

NOAO > Observing Info > Approved Programs > 2010B-0030

## Proposal Information for 2010B-0030

**PI:** Mark Trueblood, Winer Observatory, [mtrueblood@noao.edu](mailto:mtrueblood@noao.edu)

**Address:** PO Box 797, Sonoita, AZ 85637-0797, USA

**CoI:** Robert Crawford, Rincon Ranch Observatory

**CoI:** Larry Lebofsky, University of Arizona, LPL

**Title:** Long-Term Follow-up of Near Earth Objects

**Abstract:** Recently-discovered Near Earth Objects (NEOs) will be observed using the KPNO 2.1-m telescope to add astrometric observations at arcs up to 50-80 days from discovery. These extended arcs place strong constraints on the orbital solutions and can greatly reduce the ephemeris uncertainties at the next recovery opportunity. On any night during 2010B, many recently-discovered NEOs will be observable in the range  $21 < V < 23$ . We will place the highest priority on Virtual Impactors (VIs) and on Potentially Hazardous Asteroids (PHAs) where long arcs can be created. Among 89 objects for which the NEODYs system estimates a non-zero risk of Earth impact, all but 20 are unrecoverable using conventional telescopes with small fields of view. Thus, ~80% of the objects that are the reason for the discovery surveys must be re-discovered at the next favorable oppositions and linked to past observations before the impact risk can be reliably assessed. By creating extended arcs, we will reduce the number of VIs and PHAs that accumulate large ephemeris errors, thereby enabling future recovery efforts.

---

*National Optical Astronomy Observatory, 950 North Cherry Avenue, P.O. Box 26732, Tucson, Arizona 85726, Phone: (520) 318-8000, Fax: (520) 318-8360*

NOAO > Observing Info > Approved Programs > 2010B-0030

[noaoprop-help@noao.edu](mailto:noaoprop-help@noao.edu)