.2
505700	27.1	19.5	519996	27.1	21.3	107912	27.2	18.9	147251	27.2	19.9	236073	27.3	19.2	87439	27.4	19.7
545856	27.1	18.7	284110	27.1	20.5	130858	27.2	19.5	218626	27.2	20.5	309270	27.3	19.9	490115	27.4	21.5
153839	27.1	17.7	465773	27.1	20.1	122742	27.2	20.1	504811	27.2	20.8	274942	27.3	20.5	281885	27.4	20.8
374044	27.1	19.8	363284	27.1	20.4	56487	27.2	18.0	87794	27.3	20.0	429371	27.3	21.3	437467	27.4	20.2
148209	27.1	24.3	349075	27.1</td													

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

Nº	02	V															
108757	27.4	19.6	192182	27.5	20.5	432107	27.5	20.7	417325	27.6	20.9	331934	27.7	20.1	419009	27.7	21.3
204182	27.4	19.7	490246	27.5	20.8	274267	27.5	19.7	264513	27.6	21.5	491066	27.7	21.3	417343	27.7	20.4
341419	27.4	20.2	385072	27.5	20.2	479532	27.5	20.2	61262	27.6	19.4	157687	27.7	19.5	320689	27.7	20.8
133841	27.4	19.3	228869	27.5	18.8	247146	27.5	19.9	217077	27.6	19.9	505008	27.7	21.7	264425	27.7	20.6
113662	27.4	19.9	403057	27.5	21.0	38641	27.5	19.2	498928	27.6	22.0	65824	27.7	19.1	496551	27.7	20.9
102169	27.4	19.6	464614	27.5	19.7	258859	27.5	19.4	229099	27.6	20.9	394804	27.7	22.0	188701	27.7	20.5
82967	27.4	18.4	140496	27.5	19.7	311234	27.5	19.6	426747	27.6	21.0	30814	27.7	18.0	198450	27.7	20.3
225592	27.4	20.2	139554	27.5	19.6	263683	27.5	20.7	303691	27.6	20.8	312100	27.7	20.3	518962	27.7	20.6
273869	27.4	20.1	8603	27.5	18.0	87419	27.5	19.7	208691	27.6	19.3	97938	27.7	19.9	419153	27.7	21.5
343480	27.4	20.5	493536	27.5	19.9	468558	27.5	22.2	6784	27.6	17.2	501148	27.7	21.6	374165	27.7	20.4
80071	27.4	18.3	421843	27.5	20.5	119257	27.5	19.1	250155	27.6	21.3	227677	27.7	20.4	494667	27.7	23.5
382656	27.4	21.4	403582	27.5	19.9	171959	27.5	20.3	502281	27.6	20.6	465698	27.7	21.2	288746	27.7	20.6
14343	27.4	17.0	12386	27.5	17.9	282145	27.5	21.0	303224	27.6	21.8	68129	27.7	17.7	370972	27.7	21.4
47018	27.4	19.2	114529	27.5	19.0	169175	27.5	20.7	306666	27.6	20.3	258222	27.7	20.9	269536	27.7	19.3
331178	27.4	19.8	87418	27.5	19.4	427755	27.5	21.5	265648	27.6	21.2	363475	27.7	21.2	500466	27.7	19.6
73639	27.4	17.8	209356	27.5	19.4	423992	27.5	21.6	66374	27.6	18.8	428136	27.7	21.2	145646	27.7	20.2
150910	27.4	18.5	377800	27.5	20.2	191319	27.5	20.2	350972	27.6	19.6	470894	27.7	20.1	168905	27.7	19.4
62043	27.4	18.5	252302	27.5	19.7	460122	27.5	21.7	360518	27.6	20.8	290624	27.7	20.6	5353	27.7	18.4
234840	27.4	20.0	59206	27.5	17.4	226806	27.5	19.9	53879	27.6	18.7	429908	27.7	20.4	87280	27.7	19.2
58240	27.4	19.3	109480	27.5	19.4	335850	27.5	20.9	273989	27.6	20.4	85949	27.7	19.3	497961	27.7	18.6
297150	27.4	20.2	376475	27.5	21.1	346198	27.5	20.1	100496	27.6	20.1	378719	27.7	21.5	201882	27.7	19.7
279886	27.4	21.2	155782	27.5	20.2	131726	27.5	18.7	73975	27.6	18.7	348813	27.7	20.9	55866	27.7	18.8
126737	27.4	19.4	72580	27.5	18.8	383807	27.5	20.7	101491	27.6	20.0	271859	27.7	20.7	387395	27.7	20.9
501444	27.4	19.6	105194	27.5	19.5	19772	27.5	19.3	506819	27.6	21.7	206701	27.7	19.2	89722	27.7	19.3
465724	27.4	21.1	262648	27.5	18.1	53865	27.5	18.9	312017	27.6	20.7	30956	27.7	19.0	208248	27.7	20.0
207769	27.4	20.9	272536	27.5	21.1	231650	27.5	20.1	403310	27.6	20.4	36051	27.7	19.1	344249	27.7	20.8
12320	27.4	17.9	417238	27.5	20.0	302487	27.5	19.0	132847	27.6	19.5	384170	27.7	20.8	296157	27.7	18.7
273101	27.4	20.3	204608	27.5	20.8	332772	27.6	20.3	386539	27.6	19.6	5985	27.7	17.1	473041	27.7	20.7
500390	27.4	21.6	6592	27.5	17.1	369331	27.6	21.3	400569	27.6	20.4	502692	27.7	21.5	364733	27.7	20.5
309841	27.4	20.5	348971	27.5	21.4	79040	27.6	20.4	408751	27.6	23.7	379440	27.7	20.3	420618	27.7	19.9
67630	27.4	17.1	281433	27.5	20.1	288425	27.6	19.3	309043	27.6	19.7	405834	27.7	19.9	217758	27.7	19.3
245197	27.4	21.1	341826	27.5	21.0	212395	27.6	20.2	161141	27.6	20.9	325252	27.7	21.4	284083	27.7	20.3
52472	27.4	18.3	10840	27.5	16.3	163652	27.6	19.3	210766	27.6	19.6	434808	27.7	20.5	450402	27.7	20.9
122919	27.4	18.2	48070	27.5	18.1	316738	27.6	21.4	6853	27.6	16.6	525344	27.7	21.5	164583	27.7	20.2
335944	27.4	20.3	163628	27.5	19.5	83670	27.6	19.1	140663	27.6	19.1	189343	27.7	19.6	114643	27.8	19.6
169230	27.4	19.1	217491	27.5	20.5	412776	27.6	21.1	101113	27.6	20.4	12588	27.7	18.5	243354	27.8	19.6
422709	27.4	20.5	252555	27.5	20.0	242798	27.6	19.1	251688	27.6	21.9	193931	27.7	19.2	504022	27.8	21.8
199310	27.4	19.6	32286	27.5	18.5	334613	27.6	20.8	303968	27.6	18.8	216532	27.7	20.6	413869	27.8	22.6
114296	27.4	20.0	216972	27.5	20.9	52769	27.6	19.2	333441	27.6	21.0	244930	27.7	20.0	92575	27.8	18.8
201359	27.4	19.9	55075	27.5	18.2	296345	27.6	20.2	25197	27.6	20.3	144363	27.7	19.5	224365	27.8	19.6
82803	27.4	20.4	417761	27.5	19.4	428011	27.6	20.2	283502	27.6	20.5	99794	27.7	19.7	496547	27.8	20.8
365087	27.4	19.5	30644	27.5	19.0	352704	27.6	20.3	499074	27.6	20.8	188272	27.7	16.5	417091	27.8	20.5
141510	27.4	18.8	431621	27.5	21.0	468417	27.6	21.9	356612	27.6	20.9	353785	27.7	20.2	456823	27.8	21.8
320845	27.4	21.1	229572	27.5	20.1	465072	27.6	21.2	264568	27.6	20.5	246340	27.7	20.5	113088	27.8	19.8
209405	27.4	19.3	74755	27.5	19.6	153041	27.6	20.5	145045	27.6	19.9	411426	27.7	20.3	147398	27.8	18.7
328620	27.4	20.9	297630	27.5	20.7	258342	27.6	19.8	93208	27.6	19.2	193956	27.7	20.0	330415	27.8	20.2
188064	27.4	20.4	432524	27.5	21.6	116991	27.6	20.0	396602	27.6	21.1	98507	27.7	18.8	468187	27.8	21.4
201691	27.4	20.0	149440	27.5	19.0	79511	27.6	19.3	462315	27.6	20.0	404793	27.7	21.0	333510	27.8	20.4
412147	27.4	20.9	459031	27.5	20.2	404217	27.6	19.8	523524	27.6	21.6	135324	27.7	20.2	86791	27.8	18.6
151525	27.4	20.8	179120	27.5	20.0	55711	27.6	19.0	85413	27.6	20.1	389237	27.7	20.6	467871	27.8	21.0
343507	27.4	20.4	20326	27.5	18.6	258386	27.6	19.0	500021	27.6	20.9	378736	27.7	21.0	414767	27.8	21.0
258358	27.4	18.4	497783	27.5	21.5	417523	27.6	21.9	452331	27.6	20.3	186896	27.7	20.1	159988	27.8	18.8
420171	27.4	19.9	234452	27.5	19.5	139882	27.6	19.9	412051	27.6	20.3	64487	27.7	18.8	404995	27.8	21.8
427973	27.4	20.6	93211	27.5	19.4	148548	27.6	19.5	203838	27.6	21.0	250121	27.7	21.5	70432	27.8	19.5
420887	27.4	21.0	169225	27.5	20.7	494828	27.6	22.0	413897	27.6	20.9	175609	27.7	21.1	109727	27.8	19.9
381266	27.4	20.6	56815	27.5	18.4	297844	27.6	19.0	412070	27.6	20.9	283023	27.7	19.7	288711	27.8	20.9
125676	27.4	19.5	167165	27.5	19.2	465374	27.6	20.6	498958	27.6	20.7	495391	27.7	21.4	376952	27.8	20.4
352693	27.4	20.7	432150	27.5	20.3	431451	27.6	21.6	63673	27.6	18.8	334930	27.7	19.0	259942	27.8	19.5
432201	27.5	20.7	323798	27.5	21.5	277727	27.6	20.2	251691	27.6	20.3	369105	27.7	20.4	148610	27.8	20.1
373926	27.5	21.5	88799	27.5	19.2	460760	27.6	21.2	101943	27.6	19.6	16386	27.7	19.6	495095	27.8	21.3
200834	27.5	19.9	370701	27.5	21.0												

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

Nº	02	V															
281629	27.8	20.6	292126	27.9	21.0	387184	27.9	20.9	203424	28.0	19.1	364418	28.1	21.4	373225	28.2	20.5
457121	27.8	20.9	294956	27.9	20.3	193819	27.9	19.7	437692	28.0	20.5	522612	28.1	21.2	204766	28.2	20.0
150781	27.8	19.4	337844	27.9	20.8	376278	27.9	20.7	384744	28.0	20.0	232270	28.1	21.0	70316	28.2	20.7
383693	27.8	20.9	493551	27.9	20.2	169229	27.9	19.1	23891	28.0	18.3	95141	28.1	19.4	347009	28.2	20.0
214183	27.8	19.2	150047	27.9	19.7	31277	27.9	18.3	291281	28.0	21.1	35945	28.1	19.9	433059	28.2	21.3
138768	27.8	19.3	174127	27.9	20.1	338454	27.9	19.9	311276	28.0	18.8	371221	28.1	20.0	464635	28.2	22.0
247668	27.8	20.4	429116	27.9	19.0	379194	27.9	21.6	283634	28.0	20.0	288590	28.1	20.3	16713	28.2	17.7
258702	27.8	19.5	42269	27.9	18.1	217336	27.9	20.8	165785	28.0	19.9	226845	28.1	20.9	238750	28.2	20.7
456597	27.8	19.5	491006	27.9	21.0	114542	27.9	18.5	16370	28.0	18.9	223629	28.1	20.6	35462	28.2	18.1
325145	27.8	20.8	109961	27.9	19.8	59635	27.9	18.8	246985	28.0	20.9	306810	28.1	20.1	92971	28.2	18.5
467203	27.8	20.4	107434	27.9	18.4	172979	27.9	20.6	500697	28.0	22.1	86375	28.1	18.9	293177	28.2	19.5
315442	27.8	20.4	80992	27.9	19.9	431544	27.9	21.4	157823	28.0	19.5	183362	28.1	19.1	206968	28.2	20.4
249445	27.8	20.5	522478	27.9	20.9	303859	27.9	20.7	457070	28.0	20.1	99564	28.1	18.9	229389	28.2	20.1
224385	27.8	20.6	371218	27.9	20.6	284329	27.9	20.0	125587	28.0	18.8	298767	28.1	20.9	54729	28.2	19.0
482439	27.8	19.8	468033	27.9	20.9	337004	27.9	20.8	375340	28.0	19.8	121725	28.1	22.6	123511	28.2	19.2
435934	27.8	20.5	432065	27.9	20.9	433673	27.9	20.8	429067	28.0	20.1	259085	28.1	21.1	163450	28.2	19.9
499192	27.8	22.0	192639	27.9	20.0	425314	27.9	20.0	396734	28.0	21.5	35652	28.1	17.1	431836	28.2	20.7
473841	27.8	20.9	417022	27.9	20.3	82757	27.9	19.0	437548	28.0	20.1	433244	28.1	20.7	245708	28.2	20.5
122152	27.8	19.3	274307	27.9	20.7	497862	27.9	21.8	342959	28.0	19.6	82638	28.1	19.4	256263	28.2	20.5
419917	27.8	19.6	156491	27.9	19.2	82669	27.9	19.0	465690	28.0	21.7	284853	28.1	19.9	28607	28.2	17.1
265712	27.8	20.4	385057	27.9	20.2	341477	27.9	19.7	36087	28.0	18.5	77081	28.1	18.5	247639	28.2	20.7
303344	27.8	20.2	158164	27.9	19.6	326676	27.9	20.4	361623	28.0	21.0	467371	28.1	21.5	106328	28.2	19.9
315924	27.8	20.1	38792	27.9	19.2	306346	27.9	21.2	31765	28.0	17.9	198524	28.1	20.3	432196	28.2	20.3
453804	27.8	20.5	469140	27.9	20.1	72347	27.9	18.5	492456	28.0	21.4	368978	28.1	19.8	415903	28.2	22.0
431525	27.8	21.2	370760	27.9	21.4	157227	27.9	20.2	33647	28.0	18.4	469112	28.1	20.4	495515	28.2	20.7
16056	27.8	16.6	839	27.9	14.8	500227	27.9	21.2	242383	28.0	19.8	185441	28.1	18.9	177577	28.2	19.9
426720	27.8	21.1	70486	27.9	19.5	304370	27.9	19.9	213418	28.0	19.3	199092	28.1	20.2	312981	28.2	21.0
18517	27.8	17.8	428400	27.9	20.7	190283	27.9	20.5	15595	28.0	18.3	78980	28.1	19.0	310181	28.2	21.3
112474	27.8	19.7	368613	27.9	21.0	192089	27.9	19.6	54610	28.0	17.8	211903	28.1	19.6	503555	28.2	21.5
287402	27.8	20.6	278585	27.9	20.7	161301	27.9	19.5	449118	28.0	21.2	246794	28.1	20.0	333774	28.2	20.5
212470	27.8	20.3	341580	27.9	21.5	55285	27.9	17.4	120350	28.0	19.3	97835	28.1	19.6	470409	28.2	21.8
425484	27.8	20.4	20449	27.9	18.8	366927	27.9	20.8	135262	28.0	19.7	456797	28.1	21.6	363231	28.2	20.7
120468	27.8	20.1	461062	27.9	20.5	522470	27.9	20.5	261541	28.0	21.0	226827	28.1	20.3	68485	28.2	19.1
255867	27.8	20.2	253111	27.9	20.7	7271	27.9	18.6	140265	28.0	20.6	412534	28.1	22.1	77109	28.2	19.1
282584	27.8	20.6	353628	27.9	19.7	60055	27.9	18.8	133302	28.0	20.0	348913	28.1	21.3	57447	28.2	18.2
466413	27.8	20.7	343945	27.9	20.7	372554	27.9	20.8	204782	28.0	20.5	41429	28.1	21.7	165846	28.2	19.9
258212	27.8	20.3	408422	27.9	20.7	495695	27.9	21.4	167054	28.0	20.3	68756	28.1	19.6	128773	28.2	20.4
103742	27.8	19.4	468055	27.9	21.5	162613	27.9	20.7	459626	28.1	20.7	463322	28.1	21.1	301814	28.2	20.6
189799	27.8	20.0	119819	27.9	19.3	496344	27.9	21.9	462870	28.1	20.5	53112	28.1	18.8	39315	28.2	17.7
202894	27.8	20.8	12885	27.9	17.2	119602	27.9	18.9	244685	28.1	20.5	428426	28.1	20.7	419007	28.2	21.3
337527	27.8	20.8	85614	27.9	18.1	209442	27.9	20.3	210459	28.1	19.7	298931	28.1	21.0	278688	28.2	20.7
39390	27.8	19.6	286709	27.9	19.5	206176	27.9	18.7	522573	28.1	20.5	296717	28.1	19.9	57925	28.2	19.3
210578	27.8	19.2	384168	27.9	20.9	7347	27.9	17.1	317604	28.1	20.2	165998	28.1	18.9	327953	28.2	21.3
171457	27.8	20.2	170110	27.9	20.4	421703	27.9	22.1	205808	28.1	18.4	162801	28.1	18.1	166773	28.2	19.1
206225	27.8	19.9	109707	27.9	19.2	341820	27.9	20.3	260081	28.1	20.5	269303	28.1	20.5	162710	28.2	18.9
246406	27.8	19.9	68622	27.9	18.1	488953	27.9	22.3	428181	28.1	20.8	287232	28.1	20.7	350100	28.2	21.6
437013	27.8	20.9	222628	27.9	20.1	436031	27.9	20.5	204906	28.1	19.8	283552	28.1	20.9	145517	28.2	19.9
383746	27.8	20.8	9125	27.9	17.5	255718	27.9	20.8	462954	28.1	20.8	8198	28.1	18.5	63879	28.2	19.8
258968	27.8	19.3	349930	27.9	21.6	368164	27.9	21.5	115933	28.1	20.3	151640	28.1	20.2	80192	28.2	18.4
498299	27.8	21.8	227846	27.9	20.3	105303	27.9	19.2	110592	28.1	19.5	250612	28.1	19.7	64433	28.2	17.9
272870	27.8	20.3	72418	27.9	18.5	151329	27.9	20.0	467634	28.1	21.8	239347	28.1	20.8	26980	28.2	19.3
499732	27.8	20.7	116975	27.9	19.8	317235	27.9	20.2	339535	28.1	20.6	456796	28.1	21.9	292849	28.2	20.7
470914	27.8	19.3	233687	27.9	20.0	381245	27.9	20.0	210463	28.1	19.9	432152	28.1	20.7	242468	28.2	19.5
345653	27.8	20.9	498410	27.9	21.5	191974	27.9	20.0	363805	28.1	21.5	387257	28.1	20.9	463302	28.2	21.4
148630	27.8	19.1	453372	27.9	20.4	116270	27.9	18.7	246152	28.1	20.8	502096	28.1	21.0	294028	28.2	21.0
7206	27.8	17.3	357988	27.9	19.3	249006	27.9	21.2	203297	28.1	20.0	363205	28.1	22.2	434301	28.2	19.8
173350	27.8	20.0	433581	27.9	20.2	166761	27.9	19.6	53161	28.1	18.0	303800	28.1	20.8	130552	28.2	17.7
318472	27.8	20.5	297154	27.9	20.3	95264	27.9	18.9	467241	28.1	20.1	1053	28.1	15.8	118303	28.2	16.9
423394	27.8	21.4	337665	27.9	21.2	238406	27.9	19.9	265775	28.1	20.3	324623	28.1	20.8	433830	28.2	20.5
180025	27.8	18.7	458176	27.9	21.4	465188	27.9	21.3	502365	28.1	20.4	56579	28.1	18.1	272393	28.2	21.2
22801	27.8	18.8	88150	27.9	19.7	3											

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

Nº	02	V															
328984	28.2	19.7	170278	28.3	20.2	21467	28.4	18.1	309223	28.4	20.9	341296	28.5	21.1	308526	28.6	21.7
89620	28.2	19.0	117122	28.3	19.9	216543	28.4	19.9	216934	28.4	19.1	264620	28.5	21.3	406934	28.6	20.4
23236	28.2	18.8	327263	28.3	20.9	98082	28.4	19.3	459095	28.4	21.1	185696	28.5	18.9	470347	28.6	21.3
382279	28.2	20.0	110790	28.3	19.2	480092	28.4	20.4	132441	28.4	19.0	243623	28.5	20.9	126645	28.6	20.1
433170	28.2	21.2	188086	28.3	19.9	103825	28.4	19.1	146446	28.4	20.1	283084	28.5	21.3	419306	28.6	20.8
322794	28.2	20.9	462278	28.3	21.3	54778	28.4	18.7	178919	28.5	20.5	245385	28.5	20.0	10029	28.6	18.9
375494	28.2	21.3	493810	28.3	21.8	396968	28.4	21.2	365208	28.5	20.1	69499	28.5	18.6	459676	28.6	20.8
337036	28.2	20.5	284692	28.3	20.7	247801	28.4	20.6	187067	28.5	19.7	11886	28.5	19.4	332801	28.6	20.7
292787	28.2	20.4	504936	28.3	21.0	259897	28.4	19.8	82247	28.5	19.0	28020	28.5	18.4	54043	28.6	18.8
297736	28.2	20.5	425663	28.3	21.2	170723	28.4	19.6	371997	28.5	20.7	501088	28.5	21.6	367180	28.6	21.0
7517	28.2	16.7	65480	28.3	18.9	345982	28.4	19.4	19619	28.5	18.5	409887	28.5	20.9	110335	28.6	17.9
402105	28.2	20.5	212716	28.3	20.7	133486	28.4	19.8	374509	28.5	20.7	502677	28.5	20.0	309273	28.6	19.7
109716	28.2	19.6	185694	28.3	19.4	334206	28.4	20.6	366179	28.5	20.0	84482	28.5	17.9	328324	28.6	20.2
221052	28.2	19.1	82549	28.3	21.2	119936	28.4	19.2	201429	28.5	19.0	247667	28.5	19.8	382410	28.6	21.8
133443	28.2	19.2	386175	28.3	21.2	363778	28.4	21.2	105395	28.5	20.0	461594	28.5	21.6	323741	28.6	19.3
20304	28.3	17.7	406488	28.3	21.1	417590	28.4	21.9	22682	28.5	17.6	243136	28.5	19.8	136347	28.6	19.5
402923	28.3	21.3	204615	28.3	19.9	130161	28.4	19.8	492674	28.5	22.0	88276	28.5	19.6	80123	28.6	19.9
35264	28.3	18.1	381630	28.3	19.9	460727	28.4	20.7	80117	28.5	19.8	327880	28.5	20.2	402093	28.6	21.2
507325	28.3	22.8	326746	28.3	20.4	15150	28.4	17.7	206124	28.5	19.4	354851	28.5	20.7	151005	28.6	19.7
380344	28.3	20.4	121490	28.3	19.4	498105	28.4	20.4	15582	28.5	18.8	465931	28.5	20.7	33916	28.6	18.5
161267	28.3	19.2	253281	28.3	19.4	90265	28.4	19.5	272899	28.5	19.9	186160	28.5	20.0	496100	28.6	22.4
53535	28.3	17.2	248827	28.3	20.9	50844	28.4	18.5	370813	28.5	21.0	94854	28.5	18.4	470934	28.6	19.9
31805	28.3	17.4	232752	28.3	20.8	107044	28.4	19.2	517191	28.5	21.3	52927	28.5	18.0	114334	28.6	17.3
258350	28.3	20.5	502718	28.3	21.1	489299	28.4	21.9	328922	28.5	19.5	341620	28.5	19.7	285874	28.6	20.1
96833	28.3	19.6	155697	28.3	20.7	95077	28.4	20.0	94401	28.5	17.8	424135	28.5	20.7	170299	28.6	20.5
24134	28.3	18.4	458940	28.3	21.1	149408	28.4	18.8	11832	28.5	18.3	32777	28.5	18.8	374653	28.6	20.6
366385	28.3	20.9	245547	28.3	20.1	128538	28.4	19.7	168493	28.5	19.4	193970	28.5	20.7	154564	28.6	19.9
419552	28.3	21.4	48848	28.3	18.9	263786	28.4	19.8	190407	28.5	20.3	199119	28.5	20.1	426673	28.6	20.7
328654	28.3	21.0	319502	28.3	20.6	148761	28.4	19.3	154677	28.5	19.0	36822	28.5	18.4	30828	28.6	17.7
417815	28.3	20.2	336965	28.3	20.3	804	28.4	12.4	340492	28.5	21.7	423748	28.5	19.4	146562	28.6	20.1
347690	28.3	21.7	99616	28.3	18.8	129400	28.4	21.2	418935	28.5	18.9	467520	28.5	20.5	396801	28.6	21.0
190096	28.3	20.4	377350	28.3	21.3	443885	28.4	20.6	157093	28.5	20.0	154012	28.5	18.7	8261	28.6	18.4
280204	28.3	20.4	450489	28.3	20.8	95039	28.4	19.1	17237	28.5	17.7	233736	28.5	20.7	496152	28.6	21.1
412553	28.3	21.2	414831	28.3	21.0	100508	28.4	19.1	91866	28.5	18.5	115100	28.5	19.3	108022	28.6	19.1
26669	28.3	17.9	11285	28.3	17.3	132416	28.4	20.0	108503	28.5	19.5	486869	28.5	20.4	341747	28.6	22.0
241053	28.3	21.1	467246	28.3	21.0	79680	28.4	18.9	497863	28.5	20.9	111097	28.5	20.2	413057	28.6	21.1
86955	28.3	19.0	359713	28.3	20.7	114810	28.4	20.2	44764	28.5	17.5	427125	28.5	20.4	417031	28.6	20.4
8809	28.3	18.1	512276	28.3	20.3	96529	28.4	19.0	431186	28.5	21.7	459539	28.5	21.0	152113	28.6	19.6
468990	28.3	20.4	298811	28.3	20.3	468957	28.4	20.2	140259	28.5	20.0	56702	28.5	19.2	61220	28.6	20.6
73553	28.3	19.9	248947	28.4	19.8	282155	28.4	21.8	254297	28.5	20.3	422586	28.5	20.4	326363	28.6	20.7
465668	28.3	21.3	467021	28.4	20.6	277485	28.4	21.4	411209	28.5	21.9	329823	28.5	20.8	379731	28.6	20.9
122504	28.3	20.2	347146	28.4	20.5	118585	28.4	19.0	235686	28.5	20.7	495594	28.5	20.7	159252	28.6	19.8
316265	28.3	20.4	341696	28.4	21.6	192082	28.4	19.6	6508	28.5	18.2	64007	28.5	18.3	69650	28.6	18.5
241482	28.3	20.4	264949	28.4	20.2	461014	28.4	20.5	28095	28.5	18.3	249173	28.5	19.8	112891	28.6	20.4
114373	28.3	19.0	460781	28.4	19.9	371016	28.4	21.3	306347	28.5	21.8	330936	28.5	21.0	53989	28.6	18.7
406389	28.3	20.6	405528	28.4	19.4	131429	28.4	17.3	198425	28.5	20.3	157128	28.5	21.0	234825	28.6	20.7
42807	28.3	19.5	343147	28.4	20.6	497637	28.4	22.0	289253	28.5	19.3	320274	28.5	20.3	66718	28.6	18.9
258399	28.3	18.2	107438	28.4	18.7	419031	28.4	21.4	356317	28.5	20.5	132970	28.5	19.6	412155	28.6	19.9
309081	28.3	20.7	11021	28.4	16.3	296097	28.4	20.1	415758	28.5	21.3	503153	28.5	20.8	2229	28.6	17.8
280172	28.3	20.3	490333	28.4	20.9	343496	28.4	19.8	426724	28.5	21.6	313379	28.5	20.1	300706	28.6	19.5
309772	28.3	21.6	225776	28.4	21.7	135258	28.4	20.2	334497	28.5	21.4	88692	28.5	19.4	385085	28.6	20.1
332400	28.3	20.8	205234	28.4	20.5	127413	28.4	19.6	227545	28.5	19.7	11962	28.5	18.1	374574	28.6	21.3
355854	28.3	20.9	371070	28.4	21.7	202945	28.4	19.2	360443	28.5	20.1	109511	28.6	19.9	190073	28.6	19.9
336453	28.3	21.6	342917	28.4	20.1	79524	28.4	19.4	61110	28.5	19.4	256282	28.6	20.6	226743	28.6	20.2
208476	28.3	19.7	56950	28.4	18.6	107761	28.4	18.9	415863	28.5	21.8	281790	28.6	19.9	415932	28.6	20.5
167592	28.3	19.0	119878	28.4	22.1	203858	28.4	19.9	219349	28.5	20.4	236107	28.6	20.0	491156	28.6	20.6
422634	28.3	21.2	67057	28.4	19.2	249047	28.4	19.9	501876	28.5	20.5	370991	28.6	21.9	250098	28.6	20.6
495421	28.3	22.4	43282	28.4	18.2	256551	28.4	19.7	297035	28.5	21.0	2214	28.6	17.5	297410	28.6	21.6
496110	28.3	22.4	413725	28.4	20.6	289551	28.4	19.5	337444	28.5	21.0	318266	28.6	21.4	329269	28.6	21.3
60845	28.3	18.3	355276	28.4	21.3	167565	28.4	19.3	114388	28.5	19.9	83390	28.6	19.3	496373	28.6	21.6
270852	28.3	20.9	500246	28.4	21.2	209921											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
208494	28.7	20.8	452568	28.7	20.6	130406	28.8	19.3	37816	28.9	17.9	217869	28.9	20.5	199295	29.0	20.7
384216	28.7	19.9	2347	28.7	16.3	406339	28.8	20.5	211963	28.9	18.6	262541	28.9	21.9	472947	29.0	21.1
121175	28.7	18.6	461633	28.7	21.0	205760	28.8	19.6	421248	28.9	21.3	239385	28.9	20.0	75062	29.0	19.0
221459	28.7	19.6	468432	28.7	21.8	155600	28.8	19.8	147632	28.9	19.3	290082	28.9	21.6	205900	29.0	20.3
185249	28.7	20.2	480774	28.7	21.0	338817	28.8	20.8	495967	28.9	22.1	343072	28.9	21.4	331200	29.0	20.4
406935	28.7	20.8	500446	28.7	20.8	419241	28.8	20.6	122570	28.9	19.8	84516	28.9	19.5	49748	29.0	19.1
300134	28.7	20.9	450458	28.7	20.4	431915	28.8	21.5	378894	28.9	20.6	480728	28.9	21.9	119737	29.0	19.6
322836	28.7	19.9	149797	28.7	19.3	212326	28.8	20.5	303311	28.9	19.9	376243	28.9	20.3	95016	29.0	20.2
237434	28.7	21.1	436925	28.7	20.7	213101	28.8	19.7	68641	28.9	18.5	505079	28.9	21.7	142149	29.0	20.5
519939	28.7	22.7	202827	28.7	20.3	52421	28.8	19.5	433174	28.9	20.7	209551	28.9	20.1	490400	29.0	21.7
241364	28.7	20.5	314166	28.7	20.8	400802	28.8	20.6	57842	28.9	18.9	112356	28.9	20.0	58641	29.0	19.1
334494	28.7	20.9	42437	28.7	19.3	323892	28.8	20.6	225516	28.9	20.7	317641	28.9	19.6	120671	29.0	19.5
374096	28.7	20.4	99954	28.7	19.8	142555	28.8	16.9	172560	28.9	20.3	430697	28.9	20.1	385935	29.0	20.4
376507	28.7	20.4	173713	28.7	21.3	500008	28.8	21.7	241085	28.9	21.2	367487	28.9	21.2	89008	29.0	20.1
447198	28.7	20.8	471171	28.8	20.6	207608	28.8	20.2	646143	28.9	19.0	452554	28.9	21.1	417834	29.0	20.3
140096	28.7	19.9	284773	28.8	18.8	375849	28.8	21.5	65505	28.9	19.5	309855	28.9	21.4	170337	29.0	18.6
497593	28.7	21.2	28383	28.8	17.5	132093	28.8	20.1	464943	28.9	21.5	466428	28.9	21.8	133706	29.0	20.4
85827	28.7	17.4	257029	28.8	20.0	193803	28.8	19.3	462299	28.9	20.6	248701	28.9	20.4	165424	29.0	19.8
500571	28.7	22.1	147558	28.8	19.1	352775	28.8	20.7	415326	28.9	20.9	384524	28.9	20.5	153879	29.0	20.1
21290	28.7	19.2	322488	28.8	20.1	297899	28.8	18.9	31756	28.9	17.0	83774	28.9	19.1	488476	29.0	21.7
293701	28.7	21.5	322369	28.8	19.9	142556	28.8	19.7	16781	28.9	17.3	30	28.9	10.9	171037	29.0	19.3
433252	28.7	21.0	519625	28.8	20.1	270460	28.8	20.0	262867	28.9	20.2	232922	28.9	20.2	246941	29.0	20.4
432481	28.7	20.7	145384	28.8	20.5	189458	28.8	20.5	176950	28.9	19.3	164591	28.9	19.9	455627	29.0	21.7
34111	28.7	18.0	189851	28.8	19.3	462053	28.8	20.2	202632	28.9	20.4	490428	28.9	20.8	307268	29.0	20.6
372588	28.7	21.9	8722	28.8	18.2	331947	28.8	20.8	336008	28.9	21.3	435008	28.9	21.2	341306	29.0	20.9
60843	28.7	19.2	211891	28.8	20.4	381908	28.8	20.8	360532	28.9	21.9	109429	28.9	20.1	155607	29.0	19.5
199559	28.7	20.3	169640	28.8	19.4	199942	28.8	20.1	56992	28.9	18.9	307461	28.9	20.6	303438	29.0	19.1
417287	28.7	19.8	174844	28.8	19.0	413476	28.8	20.4	63116	28.9	19.2	425044	28.9	21.6	118595	29.0	19.9
495130	28.7	21.3	169662	28.8	19.2	246362	28.8	19.8	465201	28.9	20.4	283110	28.9	19.8	237094	29.0	20.6
48786	28.7	19.4	292830	28.8	21.7	314678	28.8	21.0	22766	28.9	18.1	151186	28.9	19.7	26107	29.0	17.9
28499	28.7	18.5	209530	28.8	20.6	470687	28.8	20.9	85860	28.9	19.3	76640	28.9	19.1	281986	29.0	20.4
384143	28.7	21.0	245037	28.8	19.7	238013	28.8	19.8	489108	28.9	21.1	467577	28.9	21.6	377361	29.0	22.0
356713	28.7	20.2	52817	28.8	17.9	506067	28.8	20.6	402854	28.9	22.1	508033	28.9	21.0	166715	29.0	19.4
486653	28.7	19.9	168343	28.8	20.0	384563	28.8	20.8	365477	28.9	21.5	316345	28.9	20.4	85646	29.0	18.5
409960	28.7	21.1	272949	28.8	20.8	284320	28.8	19.8	297774	28.9	20.1	55828	28.9	20.1	425309	29.0	20.9
332392	28.7	20.6	251311	28.8	18.4	345576	28.8	20.7	386848	28.9	20.9	292869	28.9	21.3	417276	29.0	20.0
268020	28.7	20.8	303372	28.8	21.2	15273	28.8	17.1	92534	28.9	19.5	155743	28.9	20.4	161395	29.0	20.1
244156	28.7	20.6	157312	28.8	19.8	118967	28.8	18.3	164134	28.9	19.1	179089	28.9	20.8	176989	29.0	20.0
160829	28.7	20.1	453926	28.8	20.5	301586	28.8	20.3	448183	28.9	20.4	56475	28.9	18.6	15322	29.1	17.7
99719	28.7	18.7	382910	28.8	21.8	363187	28.8	21.5	244756	28.9	20.8	347152	28.9	20.1	298657	29.1	19.5
239880	28.7	20.8	94041	28.8	19.0	355294	28.8	21.5	412924	28.9	20.3	129327	28.9	17.3	336158	29.1	19.7
405829	28.7	19.2	217960	28.8	20.9	122107	28.9	20.9	10400	28.9	16.7	266448	28.9	20.8	400290	29.1	21.6
306392	28.7	20.3	436248	28.8	21.0	343181	28.9	20.9	496395	28.9	23.1	501083	28.9	21.2	400551	29.1	20.7
250224	28.7	20.0	160532	28.8	19.9	325753	28.9	20.3	229726	28.9	19.9	258890	28.9	20.2	144271	29.1	19.2
80165	28.7	18.7	410003	28.8	19.3	253139	28.9	21.2	272876	28.9	19.7	23028	28.9	18.5	135108	29.1	18.5
37400	28.7	18.3	222372	28.8	20.0	351663	28.9	20.5	125649	28.9	19.3	351564	28.9	20.3	98226	29.1	19.1
465683	28.7	21.4	128331	28.8	19.9	212516	28.9	20.3	234463	28.9	20.7	489719	28.9	21.1	194513	29.1	19.4
354088	28.7	20.8	86368	28.8	18.9	294116	28.9	20.9	87757	28.9	19.8	7843	28.9	16.6	423830	29.1	21.0
419824	28.7	20.2	197629	28.8	21.2	66688	28.9	19.2	199592	28.9	20.5	278657	28.9	20.4	184106	29.1	20.0
519528	28.7	21.0	492250	28.8	21.7	414888	28.9	21.1	258192	28.9	21.0	345079	28.9	20.6	60615	29.1	19.0
502512	28.7	20.9	490347	28.8	20.9	258086	28.9	21.5	465689	28.9	21.4	250116	28.9	20.4	206304	29.1	20.8
157925	28.7	20.2	468042	28.8	20.7	227314	28.9	18.6	346276	28.9	21.1	406501	28.9	22.0	138585	29.1	20.1
20263	28.7	17.6	340779	28.8	20.8	164363	28.9	19.2	55388	28.9	19.5	229737	28.9	20.3	21815	29.1	17.3
51882	28.7	18.3	31339	28.8	17.4	271751	28.9	19.8	415615	28.9	20.8	176012	28.9	20.3	271178	29.1	21.1
96105	28.7	19.8	247972	28.8	20.9	153929	28.9	19.1	200017	28.9	20.4	204857	28.9	20.3	259197	29.1	19.2
117000	28.7	19.9	420581	28.8	19.9	178417	28.9	19.9	166156	28.9	18.9	67003	29.0	18.8	224403	29.1	21.3
193942	28.7	19.3	74619	28.8	20.4	506657	28.9	21.5	250091	28.9	20.2	285877	29.0	21.3	324569	29.1	21.2
433147	28.7	20.4	369389	28.8	20.9	249699	28.9	20.4	283946	28.9	21.2	269376	29.0	20.2	499916	29.1	20.5
15614	28.7	17.9	436974	28.8	20.2	284474	28.9	19.9	132257	28.9	18.7	316712	28.9	20.8	136478	29.1	20.2
62622	28.7	19.3	492678	28.8	21.9	54813	28.9	20.0	519598	28.9	21.5	423249	28.9	21.1	325230	29.1	20.4
17386	28.7	18.4	207840	28.8	20.7</td												

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

Nº	02	V															
74531	29.1	18.3	112540	29.2	19.1	254364	29.2	21.4	245231	29.3	20.0	382557	29.4	19.7	344274	29.4	21.8
270743	29.1	20.9	205480	29.2	20.3	222257	29.2	21.3	147279	29.3	18.1	426407	29.4	20.7	429299	29.4	20.9
464818	29.1	21.6	426737	29.2	20.6	65592	29.2	18.6	361691	29.3	20.9	468525	29.4	21.4	221654	29.4	19.9
246372	29.1	20.2	277039	29.2	22.0	159543	29.2	20.2	122247	29.3	20.1	163687	29.4	20.1	360225	29.4	21.2
243000	29.1	20.0	717	29.2	16.5	502842	29.2	20.8	448112	29.3	21.2	35129	29.4	18.3	125569	29.4	19.6
26963	29.1	19.5	371124	29.2	20.7	58130	29.2	18.3	500375	29.3	21.0	495803	29.4	20.3	364784	29.4	19.7
456988	29.1	20.1	208721	29.2	19.7	88145	29.2	19.5	504241	29.3	22.3	351688	29.4	20.3	375462	29.4	20.8
292494	29.1	21.0	454605	29.2	19.9	106174	29.2	18.7	87753	29.3	19.4	404329	29.4	20.3	8225	29.4	19.4
459068	29.1	19.7	457767	29.2	20.0	496736	29.2	20.5	229121	29.3	20.6	26684	29.4	18.8	10890	29.4	18.2
33267	29.1	18.1	169377	29.2	19.0	422379	29.2	20.0	445881	29.3	21.3	218571	29.4	20.6	495513	29.4	20.1
323135	29.1	19.4	490541	29.2	21.2	434604	29.2	20.5	133125	29.3	19.7	334090	29.4	20.2	311271	29.4	20.2
19365	29.1	17.9	433250	29.2	21.1	182055	29.2	20.0	382316	29.3	20.9	157921	29.4	20.4	219819	29.4	18.6
200736	29.1	19.8	48644	29.2	18.3	408988	29.2	20.7	83794	29.3	19.3	66307	29.4	17.6	70480	29.4	20.0
163086	29.1	18.7	155602	29.2	18.9	503233	29.2	20.6	30189	29.3	17.9	114852	29.4	19.4	53585	29.4	18.2
243442	29.1	20.5	389291	29.2	20.7	111226	29.2	20.7	422712	29.3	20.3	351655	29.4	20.6	137100	29.4	18.3
55806	29.1	18.1	302356	29.2	19.6	281729	29.2	21.0	401044	29.3	20.1	472097	29.4	21.3	502275	29.4	20.4
107577	29.1	18.8	27538	29.2	18.5	57226	29.2	18.3	32976	29.3	18.5	458827	29.4	20.5	271125	29.4	20.1
177889	29.1	19.5	313785	29.2	18.9	369975	29.2	21.3	163636	29.3	19.7	426963	29.4	21.2	117374	29.4	19.0
421364	29.1	21.0	339509	29.2	20.4	84335	29.2	19.2	34614	29.3	18.2	495834	29.4	22.5	174241	29.4	18.2
171389	29.1	20.4	138795	29.2	19.9	196554	29.2	20.5	162806	29.3	19.3	205224	29.4	19.4	168482	29.4	20.7
337711	29.1	20.7	160802	29.2	19.7	396721	29.2	20.7	62691	29.3	19.3	366582	29.4	20.3	109315	29.4	20.0
332167	29.1	20.9	407289	29.2	21.1	307455	29.2	20.4	223640	29.3	20.7	426768	29.4	20.9	190080	29.4	21.2
274230	29.1	20.8	454289	29.2	20.9	457129	29.2	20.5	415840	29.3	21.7	419342	29.4	20.4	188279	29.4	19.6
49590	29.1	17.9	17583	29.2	18.0	412906	29.2	20.8	284696	29.3	20.4	135242	29.4	19.4	37879	29.4	18.1
205945	29.1	19.7	457741	29.2	20.7	455598	29.2	22.1	361143	29.3	20.9	456097	29.4	21.2	258372	29.4	20.6
30733	29.1	17.8	129280	29.2	20.4	162602	29.2	20.2	320610	29.3	20.1	224670	29.4	18.7	112535	29.4	19.0
146501	29.1	19.0	316760	29.2	19.7	96374	29.2	19.4	496354	29.3	21.5	366881	29.4	22.1	450973	29.4	21.6
79476	29.1	19.0	9196	29.2	16.3	325235	29.3	21.2	212547	29.3	20.8	144674	29.4	18.9	182053	29.4	18.7
326390	29.1	21.4	497866	29.2	21.9	30138	29.3	19.6	92450	29.3	20.3	30185	29.4	16.1	9535	29.4	16.8
78164	29.1	19.0	137065	29.2	20.3	506700	29.3	21.4	345748	29.3	20.1	271145	29.4	20.2	95496	29.4	19.1
210956	29.1	20.1	301588	29.2	20.5	463553	29.3	20.8	339570	29.3	21.0	270563	29.4	20.6	338203	29.4	21.8
402228	29.1	19.7	346122	29.2	21.6	23037	29.3	18.6	63454	29.3	18.2	205249	29.4	20.9	519156	29.4	21.1
292143	29.1	21.6	244755	29.2	20.7	485841	29.3	19.5	466565	29.3	21.5	202556	29.4	19.4	212836	29.4	19.2
332096	29.1	20.1	115332	29.2	20.1	290606	29.3	20.3	456853	29.3	21.9	136572	29.4	19.0	427487	29.4	20.9
340665	29.1	20.1	465395	29.2	21.7	463531	29.3	20.7	282940	29.3	20.7	165159	29.4	21.4	10477	29.4	18.5
315616	29.1	20.5	211237	29.2	20.3	466187	29.3	21.2	19487	29.3	16.6	214955	29.4	20.4	81825	29.5	18.2
247817	29.1	19.9	237202	29.2	20.0	146707	29.3	19.0	402738	29.3	20.1	367276	29.4	19.9	16683	29.5	17.4
329592	29.1	19.3	420836	29.2	20.9	140573	29.3	20.0	125097	29.3	19.9	162643	29.4	19.7	422213	29.5	21.2
280197	29.1	21.4	193796	29.2	20.8	470372	29.3	21.2	73244	29.3	19.7	142545	29.4	19.3	488545	29.5	21.0
387275	29.1	20.4	176531	29.2	20.8	128943	29.3	19.7	19088	29.3	18.9	58064	29.4	18.9	357769	29.5	20.7
496101	29.1	21.8	348934	29.2	21.1	225538	29.3	20.1	207938	29.3	21.4	191312	29.4	19.3	473755	29.5	19.6
472996	29.1	20.7	377752	29.2	20.1	198700	29.3	20.0	110061	29.3	17.6	199593	29.4	20.1	160299	29.5	19.2
250184	29.1	20.0	334668	29.2	20.0	109288	29.3	18.8	168961	29.3	19.3	458766	29.4	21.1	346076	29.5	20.9
499441	29.1	20.7	154306	29.2	20.7	109749	29.3	19.0	349858	29.3	21.6	518157	29.4	21.0	44477	29.5	18.2
41221	29.1	19.3	455740	29.2	20.8	28745	29.3	18.6	328288	29.3	20.8	464701	29.4	21.8	372391	29.5	21.6
222788	29.1	20.6	317019	29.2	20.4	347431	29.3	20.5	461962	29.3	19.8	93299	29.4	19.5	98429	29.5	18.8
19775	29.1	19.1	380237	29.2	22.5	491244	29.3	21.6	371150	29.3	21.2	208505	29.4	20.4	374154	29.5	21.0
114524	29.1	18.7	318506	29.2	19.6	432041	29.3	21.0	468723	29.3	20.0	458309	29.4	20.0	470433	29.5	21.1
255664	29.1	20.3	435552	29.2	21.1	369108	29.3	20.3	470366	29.3	20.8	341297	29.4	20.8	467227	29.5	20.6
50828	29.1	17.7	51799	29.2	19.1	465289	29.3	22.0	326395	29.3	20.2	19593	29.4	20.0	435015	29.5	20.7
419027	29.1	20.1	201413	29.2	19.5	522558	29.3	21.6	63900	29.3	18.7	423770	29.4	20.7	47050	29.5	16.6
306705	29.1	20.4	119241	29.2	19.9	171425	29.3	20.5	199817	29.3	19.4	451661	29.4	20.2	108138	29.5	18.6
299981	29.1	21.0	387178	29.2	21.4	70084	29.3	19.1	256218	29.3	20.2	208442	29.4	20.0	241806	29.5	20.3
380339	29.1	20.8	502843	29.2	20.6	329842	29.3	20.5	302027	29.3	20.8	155407	29.4	20.2	21240	29.5	18.2
506314	29.1	20.9	131613	29.2	18.5	9007	29.3	17.7	433595	29.3	21.3	374535	29.4	20.6	458898	29.5	21.9
433524	29.1	21.2	408200	29.2	19.3	62040	29.3	18.1	387349	29.3	20.6	86311	29.4	19.7	399649	29.5	21.0
274945	29.1	21.4	265579	29.2	20.1	119575	29.3	18.6	337835	29.3	20.6	310185	29.4	20.9	417187	29.5	20.3
522736	29.1	20.7	104212	29.2	19.2	336040	29.3	20.9	193908	29.3	19.5	378836	29.4	21.1	205789	29.5	20.2
268498	29.1	20.7	348915	29.2	20.7	241728	29.3	21.1	30006	29.3	17.6	32333	29.4	18.8	285951	29.5	20.5
334820	29.1	21.8	468467	29.2	21.6	409002	29.3	21.2	37025	29.3	17.5	149575	29.4	19.4	459014	29.5	21.1
328607	29.1	19.9	354866	29.2	20.3	3											

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

Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V	Nº	02	V
365052	29.5	21.5	284657	29.6	21.2	263917	29.6	20.5	87222	29.7	19.2	9056	29.7	17.1	57658	29.8	18.7
274381	29.5	21.3	178132	29.6	20.5	346075	29.6	20.6	269571	29.7	20.3	433206	29.7	21.1	437203	29.8	21.6
130668	29.5	19.8	497962	29.6	20.6	227627	29.6	19.9	158109	29.7	19.4	69645	29.7	18.4	205940	29.8	18.8
62406	29.5	17.4	3351	29.6	18.3	138637	29.6	19.2	292572	29.7	21.5	392986	29.7	20.4	412191	29.8	20.1
330708	29.5	20.9	233510	29.6	19.7	424167	29.6	21.3	377348	29.7	21.7	16509	29.7	17.7	172676	29.8	19.7
135643	29.5	20.9	146459	29.6	18.6	467974	29.6	21.3	34806	29.7	18.9	37369	29.7	18.5	282205	29.8	20.1
89776	29.5	16.4	185880	29.6	19.6	13930	29.6	17.8	350123	29.7	21.8	144769	29.7	20.2	150946	29.8	20.0
260738	29.5	20.6	423319	29.6	20.7	205236	29.6	20.2	95929	29.7	18.8	259092	29.7	19.9	182064	29.8	18.9
62745	29.5	19.5	316658	29.6	20.2	199490	29.6	20.7	75016	29.7	19.4	20132	29.7	18.9	43345	29.8	19.0
206139	29.5	20.1	499026	29.6	21.0	85908	29.6	18.2	431970	29.7	21.5	174527	29.8	19.6	84144	29.8	19.1
225532	29.5	20.0	138152	29.6	19.1	166192	29.6	20.2	82035	29.7	19.9	431328	29.8	20.8	108504	29.8	19.4
518587	29.5	20.7	498777	29.6	21.8	274607	29.6	20.3	325287	29.7	20.7	294877	29.8	19.2	27171	29.8	17.8
116475	29.5	19.5	272456	29.6	21.3	377426	29.6	21.8	94468	29.7	17.7	357967	29.8	19.9	199238	29.8	20.2
384511	29.5	21.9	466465	29.6	21.2	424693	29.6	21.7	104025	29.7	19.3	502357	29.8	21.0	205579	29.8	20.8
110259	29.5	21.3	322119	29.6	20.5	238774	29.6	21.1	186123	29.7	20.2	74482	29.8	18.3	437096	29.8	20.5
291746	29.5	19.5	244119	29.6	20.2	191287	29.6	19.1	503610	29.7	20.9	14697	29.8	18.8	387211	29.8	20.9
456780	29.5	21.6	317757	29.6	21.5	156296	29.6	19.8	306573	29.7	19.8	519341	29.8	21.5	231998	29.8	20.4
326982	29.5	20.3	429059	29.6	21.2	203886	29.6	18.4	63963	29.7	18.6	192948	29.8	19.9	426484	29.8	20.9
899	29.5	15.2	163459	29.6	19.3	211641	29.6	20.3	39348	29.7	19.1	85418	29.8	19.2	240325	29.8	19.4
358007	29.5	20.8	472021	29.6	21.1	64526	29.6	18.8	292167	29.7	20.8	466610	29.8	20.1	179893	29.8	19.3
383347	29.5	21.3	190021	29.6	20.2	406561	29.6	19.8	261247	29.7	20.3	465757	29.8	21.2	114178	29.8	20.0
454348	29.5	21.3	430726	29.6	20.2	186010	29.6	20.6	17621	29.7	19.6	8682	29.8	17.9	506297	29.8	22.8
434921	29.5	21.3	181048	29.6	20.5	114983	29.6	20.7	92598	29.7	19.0	249587	29.8	20.5	119836	29.8	18.4
151084	29.5	19.0	348156	29.6	20.3	500460	29.6	20.2	85362	29.7	19.7	33410	29.8	18.1	271015	29.8	20.1
131605	29.5	18.9	522758	29.6	20.6	134489	29.6	18.4	305627	29.7	20.3	17391	29.8	18.5	71044	29.8	18.4
44918	29.5	17.1	404908	29.6	21.0	471684	29.6	21.3	453924	29.7	20.3	234133	29.8	21.2	462880	29.8	21.0
435340	29.5	20.4	223659	29.6	20.6	453280	29.6	21.5	120258	29.7	19.9	278729	29.8	20.6	272461	29.8	20.3
116708	29.5	20.0	315333	29.6	20.3	464920	29.6	20.6	252973	29.7	20.5	63841	29.8	18.9	522828	29.8	21.6
55689	29.5	19.0	334939	29.6	18.6	465129	29.6	20.8	260156	29.7	20.2	143437	29.8	19.5	320733	29.8	19.5
179284	29.5	21.0	28183	29.6	18.5	432207	29.6	21.0	520988	29.7	21.1	362679	29.8	20.9	114396	29.8	19.6
426973	29.5	20.9	366847	29.6	21.9	92536	29.6	19.1	389121	29.7	20.4	122597	29.8	20.3	365190	29.9	20.4
310911	29.5	20.4	295310	29.6	20.3	182658	29.6	19.1	22838	29.7	18.6	403952	29.8	21.6	40733	29.9	18.2
498623	29.5	21.2	18860	29.6	17.1	3399	29.6	17.8	8701	29.7	17.7	72527	29.8	18.8	409203	29.9	22.4
78643	29.5	18.2	26655	29.6	17.6	236385	29.6	20.2	3432	29.7	16.5	489470	29.8	21.2	264687	29.9	19.2
462095	29.5	20.4	383724	29.6	19.8	437021	29.6	20.8	457577	29.7	20.2	276922	29.8	20.5	494731	29.9	22.1
110013	29.5	20.3	143293	29.6	20.1	57298	29.6	18.6	416881	29.7	21.7	313078	29.8	19.2	308166	29.9	19.6
466412	29.5	21.4	469393	29.6	22.4	8489	29.6	17.7	384539	29.7	20.3	499463	29.8	20.6	161790	29.9	20.7
20202	29.5	18.4	292564	29.6	21.3	455798	29.6	21.5	189383	29.7	20.6	452345	29.8	22.2	235443	29.9	19.6
401012	29.5	22.2	323743	29.6	20.6	184121	29.6	19.5	445957	29.7	20.4	500500	29.8	21.4	505541	29.9	20.2
313591	29.5	21.3	171488	29.6	19.9	107400	29.6	19.1	87675	29.7	19.2	285365	29.8	20.1	91251	29.9	17.8
79927	29.5	18.6	187041	29.6	20.5	393545	29.7	21.6	231849	29.7	20.5	230448	29.8	18.5	385896	29.9	21.1
161993	29.5	19.0	403777	29.6	21.0	210004	29.7	19.5	42885	29.7	18.5	52487	29.8	19.0	500260	29.9	19.9
65207	29.5	19.9	290058	29.6	21.7	216109	29.7	20.5	520968	29.7	21.3	125201	29.8	19.0	225194	29.9	20.4
71339	29.5	17.8	191332	29.6	20.0	465646	29.7	21.6	26567	29.7	18.6	305545	29.8	20.7	373937	29.9	20.2
219742	29.5	21.2	309421	29.6	20.0	400270	29.7	21.6	70919	29.7	19.7	141125	29.8	20.6	363322	29.9	21.2
265354	29.5	21.1	346825	29.6	21.2	386596	29.7	20.3	244750	29.7	20.9	501577	29.8	21.3	367764	29.9	19.9
4400	29.5	17.3	23731	29.6	19.0	359801	29.7	21.0	423743	29.7	21.4	419203	29.8	21.0	466344	29.9	21.1
56025	29.5	19.0	55066	29.6	17.6	26089	29.7	18.9	359018	29.7	21.6	330467	29.8	21.2	42342	29.9	19.0
292541	29.5	21.4	95421	29.6	19.9	398338	29.7	21.0	214896	29.7	19.8	186218	29.8	20.5	429868	29.9	20.6
236048	29.5	20.6	160145	29.6	20.5	26334	29.7	18.6	224434	29.7	19.0	124522	29.8	19.6	492435	29.9	21.0
58293	29.5	19.2	427006	29.6	20.7	167465	29.7	20.0	490045	29.7	21.8	383400	29.8	19.9	460642	29.9	22.1
64992	29.5	19.5	237687	29.6	20.3	242167	29.7	19.9	60951	29.7	18.8	5266	29.8	16.9	35147	29.9	17.6
78028	29.5	19.6	474478	29.6	20.8	52120	29.7	18.2	501415	29.7	20.4	382284	29.8	20.5	201342	29.9	19.2
81644	29.5	19.6	317772	29.6	21.0	400306	29.7	20.5	132863	29.7	20.0	386840	29.8	20.5	415193	29.9	19.5
193986	29.5	18.2	461567	29.6	20.5	229145	29.7	20.0	238100	29.7	19.9	437348	29.8	19.9	163768	29.9	20.6
225995	29.5	20.4	492430	29.6	22.1	378314	29.7	20.1	505569	29.7	21.3	83224	29.8	19.3	348584	29.9	18.4
215195	29.6	20.1	117939	29.6	19.2	44773	29.7	19.0	217043	29.7	20.4	203839	29.8	19.0	98588	29.9	18.6
9235	29.6	19.2	294249	29.6	19.8	106182	29.7	20.3	389238	29.7	21.2	164146	29.8	19.4	458937	29.9	22.0
450531	29.6	21.2	424995	29.6	20.4	327424	29.7	21.6	341276	29.7	21.0	382739	29.8	19.0	319595	29.9	21.5
493508	29.6	21.3	336006	29.6	19.6	375295	29.7	21.1	427731	29.7	21.5	417422	29.8	21.9	202123	29.9	20.6
299279	29.6	20.9	385158	29.6	20.1	340713	29.7</td										

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

Nº	02	V															
84334	29.9	18.5	112336	29.9	19.8	523800	29.9	21.1	293082	29.9	21.9	353406	29.9	19.8	59945	29.9	18.6
377327	29.9	21.5	269599	29.9	19.9	206715	29.9	19.4	177574	29.9	18.7	135633	29.9	20.7	384223	29.9	20.0
465403	29.9	21.1	176918	29.9	19.5	112687	29.9	19.4	205254	29.9	19.5	276276	29.9	21.0	290369	29.9	21.3
380520	29.9	19.9	48860	29.9	18.2	206477	29.9	20.5	348536	29.9	19.7	110097	29.9	19.2	317620	29.9	18.9
337528	29.9	22.0	489388	29.9	21.6	365205	29.9	20.4	114270	29.9	19.1	466787	29.9	20.8	340706	29.9	20.1
102696	29.9	19.9	19771	29.9	16.7	37220	29.9	18.4	140806	29.9	19.7	104037	29.9	20.4	468875	29.9	20.8
376415	29.9	21.1	265864	29.9	19.6	41079	29.9	18.5	22100	29.9	18.2	113275	29.9	19.5	299301	29.9	19.5
264678	29.9	20.0	190137	29.9	20.0	208339	29.9	20.2	80158	29.9	19.7	96111	29.9	19.6	423741	29.9	21.3
301042	29.9	21.7	34829	29.9	18.6	433467	29.9	21.5	419133	29.9	21.4	18911	29.9	17.9	67734	29.9	18.0
502309	29.9	21.1	452322	29.9	20.6	432137	29.9	19.9	311256	29.9	19.6	215056	29.9	20.1	287707	29.9	20.9
342938	29.9	20.7	198893	29.9	21.5	6165	29.9	17.5	232691	29.9	21.1	179833	29.9	19.0	236839	29.9	20.3
253091	29.9	21.8	285326	29.9	20.1	3903	29.9	16.5	105024	29.9	20.0	170270	29.9	20.8	503747	29.9	21.0
508383	29.9	22.0	278754	29.9	22.1	296058	29.9	19.9	182461	29.9	19.6	233922	29.9	21.1	298769	29.9	21.2
8308	29.9	18.4	77948	29.9	19.6	474074	29.9	19.7	273976	29.9	21.7	154924	29.9	20.2	492649	29.9	20.8
403844	29.9	21.2	15941	29.9	17.8	282810	29.9	20.0	175075	29.9	20.1	269761	29.9	20.5			
496473	29.9	20.6	225596	29.9	20.8	152458	29.9	18.1	88953	29.9	19.3	304404	29.9	21.4			
409906	29.9	23.1	22081	29.9	18.6	206826	29.9	19.2	409899	29.9	21.4	3453	29.9	15.4			
432277	29.9	21.2	51398	29.9	18.0	473941	29.9	21.3	201156	29.9	18.2	135642	29.9	19.5			
162954	29.9	19.5	299932	29.9	20.2	258362	29.9	20.7	269485	29.9	19.6	73521	29.9	19.8			
205265	29.9	20.1	417232	29.9	20.4	232821	29.9	20.4	120224	29.9	19.0	258285	29.9	19.9			
35941	29.9	19.0	241295	29.9	19.8	90057	29.9	19.3	461566	29.9	20.9	166984	29.9	20.5			
265598	29.9	20.1	116827	29.9	18.7	139422	29.9	19.7	279192	29.9	19.8	435873	29.9	20.8			
5682	29.9	18.0	52400	29.9	18.7	108877	29.9	20.5	170314	29.9	20.8	229981	29.9	20.1			
133968	29.9	19.5	118343	29.9	18.1	519980	29.9	21.8	367570	29.9	20.9	322392	29.9	20.0			
497675	29.9	21.5	489720	29.9	21.9	186864	29.9	19.7	56206	29.9	18.7	134691	29.9	19.8			