

JPL HOME

EARTH

SOLAR SYSTEM

STARS & GALAXIES

TECHNOLOGY

Solar System Dynamics



BODIES

ORBITS

EPHEMERIDES

TOOLS

PHYSICAL DATA

DISCOVERY

FAQ

SITE MAP

JPL Small-Body Database Browser

Search:

[\[help \]](#)

699 Hela (1910 KD)

Classification: [Mars-crossing Asteroid](#) SPK-ID: 2000699

[[Ephemeris](#) | [Orbit Diagram](#) | [Orbital Elements](#) | [Physical Parameters](#) | [Discovery Circumstances](#)]

[\[show orbit diagram \]](#)

Orbital Elements at Epoch 2455000.5 (2009-Jun-18.0) TDB

Reference: MPO57621 (heliocentric ecliptic J2000)

Element	Value	Uncertainty (1-sigma)	Units
e	0.4072459	n/a	
a	2.6159984	n/a	AU
q	1.5506438	n/a	AU
i	15.29904	n/a	deg
node	242.74294	n/a	deg
peri	91.31172	n/a	deg
M	117.92789	n/a	deg
t_p	2454494.2457833	n/a	JED
	(2008-Jan-28.74578331)		
period	1545.4488164	n/a	d
	4.23	n/a	yr
n	0.23294204	n/a	deg/d
Q	3.6813530	n/a	AU

Orbit Determination Parameters

# obs. used (total)	730
first obs. used	1902-??-??
last obs. used	2003-10-19
# oppositions	24
planetary ephem.	DE403
quality code	0
fit RMS	0.53
data source	MPC:mpn
producer	Goffin

Additional Information

[T_{jup}](#) = 3.238

[[Ephemeris](#) | [Orbit Diagram](#) | [Orbital Elements](#) | [Physical Parameters](#) | [Discovery Circumstances](#)]

Physical Parameter Table

Parameter	Symbol	Value	Units	Sigma	Reference	Notes
absolute magnitude	H	11.72	mag	n/a	PDS3 (MPC 17259)	
						Published Reference List: [Pilcher, F.: 1983, Minor Planet Bul. 10, 18-20.]

rotation period	rot_per	3.3962	h	n/a	IAU Lightcurve Data (A.W. Harris, E-mail Mar. 2006)	[Binzel, R.P.: 1987, Icarus 72, 135-208.] [Harris, A.W., Young, J.W., Bowell, E., Tholen, D.J.: 1999, Icarus 142, 173-201.] [Pilcher, F., Warner, B. D., Goretti, V.: 2000, Minor Planet Bul. 27, 56-57.] [Szabo, Gy. M., Csak, B., Sarneczky, K., Kiss, L. L.: 2001, Astron. Astrophys. 375, 285-292.]
B-V	BV	.854	mag	.025	EAR-A-5-DDR-UBV-MEAN-VALUES-V1.1	#obs=2; phase (min.=26.92, mean=27.07, max.=27.22) deg.
U-B	UB	.386	mag	.046	EAR-A-5-DDR-UBV-MEAN-VALUES-V1.1	#obs=2; phase (min.=26.92, mean=27.07, max.=27.22) deg.
Tholen spectral type	spec_T	S		n/a	EAR-A-5-DDR-TAXONOMY-V4.0	used 7 color indices; used ground-based radiometric albedo
SMASSII spectral type	spec_B	Sq		n/a	EAR-A-5-DDR-TAXONOMY-V4.0	based on a high-resolution spectrum by Xu et al. (1995) or Bus and Binzel (2002)

699 Hela (1910 KD) Discovered 1910-Jun-05 by Helffrich, J. at Heidelberg (024)

Reference: DISCOVERY.DB

Last Updated: 2003-08-29

Alternate Designations

1910 KD = 1948 KD = 1957 WX1 = A902 WE = A923 TB

[[Ephemeris](#) | [Orbit Diagram](#) | [Orbital Elements](#) | [Physical Parameters](#) | [Discovery Circumstances](#)]

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