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COMET P/2009 U4 (McNAUGHT)

Robert H. McNaught, Australian National University, reports his discovery of a comet with a weak-to-moderately condensed 30″ coma on CCD images (discovery observation tabulated below) taken with the 0.5-m Uppsala Schmidt telescope at Siding Spring Observatory. McNaught subsequently identified images of the comet that he had taken on Oct. 22.46 UT, noting it to be then rather diffuse, but with its coma clearly extended in p.a. 50°, on images taken for C/2009 R1; observations were then identified on Uppsala Schmidt frames taken by G. J. Garradd on Oct. 11.5, when the object again appeared quite diffuse with the coma extended to the northeast. After posting on the Minor Planet Center's 'NEOCP' webpage, other CCD astrometrists also remarked on the object's cometary appearance. C. Jacques and E. Pimentel (Belo Horizonte, Minas Gerais, Brazil, 0.30-m reflector, Oct. 23.99) report that ten stacked 30-s exposures show a very diffuse coma with diameter 22″. G. Hug (Scranton, KS, U.S.A., 0.56-m reflector, Oct. 24.1) notes the object as diffuse with a slight elongation in p.a. 330°. *R*-band images taken by W. H. Ryan and E. V. Ryan (Magdalena Ridge Observatory, 2.4-m reflector, Oct. 24.1) show a northward tail. A. Boattini (Mt. Lemmon 1.5-m reflector, Oct. 24.1) finds a fairly strongly condensed coma of diameter 15″ with a faint fan-shaped tail $\sim$ 110° wide. J. E. McGaha (Tucson, AZ, U.S.A., 0.36-m Schmidt-Cassegrain reflector, Oct. 24.1) writes that ten stacked 60-s images show a round 8″ coma with a faint, broad, fan tail 15″ long in p.a. 60°. H. Sato (Tokyo, Japan, remotely using a 0.25-m reflector at the RAS Observatory near Mayhill, NM, U.S.A., on Oct. 24.1) finds a diffuse coma of diameter 20".

2009 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Oct. 23.49110	$20^{h}48^{m}45^{s}.26$	$-31°08'33''.6$	16.8	McNaught

Additional astrometry, the following preliminary elliptical orbital elements, and an ephemeris appear on *MPEC* 2009-U76:

$$\begin{array}{lll} T = 2009\text{ Sept.}11.164\text{ TT} & \omega = 261^{\circ}.923 & \\ e = 0.74565 & \Omega = 54.361 & \left.\right\} 2000.0 \\ q = 1.67495\text{ AU} & i = 10.218 & \end{array}$$

$$a = 6.58532\text{ AU} \qquad n^{\circ} = 0.058323 \qquad P = 16.9\text{ years}$$

2009 October 24 *Daniel W. E. Green*