

Groundbased Observations of 1620 Geographos

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Groundbased observations of spacecraft target bodies prior to encounter greatly enhance the scientific return from deep space missions. Knowledge of the target body's dimensions, albedo, and spectrum allow the development of more efficient observational sequences for the spacecraft's instruments. Telescopic observations of the asteroids 951 Gaspra and 243 Ida increased the scientific return from the Galileo encounters with these bodies,

The Clementine spacecraft, which is a joint venture of the Department of Defense and NASA, will encounter the asteroid 1620 Geographos in late August 1994, after a two month mapping mission of the Moon. Geographos is an Earth approaching asteroid, a member of the Apollo group. Discovered in 1951, it is an elongated (a/b -2.7) S-type asteroid with a rotation period of 5.22 hours.

A team of about a dozen astronomers, led by R. S. Binzel, is in the middle of a campaign to study the visual lightcurve, spectrum, solar phase curve, and shape of Geographos. The results will be used to calculate accurate exposure times for the Clementine cameras, and to maximize spacecraft pointing strategy. The results from the campaign also have intrinsic scientific worth: the nature and origin of Earth crossing asteroids, in particular their link with meteorites, remains an enigma,

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