

**OBSERVING REQUEST**  
University of Arizona Observatories

Year: 2014

Term: Aug–Dec

Proposal type: short-term

## Recovery of Potentially Hazardous Asteroids

**P.I.:** Larry Lebofsky (LPL; [lebofsky@lpl.arizona.edu](mailto:lebofsky@lpl.arizona.edu); 520-730-6128)

**CoI(s):** Robert Crawford (Rincon Ranch Observatory), Mark Trueblood (Winer Observatory)

**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.

**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 | late Sep   | late Sep–Dec | no      | no   |
| 2   | 90"       | PF   | 90Prime    |    |    | 3      | dark | Nov–Dec    | Oct–Dec      | no      | no   |

**Scheduling constraints and unusable dates (up to 4 lines):** PI and/or Co-Is not available July 1 through 13, August 23 through 26, and Nov. 26 through 30. Request Run 1 and Run 2 be scheduled at least one lunation apart (preferably two) 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.