

Spectroscopy and Albedos of Mars Trojan Asteroids

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Mars is the only terrestrial planet known to have Trojan (co-orbiting) asteroids, with a confirmed population of 6 objects. The origin of these objects is not known: while several have orbits that are stable on solar-system timescales, work by Rivkin et al. (2003) showed they have compositions that suggest separate origins from one another. We have obtained infrared (0.8-2.5 micron) spectroscopy, albedos, and partial lightcurves for the largest Mars Trojans, and confirm and extend the results of Rivkin et al. (2003). We suggest that the differentiated angrite meteorites are good spectral analogs for 5261 Eureka, the largest Mars Trojan.