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COMET P/2006 U1 (LINEAR)

An apparently asteroidal object reported by the LINEAR survey (discovery observation tabulated below), and posted on the 'NEO Confirmation Page', has been found to show cometary appearance by several observers from their CCD images. J. E. McGaha (Tucson, AZ, 0.36-m $f/10$ reflector) reports that his co-added 60-s images taken on Oct. 20.3 UT show a stellar nuclear condensation with a narrow tail 439″ long in p.a. 291°. J. Young (Table Mountain, 0.61-m $f/16$ reflector) notes that his images from Oct. 20.4 show an extremely round, bright non-diffuse coma with a diameter of 5″ and a long, straight tail in p.a. 290°; the tail brightens 1′ from the head, then fades slowly, extending for 9′ (it fans open to $\sim$ 1′ slowly southward as it lengthens). Observing with M. Hicks on Oct. 21.4, Young notes the object's appearance then to be very stellar (like the previous night), with the tail of similar appearance in p.a. 288°. G. Hug and D. Tibbets (Eskridge, KS, 0.7-m reflector) write that their images from Oct. 20.4 show a tail $\sim$ 10′ long in p.a. $\sim$ 290°. J. G. Ries (McDonald Observatory, 0.76-m reflector) writes that her images from Oct. 20.5 show a 430″-long tail pointing to the north-northwest. E. Reina (Masquefa, Spain, 0.25-m $f/3.3$ Schmidt-Cassegrain reflector) communicates that images taken on Oct. 21.1 show a very condensed coma of size 17″ with a 6′ tail in p.a. 289°. D. T. Durig and E. A. Pierce (Sewanee, TN, 0.30-m $f/5$ Schmidt-Cassegrain reflector) report a tail nearly 11′.5 long in p.a. 288° on forty stacked 30-s exposures from Oct. 21.1. E. J. Christensen (Mount Lemmon 1.5-m reflector) writes that his images from Oct. 21.4 show an extremely condensed 10″ coma and a straight, narrow 12′ tail in p.a. 290°; the tail appears nearly disconnected from the head (the main visible mass of the tail begins $\approx$ 1′ away from the head). B. L. Stevens (Las Cruces, NM, 0.3-m Schmidt-Cassegrain reflector) reports a tail at least 6′ long in p.a. 290° in his images from Oct. 21.5.

2006 UT	α_{2000}	δ_{2000}	Mag.
Oct. 19.39577	$7^h27^m37^s.60$	$+27°37'24''.5$	17.3

The available astrometry, the following preliminary orbital elements, and an ephemeris appear on *MPEC* 2006-U42.

$$
\begin{array}{lll}
T = 2006\ \text{Aug.}\ 28.280\ \text{TT} & \omega = 63^\circ.881 & \\
e = 0.80714 & \Omega = 240.500 & \Big\}\ 2000.0 \\
q = 0.51236\ \text{AU} & i = 8.346 &
\end{array}
$$

$$a = 2.65657\ \text{AU} \qquad n^\circ = 0.227626 \qquad P = 4.33\ \text{years}$$

2006 October 21 *Daniel W. E. Green*