

**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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Phone 617-495-7440/7244/7444 (for emergency use only)

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	$5^{\text{h}}24^{\text{m}}20^{\text{s}}.26$	$+3^\circ17'52''.2$	17.4

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

$$\left. \begin{array}{ll} T = 2009 \text{ May } 20.504 \text{ TT} & \omega = 44.947 \\ & \Omega = 108.322 \\ q = 1.61769 \text{ AU} & i = 23.774 \end{array} \right\} 2000.0$$

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 ~ 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	<i>MPEC</i>
C/2008 O7	July 18.921	$7^{\text{h}}54^{\text{m}}.6$	$+19^\circ12'$	C2	BZ	2008-T10