

[Processing \(Info\)](#)

MPEC 2019-U01 : DAILY ORBIT UPDATE (2019 October 16)

The following [Minor Planet Electronic Circular](#) may be linked-to from your own Web pages, but must not otherwise be redistributed electronically.

A form allowing access to any *MPEC* is at [the bottom of this page](#).

◀ [Read MPEC 2019-T226](#) ▶ [Read MPEC 2019-U02](#)

M.P.E.C. 2019-U01

Issued 2019 October 16, 12:04 UT

The Minor Planet Electronic Circulars contain information on unusual minor planets and routine data on comets. They are published on behalf of Division F of the International Astronomical Union by the Minor Planet Center, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.

Prepared using the Tamkin Foundation Computer Network

MPC@CFA.HARVARD.EDU

URL <https://www.minorplanetcenter.net/> ISSN 1523-6714

DAILY ORBIT UPDATE (2019 October 16)

Update to 2019-T223

Full-precision elements for the objects listed here are available at <https://www.minorplanetcenter.net/iau/MPCORB.html>

New identifications:

K08S40V	K12TC4V	K15TX7Z	Weryk
K17A13B	K11Y07P	K18S02J	Sicoli

New multiple-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Opp	C
J98M04Q	17.9	0.15	K194R	328.300	58.521	284.669	4.272	0.29328	2.59515	4	X
J99F67T	16.6	0.15	K194R	9.159	300.417	351.275	20.024	0.22259	2.80397	8	X
J99X16M	17.3	0.15	K194R	247.168	197.548	247.969	23.067	0.13488	2.25329	5	X
K00EI9J	17.4	0.15	K194R	44.142	342.950	236.336	1.576	0.16260	2.37428	12	X
K00R56U	16.9	0.15	K194R	8.324	1.677	310.967	21.462	0.21708	2.79252	3	X
K00SK2V	17.7	0.15	K194R	317.353	98.739	271.021	0.364	0.21159	2.43782	8	X
K00V04N	17.4	0.15	K194R	317.114	326.495	34.926	8.432	0.23563	2.44750	6	X
K01Q34C	20.1	0.15	K194R	128.357	215.379	271.640	6.236	0.18747	1.12833	4	X
K01R47N	18.0	0.15	K194R	293.247	6.722	4.707	20.468	0.15618	1.87655	7	X
K01SN0Y	18.1	0.15	K194R	328.473	323.135	17.801	12.140	0.24906	2.35661	4	X
K01TH3J	17.2	0.15	K194R	325.685	153.660	201.221	7.171	0.32682	2.75121	5	X
K02GJ1J	16.8	0.15	K194R	21.359	118.047	133.085	14.157	0.13811	2.55516	8	X
K02M05X	16.1	0.15	K194R	324.517	94.950	258.412	13.758	0.18751	2.60986	7	X
K02N07U	17.8	0.15	K194R	315.693	41.445	309.482	7.835	0.37383	2.26551	4	X
K02N82O	17.3	0.15	K194R	318.559	78.530	309.635	11.823	0.28707	2.58731	6	X
K02P08O	17.1	0.15	K194R	324.377	212.713	169.046	5.497	0.26033	2.58015	7	X
K02P79Y	17.0	0.15	K194R	340.908	100.303	211.671	12.372	0.28551	2.62810	7	X
K02PJ7Z	17.1	0.15	K194R	308.657	142.823	237.079	7.870	0.12667	2.60174	7	X
K02RJ1A	16.8	0.15	K194R	318.512	351.880	12.361	15.118	0.26165	2.62951	9	X
K02RK2J	15.8	0.15	K194R	18.534	88.276	188.319	25.305	0.27121	3.19524	8	X
K02RL8R	16.7	0.15	K194R	326.765	275.428	79.681	4.684	0.18764	2.61920	10	X
K02RT5L	17.3	0.15	K194R	348.716	118.795	200.432	14.583	0.25766	2.62000	6	X
K02T08N	16.7	0.15	K194R	281.275	224.257	187.738	16.986	0.20889	2.64535	8	X
K02TU7X	17.0	0.15	K194R	356.933	231.546	88.953	5.677	0.11933	2.63902	10	X
K02U13L	18.1	0.15	K194R	330.708	246.440	129.820	6.314	0.38463	2.61818	4	X
K02U25P	16.6	0.15	K194R	310.082	17.019	17.314	14.063	0.28329	3.18916	3	X
K02U79X	17.4	0.15	K194R	310.793	326.420	37.638	4.243	0.14268	2.28003	11	X
K02V99B	16.7	0.15	K194R	313.123	123.071	272.456	27.456	0.30312	2.62874	3	X
K02W31S	16.4	0.15	K194R	264.268	359.504	78.012	15.295	0.17428	2.67552	7	X
K03SH8C	15.7	0.15	K194R	273.430	108.831	324.584	8.552	0.14942	3.06636	9	X

K03SQ2K	16.6	0.15	K194R	350.706	181.108	142.621	6.967	0.30696	3.06400	6	X
K03U45B	16.1	0.15	K194R	323.909	178.117	192.998	18.563	0.13965	3.07121	8	X
K03UQ2Y	18.8	0.15	K194R	351.256	81.183	225.856	5.260	0.20806	2.17906	6	X
K03US2X	16.2	0.15	K194R	304.136	326.030	73.949	19.402	0.22136	3.09651	5	X
K03X27Q	16.1	0.15	K194R	327.071	269.947	96.053	6.741	0.19750	3.12143	9	X
K04BD4Q	16.4	0.15	K194R	254.312	117.158	320.952	21.768	0.10138	2.62500	6	X
K04F29F	18.1	0.15	K194R	265.440	40.126	68.597	8.200	0.61740	1.91707	5	X
K04J28S	16.1	0.15	K194R	21.110	236.427	53.504	16.464	0.15694	2.79375	9	X
K04P75X	17.2	0.15	K194R	332.316	186.763	160.572	9.101	0.36404	2.91580	4	X
K05A39S	15.3	0.15	K194R	1.890	206.662	129.490	25.010	0.18479	3.13078	12	X
K05G85A	18.1	0.15	K194R	270.122	16.062	16.574	21.437	0.07893	1.91939	4	X
K05Q40J	16.2	0.15	K194R	14.601	354.457	293.231	8.570	0.18865	2.78095	11	X
K05Q47X	17.6	0.15	K194R	322.664	212.728	140.442	7.702	0.19965	2.30149	7	X
K05Q94G	18.4	0.15	K194R	311.330	191.235	179.302	1.398	0.25137	2.29529	6	X
K05QA6H	17.6	0.15	K194R	312.702	321.808	41.216	5.073	0.16798	2.30091	6	X
K05QA6W	17.6	0.15	K194R	319.720	253.573	103.269	4.054	0.22332	2.30048	10	X
K05QB9L	17.7	0.15	K194R	350.982	346.848	350.754	3.942	0.20690	2.76448	4	X
K05S20K	16.8	0.15	K194R	316.842	166.617	221.460	12.038	0.30007	2.79212	4	X
K05S64Y	18.1	0.15	K194R	330.546	354.182	334.685	4.650	0.26655	2.31260	4	X
K05S79D	17.8	0.15	K194R	323.592	343.840	15.079	7.766	0.12806	2.30458	7	X
K05SD0M	16.3	0.15	K194R	311.993	347.467	40.023	13.712	0.27760	2.80565	6	X
K05SN1G	18.0	0.15	K194R	296.326	203.633	193.204	8.892	0.24930	2.31003	4	X
K05UH5P	17.9	0.15	K194R	331.394	59.712	281.481	2.365	0.23499	2.32950	7	X
K05V30R	18.1	0.15	K194R	309.526	285.539	88.245	3.910	0.22314	2.33248	3	X
K05WG8C	18.3	0.15	K194R	326.811	93.283	251.116	7.971	0.26795	2.34198	4	X
K05YL8S	16.0	0.15	K194R	67.346	294.376	315.452	7.326	0.07712	3.00902	7	X
K06K00E	19.4	0.15	K194R	333.724	70.424	232.495	19.445	0.49358	2.18824	3	X
K06Q06G	18.0	0.15	K194R	326.909	356.480	341.588	20.990	0.16472	1.88419	5	X
K06Q18H	17.4	0.15	K194R	344.839	255.584	72.151	5.367	0.25304	2.64198	6	X
K06Q28J	17.5	0.15	K194R	330.003	317.393	31.808	12.921	0.30473	2.64487	3	X
K06Q90G	18.2	0.15	K194R	331.790	62.037	265.500	3.386	0.26882	2.18771	4	X
K06Q98M	18.3	0.15	K194R	326.876	60.240	280.610	3.606	0.21768	2.18773	5	X
K06QD1Z	18.3	0.15	K194R	314.941	165.370	191.440	4.840	0.20680	2.18845	8	X
K06QG9S	17.7	0.15	K194R	339.025	182.533	175.385	5.214	0.27336	2.62522	5	X
K06S19T	16.8	0.15	K194R	306.244	344.318	65.901	5.911	0.13078	2.62102	9	X
K06S95X	17.0	0.15	K194R	310.014	182.273	196.046	16.051	0.19082	2.68746	6	X
K06SU7K	17.5	0.15	K194R	359.528	323.940	0.306	12.025	0.19856	2.65691	3	X
K06T31O	17.6	0.15	K194R	311.799	177.007	207.209	14.055	0.25836	2.67962	3	X
K06T78E	17.2	0.15	K194R	343.672	118.683	231.652	10.554	0.32145	2.64694	5	X
K06TD3T	18.0	0.15	K194R	304.043	352.276	22.932	10.251	0.23374	2.21557	7	X
K06UK4A	17.5	0.15	K194R	322.742	149.664	226.256	6.424	0.32482	2.66785	6	X
K06VB0G	17.7	0.15	K194R	331.959	350.993	359.184	5.249	0.27174	2.70465	4	X
K06VE9A	18.1	0.15	K194R	315.151	281.751	68.432	23.528	0.10576	1.90790	6	X
K06W01M	18.7	0.15	K194R	303.454	294.019	74.752	26.872	0.28207	1.89279	4	X
K06WE0L	17.8	0.15	K194R	264.182	159.328	262.526	19.082	0.10519	1.91011	4	X
K07C12L	18.6	0.15	K194R	293.801	58.750	320.839	19.775	0.07467	1.94297	4	X
K07O06S	17.2	0.15	K194R	328.792	331.313	34.807	18.537	0.56678	3.32329	4	X
K07R05S	15.9	0.15	K194R	66.462	129.391	239.766	9.092	0.11089	2.98739	4	X
K07TM0U	18.2	0.15	K194R	339.650	130.626	201.687	12.459	0.21565	2.55908	4	X
K07TU3Z	19.1	0.15	K194R	333.027	186.611	115.531	4.525	0.26568	2.11365	4	X
K07Y03W	15.3	0.15	K194R	304.192	174.454	237.179	31.549	0.23610	3.28180	6	X
K08O04A	17.0	0.15	K194R	7.654	352.101	274.095	4.790	0.10926	2.39841	9	X
K08O10D	15.4	0.15	K194R	348.304	4.017	321.099	16.309	0.25010	3.10937	8	X
K08RB9C	16.5	0.15	K194R	337.702	44.205	321.262	11.872	0.34991	3.11624	4	X
K08RC7D	16.3	0.15	K194R	319.117	39.594	340.928	16.252	0.22297	3.12977	3	X
K08S95K	18.1	0.15	K194R	297.650	184.986	210.771	7.905	0.17941	2.39078	6	X
K08V14P	16.6	0.15	K194R	311.535	77.336	357.746	22.933	0.43145	3.13742	4	X
K08V47A	18.0	0.15	K194R	316.660	312.532	75.393	2.393	0.18299	2.39265	6	X
K08W01O	17.9	0.15	K194R	212.419	244.345	239.414	25.619	0.19701	1.99492	5	X
K09Q36B	17.8	0.15	K194R	289.774	176.559	310.213	15.627	0.78676	2.24257	5	X
K09S02Z	18.5	0.15	K194R	305.868	152.875	224.173	4.221	0.23381	2.23281	2	X
K09UE2R	17.9	0.15	K194R	344.895	275.695	46.635	6.862	0.13085	2.27481	8	X
K09V74T	18.8	0.15	K194R	321.135	290.388	45.183	21.828	0.12779	1.85647	6	X
K09WK8G	17.4	0.15	K194R	2.016	244.708	47.719	6.183	0.17866	2.31502	10	X
K09Y01G	16.0	0.15	K194R	43.606	53.038	239.339	8.902	0.06122	2.99190	7	X
K09Y22G	15.3	0.15	K194R	191.309	229.992	302.711	18.079	0.12883	3.16349	5	X
K10A60T	17.6	0.15	K194R	237.049	122.367	313.486	20.250	0.05135	1.90061	6	X
K10B57B	17.1	0.15	K194R	14.916	125.441	123.880	15.171	0.22836	2.63673	7	X
K10GE2H	17.1	0.15	K194R	333.977	354.236	9.217	10.943	0.13996	2.41969	10	X
K10H53G	16.1	0.15	K194R	298.514	68.671	345.911	15.514	0.23513	3.10126	6	X
K10N68U	17.7	0.15	K194R	305.509	157.890	233.423	6.981	0.22574	2.75908	3	X
K10P76X	17.0	0.15	K194R	333.223	202.359	156.149	7.052	0.32103	2.70195	6	X
K10R99K	17.1	0.15	K194R	281.906	79.289	330.526	5.603	0.04214	2.74198	9	X
K10U07H	19.1	0.15	K194R	326.401	0.459	9.392	15.649	0.53591	2.71761	3	X
K10V75W	21.9	0.15	K194R	329.314	76.911	275.614	1.100	0.60096	2.72311	2	X
K10VK8P	16.7	0.15	K194R	332.894	337.547	9.033	9.498	0.17773	2.78236	7	X
K10W49B	17.4	0.15	K194R	0.322	358.330	269.238	2.420	0.14787	2.20449	10	X
K10X70Y	18.7	0.15	K194R	305.409	30.511	314.339	5.967	0.21306	2.14085	3	X
K11C28D	15.7	0.15	K194R	0.464	345.752	303.315	18.999	0.04723	3.16443	9	X
K11C98C	17.9	0.15	K194R	0.704	53.116	246.071	6.434	0.13675	2.26903	7	X
K11O59N	15.3	0.15	K194R	321.586	193.915	193.834	17.217	0.32515	3.93585	4	X
K11S13G	16.1	0.15	K194R	314.135	113.285	289.750	6.794	0.28321	3.98156	7	X
K11SA7L	18.6	0.15	K194R	275.002	33.796	359.258	23.409	0.13139	1.93424	5	X
K11SG4B	18.3	0.15	K194R	303.310	337.810	24.026	20.918	0.06515	1.94821	4	X
K11U28S	16.5	0.15	K194R	320.062	340.072	10.465	6.675	0.31522	2.58386	9	X
K11W16L	16.8	0.15	K194R	290.581	198.497	211.098	4.739	0.25775	2.59042	8	X
K11WC0H	18.0	0.15	K194R	313.290	171.359	197.760	6.388	0.30614	2.58546	3	X
K11WE6X	16.8	0.15	K194R	343.684	94.215	243.697	23.800	0.17766	2.61878	5	X
K11Y62S	19.7	0.15	K194R	310.020	357.183	58.577	21.612	0.58217	2.50486	3	X
K12B27P	18.2	0.15	K194R	281.416	116.027	277.089	17.790	0.09201	1.97609	5	X
K12B61F	16.9	0.15	K194R	318.488	117.877	300.706	28.420	0.36520	2.55579	4	X
K12BB0S	18.1	0.15	K194R	311.827	89.271	319.964	26.814	0.40578	2.58439	3	X
K12H32N	18.2	0.15	K194R	313.346	125.097	208.152	4.454	0.15642	2.18308	8	X

K12J62C	18.3	0.15	K194R	312.790	101.637	260.196	3.911	0.16921	2.16589	6	X
K12K12H	15.1	0.15	K194R	340.264	239.060	117.203	27.889	0.22096	3.22119	6	X
K12P31A	17.9	0.15	K194R	317.302	149.323	212.118	5.056	0.25513	2.28250	7	X
K12Q01F	18.3	0.15	K194R	301.402	28.412	328.591	3.557	0.21397	2.31879	6	X
K12Q290	18.4	0.15	K194R	307.568	83.723	294.432	1.850	0.22579	2.29197	7	X
K12Q39C	17.7	0.15	K194R	346.007	54.141	256.491	3.229	0.24296	2.30146	8	X
K12S00L	17.9	0.15	K194R	343.100	22.524	303.245	3.968	0.16766	2.31808	5	X
K12S28Y	17.2	0.15	K194R	14.320	12.619	270.168	4.747	0.15613	2.30905	8	X
K12S51A	17.2	0.15	K194R	342.446	346.876	321.481	4.396	0.23025	2.33705	12	X
K12S56N	17.8	0.15	K194R	298.601	85.795	309.458	20.388	0.30865	2.31581	3	X
K12T46K	17.9	0.15	K194R	287.264	90.561	308.213	4.626	0.15916	2.32398	6	X
K12T79A	18.6	0.15	K194R	311.900	313.419	59.599	9.678	0.44039	2.32680	3	X
K12TJ8R	18.1	0.15	K194R	322.010	357.980	354.151	4.407	0.24265	2.32746	4	X
K12TW2F	16.8	0.15	K194R	357.115	31.713	268.383	22.954	0.24941	2.32084	7	X
K12U49D	17.6	0.15	K194R	0.870	179.870	100.204	2.407	0.16218	2.42155	9	X
K12V34M	17.2	0.15	K194R	298.225	120.613	275.839	19.172	0.25564	2.32421	6	X
K12V37W	17.4	0.15	K194R	338.924	227.338	102.920	10.760	0.23081	2.33281	6	X
K12XF5B	15.7	0.15	K194R	329.576	34.918	311.658	11.397	0.20721	2.46613	8	X
K13E33D	16.6	0.15	K194R	220.040	207.954	272.476	5.935	0.15265	2.54527	8	X
K13E91O	16.7	0.15	K194R	169.629	176.009	355.645	8.958	0.03531	2.58940	9	X
K13EA4C	17.1	0.15	K194R	311.968	341.686	52.330	10.293	0.22262	2.45858	8	X
K13G68F	16.2	0.15	K194R	27.628	116.261	123.978	13.606	0.23983	3.03879	9	X
K13GA6F	16.6	0.15	K194R	13.828	228.768	42.283	1.429	0.07617	2.91988	12	X
K13N13M	16.5	0.15	K194R	331.962	258.029	107.061	16.389	0.27314	3.10597	7	X
K13P12S	15.5	0.15	K194R	318.481	225.368	152.898	11.017	0.11401	3.08151	9	X
K13R69X	15.7	0.15	K194R	323.419	26.008	2.291	14.857	0.07798	3.18536	8	X
K14C05W	18.1	0.15	K194R	249.861	97.375	343.136	7.642	0.12600	2.22657	7	X
K14EC3J	17.4	0.15	K194R	21.929	297.298	301.138	10.458	0.25436	2.62332	6	X
K14F42Y	16.8	0.15	K194R	3.383	282.731	354.290	12.664	0.34779	2.70393	5	X
K14G19T	16.9	0.15	K194R	21.203	13.651	239.176	3.474	0.14805	2.63665	6	X
K14M08T	16.7	0.15	K194R	348.015	72.939	262.895	18.882	0.22595	2.80920	5	X
K14O46J	17.3	0.15	K194R	305.897	80.931	319.301	7.196	0.30483	2.78933	5	X
K14OF5M	16.9	0.15	K194R	348.314	266.316	66.233	5.365	0.14313	2.76721	9	X
K14OX6C	16.7	0.15	K194R	333.019	359.537	349.868	8.017	0.32659	2.85822	4	X
K14Q31N	16.3	0.15	K194R	341.702	244.738	102.679	12.353	0.15950	2.93782	9	X
K14Qe7X	15.7	0.15	K194R	6.418	324.930	303.107	21.985	0.23565	3.09656	7	X
K14Qh1T	16.6	0.15	K194R	340.018	312.065	25.565	14.913	0.25569	3.05792	7	X
K14R68U	16.6	0.15	K194R	322.827	164.764	206.960	17.119	0.20134	3.11842	6	X
K14SV4T	16.8	0.15	K194R	357.588	119.794	194.748	15.098	0.22971	3.05184	4	X
K14T07B	15.5	0.15	K194R	196.727	292.635	202.766	17.443	0.07676	3.15003	10	X
K14T62T	16.8	0.15	K194R	315.450	44.999	333.674	9.427	0.12283	3.00330	5	X
K14T65X	16.7	0.15	K194R	327.759	132.342	230.550	8.085	0.14116	3.06188	6	X
K14U03U	16.7	0.15	K194R	310.730	172.608	218.068	22.752	0.29748	3.05297	5	X
K14U57K	16.6	0.15	K194R	304.549	183.053	267.913	20.460	0.53915	2.88816	5	X
K14U78N	16.6	0.15	K194R	1.189	113.670	214.628	9.608	0.13071	3.01009	7	X
K14UC3O	15.9	0.15	K194R	355.878	12.557	315.546	11.341	0.11149	3.08653	8	X
K14V03S	16.3	0.15	K194R	290.209	86.613	330.157	8.642	0.16592	3.01807	5	X
K14WG5L	16.3	0.15	K194R	306.672	159.035	243.842	27.132	0.15777	3.10885	5	X
K14WM7S	16.6	0.15	K194R	306.611	144.732	258.694	4.811	0.25562	3.04418	4	X
K14Wc3W	16.0	0.15	K194R	338.057	247.721	102.164	7.206	0.16922	3.07291	9	X
K14Wf1D	16.4	0.15	K194R	317.188	129.709	259.438	22.007	0.22777	3.13475	3	X
K14Wn6C	15.9	0.15	K194R	319.635	265.190	144.381	25.469	0.33591	3.17592	6	X
K14Wo7Z	16.3	0.15	K194R	325.151	212.475	135.665	14.389	0.26121	3.16436	5	X
K14X10T	18.3	0.15	K194R	16.278	27.193	259.671	19.278	0.03760	1.89977	7	X
K14Y26B	15.5	0.15	K194R	308.086	138.559	264.819	21.466	0.13286	3.13709	6	X
K15A03D	16.3	0.15	K194R	335.649	235.200	117.805	16.829	0.26650	3.06500	7	X
K15BK5W	15.9	0.15	K194R	331.451	84.654	297.457	20.097	0.23590	3.18094	5	X
K15G43F	18.1	0.15	K194R	305.053	200.001	143.533	6.781	0.13992	2.24114	6	X
K15K46M	18.1	0.15	K194R	326.414	190.169	130.856	3.000	0.21803	2.39985	3	X
K15K58A	18.2	0.15	K194R	336.173	90.500	235.722	5.449	0.24972	2.30785	4	X
K15L43L	17.7	0.15	K194R	292.303	102.571	292.686	5.349	0.14601	2.47607	8	X
K15O74J	17.6	0.15	K194R	359.163	336.740	328.994	4.641	0.22903	2.47530	6	X
K15P00W	16.8	0.15	K194R	294.141	206.663	204.413	13.477	0.23937	2.60964	7	X
K15P65H	17.7	0.15	K194R	332.306	57.824	285.807	2.871	0.23956	2.42951	6	X
K15PM8Y	17.0	0.15	K194R	326.382	326.094	32.480	33.426	0.22286	2.59697	6	X
K15PU4T	17.6	0.15	K194R	283.361	47.823	25.463	6.125	0.20978	2.42050	7	X
K15PU8E	17.1	0.15	K194R	2.303	235.180	73.212	6.167	0.11643	2.42770	8	X
K15Q09U	16.2	0.15	K194R	328.414	115.864	252.470	23.266	0.28992	2.58257	5	X
K15R24P	17.7	0.15	K194R	307.814	97.478	299.020	1.607	0.17603	2.42671	6	X
K15R27R	16.9	0.15	K194R	274.798	64.259	16.526	29.814	0.31147	2.60034	5	X
K15R30S	16.7	0.15	K194R	262.027	90.419	349.001	12.577	0.15535	2.58852	7	X
K15R35Z	18.9	0.15	K194R	308.327	195.686	243.227	10.243	0.70352	2.48377	3	X
K15R90R	16.9	0.15	K194R	334.633	66.627	279.441	12.191	0.21290	2.58335	7	X
K15RN6Q	17.3	0.15	K194R	300.504	251.103	148.828	9.659	0.23032	2.59546	6	X
K15S08W	16.6	0.15	K194R	304.689	207.647	176.633	11.939	0.19772	2.60729	10	X
K15T77M	16.8	0.15	K194R	327.265	313.392	43.920	6.973	0.10684	2.66385	4	X
K15T88G	17.8	0.15	K194R	315.608	325.387	45.560	5.026	0.30361	2.61275	3	X
K15TA1R	16.8	0.15	K194R	1.654	100.902	204.133	13.134	0.22267	2.70926	7	X
K15TI0G	17.5	0.15	K194R	324.255	147.446	210.057	12.663	0.20863	2.61039	6	X
K15TI0H	17.1	0.15	K194R	284.023	207.657	211.655	5.503	0.27221	2.61792	5	X
K15TI1Z	17.0	0.15	K194R	317.316	26.081	335.021	7.022	0.12560	2.45749	10	X
K15TK2J	17.7	0.15	K194R	325.090	217.607	139.761	5.570	0.26866	2.57147	7	X
K15TK2M	17.0	0.15	K194R	285.216	270.073	152.725	9.720	0.24390	2.58517	4	X
K15TK4E	17.1	0.15	K194R	302.869	4.251	24.432	14.064	0.17181	2.60456	4	X
K15TK4Z	16.5	0.15	K194R	306.331	340.266	52.559	13.417	0.25706	2.60095	6	X
K15TK8L	17.1	0.15	K194R	348.583	3.480	327.693	8.589	0.19120	2.57240	8	X
K15TK9H	17.6	0.15	K194R	290.686	189.143	221.991	5.117	0.24951	2.59758	5	X
K15TM4N	17.5	0.15	K194R	296.098	24.749	18.696	14.268	0.26493	2.62126	4	X
K15TP4Y	17.0	0.15	K194R	312.478	177.677	205.192	17.388	0.18380	2.57951	6	X
K15TS9S	17.1	0.15	K194R	320.851	87.848	289.788	14.054	0.13784	2.55007	4	X
K15TT9Y	17.8	0.15	K194R	306.214	50.923	335.803	11.492	0.28249	2.60801	3	X
K15TU3H	17.7	0.15	K194R	306.769	54.229	337.860	4.973	0.26122	2.60047	5	X
K15TV8X	16.7	0.15	K194R	275.619	78.421	306.683	2.846	0.10819	2.77904	11	X

K15TW1U	16.8	0.15	K194R	294.260	50.044	350.288	5.569	0.10216	2.63061	5	X
K15TW1Y	16.1	0.15	K194R	35.298	10.053	281.566	15.226	0.13206	2.62029	7	X
K15Tc2O	17.2	0.15	K194R	321.578	266.677	98.315	4.638	0.15635	2.64768	6	X
K15U58V	17.0	0.15	K194R	313.071	204.234	140.797	9.462	0.16703	2.79198	5	X
K15U78M	17.4	0.15	K194R	297.394	219.391	179.237	13.790	0.26521	2.61339	6	X
K15U90S	17.1	0.15	K194R	308.201	87.388	299.764	10.838	0.24875	2.77349	5	X
K15V33K	16.5	0.15	K194R	332.262	97.985	251.537	11.358	0.13811	2.65253	8	X
K15V34X	17.4	0.15	K194R	268.171	223.576	226.600	31.049	0.20930	2.59094	4	X
K15V37E	17.2	0.15	K194R	329.549	299.794	50.181	4.827	0.22804	2.62298	9	X
K15V77Q	16.1	0.15	K194R	244.123	173.876	276.460	21.292	0.03791	2.65868	7	X
K15VF0P	17.5	0.15	K194R	315.598	190.163	203.267	12.638	0.18816	2.57359	4	X
K15X72B	16.8	0.15	K194R	308.307	91.229	283.439	11.484	0.20090	2.72416	8	X
K15XF2A	16.1	0.15	K194R	306.717	10.755	10.817	15.883	0.18676	2.70251	7	X
K15XG1Z	18.0	0.15	K194R	317.038	279.241	96.110	13.589	0.28124	2.55193	5	X
K15XH1A	17.4	0.15	K194R	326.307	47.880	322.490	5.712	0.35608	2.55665	7	X
K15Xa3X	16.1	0.15	K194R	0.520	45.840	280.146	19.802	0.15112	2.77767	5	X
K15Y04K	15.9	0.15	K194R	346.780	51.931	298.766	21.467	0.09803	3.04657	7	X
K16A73M	17.2	0.15	K194R	317.806	107.110	279.200	15.773	0.33911	2.77771	3	X
K16AE2Z	15.8	0.15	K194R	0.443	70.573	273.482	18.760	0.06192	3.06892	6	X
K16B45Q	15.6	0.15	K194R	30.981	351.947	315.411	19.285	0.12421	3.21411	7	X
K16E27X	20.1	0.15	K194R	324.326	38.032	237.198	11.672	0.74338	2.15079	3	X
K16J24O	19.2	0.15	K194R	303.320	125.568	236.940	19.681	0.10620	1.84995	5	X
K16S01A	17.7	0.15	K194R	359.911	25.222	251.963	3.825	0.28519	2.14197	12	X
K16S01G	17.3	0.15	K194R	266.563	354.298	175.558	36.237	0.69424	2.13436	6	X
K16S15O	18.3	0.15	K194R	295.993	59.924	294.380	1.019	0.13639	2.18242	4	X
K16S15T	18.2	0.15	K194R	330.121	167.419	140.904	3.663	0.20548	2.18370	7	X
K16U52Z	18.8	0.15	K194R	304.540	95.856	275.570	3.084	0.16561	2.18581	5	X
K16V06B	17.7	0.15	K194R	338.674	206.501	116.976	9.100	0.24891	2.21652	7	X
K17A01J	17.0	0.15	K194R	335.345	304.513	27.270	11.883	0.24654	2.44425	7	X
K17B62B	17.7	0.15	K194R	293.589	330.399	60.825	5.820	0.23244	2.28567	5	X
K17BD7R	17.2	0.15	K194R	258.809	108.766	326.693	12.165	0.11878	2.55143	8	X
K17D95L	17.0	0.15	K194R	296.858	77.767	315.660	8.162	0.11365	2.71189	8	X
K17D97L	16.3	0.15	K194R	10.880	350.055	323.358	7.977	0.09005	3.01523	6	X
K17FB1Y	16.3	0.15	K194R	317.195	112.524	262.083	4.317	0.09596	2.90470	9	X
K18A15O	18.3	0.15	K194R	21.493	351.674	287.499	17.893	0.06847	1.91907	4	X
K18D00D	18.3	0.15	K194R	305.635	228.724	141.495	22.239	0.11819	1.85793	4	X
K18F00J	18.1	0.15	K194R	241.377	277.497	160.309	22.920	0.09614	1.92036	5	X
K19P01L	18.1	0.15	K194R	313.131	283.605	113.105	7.693	0.42311	2.67663	2	X
K19R03F	17.1	0.15	K194R	319.357	74.814	306.813	15.275	0.27788	2.54235	3	X

New perturbed one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K19G02P	20.7	0.15	K194R	290.274	141.232	169.996	23.717	0.21444	1.34908	240	X
K19J02P	19.5	0.15	K194R	333.900	68.128	226.432	27.579	0.57076	2.28391	164	X
K19K04Q	17.6	0.15	K194R	317.512	133.064	229.790	26.561	0.39539	2.28818	138	X
K19L04X	21.8	0.15	K194R	283.798	68.560	270.068	2.939	0.30708	1.46100	144	X
K19M00X	17.4	0.15	K194R	324.617	112.975	253.135	27.641	0.40622	2.60971	136	X
K19N01D	18.2	0.15	K194R	334.454	58.033	292.039	15.477	0.57721	3.18082	106	X
K19P00A	19.5	0.15	K194R	336.860	103.613	228.642	15.063	0.57780	3.01364	74	X
K19P02E	20.5	0.15	K194R	227.081	97.919	339.845	32.840	0.37790	1.33249	63	X
K19P02R	19.0	0.15	K194R	347.095	57.084	349.038	10.989	0.79761	5.77042	63	X
K19Q08T	18.9	0.15	K194R	321.051	317.240	72.568	20.522	0.52322	2.69846	48	X
K19R00A	25.5	0.15	K194R	254.538	196.654	164.153	9.270	0.18809	1.24676	7	X
K19S00M	20.8	0.15	K194R	320.410	164.787	209.286	19.330	0.53966	2.55948	28	X
K19S02Z	19.7	0.15	K194R	284.436	155.538	222.431	22.460	0.24859	1.68363	24	X
K19S03U	27.2	0.15	K194R	257.621	322.694	5.118	1.162	0.09267	1.09352	18	X
K19S08J	24.5	0.15	K194R	258.608	216.134	199.199	8.273	0.37018	1.56371	16	X
K19S09E	25.0	0.15	K194R	263.011	143.052	203.506	3.285	0.19097	1.25524	108	X
K19T00O	21.5	0.15	K194R	248.125	215.728	192.719	24.318	0.27023	1.52642	15	X
K19T01A	26.0	0.15	K194R	219.246	55.976	12.232	8.043	0.26493	1.30783	13	X
K19T01T	26.1	0.15	K194R	238.682	74.780	17.921	9.189	0.47280	1.47078	10	B
K19T02A	24.9	0.15	K194R	59.319	127.192	28.401	9.497	0.20920	0.94333	17	X
K19T02Q	24.8	0.15	K194R	318.297	44.594	22.950	8.483	0.67518	2.89207	11	X
K19T02R	23.3	0.15	K194R	289.775	62.683	24.614	12.700	0.60434	2.13996	11	X
K19T05K	27.5	0.15	K194R	125.306	261.247	216.628	1.314	0.20098	1.02945	8	X
K19T05P	25.2	0.15	K194R	276.688	262.135	204.988	8.799	0.66318	1.89883	9	X
K19T06M	20.5	0.15	K194R	292.983	159.645	318.197	7.916	0.61592	2.26355	9	X
K19T07A	26.3	0.15	K194R	347.938	158.797	13.585	4.140	0.45223	0.75673	4	B
K19T07B	26.7	0.15	K194R	328.916	192.406	18.774	10.055	0.12903	0.89603	3	B
K19T07R	20.8	0.15	K194R	295.428	36.605	40.807	23.915	0.41875	2.23116	3	B
K19T07S	25.2	0.15	K194R	234.484	220.353	192.787	28.573	0.26489	1.35059	1	B
K19T07T	22.4	0.15	K194R	320.911	232.191	131.429	4.906	0.44633	2.27479	3	B

New one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K19T07Q	21.8	0.15	K19A4	5.437	105.120	250.354	7.320	0.48406	2.81987	2	B
K19T07U	18.8	0.15	K19A4	357.614	64.390	12.230	29.034	0.55186	3.31350	5	B

New observations:

K01Q34C	KC2019	10	14.79260	22	11	38.11	+23	02	14.4	19.0	GVEU001K87
K01Q34C	KC2019	10	14.79508	22	11	37.85	+23	02	11.3	19.3	GVEU001K87
K01Q34C	KC2019	10	14.79757	22	11	37.60	+23	02	08.3	19.5	GVEU001K87
K04F29F	C2019	10	15.35070822	55	17.84	-28	56	35.4	18.27	oVEU001T08	
K04F29F	C2019	10	15.35365422	55	17.33	-28	56	36.3	18.31	oVEU001T08	
K04F29F	C2019	10	15.36210722	55	15.92	-28	56	39.8	18.09	oVEU001T08	
K04F29F	C2019	10	15.37301122	55	14.08	-28	56	43.9	18.37	oVEU001T08	
K06K00E	C2019	10	16.31939	23	26	01.037+33	03	05.92	19.7	iUEU001F51	
K06K00E	C2019	10	16.33191	23	26	02.017+33	02	31.88	19.5	iUEU001F51	
K06K00E	C2019	10	16.33912	23	26	02.578+33	02	12.37	19.5	iUEU001F51	
K09Q36B	KC2019	10	14.77650	21	28	55.38	+27	28	03.0	18.7	GVEU001K87
K09Q36B	KC2019	10	14.77883	21	28	54.67	+27	28	00.7	18.2	GVEU001K87
K09Q36B	KC2019	10	14.78116	21	28	53.96	+27	27	59.0	18.2	GVEU001K87
K10U07H	KC2019	10	14.95056	01	56	36.10	+31	34	34.2	18.5	GVEU001K87

K10U07H KC2019 10 14.95105 01 56 36.02 +31 34 35.8
K10U07H KC2019 10 14.95156 01 56 35.98 +31 34 36.9
K10V75W C2019 07 30.92229 20 28 06.22 -15 40 36.4
K10V75W C2019 07 30.93081 20 28 06.84 -15 40 29.1
K10V75W C2019 07 30.93933 20 28 07.47 -15 40 21.9
K10V75W C2019 07 30.94784 20 28 08.05 -15 40 14.8
K11Y62S C2019 10 15.88645804 49 37.04 -44 11 50.5
K11Y62S C2019 10 15.88768704 49 37.30 -44 11 48.7
K11Y62S C2019 10 15.88892104 49 37.56 -44 11 46.9
K11Y62S C2019 10 15.89014904 49 37.81 -44 11 45.2
K11Y62S C2019 10 15.89138004 49 38.08 -44 11 43.4
K11Y62S C2019 10 15.89261504 49 38.35 -44 11 41.6
K11Y62S C2019 10 15.89384604 49 38.60 -44 11 39.8
K11Y62S C2019 10 15.89507904 49 38.83 -44 11 38.0
K11Y62S C2019 10 15.89630804 49 39.10 -44 11 36.3
K11Y62S C2019 10 15.89753504 49 39.37 -44 11 34.6
K15R35Z KC2019 09 10.09794822 05 49.05 +32 09 07.2
K15R35Z KC2019 09 10.09969722 05 48.73 +32 09 11.0
K15R35Z KC2019 09 10.10144722 05 48.37 +32 09 14.6
K15R35Z KC2019 09 10.10319622 05 48.02 +32 09 18.2
K15R35Z KC2019 09 10.10494522 05 47.69 +32 09 21.8
K15R35Z KC2019 09 10.10678122 05 47.33 +32 09 25.5
K15R35Z KC2019 09 10.10905422 05 46.88 +32 09 30.4
K16E27X KC2019 10 15.76874 22 24 40.20 +37 39 33.7
K16E27X KC2019 10 15.77363 22 24 43.18 +37 38 59.2
K16E27X KC2019 10 15.79023 22 24 53.26 +37 37 02.2
K16S01G C2019 10 15.52862 04 39 07.215-26 19 43.30
K16S01G C2019 10 15.53965 04 39 07.419-26 20 08.07
K16S01G C2019 10 15.55066 04 39 07.610-26 20 33.34
K17M08N KC2019 10 12.01635702 45 00.57 +40 05 36.5
K17M08N KC2019 10 12.01836802 45 00.85 +40 05 53.4
K17M08N KC2019 10 12.02053002 45 01.14 +40 06 11.2
K17M08N KC2019 10 15.89329 03 01 01.00 +51 54 21.9
K17M08N KC2019 10 15.90238 03 01 04.49 +51 56 34.3
K17M08N KC2019 10 15.91123 03 01 07.90 +51 58 44.1
K19G02P KC2019 09 25.21071219 34 06.859-22 19 45.24
K19G02P C2019 09 25.21181019 34 07.237-22 19 51.42
K19G02P C2019 09 25.21321119 34 07.722-22 19 59.35
K19G02P C2019 09 25.21465219 34 08.218-22 20 07.41
K19J02P KC2019 10 15.10707422 44 21.98 +41 07 10.8
K19J02P KC2019 10 15.10966122 44 22.48 +41 07 00.9
K19J02P KC2019 10 15.11272422 44 23.06 +41 06 49.6
K19J02P KC2019 10 15.11680922 44 23.79 +41 06 33.6
K19J02P KC2019 10 15.12137022 44 24.60 +41 06 15.8
K19L04X KC2019 10 09.79234120 18 56.50 +06 17 55.7
K19L04X KC2019 10 09.81454420 19 07.47 +06 18 29.0
K19L04X KC2019 10 09.83672320 19 18.47 +06 19 02.3
K19L04X KC2019 10 15.04757221 03 53.68 +08 19 37.4
K19L04X KC2019 10 15.04961421 03 54.69 +08 19 39.7
K19L04X KC2019 10 15.05165621 03 55.66 +08 19 42.0
K19L04X KC2019 10 15.05369821 03 56.63 +08 19 44.7
K19L04X KC2019 10 15.05574021 03 57.62 +08 19 47.1
K19L04X KC2019 10 15.05778221 03 58.60 +08 19 49.5
K19L04X KC2019 10 16.25259 21 13 55.76 +08 44 00.8
K19L04X KC2019 10 16.25716 21 13 57.93 +08 44 06.1
K19P00A KC2019 10 15.08598622 41 18.98 +21 54 43.1
K19P00A KC2019 10 15.08959322 41 19.53 +21 54 36.4
K19P00A KC2019 10 15.09367722 41 20.22 +21 54 29.1
K19P00A KC2019 10 15.09776022 41 20.87 +21 54 21.6
K19P00A KC2019 10 15.10129322 41 21.43 +21 54 15.2
K19P02E KC2019 09 10.12735222 53 02.80 +41 39 44.0
K19P02E KC2019 09 10.12918822 53 01.31 +41 40 05.7
K19P02E KC2019 09 10.13093522 52 59.90 +41 40 26.0
K19P02E KC2019 09 10.13267922 52 58.48 +41 40 46.6
K19P02E KC2019 09 10.13442422 52 57.07 +41 41 06.8
K19P02E KC2019 09 10.13616822 52 55.67 +41 41 27.3
K19P02E KC2019 09 10.13791222 52 54.26 +41 41 47.8
K19P02E KC2019 09 10.13965722 52 52.87 +41 42 08.2
K19P02E KC2019 09 10.14175122 52 51.14 +41 42 32.4
K19P02R KC2019 10 11.97204 05 07 32.01 +49 31 45.4
K19P02R KC2019 10 11.97717 05 07 34.24 +49 31 56.7
K19P02R KC2019 10 11.98230 05 07 36.45 +49 32 08.2
K19Q08T C2019 10 15.52542 04 15 52.512-28 28 30.26
K19Q08T C2019 10 15.53644 04 15 52.616-28 28 14.88
K19Q08T C2019 10 15.54745 04 15 52.739-28 27 58.96
K19R00A KC2019 09 05.23765 22 52 25.25 +18 19 54.7
K19R00A KC2019 09 05.24369 22 52 38.34 +18 17 09.1
K19R00A KC2019 09 05.24972 22 52 51.45 +18 14 22.9
K19R00A KC2019 09 05.25975 22 53 13.30 +18 09 45.2
K19R00A KC2019 09 05.26569 22 53 26.27 +18 07 01.0
K19R00A KC2019 09 05.27580 22 53 48.42 +18 02 18.1
K19R00A KC2019 09 05.28184 22 54 01.67 +17 59 29.6
K19S00M KC2019 10 11.95360 00 24 45.56 +29 19 08.1
K19S00M KC2019 10 11.95872 00 24 47.11 +29 18 40.8
K19S00M KC2019 10 11.96385 00 24 48.67 +29 18 13.5
K19S00M KC2019 10 14.91883 00 40 17.06 +24 44 42.8
K19S00M KC2019 10 14.91932 00 40 17.22 +24 44 40.0
K19S00M KC2019 10 14.91980 00 40 17.33 +24 44 37.2
K19S02Z KC2019 10 11.99394 00 29 28.55 +45 01 36.3
K19S02Z KC2019 10 11.99906 00 29 28.90 +45 01 19.7
K19S02Z KC2019 10 12.00419 00 29 29.32 +45 01 03.2
K19S02Z C2019 10 13.12688000 31 05.34 +43 59 34.9
K19S02Z KC2019 10 14.90220 00 33 32.94 +42 17 03.5

17.5 GVEU001K87
18.6 GVEU001K87
19.2 qEU001J43
18.8 qEU001J43
19.3 qEU001J43
18.9 qEU001J43
18.7 GVEU001K92
18.8 GVEU001K92
18.8 GVEU001K92
18.7 GVEU001K92
18.7 GVEU001K92
18.9 GVEU001K92
18.7 GVEU001K92
18.8 GVEU001K92
18.6 GVEU001K92
18.5 VuEU001H21
18.6 VuEU001H21
18.5 VuEU001H21
18.4 VuEU001H21
18.5 VuEU001H21
18.6 VuEU001H21
18.4 VuEU001H21
18.4 GVEU001C47
18.4 GVEU001C47
18.2 GVEU001C47
19.5 iUEU001F52
19.7 iUEU001F52
19.7 iUEU001F52
17.0 RqEU001160
17.0 RqEU001160
17.0 RqEU001160
16.2 RqEU001Z36
16.4 RqEU001Z36
16.7 RqEU001Z36
20.57GVEU001T12
19.67GVEU001T12
19.37GVEU001T12
19.57GVEU001T12
19.9 VuEU001H21
19.5 VuEU001H21
19.3 VuEU001H21
19.4 VuEU001H21
19.7 VuEU001H21
19.3 GVEU001C95
19.2 GVEU001C95
19.2 GVEU001C95
19.0 VuEU001H21
19.1 VuEU001H21
19.0 VuEU001H21
19.1 VuEU001H21
19.2 VuEU001H21
19.3 VuEU001H21
18.8 RoEU001291
19.0 RoEU001291
19.1 VuEU001H21
19.3 VuEU001H21
19.6 VuEU001H21
19.3 VuEU001H21
19.5 VuEU001H21
18.3 VuEU001H21
18.5 VuEU001H21
18.4 VuEU001H21
18.4 VuEU001H21
18.4 VuEU001H21
18.4 VuEU001H21
18.4 VuEU001H21
18.2 VuEU001H21
18.4 VuEU001H21
18.5 VuEU001H21
18.4 GVEU001104
18.4 GVEU001104
18.4 GVEU001104
18.9 iUEU001F52
18.9 iUEU001F52
19.0 iUEU001F52
17.9 VqEU001850
17.7 VqEU001850
17.9 VqEU001850
17.8 VqEU001850
17.6 VqEU001850
17.7 VqEU001850
17.5 VqEU001850
18.2 GVEU001104
18.3 GVEU001104
18.2 GVEU001104
19.0 GVEU001K87
19.0 GVEU001K87
17.3 GVEU001K87
18.8 GVEU001104
18.6 GVEU001104
18.6 GVEU001104
18.98rUEU001I41
19.7 GVEU001K87

K19S02Z	KC2019	10	14.90353	00	33	33.02	+42	16	58.6	19.9	GVEU001K87
K19S02Z	KC2019	10	14.90486	00	33	33.14	+42	16	54.2	19.4	GVEU001K87
K19S03U	KC2019	09	28.13229	23	18	06.45	-02	25	02.7	19.4	VqEU001850
K19S03U	KC2019	09	28.13593	23	18	10.00	-02	23	56.1	19.2	VqEU001850
K19S03U	KC2019	09	28.14683	23	18	20.59	-02	20	35.5	18.7	VqEU001850
K19S03U	KC2019	09	28.17228	23	18	44.90	-02	12	49.0	18.8	VqEU001850
K19S03U	KC2019	09	28.18311	23	18	55.12	-02	09	31.0	18.6	VqEU001850
K19S03U	KC2019	09	28.19773	23	19	08.90	-02	05	04.0	19.1	VqEU001850
K19S08J	KC2019	10	14.92957	01	05	55.29	-00	07	28.2	18.2	GVEU001K87
K19S08J	KC2019	10	14.93001	01	05	55.69	-00	07	33.5	18.1	GVEU001K87
K19S08J	KC2019	10	14.93045	01	05	56.11	-00	07	39.2	18.4	GVEU001K87
K19S09E	KC2019	10	15.14140100	06	08.53	+04	24	45.8	19.6	VuEU001H21	
K19S09E	KC2019	10	15.14242200	06	09.03	+04	24	44.0	19.2	VuEU001H21	
K19S09E	KC2019	10	15.14575700	06	10.57	+04	24	38.1	19.9	VuEU001H21	
K19T000	KC2019	10	16.20361	21	36	46.99	-09	35	02.9	20.6	RoEU001291
K19T000	KC2019	10	16.21396	21	36	48.36	-09	35	54.0		oEU001291
K19T000	KC2019	10	16.22433	21	36	49.76	-09	36	45.3	20.9	RoEU001291
K19T01A	KC2019	10	16.33976	23	01	59.27	+34	06	31.7	19.6	RoEU001291
K19T01A	KC2019	10	16.34506	23	01	55.30	+34	07	56.9	20.3	RoEU001291
K19T01A	KC2019	10	16.35038	23	01	51.41	+34	09	22.5	20.2	RoEU001291
K19T01T	C2019	10	13.44127	02	00	12.02	+56	01	35.0	17.0	RoEU001F65
K19T01T	C2019	10	13.44152	02	00	12.77	+56	02	23.8	17.0	RoEU001F65
K19T01T	C2019	10	13.44177	02	00	13.55	+56	03	09.4	17.0	RoEU001F65
K19T01T	C2019	10	13.44227	02	00	15.09	+56	04	45.7	17.0	RoEU001F65
K19T02A	KC2019	10	16.31331	00	42	39.43	-16	26	15.4	20.0	RoEU001291
K19T02A	KC2019	10	16.32053	00	42	34.21	-16	25	57.1	19.7	RoEU001291
K19T02A	KC2019	10	16.32779	00	42	28.98	-16	25	39.5	20.0	RoEU001291
K19T02Q	KC2019	10	16.35932	00	51	25.43	+02	45	16.4	19.9	RoEU001291
K19T02Q	KC2019	10	16.36544	00	51	25.84	+02	46	10.4	19.9	RoEU001291
K19T02Q	KC2019	10	16.37157	00	51	26.22	+02	47	04.6	20.0	RoEU001291
K19T02R	KC2019	10	16.26487	00	12	26.67	-09	33	05.4	19.6	RoEU001291
K19T02R	KC2019	10	16.27174	00	12	23.93	-09	32	43.5	19.6	RoEU001291
K19T02R	KC2019	10	16.27865	00	12	21.18	-09	32	21.5	19.5	RoEU001291
K19T05K	KC2019	10	16.42355	02	52	36.81	+46	28	54.1	18.7	RoEU001291
K19T05K	KC2019	10	16.42742	02	52	42.95	+46	30	33.7		oEU001291
K19T05K	KC2019	10	16.43139	02	52	49.18	+46	32	15.6	18.9	RoEU001291
K19T05P	KC2019	10	15.06286022	47	35.66	+13	51	46.0	19.6	VuEU001H21	
K19T05P	KC2019	10	15.06443822	47	32.68	+13	51	31.0	19.6	VuEU001H21	
K19T05P	KC2019	10	15.06612822	47	29.49	+13	51	14.8	19.6	VuEU001H21	
K19T05P	KC2019	10	15.06781822	47	26.27	+13	50	58.8	19.7	VuEU001H21	
K19T05P	KC2019	10	15.06950822	47	23.08	+13	50	43.1	19.5	VuEU001H21	
K19T05P	KC2019	10	16.24042	22	00	25.40	+09	25	55.1	17.2	RoEU001291
K19T05P	KC2019	10	16.24314	22	00	16.67	+09	25	03.2	17.1	RoEU001291
K19T05P	KC2019	10	16.24590	22	00	07.80	+09	24	10.7	17.1	RoEU001291
K19T06M	KC2019	10	16.39938	06	55	36.41	+42	32	37.2	20.9	RoEU001291
K19T06M	KC2019	10	16.40641	06	55	39.86	+42	32	38.0	21.4	RoEU001291
K19T06M	KC2019	10	16.41346	06	55	43.33	+42	32	39.2	21.5	RoEU001291
K19T07A	C2019	10	13.47303	04	29	37.93	+59	57	24.2	19.1	RoEU001F65
K19T07A	C2019	10	13.47356	04	29	38.42	+59	58	01.0	19.1	RoEU001F65
K19T07A	C2019	10	13.47409	04	29	38.97	+59	58	38.7	19.2	RoEU001F65
K19T07B	C2019	10	13.41803	03	39	33.74	+36	04	42.1	19.0	RoEU001F65
K19T07B	C2019	10	13.41856	03	39	32.39	+36	04	59.5	19.4	RoEU001F65
K19T07B	C2019	10	13.41909	03	39	31.15	+36	05	16.5	19.3	RoEU001F65
K19T07B	C2019	10	13.41961	03	39	29.82	+36	05	34.3	18.9	RoEU001F65
K19T07B	C2019	10	13.42014	03	39	28.42	+36	05	52.0	19.8	RoEU001F65
K19T07B	C2019	10	13.42067	03	39	26.99	+36	06	10.8	19.1	RoEU001F65
01866	C2019	10	15.60088208	22	33.34	+13	07	17.1	13.43	oVEU001T05	
01866	C2019	10	15.60419608	22	33.67	+13	07	28.1	13.41	oVEU001T05	
01866	C2019	10	15.61086708	22	34.34	+13	07	50.3	13.41	oVEU001T05	
01866	C2019	10	15.62658708	22	35.93	+13	08	42.6	13.50	oVEU001T05	
02059	C2019	09	18.89701	20	59	27.99	+03	09	01.2	16.6	qEU001J43
02059	C2019	09	18.90652	20	59	28.00	+03	08	50.6	16.4	qEU001J43
02059	C2019	09	18.91603	20	59	28.00	+03	08	39.5	16.7	qEU001J43
02059	C2019	09	18.92559	20	59	27.99	+03	08	28.7	16.5	qEU001J43
02059	C2019	09	20.87779	20	59	47.97	+02	31	06.7	16.7	qEU001J43
02059	C2019	09	20.88725	20	59	48.01	+02	30	55.6	16.6	qEU001J43
02059	C2019	09	20.89683	20	59	48.11	+02	30	44.4	16.7	qEU001J43
02059	C2019	09	20.90633	20	59	48.18	+02	30	33.3	16.6	qEU001J43
02059	C2019	09	23.85968	21	00	44.63	+01	32	35.0	16.3	qEU001J43
02059	C2019	09	23.86818	21	00	44.78	+01	32	25.3	16.2	qEU001J43
02059	C2019	09	23.87668	21	00	44.93	+01	32	14.8	16.2	qEU001J43
02059	C2019	09	23.88516	21	00	45.09	+01	32	04.7	16.3	qEU001J43
02100	C2019	09	10.26982100	40	15.48	+04	09	18.1	14.2	VuEU001H21	
02100	C2019	09	10.27156900	40	15.08	+04	09	09.4	14.1	VuEU001H21	
02100	C2019	09	10.27332000	40	14.68	+04	09	00.7	14.1	VuEU001H21	
02100	C2019	09	10.27506900	40	14.27	+04	08	52.0	14.1	VuEU001H21	
02100	C2019	09	10.27682000	40	13.87	+04	08	43.2	14.1	VuEU001H21	
02100	C2019	09	10.27857000	40	13.46	+04	08	34.5	14.1	VuEU001H21	
02100	C2019	09	10.28032200	40	13.06	+04	08	25.8	14.1	VuEU001H21	
02100	C2019	09	10.28277800	40	12.49	+04	08	13.5	14.1	VuEU001H21	
02100	C2019	10	15.24611321	58	40.28	-40	43	08.4	15.09	oVEU001T08	
02100	C2019	10	15.25714021	58	37.83	-40	43	30.1	15.09	oVEU001T08	
02100	C2019	10	15.26036621	58	37.11	-40	43	36.4	15.11	oVEU001T08	
02100	C2019	10	15.27065921	58	34.82	-40	43	56.5	15.11	oVEU001T08	
03102	KC2019	10	12.09215404	46	00.40	+08	37	36.2	17.4	RqEU001160	
03102	KC2019	10	12.09420504	46	00.38	+08	37	34.7	17.9	RqEU001160	
03102	KC2019	10	12.09625804	46	00.37	+08	37	33.0	17.7	RqEU001160	
03753	C2019	10	15.59735808	26	16.31	-15	28	27.3	17.54	oVEU001T08	
03753	C2019	10	15.60305608	26	18.49	-15	28	32.5	16.33	oVEU001T08	
03753	C2019	10	15.61325108	26	22.39	-15	28	41.4	16.25	oVEU001T08	
04183	KC2019	10	14.85063	00	17	37.21	+12	46	04.1	18.2	GVEU001K87
04183	KC2019	10	14.86104	00	17	36.43	+12	45	59.3	18.0	GVEU001K87
04183	KC2019	10	14.87145	00	17	35.67	+12	45	54.4	17.9	GVEU001K87

04183	C2019	10	15.48133200	16	52.08	+12	41	01.3	18.06oVEU001T05
04183	C2019	10	15.48442300	16	51.86	+12	41	00.2	17.99oVEU001T05
04183	C2019	10	15.49017400	16	51.48	+12	40	57.5	17.98oVEU001T05
04183	C2019	10	15.50677700	16	50.28	+12	40	48.7	17.70oVEU001T05
05189	KC2019	10	12.09948104	51	43.18	+11	51	22.0	16.8 RqEU001160
05189	KC2019	10	12.10142004	51	42.96	+11	51	21.5	16.9 RqEU001160
05189	KC2019	10	12.10337304	51	42.71	+11	51	20.7	16.9 RqEU001160
05626	C2019	10	15.57230207	51	04.46	+15	21	38.3	15.74oVEU001T05
05626	C2019	10	15.58229507	51	06.30	+15	21	31.6	15.76oVEU001T05
05626	C2019	10	15.59005207	51	07.71	+15	21	26.5	15.72oVEU001T05
05626	C2019	10	15.59409007	51	08.45	+15	21	23.7	15.80oVEU001T05
06047	C2019	10	15.41906922	15	47.19	-13	10	18.6	17.98oVEU001T08
06047	C2019	10	15.42242522	15	46.76	-13	10	13.5	17.94oVEU001T08
06047	C2019	10	15.42942222	15	45.85	-13	10	02.3	18.16oVEU001T08
06047	C2019	10	15.44235922	15	44.22	-13	09	41.0	18.11oVEU001T08
06455	KC2019	10	12.07774004	01	19.86	+42	49	20.8	17.0 RqEU001160
06455	KC2019	10	12.07916404	01	19.66	+42	49	22.2	17.0 RqEU001160
06455	KC2019	10	12.08106104	01	19.51	+42	49	24.0	16.5 RqEU001160
06455	KC2019	10	15.08594 03	55	46.38	+43	41	29.7	17.9 GVEU001K87
06455	KC2019	10	15.08887 03	55	46.06	+43	41	32.7	17.6 GVEU001K87
06455	KC2019	10	15.09181 03	55	45.73	+43	41	35.8	17.4 GVEU001K87
09400	C2019	10	15.24657521	21	00.41	-32	59	54.1	16.37oVEU001T08
09400	C2019	10	15.25668021	20	59.73	-32	59	31.0	16.48oVEU001T08
09400	C2019	10	15.25990521	20	59.51	-32	59	23.7	16.52oVEU001T08
11885	KC2019	10	15.14890 04	55	54.93	+59	42	26.1	19.1 GVEU001K87
11885	KC2019	10	15.15191 04	55	56.19	+59	42	39.6	19.3 GVEU001K87
11885	KC2019	10	15.15491 04	55	57.43	+59	42	52.9	18.8 GVEU001K87
16816	C2019	10	15.35898 00	03	31.514	-27	08	29.73	19.2 iUEU001F51
16816	C2019	10	15.36920 00	03	30.437	-27	08	25.57	19.4 iUEU001F51
16816	C2019	10	15.38964 00	03	28.274	-27	08	17.24	19.2 iUEU001F51
20826	C2019	10	15.48233010	04	47.16	+43	30	32.6	16.86rUEU001I41
20826	C2019	10	15.48278010	04	47.27	+43	30	32.1	16.85rUEU001I41
25330	C2019	10	15.35996923	45	52.52	-24	20	33.0	18.24oVEU001T08
25330	C2019	10	15.36394923	45	52.11	-24	20	30.9	18.54oVEU001T08
25330	C2019	10	15.36948623	45	51.50	-24	20	30.6	18.14oVEU001T08
25330	C2019	10	15.37938523	45	50.55	-24	20	26.7	18.45oVEU001T08
26166	C2019	10	16.28214 22	36	42.007	-04	27	57.99	19.8 iUEU001F52
26166	C2019	10	16.29189 22	36	42.046	-04	28	02.37	20.1 iUEU001F52
26166	C2019	10	16.30237 22	36	42.052	-04	28	07.22	20.2 iUEU001F52
26166	C2019	10	16.31216 22	36	42.068	-04	28	11.63	20.0 iUEU001F52
66146	C2019	10	15.22895621	01	24.70	-33	52	26.3	14.33oVEU001T08
66146	C2019	10	15.24013821	01	25.38	-33	52	11.5	14.27oVEU001T08
66146	C2019	10	15.24305821	01	25.56	-33	52	07.6	14.26oVEU001T08
66146	C2019	10	15.24869121	01	25.91	-33	52	00.2	14.23oVEU001T08
85628	KC2019	10	12.17786706	48	22.42	+15	33	28.0	18.1 RqEU001160
85628	KC2019	10	12.17999606	48	22.92	+15	33	29.6	17.6 RqEU001160
85628	KC2019	10	12.18125106	48	23.24	+15	33	30.1	17.6 RqEU001160
D6993	C2019	10	15.25898221	43	03.67	-30	51	20.2	16.71oVEU001T08
D6993	C2019	10	15.27203921	42	59.40	-30	50	13.0	17.45oVEU001T08
D6993	C2019	10	15.27742421	42	57.65	-30	49	45.6	16.68oVEU001T08
D6993	C2019	10	15.28030021	42	56.70	-30	49	30.6	16.57oVEU001T08
D7052	C2019	10	15.59098107	38	17.27	+17	56	23.6	18.60oVEU001T05
D7052	C2019	10	15.59500507	38	16.71	+17	56	26.4	18.81oVEU001T05
D7052	C2019	10	15.60042407	38	16.10	+17	56	31.8	18.15oVEU001T05
D7052	C2019	10	15.61178207	38	14.81	+17	56	40.4	18.25oVEU001T05
E1593	KC2019	10	11.99486402	15	53.20	+24	43	10.1	16.4 RqEU001160
E1593	KC2019	10	11.99689402	15	52.93	+24	43	08.1	16.6 RqEU001160
E1593	KC2019	10	11.99891402	15	52.66	+24	43	05.9	16.5 RqEU001160
E2555	KC2019	10	12.13902305	24	12.38	+16	38	06.3	17.6 RqEU001160
E2555	KC2019	10	12.14111005	24	12.59	+16	38	03.7	18.2 RqEU001160
E2555	KC2019	10	12.14317205	24	12.83	+16	38	00.6	17.7 RqEU001160
E2555	C2019	10	15.50174205	30	53.50	+15	12	14.3	17.87oVEU001T05
E2555	C2019	10	15.51184305	30	54.66	+15	11	58.5	17.67oVEU001T05
E2555	C2019	10	15.51465405	30	54.99	+15	11	53.9	17.47oVEU001T05
E2555	C2019	10	15.52320205	30	55.95	+15	11	39.9	17.75oVEU001T05
F3814	KC2019	10	12.10630105	00	37.70	+32	20	57.8	16.6 RqEU001160
F3814	KC2019	10	12.10835305	00	37.29	+32	20	56.3	16.7 RqEU001160
F3814	KC2019	10	12.11044405	00	36.87	+32	20	54.9	16.6 RqEU001160
F3814	C2019	10	15.49416704	50	13.97	+31	38	30.6	16.76oVEU001T05
F3814	C2019	10	15.49758004	50	13.26	+31	38	28.0	16.70oVEU001T05
F3814	C2019	10	15.50328204	50	12.15	+31	38	24.0	16.73oVEU001T05
F3814	C2019	10	15.51861604	50	09.06	+31	38	12.7	16.87oVEU001T05
F3842	C2019	10	15.33091600	06	10.47	-35	33	09.2	15.73oVEU001T08
F3842	C2019	10	15.33886400	06	12.06	-35	33	00.8	15.79oVEU001T08
F3842	C2019	10	15.33978400	06	12.24	-35	32	59.9	15.74oVEU001T08
F3842	C2019	10	15.34208600	06	12.70	-35	32	57.3	15.81oVEU001T08
F3842	C2019	10	15.34300700	06	12.88	-35	32	56.3	15.83oVEU001T08
F3842	C2019	10	15.35674700	06	15.63	-35	32	41.2	15.72oVEU001T08
F3842	C2019	10	15.35766500	06	15.79	-35	32	40.3	15.69oVEU001T08
F3842	C2019	10	15.36764100	06	17.78	-35	32	29.2	15.72oVEU001T08
G2273	KC2019	10	12.00192702	26	56.03	+35	55	17.6	18.8 RqEU001160
G2273	KC2019	10	12.00407102	26	55.87	+35	55	15.3	18.0 RqEU001160
G2273	KC2019	10	12.00621102	26	55.74	+35	55	12.7	18.3 RqEU001160
G2273	KC2019	10	14.96100 02	22	50.35	+34	51	27.8	17.5 GVEU001K87
G2273	KC2019	10	14.96190 02	22	50.28	+34	51	26.6	17.7 GVEU001K87
G2273	KC2019	10	14.96279 02	22	50.20	+34	51	25.5	18.0 GVEU001K87
G2723	KC2019	10	12.05605603	17	50.36	+32	28	24.3	17.5 RqEU001160
G2723	KC2019	10	12.05816703	17	50.33	+32	28	26.8	18.5 RqEU001160
G2723	KC2019	10	12.06033003	17	50.25	+32	28	28.7	18.0 RqEU001160
G3760	C2019	09	20.87913 20	56	46.37	+04	00	30.0	19.3 qEU001J43
G3760	C2019	09	20.88862 20	56	46.03	+04	00	22.3	18.7 qEU001J43
G3760	C2019	09	20.89817 20	56	45.73	+04	00	14.0	18.9 qEU001J43
G3760	C2019	09	20.90768 20	56	45.41	+04	00	06.2	19.0 qEU001J43

J2563	C2019	10	13.40356005	47	58.63	+10	40	40.5	19.30rUEU001I41	
J2563	C2019	10	13.43304105	48	00.39	+10	40	55.3	19.19rUEU001I41	
J2563	C2019	10	13.46070905	48	02.03	+10	41	09.1	19.18rUEU001I41	
J2563	C2019	10	15.38831005	49	59.85	+10	57	38.4	18.97rUEU001I41	
J2563	C2019	10	15.40797005	50	01.01	+10	57	49.0	19.06rUEU001I41	
O3025	C2019	10	12.38747005	57	38.03	+42	32	20.6	17.64gUEU001I41	
O3025	C2019	10	12.38792005	57	38.11	+42	32	20.1	17.63gUEU001I41	
O3025	C2019	10	15.37162006	06	47.33	+41	24	21.2	16.66rUEU001I41	
O3025	C2019	10	15.37206906	06	47.41	+41	24	20.5	16.69rUEU001I41	
O3025	C2019	10	15.52687506	07	14.49	+41	20	44.6	16.84oVEU001T05	
O3025	C2019	10	15.52999906	07	15.02	+41	20	40.0	16.96oVEU001T05	
O3025	C2019	10	15.53988206	07	16.67	+41	20	26.4	16.92oVEU001T05	
W6291	KC2019	10	14.88639	00	18	50.82	+47	24	12.4	17.3 GVEU001K87
W6291	KC2019	10	14.88760	00	18	50.85	+47	24	01.8	17.2 GVEU001K87
W6291	KC2019	10	14.88861	00	18	50.88	+47	23	52.8	17.2 GVEU001K87
W6291	KC2019	10	15.15159500	19	01.48	+46	45	20.1	17.4 VuEU001H21	
W6291	KC2019	10	15.15302400	19	01.51	+46	45	07.5	17.6 VuEU001H21	
W6291	KC2019	10	15.15438500	19	01.53	+46	44	55.5	17.4 VuEU001H21	
W6291	KC2019	10	15.15574700	19	01.57	+46	44	43.5	17.3 VuEU001H21	
W6291	KC2019	10	15.15710800	19	01.58	+46	44	31.3	17.5 VuEU001H21	
W6291	KC2019	10	15.15846900	19	01.60	+46	44	19.4	17.5 VuEU001H21	
W6291	KC2019	10	15.15983000	19	01.69	+46	44	06.7	17.2 VuEU001H21	
W6291	KC2019	10	15.16119200	19	01.71	+46	43	55.5	17.3 VuEU001H21	
W6742	KC2019	10	14.82308	23	17	53.85	+52	58	06.8	18.7 GVEU001K87
W6742	KC2019	10	14.82405	23	17	53.68	+52	58	06.7	18.6 GVEU001K87
W6742	KC2019	10	14.82503	23	17	53.52	+52	58	06.6	18.9 GVEU001K87
X9714	KC2019	10	14.83080	23	42	11.59	+50	20	31.2	17.2 GVEU001K87
X9714	KC2019	10	14.83138	23	42	11.11	+50	20	36.8	17.3 GVEU001K87
X9714	KC2019	10	14.83729	23	42	06.13	+50	21	35.2	17.7 GVEU001K87
Z4030	KC2019	10	12.06344703	26	36.73	+16	21	35.2	14.8 RqEU001160	
Z4030	KC2019	10	12.06552603	26	37.46	+16	21	32.2	14.9 RqEU001160	
Z4030	KC2019	10	12.06755803	26	38.17	+16	21	29.3	14.8 RqEU001160	
b0307	C2019	10	13.52163010	54	45.40	+17	49	43.5	18.85rUEU001I41	
b0307	C2019	10	13.52649010	54	46.47	+17	49	35.6	18.81rUEU001I41	
b0307	C2019	10	13.53137010	54	47.56	+17	49	27.7	18.68rUEU001I41	
b0307	C2019	10	13.53625010	54	48.65	+17	49	19.1	18.79rUEU001I41	
d5289	KC2019	10	12.13201005	18	30.01	-02	13	54.9	16.9 RqEU001160	
d5289	KC2019	10	12.13407505	18	30.07	-02	13	43.7	17.1 RqEU001160	
d5289	KC2019	10	12.13613905	18	30.10	-02	13	32.0	17.0 RqEU001160	
e1857	C2019	10	15.32225419	41	16.87	-10	45	26.2	18.82oVEU001T08	
e1857	C2019	10	15.32516319	41	16.66	-10	45	25.7	18.16oVEU001T08	
e1857	C2019	10	15.33348019	41	16.03	-10	45	23.3	18.18oVEU001T08	
e1857	C2019	10	15.34603019	41	15.09	-10	45	19.1	18.17oVEU001T08	
i2243	KC2019	10	12.00921502	38	05.93	+25	35	10.9	17.4 RqEU001160	
i2243	KC2019	10	12.01129302	38	05.74	+25	35	15.5	16.9 RqEU001160	
i2243	KC2019	10	12.01337402	38	05.54	+25	35	20.0	17.1 RqEU001160	
i2243	KC2019	10	15.02381	02	33	31.57	+27	23	03.9	18.0 GVEU001K87
i2243	KC2019	10	15.02574	02	33	31.40	+27	23	07.5	17.6 GVEU001K87
i2243	KC2019	10	15.02766	02	33	31.21	+27	23	11.6	17.4 GVEU001K87
j8745	KC2019	10	12.08510604	34	53.86	-03	48	49.3	17.8 RqEU001160	
j8745	KC2019	10	12.08718304	34	54.24	-03	48	50.4	17.9 RqEU001160	
j8745	KC2019	10	12.08926104	34	54.65	-03	48	51.4	17.9 RqEU001160	
k7475	C2019	10	15.46951202	29	48.26	-26	29	28.0	17.27oVEU001T08	
k7475	C2019	10	15.47273102	29	48.47	-26	29	38.4	17.57oVEU001T08	
k7475	C2019	10	15.47856302	29	48.93	-26	29	57.7	17.41oVEU001T08	
k7475	C2019	10	15.49323402	29	50.00	-26	30	48.1	17.46oVEU001T08	
m1542	C2019	10	15.28423221	49	48.18	-26	53	10.5	18.20oVEU001T08	
m1542	C2019	10	15.28745421	49	48.22	-26	52	51.7	17.80oVEU001T08	
m1542	C2019	10	15.29520021	49	48.31	-26	52	09.9	18.39oVEU001T08	
m1542	C2019	10	15.30527821	49	48.47	-26	51	14.0	19.13oVEU001T08	
m9486	KC2019	10	12.11327705	03	57.20	+39	39	41.0	17.0 RqEU001160	
m9486	KC2019	10	12.11536305	03	56.98	+39	39	31.7	17.2 RqEU001160	
m9486	KC2019	10	12.11744705	03	56.74	+39	39	22.7	17.3 RqEU001160	
m9486	C2019	10	15.52897504	58	54.72	+35	14	59.9	17.20oVEU001T05	
m9486	C2019	10	15.53506204	58	53.97	+35	14	30.4	17.25oVEU001T05	
m9486	C2019	10	15.53795004	58	53.63	+35	14	16.7	17.29oVEU001T05	
m9486	C2019	10	15.55684404	58	51.29	+35	12	44.6	17.10oVEU001T05	
n2143	C2019	10	15.41771322	19	58.56	+09	18	29.5	17.98oVEU001T05	
n2143	C2019	10	15.42291422	19	58.28	+09	18	23.2	18.11oVEU001T05	
n2143	C2019	10	15.42618122	19	58.12	+09	18	19.7	17.95oVEU001T05	
n2143	C2019	10	15.43930322	19	57.36	+09	18	03.9	18.12oVEU001T05	
o3960	C2019	10	12.80799	21	12	36.83	+25	33	35.6	18.5 qEU001J43
o3960	C2019	10	12.81752	21	12	35.33	+25	33	34.5	18.6 qEU001J43
o3960	C2019	10	12.82703	21	12	33.84	+25	33	32.9	17.8 qEU001J43
o3960	C2019	10	12.83654	21	12	32.36	+25	33	32.0	17.8 qEU001J43

(Last issue was M.P.E.C. 2019-T226)

A. U. Tomatic

(C) Copyright 2019 MPC

M.P.E.C. 2019-U01

◀ [Read MPEC 2019-T226](#) ▶ [Read MPEC 2019-U02](#)

Display MPEC number: Clear

Enter an MPEC number in one of the following forms:

- 1997-B01 (the full form)
- J97B01 (the packed version of the full form)
- B01 (the abbreviated form)

[Home](#) [About](#) [Contact](#) [For Observers](#) [For the Public](#)

CENTER FOR
ASTROPHYSICS
HARVARD & SMITHSONIAN

The Minor

Planet Center is hosted by the Center for Astrophysics | Harvard & Smithsonian.
The Minor Planet Center is funded by NASA.