

OBSERVERS

DATA

IAWN

BETA

STATUS

2018 PZ21

First observed at Pan-STARRS 1, Haleakala on 2018-08-12.

(Discoverer will be defined when the object is numbered. See [this note](#) on how discoverers are determined.)

Orbit

Orbit type: Aten

Near-Earth Object

Interactive Orbit Sketch

Note: WebGL enabled browser required.

epoch	2018-03-23.0	semimajor axis (AU)	0.8588038	<a href="#">uncertainty</a>	7
epoch JD	2458200.5	mean anomaly (°)	323.45075	reference	MPO 452058
perihelion date	2018-04-21.51315	mean daily motion (°/day)	1.23840570	observations used	18
perihelion JD	2458230.01315	aphelion distance (AU)	1.079	oppositions	1
argument of perihelion (°)	214.99775	period (years)	0.8	arc length (days)	24
ascending node (°)	309.22439	P-vector [x]	-0.96164548	first opposition used	2018
inclination (°)	3.16483	P-vector [y]	0.26257408	last opposition used	2018
eccentricity	0.2560550	P-vector [z]	0.07932731	residual rms (arc-secs)	0.24
perihelion distance (AU)	0.6389028	Q-vector [x]	-0.27094059	<a href="#">perturbers coarse indicator</a>	M-v
Tisserand w.r.t. Jupiter	6.8	Q-vector [y]	-0.86419968	<a href="#">perturbers precise indicator</a>	003Eh
ΔV w.r.t. Earth (km/sec)	6.9	Q-vector [z]	-0.42396948	first observation date used	2018-08-12.0
		absolute magnitude	26.7	last observation date used	2018-09-05.0
		phase slope	0.15	computer name	MPCLINUX

JD of orbit computation	2458368.044105
perihelion JD uncertainty (days)	4.4056E-03
argument of perihelion uncertainty (°)	2.3201E-04
ascending node uncertainty (°)	4.9254E-04
inclination uncertainty (°)	1.1545E-03
eccentricity uncertainty	7.5356E-05
perihelion distance uncertainty (AU)	8.7695E-05

Minimum Orbit Intersection Distances (in AU)  
for orbit epoch: 2458600.5, reference: MPO452058

Mercury	0.24945
Venus	0.00237
Earth	0.00017
Mars	0.31273
Jupiter	3.89208
Saturn	8.28668
Uranus	17.6008
Neptune	28.8424

Observations

18 total observations over interval: 2018 08 12.36837 – 2018 09 05.345076

These data are available for [download](#) ([format description](#)).

Date (UT)	J2000 RA	J2000 Dec	Magn	<a href="#">Location</a>	<a href="#">Ref</a>
2018 08 12.36837	20 21 29.623	-01 52 17.88	20.2 w	F51 – Pan-STARRS 1, Haleakala	MPS 909988
2018 08 12.37950	20 21 20.716	-01 52 48.77	20.2 w	F51 – Pan-STARRS 1, Haleakala	MPS 909988
2018 08 12.39068	20 21 11.761	-01 53 19.80	20.6 w	F51 – Pan-STARRS 1, Haleakala	MPS 909988
2018 08 12.40178	20 21 02.902	-01 53 50.51	20.5 w	F51 – Pan-STARRS 1, Haleakala	MPS 909988
2018 08 12.918407	20 15 21.10	-02 18 06.5	20.2 G	L01 – Visnjan Observatory, Tican	MPS 909988
2018 08 12.919947	20 15 20.03	-02 18 10.7		L01 – Visnjan Observatory, Tican	MPS 909988
2018 08 13.282050	20 11 46.920	-02 31 31.82	20.6 G	568 – Mauna Kea	MPS 909988
2018 08 13.283051	20 11 46.239	-02 31 34.25	20.5 G	568 – Mauna Kea	MPS 909988
2018 08 13.284005	20 11 45.593	-02 31 36.60	20.6 G	568 – Mauna Kea	MPS 909988
2018 08 15.07778	19 56 17.96	-03 31 18.6	20.7 G	807 – Cerro Tololo Observatory, La Serena	MPS 909988
2018 08 15.08168	19 56 15.94	-03 31 25.8	20.7 G	807 – Cerro Tololo Observatory, La Serena	MPS 909988
2018 08 15.08559	19 56 13.92	-03 31 33.1	20.7 G	807 – Cerro Tololo Observatory, La Serena	MPS 909988
2018 08 17.295914	19 42 18.839	-04 33 14.23	21.5 G	679 – San Pedro Martir	MPS 909988
2018 08 17.297206	19 42 18.351	-04 33 16.00	21.1 G	679 – San Pedro Martir	MPS 909988
2018 08 17.299034	19 42 17.682	-04 33 18.52	21.1 G	679 – San Pedro Martir	MPS 909988
2018 08 20.155349	19 30 07.184	-05 28 32.81	21.6 G	679 – San Pedro Martir	MPS 911081
2018 08 20.158219	19 30 06.445	-05 28 35.46	21.5 G	679 – San Pedro Martir	MPS 911081
2018 09 05.345076	19 08 38.770	-07 59 33.97	23.75 G	T12 – Mauna Kea-UH/Tholen NEO Follow-Up (2.24-m)	MPS 912402