

## **Jet Propulsion Laboratory's Near-Earth Asteroid Tracking (NEAT) Program: Now Operational, Producing Exciting New NEOs**

E. F. Helin, S. H. Pravdo, K. J. Lawrence (Jet Propulsion Laboratory), and the JPL NEAT/Air Force GEODSS Teams

in December 1995 the Near-Earth Asteroid Tracking (NEAT) system, JPL's electronic asteroid and comet detection program, became operational. NEAT represents a collaborative effort between NASA/JPL and the United States Air Force. This innovative, autonomous observing program is conducted at the USAF/Ground-based Electro-Optical Deep Space Surveillance (GEODSS) facility at the summit of Haleakala, Maui, Hawaii. The objective of this program is to survey the sky for Near-Earth Asteroids and comets, significantly increasing the rate of discovery and achieve 70-80 percent completeness of objects 1-km or larger in the next ten years. At the very outset, important discoveries have been made and should be discussed,

JPL is responsible for the design, fabrication and installation of the NEAT CCD camera and computer system on the Air Force 1-m GEODSS telescope. NEAT observes from the Maui facility 7 nights each month centered near the new moon. Analyzed data are transmitted the next morning to JPL, and software-detected candidate objects are reviewed from subimages. The verified objects are reported as discoveries to the Minor Planet Center where the objects are identified, linked and given designations. In addition, objects are sorted by "velocity" and "angle" to identify the most interesting. An observing script for the next night is prepared, making observations along our planned search region, as well as inserting follow-up observations of newly identified asteroids. With more observations, improved orbits can be calculated for the "new" asteroids.

In March, we experienced the best weather since December. With 20 second integrations allowing for more sky coverage during this run, we have produced > 1300 detections, > 100 new designations as well as comet C/1996 B1 and Earth-Crossing Asteroids (ECAs) 1996 1 Na and 1996 1 O.

References: IAUC Nos. 6341., 6342, 6352 ; MPCs 1996 01, 19961702.

NEAT tally to date (March 25, 1996)

Total number of asteroid detections > 2000

Total number of new objects > 1200

Total number of new designations > 100

New Earth-crossing asteroids: 1996 EN, 1996 EO

New Comet 1996 EF = NEAT