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Proposal Information for 2013A-0044

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Title: Long Term Follow-up of Near Earth Objects

Abstract: We will use the KPNO 2.1-m telescope to recover Near Earth Objects (NEOs) by adding astrometric observations at one or more orbits since discovery. Recovery observations place the strongest constraints on the orbital solution and can be expected to improve the impact risk assessment for Virtual Impactors (VIs). Many NEOs will be observable in the range $21 < V < 23$ on any night during 2013A. Semester 2013A presents the rare opportunity to recover two VIs if nights can be scheduled when they are bright enough for the 2.1-m telescope. If not, there will be worthwhile Potentially Hazardous Asteroid (PHA) recovery candidates on other nights in the semester. Among the 113 NEOs (excluding small objects) for which the NEODyS system estimates a non-zero risk of Earth impact, all but 21 are classified as "Lost" until rediscovered by the surveys. Through this on-going work, we seek to minimize the number of new discoveries that are "lost", improve the characterization of VI/PHA orbits and to further the assessment of impact risk.

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