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INTERNATIONAL ASTRONOMICAL UNION

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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. $\sim 270^\circ$ 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 $\sim 20''-30''$.

2007 UT	α_{2000}	δ_{2000}	Mag.
Sept.17.78693	$0^{\text{h}}47^{\text{m}}37^{\text{s}}.51$	$-2^{\circ}00'44''.2$	18.2

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

$T = 2007 \text{ Dec. } 10.559 \text{ TT}$	$\omega = 246.072$	}	2000.0
$e = 0.34443$	$\Omega = 141.930$		
$q = 2.50287 \text{ AU}$	$i = 6.024$		
$a = 3.81784 \text{ AU}$	$n^\circ = 0.132123$	$P = 7.46 \text{ years}$	

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	<i>IAUC</i> 8857
Saturn L	Jarnsaxa	= S/2006 S 6	<i>IAUC</i> 8727
Saturn LI	Greip	= S/2006 S 4	<i>IAUC</i> 8727
Saturn LII	Tarqeq	= S/2007 S 1	<i>IAUC</i> 8836