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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/2010 A1 (HILL)

R. E. Hill, Lunar and Planetary Laboratory, reports his discovery of a comet on CCD images taken with the Catalina 0.68-m Schmidt reflector (discovery observation tabulated below), describing the object from co-added exposures in 2″–4″ seeing as having a nuclear condensation ~ 4″–5″ across with a 12″–15″-radius coma beyond that and no obvious tail (but a slight east-west elongation) in moonlight; his follow-up images in thin haze on Jan. 7.24–7.25 UT show a similar appearance but with a short, fan-shaped tail 20″–30″ long in p.a. ~ 270°. Four co-added images obtained by E. C. Beshore with the Mt. Lemmon 1.5-m reflector on Jan. 6.5 showed a very faint tail perhaps 15″ long in p.a. 270°. Following posting on the Minor Planet Center's 'NEOCP' webpage, other CCD astrometrists have noted the object's cometary appearance. Y. Ikari (Moriyama, Shiga-Ken, Japan, 0.26-m *f*/7 reflector, Jan. 6.6) measured a coma diameter of 0′.2. P. Birtwhistle (Great Shefford, Berkshire, England, 0.40-m *f*/6 Schmidt-Cassegrain reflector, Jan. 7.1) found a diffuse coma of size 15″ × 22″, elongated in p.a. 310°, with a weak condensation offset to the southeast (the brightest part of the surrounding coma is 6″ × 12″ and extends in p.a. 50° and 230°). H. Sato (Ota-ku, Tokyo, Japan, remotely using a 0.25-m *f*/3.4 reflector of the RAS Observatory, near Mayhill, NM, U.S.A., Jan. 7.2) finds a 20″ coma elongated toward p.a. 110°. W. H. Ryan (Magdalena Ridge Observatory, 2.4-m *f*/8.9 reflector, Jan. 7.3) remarked on a distinct coma.

2010 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Jan. 6.46381	$9^h11^m26^s.44$	$+33^\circ08'34''.6$	17.6	Hill

Further astrometry, the following preliminary parabolic orbital elements, and an ephemeris are given on *MPEC* 2010-A31. It is possible that the comet is of short period.

$$T = 2010\text{ June } 24.055\text{ TT} \qquad q = 1.02031\text{ AU}$$

$$\left.\begin{aligned}\omega &= 219^\circ.047\\ \Omega &= 6.140\\ i &= 11.782\end{aligned}\right\}2000.0$$

COMET 81P/WILD

Visual total-magnitude estimates: Nov. 24.17 UT, 10.5 (J. J. Gonzalez, Leon, Spain, 20-cm reflector); Dec. 12.16, 10.3 (Gonzalez); 29.21, 10.3 (M. Meyer, Limburg, Germany, 15-cm refractor).

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