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Proposal Information for 2008B-0009

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Title: Near Earth Object Follow-up

Abstract: Near Earth Objects (principally asteroids) selected from the Minor Planet Center's (MPC's) NEO Confirmation Page (NEOCP) Web site will be observed using the KPNO 2.1-m telescope for astrometric follow-up. Since approximately 2005, the network of primarily amateur astronomers performing this critical service has had increasing difficulty observing the now fainter objects on the NEOCP due to the success of the surveys' having observed almost all the brighter objects. Consequently they are now finding objects typically fainter than $V \sim 21$. There are insufficient numbers of professionals, including the surveys themselves, interested in or capable of performing consistent follow-up. Follow-up astrometry is required on a timely basis to avoid losing objects. Since the inception of the NEOCP in 1996, nearly 20% of all items posted on the page remain unconfirmed, with unconfirmed rates rising as objects grow fainter. Post-discovery astrometric follow-up observations are required to extend the orbital arc to sufficient length to reduce the normal observational errors to sufficient levels to be able to determine with certainty (a) what the orbit is, so that the object can be recovered in subsequent apparitions, and (b) whether or not it is a Potentially Hazardous Asteroid (PHA). In the unlikely event that there are insufficient objects on the NEOCP for the dates we are allocated, we will obtain light curves for one or more asteroids in need of photometry, with emphasis on NEOs visible during the scheduled time. We will also observe other targets of special interest, such as radar targets for Arecibo and Goldstone.

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