

## 2014 M068

First observed at Pan-STARRS 1, Haleakala on 2014-06-30.

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

## Orbit

Orbit type: Apollo

Near-Earth Object

Interactive Orbit Sketch

Note: WebGL enabled browser required.

epoch	2014-06-12.0	semimajor axis (AU)	2.6100624	<a href="#">orbit note</a>	E
epoch JD	2456820.5	mean anomaly (°)	343.84590	reference	MPO 303428
perihelion date	2014-08-20.11229	mean daily motion (°/day)	0.23373700	observations used	6
perihelion JD	2456889.61229	aphelion distance (AU)	4.284	oppositions	1
argument of perihelion (°)	25.69812	period (years)	4.22	arc length (days)	1
ascending node (°)	316.45858	P-vector [x]	0.95154194	first opposition used	2014
inclination (°)	2.79796	P-vector [y]	-0.28989385	last opposition used	2014
eccentricity	0.6414130	P-vector [z]	-0.10261331	residual rms (arc-secs)	0.06
perihelion distance (AU)	0.9359345	Q-vector [x]	0.30567492	<a href="#">perturbbers coarse indicator</a>	
Tisserand w.r.t. Jupiter	3.1	Q-vector [y]	0.85513832	<a href="#">perturbbers precise indicator</a>	0000
ΔV w.r.t. Earth (km/sec)	6.7	Q-vector [z]	0.41868997	first observation date used	2014-06-30.0
		absolute magnitude	23.1	last observation date used	2014-07-01.0
		phase slope	0.15	computer name	MPCW

Minimum Orbit Intersection Distances (in AU)  
for orbit epoch: 2456820.5, reference: MPO303428

Mercury	0.55024
Venus	0.21837
Earth	0.00959
Mars	0.04285
Jupiter	1.14479
Saturn	5.09142
Uranus	13.9719
Neptune	26.0431

## Observations

6 total observations over interval: 2014 06 30.47333 – 2014 07 01.453713

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

Date (UT)	J2000 RA	J2000 Dec	Magn	<a href="#">Location</a>	<a href="#">Ref</a>
2014 06 30.47333	20 32 41.388	-30 29 41.49	20.4 w	F51 – Pan-STARRS 1, Haleakala	MPS 523995
2014 06 30.48497	20 32 46.051	-30 29 33.94	20.4 w	F51 – Pan-STARRS 1, Haleakala	MPS 523995
2014 06 30.49665	20 32 50.730	-30 29 26.14	20.6 w	F51 – Pan-STARRS 1, Haleakala	MPS 523995
2014 07 01.451204	20 39 53.667	-30 17 02.82	20.5 R	568 – Mauna Kea	MPS 523995
2014 07 01.452457	20 39 54.215	-30 17 01.85	20.5 R	568 – Mauna Kea	MPS 523995
2014 07 01.453713	20 39 54.761	-30 17 00.86	20.5 R	568 – Mauna Kea	MPS 523995