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- Planetary Defense – Recent Progress & Plans
- NEO Discovery
- NEO Characterization
- Mitigation Techniques & Missions
- Impact Effects that Inform Warning, Mitigation & Costs
- Consequence Management & Education

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THE NEED FOR SPEED IN NEAR EARTH ASTEROID CHARACTERIZATION

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ABSTRACT

The current discovery rate of Near Earth Asteroids (NEAs) is set to increase in the next few years from ~900/year to ~2,000/year thanks to new surveys coming online and equipment upgrades to current ones. Despite this, the rate of characterization is expected to remain the same: ~100 spectra and a few dozen light curves per year. At this rate it will take up to a century to characterize just the NEA population with sizes above 100m. Characterization is crucial to science, space missions and planetary defense and cannot be left by the wayside. Herein we discuss the challenges of, and opportunities for, optimal NEA characterization. In particular we find that immediate follow-up (within days) of discovery is essential, especially for NEAs smaller than 100m, which will remain too dim for spectroscopy for many years, even decades, following their discovery. A dedicated telescope (2-4m) could perform optical spectroscopy while a number of smaller telescopes would take light curves. Coordination could be performed by the Minor Planet Center as an extension of the services they provide through the NEO Confirmation Page.