

OBSERVING REQUEST
University of Arizona Observatories

Year: 2015

Term: Jan–Jul

Proposal type: short-term

Recovery of Potentially Hazardous Asteroids

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CoI(s): Robert Crawford (Rincon Ranch Observatory), Mark Trueblood (Winer Observatory),
David Bell (NOAO)

Abstract of Scientific Justification

We will search for selected Potentially Hazardous Asteroids (PHAs) whose positions on the sky have become very uncertain because they have not been observed in months to years. When the targets are located, astrometric observations will be taken over spans of three days and used to demonstrate their successful recovery. We will give priority to the subset of PHAs known as Virtual Impactors (VIs) because they have the potential to impact Earth this century. We will create an observational arc of one orbital period from discovery (or more). The result is greatly improved knowledge of the VI and PHA orbits and, for VIs, a greatly improved assessment of the risk of Earth impact this century. The recovery of a VI can remove it from the list of potential Earth Impactors. When conditions are favorable, we will attempt the recovery of VIs classified by NEODyS as “lost.”

Summary of observing runs requested for this project

Run	Telescope	Cage	Instrument	PI	AO	Nights	Moon	Scheduling		Sharing	
								Optimal	Acceptable	Poss.	Adv.
1	90”	PF	90Prime			3	dark	Jan–Jan	Jan–May	no	no
2	90”	PF	90Prime			3	dark	Mar–Mar	Feb–Jun	no	no

Scheduling constraints and unusable dates (up to 4 lines): PI is not available Feb 5, Mar 14–15, or Apr 24–27. Co-Is are not available Feb 3 and Apr 17–24. Request that Run 1 and Run 2 be scheduled at least one lunation apart (near new moon in Jan and Mar, per Target List) to provide the maximum number of targets. Request no moon for at least half of each night.

no text past this line

A * appended to the proposal type indicates a continuation proposal; a * appended to the name of a proposer indicates the proposer is a (graduate) student; a proposer whose name is underlined is certified on the proposed telescope/instrument combination; if a * appears within the PI or AO box in the observations summary table, the instrument is a PI instrument and/or Adaptive Optics are requested – signatures are required on the next page.