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COMET C/2005 R4 (LINEAR)

An apparently asteroidal object discovery by LINEAR (discovery observation below) has been found to have a relatively bright 5″ round coma of mag 18.0–18.2 on CCD images taken by J. Young (Table Mountain Observatory, 0.6-m f/16 Cassegrain reflector). Young's images from Sept. 15.4–15.5 UT also show a faint, broad, straight 16″ tail in p.a. 115°, while his exposures from Sept. 16.5 show a 12″ broad, straight tail in p.a. 125°.

2005 UT	α_{2000}	δ_{2000}	Mag.
Sept.13.41100	$5^{h}49^{m}05^{s}.83$	$+19^{\circ}46'36''.8$	18.7

The available astrometry, the following preliminary parabolic orbital elements, and an ephemeris appear on *MPEC* 2005-S02.

$$T = 2006 \text{ Jan. } 5.700 \text{ TT} \qquad \left.\begin{array}{l} \omega = 359^{\circ}.387 \\ \Omega = 64.073 \\ i = 163.875 \end{array}\right\} 2000.0$$

$$q = 5.38151 \text{ AU}$$

VARIABLE IN HERCULES

Further to *IAUC* 8598, T. Puckett and V. Reddy report the discovery of a variable object (mag 16.2) on an unfiltered CCD frame taken with the 0.60-m automated supernova patrol telescope on Sept. 6.08 UT, the variable being located at $\alpha = 17^{h}48^{m}05^{s}.81$, $\delta = +34^{\circ}04'01''.2$ (equinox 2000.0), which is near UGC 10990, and it was also visible at mag 16.6 on Puckett's images from Sept. 7.09. The object is visible on Palomar Sky Survey plates taken on 1992 May 5 (blue mag 19.7) and 1993 Aug. 12 (red mag 17.7). Nothing is visible at this location on images taken by Puckett on 2000 Apr. 18, 26, May 12, June 9, 30, 2002 Mar. 8, Apr. 6, 16, 2003 Apr. 6, 14, and 2005 Feb. 26 (limiting mag ~ 20.0); however, the variable was visible at the following magnitudes on other images taken by Puckett: 2002 Feb. 25, 18.1; 26, 18.3; Mar. 24, 18.7; Apr. 1, 17.8; 2004 July 10, 18.2; 2005 Apr. 5, 18.0; 13, 17.8; 17, 17.4; 20, 17.1; 25, 17.5; May 8, 17.0; 14, 16.8; 19, 17.1; 26, 17.5; 29, 18.0; June 6, 17.5; 23, 17.7. The variable object's location is very near that of the radio source IVS 1746+340 (cf. Beasley *et al.* 2002, *Ap.J. Suppl.* **141**, 31).

2005 September 16 *Daniel W. E. Green*