Circular No. 8873

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/2007 S1 (ZHAO)

Haibin Zhao, Purple Mountain Observatory, reports the discovery of a comet (discovery observation tabulated below) on CCD images obtained with the 1.04-m *f*/1.8 Schmidt telescope at XuYi Station; the object shows a moderately condensed coma with diameter 15″.6. Following posting on the 'NEOCP' webpage, G. Sostero (Remanzacco, Italy) reports that unfiltered CCD images obtained by L. Donato and V. Gonano on Sept. 19.9 UT show (0.45-m reflector; forty co-added 60-s exposures) a coma nearly 25″ in diameter with a fan-shaped tail nearly 40″ long in p.a. 240°. L. Buzzi and F. Luppi (Varese, Italy, 0.60-m reflector) write that their forty-five stacked 15-s images from Sept. 20.0 show a 10″ central condensation elongated in p.a. ~ 270° surrounded by a faint 30″ coma. E. Guido, Castellammare di Stabia, Italy, writes that 12 stacked 60-s unfiltered exposures taken remotely by Sostero and himself on Sept. 20.4 with a 0.25-m *f*/3.4 reflector at Mayhill, NM, U.S.A., show a diffuse coma nearly 15″ in diameter with total mag 17.8 and a sharp central condensation with a tail nearly 25″ long toward p.a. 260°. Ten 180-s images taken by R. Ligustri (Talmassons, Udine, Italy, 0.35-m reflector) on Sept. 20.9 show a coma of diameter ~ 20″–30″.

2007 UT	α_{2000}	δ_{2000}	Mag.
Sept.17.78693	$0^h47^m37^s.51$	$-2^\circ00'44''.2$	18.2

The available astrometry (including prediscovery LONEOS observations from Sept. 8 and 15 identified by T. Spahr), the following elliptical orbital elements, and an ephemeris appear on *MPEC* 2007-S36.

$$\begin{array}{llll} T = 2007\ \text{Dec.}\ 10.559\ \text{TT} & \omega = 246^\circ.072 & & \\ e = 0.34443 & \Omega = 141.930 & \Big\}\ 2000.0 & \\ q = 2.50287\ \text{AU} & i = 6.024 & & \end{array}$$

$$a = 3.81784\ \text{AU} \qquad n^\circ = 0.132123 \qquad P = 7.46\ \text{years}$$

SATELLITES OF SATURN

The IAU Working Group for Planetary System Nomenclature has approved new designations and names of satellites of Saturn (cf. *IAUC* 8826):

Saturn XLIX	Anthe	=	S/2007 S 4	*IAUC* 8857
Saturn L	Jarnsaxa	=	S/2006 S 6	*IAUC* 8727
Saturn LI	Greip	=	S/2006 S 4	*IAUC* 8727
Saturn LII	Tarqeq	=	S/2007 S 1	*IAUC* 8836

2007 September 20 *Daniel W. E. Green*