Circular No. 8994

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)
URL `http://www.cfa.harvard.edu/iau/cbat.html` ISSN 0081-0304
Phone 617-495-7440/7244/7444 (for emergency use only)

COMET P/2008 T4 (HILL)

R. E. Hill reports his discovery of a comet on CCD images taken with the 0.68-m Schmidt telescope in the course of the Catalina Sky Survey (discovery observation tabulated below), a stack of four 30-s exposures showing a diffuse coma 10″ across and a well-condensed nuclear condensation with a broad tail 20″ long in p.a. ∼ 210°. Images obtained by A. Boattini with the Mt. Lemmon 1.5-m reflector on Oct. 8.44–8.45 UT show a well-condensed coma with diameter 10″ and a broad tail ∼ 30″ long in p.a. 245°.

2008	UT	α_{2000}	δ_{2000}	Mag.
Oct.	8.38711	$1^{\rm h}52^{\rm m}52^{\rm s}.10$	$+7^\circ39'25''.5$	17.9

The available astrometry (including prediscovery observations from Sept. 28–30), the following preliminary elliptical orbital elements, and an ephemeris appear on *MPEC* 2008-T90.

$$\left.\begin{array}{ll} T = 2008\ \text{Sept.}21.832\ \text{TT} & \omega = 331^\circ.404 \\ e = 0.44203 & \Omega = 46.835 \\ q = 2.44897\ \text{AU} & i = 5.540 \end{array}\right\} 2000.0$$
$$a = 4.38908\ \text{AU} \qquad n^\circ = 0.107188 \qquad P = 9.20\ \text{years}$$

2008 TC_3

J. Borovicka, Astronomical Institute, Czech Academy of Sciences, reports that Z. Charvat (Czech Hydrometeorological Institute) has noticed a bright spot that likely corresponds to the atmospheric entry of 2008 TC_3 (cf. *IAUC* 8990) over northern Sudan on images taken by the weather satellite Meteosat 8 around Oct. $7^{\rm d}02^{\rm h}45^{\rm m}$ UT; the spot is apparent in all twelve satellite spectral channels, spanning wavelengths 0.5–14 μm. Since the satellite takes images in scanning mode, it takes ∼ 5 min to obtain one image; consequently, the exact time of the spot's appearance cannot be inferred easily from the image. The spot is, however, not present in the images taken at nominal times $2^{\rm h}40^{\rm m}$ and $2^{\rm h}50^{\rm m}$ UT. The geographical coordinates of the spot in the visual and near-infrared channels are $\lambda = 32^\circ.16$ east, $\beta = +20^\circ.97$ (assuming that the source of light is at sea level). The HRV channel shows an apparent tail ∼ 3 km long toward the west-northwest. The infrared channels (displaced in the instrument focal plane and likely scanned the region 1.8 s later) show the spot at $\lambda = 32^\circ.37$ east, $\beta = +20^\circ.89$. The actual coordinates may be slightly southwest of these positions after correcting for the fireball's altitude (∼ 30 and 22 km).

