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Proposal Information for 2010A-0074

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Title: Extended 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 of 50 to 80 days from discovery. These \em extended follow-up \em observations place strong constraints on the orbital solution and will greatly reduce the position uncertainty at next opposition. On any night during 2010A, many NEOs discovered 50 to 80 days before will be observable in the range $21 < V < 23$. We will place the highest priority on Virtual Impactors (VIs) and Potentially Hazardous Asteroids (PHAs). Among 78 objects for which the NEODyS system estimates a non- zero risk of Earth impact, all but 12 are categorized as effectively lost. Thus, 85% of the objects that are the reason for the discovery surveys must be re-discovered and linked to past observations before the impact risk can be reliably assessed. By creating an extended arc, we will significantly reduce the probability that new discoveries will also become lost.

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