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COMET C/2008 X1 (HILL)

R. E. Hill reports his discovery of a comet on Catalina Sky Survey CCD images obtained with the 0.68-m Schmidt reflector (discovery observation tabulated below), the comet noted from co-added exposures as has having a nuclear condensation of size $8''$–$10''$ with a diffuse coma of diameter $30''$ and a broad, diffuse tail $15''$-$20''$ long in p.a. 290°–300°. Four additional co-added 60-s exposures by Hill on Dec. 5.2 UT in $2''$-$4''$ seeing show a similar appearance, with the nuclear condensation measured as $10''$–$12''$ across. Following posting on the Minor Planet Center's 'NEOCP' webpage, other CCD observers have noted the object's cometary appearance. R. Ligustri (Talmassons, Udine, Italy), observing remotely with a 0.25-m f/3.4 reflector near Mayhill, NM, U.S.A., finds a coma diameter of $\sim 25''$ on twelve co-added 180-s exposures taken on Dec. 5.3; using the same instrumentation, E. Guido, G. Sostero, and P. Camilleri report that 24 co-added 120-s unfiltered exposures from Dec. 5.4 show a compact inner coma $\sim 10''$ in diameter, and an extremely faint, fan-shaped, broad tail $\sim 30''$ long toward the northwest. R. A. Kowalski (Mt. Lemmon 1.5-m reflector, Dec. 5.37) reports a coma $\approx 12''$ in diameter and a very faint, low-contrast, fan-shaped tail in p.a. 290°.

2008 UT	α_{2000}	δ_{2000}	Mag.
Dec. 4.34227	$5^h24^m20^s.26$	$+3^\circ17'52''.2$	17.4

The available astrometry, the following preliminary parabolic orbital elements, and an ephemeris appear on *MPEC* 2008-X42.

$$T = 2009 \text{ May } 20.504 \text{ TT} \qquad q = 1.61769 \text{ AU}$$

$$\left.\begin{aligned}\omega &= 44^\circ.947\\ \Omega &= 108.322\\ i &= 23.774\end{aligned}\right\}2000.0$$

COMET C/2008 O7 (SOHO)

Further to *IAUC* 8987, below are tabulated the discovery data for an additional near-sun presumed comet found on SOHO website images. Not a member of any known dynamical group, C/2008 O7 was very diffuse and perhaps slightly elongated (mag $\sim$ 7.5–8.0); based on its appearance, K. Battams remarks that it is unlikely to have survived.

Comet	2008 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2008 O7	July 18.921	$7^h54^m.6$	$+19^\circ12'$	C2	BZ	2008-T10

2008 December 5 *Daniel W. E. Green*