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Central Bureau for Astronomical Telegrams
INTERNATIONAL ASTRONOMICAL UNION
Mailstop 18, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.
IAUSUBS@CFA.HARVARD.EDU or FAX 617-495-7231 (subscriptions)
CBAT@CFA.HARVARD.EDU (science)
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COMET C/2009 R1 (McNAUGHT)

R. H. McNaught reports his discovery of a comet with a circular 12″ comet on CCD images taken with the 0.5-m Uppsala Schmidt telescope at Siding Spring (discovery observation tabulated below), with follow-up images on the same night showing the object to be clearly diffuse. Prediscovery Uppsala Schmidt images taken by G. J. Garradd and McNaught on July 20, Aug. 1, and 18 have been identified by T. Spahr and B. G. Marsden in astrometry submitted to the Minor Planet Center (McNaught now reporting only marginal coma visible on those dates). Following posting on the MPC's 'NEOCP' webpage, other CCD astrometrists have noted the object's cometary appearance. M. Busch, R. Kresken, J. Kuusela, and Z. Sodnik (European Space Agency's Optical Ground Station, Tenerife, 1.0-m *f*/4.4 reflector, Sept. 9.9 UT) measure a coma of size 6″–8″. E. Guido and G. Sostero write that twenty co-added 120-s unfiltered exposures (obtained remotely on Sept. 10.2 with a 0.25-m reflector near Mayhill, NM, U.S.A.) show a coma of diameter $\sim$ 12″ with a hint of elongation toward p.a. 65°.

2009 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Sept.9.61721	$21^h19^m28^s.81$	$-33°47'55''.2$	17.3	McNaught

The available astrometry, the following parabolic orbital elements by B. G. Marsden, and an ephemeris appear on *MPEC* 2009-R33.

$$\begin{array}{lll} T = 2010\ \text{July}\ 2.1701\ \text{TT} & \omega = 130^\circ.8635 & \\ & \Omega = 322.7253 & \Big\}\,2000.0 \\ q = 0.401431\ \text{AU} & i = 76.7005 & \end{array}$$

NEPTUNE I (TRITON)

E. Lellouch, C. de Bergh, and B. Sicardy, Observatoire de Paris; and H.-U. Kaeufl, European Southern Observatory (ESO), report that they observed Triton on July 4 with the CRIRES spectrometer on the Very Large Telescope (UT1) at ESO. Focussing on the bandpass 2.32–2.37 μm (spectral resolution 60000), they detected at least four lines [R(3), R(4), P(2), and P(5)] of the CO(2-0) band. In addition, the observed spectral range shows about ten lines due to gaseous methane. These observations represent the first detection of CO in Triton's atmosphere, as well as the only observation of methane gas since its detection in the ultraviolet by Voyager in 1989.

2009 September 10 *Daniel W. E. Green*