

Coordinated Rapid Response to a New Near-Earth Asteroid Discovery and Flyby

The near-Earth asteroid 2016 CG₁₈ was discovered by the Catalina Sky Survey on Feb 3, 2016 and flew by the Earth three days later at less than half the distance to the Moon. A coordinated response by astronomers was made from several observatories:

- NASA's Infrared Telescope Facility (IRTF)
- Gemini North Observatory
- Magdalena Ridge Observatory (MRO)
- Apache Point Observatory (APO)

IRTF and Gemini target-of-opportunity spectroscopic observations give clues to the composition and surface brightness. Light curve observations from APO and MRO show that **this 4-9 meter object is an unusually slow tumbler for an object of its size, possibly the slowest measured to date at ~2 hours per revolution.**

This campaign tested rapid response observing protocols and coordination for difficult, fast moving objects in preparation for future time-critical events similar to the discovery and impact of 2008 TC₃. This effort also added critical data to the catalog of physical properties for potential Earth impactors as well as spacecraft-accessible targets for future exploration.

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