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COMET C/2007 K1 (LEMMON)

An apparently asteroidal object discovered by the Mt. Lemmon Survey (discovery observation tabulated below), and posted on the Minor Planet Center's 'NEOCP' webpage, has been found to appear cometary by other observers. M. Tichý and J. Tichá (Kleť 1.06-m reflector) find the object to be slightly diffuse on their images from May 19.97 UT. G. Sostero reports that 53 unfiltered co-added 60-s CCD images taken on May 20.9 with a 0.45-m reflector show that the object is nearly 30 percent wider than nearby field stars of similar brightness. D. Balam, University of Victoria, writes that images taken by R. Robb with the 1.82-m Plaskett telescope show a 10″ coma on May 24.3, while 21 co-added 360-s exposures with a Cousins R filter (though marginally transparent sky) on May 25.3 reveal a 20″ coma.

2007 UT	α_{2000}	δ_{2000}	Mag.
May 18.44419	$18^h23^m52^s.40$	$+29°28'54''.7$	20.4

The available astrometry, preliminary parabolic orbital elements [T = 2007 Mar. 31.686 TT, $\omega = 50°.142$, $\Omega = 294°.669$, $i = 108°.430$ (equinox 2000.0), $q = 9.24693$ AU], and an ephemeris appear on *MPEC* 2007-K51.

COMET P/2007 K2 (GIBBS)

A. R. Gibbs reports his discovery of a comet on Catalina Sky Survey images obtained with the 0.68-m Schmidt telescope (discovery observation tabulated below), the object described as diffuse with a 15″ coma elongated 10″ in p.a. 110° in good seeing on four co-added 30-s unfiltered CCD frames. Following posting on the 'NEOCP', Balam reports that six co-added 66-s images taken (as above) by R. Robb on May 24.25 UT show a faint coma of diameter 6″.3 (FWHM) in 2″.1 seeing (FWHM).

2007 UT	α_{2000}	δ_{2000}	Mag.
May 21.15014	$9^h36^m06^s.08$	$+11°14'36''.2$	19.0

Astrometry (including prediscovery astrometry from May 11), the following orbital elements, and an ephemeris appear on *MPEC* 2007-K52.

$$\begin{array}{lll} T = 2007\ \text{June}\ 8.744\ \text{TT} & \omega = 345^\circ.776 & \\ e = 0.67599 & \Omega = 189.919 & \left.\right\} 2000.0 \\ q = 2.26458\ \text{AU} & i = 7.612 & \end{array}$$

$$a = 6.98924\ \text{AU} \qquad n^\circ = 0.053341 \qquad P = 18.5\ \text{years}$$

2007 May 25 *Daniel W. E. Green*