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

COMET C/2006 S3 (LONEOS)

B. Skiff reports the LONEOS discovery of a comet (discovery observation tabulated below); confirming 5-min R-band CCD frames taken by Mandushev (Lowell Observatory) using the Hall 1.1-m telescope at Lowell's Anderson Mesa station show the comet to be moderately condensed with a coma 11″ in diameter, somewhat asymmetric toward the east. Following posting on the 'NEO Confirmation Page', other observers have confirmed the cometary appearance. E. J. Christensen reports that four stacked 30-s prediscovery Catalina Sky Survey observations obtained by A. R. Gibbs in good seeing with the 0.68-m Schmidt telescope on Sept. 17.32–17.36 UT reveal a 10″ coma and no tail; Christensen's own observations (four 30-s co-added frames) from Sept. 20.3 also show a 10″ coma. P. Birtwhistle (Great Shefford, Berkshire, U.K., 0.40-m $f/6$ Schmidt-Cassegrain reflector) reports that three CCD images taken in poor seeing on Sept. 20.0 show the object to be noticably diffuse with a diameter of 10″, possibly elongated to 15″ in p.a. 100°/280°, with no obvious tail; his images from Sept. 21.1 in better seeing indicate the object to be diffuse and rather unconcentrated, elongated east-west with dimensions $\approx 9'' \times 6''$, with the center of light being slightly offset to the east, and again no apparent tail. Images taken by J. Young at Table Mountain (0.61-m $f/16$ Cassegrain reflector) on Sept. 20.31–20.35 show a coma of diameter 10″ with very little condensation toward the center and no tail noted; his frames from Sept. 21.32–21.40 show a very diffuse 12″ coma with little or no central condensation, possibly elongated toward p.a. 110°. R. Miles (Stourton Caundle, Dorset, U.K., 0.28-m $f/10$ Schmidt-Cassegrain reflector) writes that his images from Sept. 21.0 show a coma of diameter $\sim 8''$; his frames from Sept. 21.12–21.15 also reveal a faint tail.

2006 UT	α_{2000}	δ_{2000}	Mag.
Sept.19.31576	$0^h09^m11^s.55$	$+10^\circ01'02''.0$	19.0

The available astrometry, the following *very* preliminary parabolic orbital elements, and an ephemeris appear on *MPEC* 2006-S38. The orbital elements are extremely uncertain; low-inclination post-perihelic solutions are also possible.

$$T = \text{2011 Dec. 28.773 TT} \qquad \left.\begin{array}{l}\omega = 146^\circ.619\\ \Omega = 36.781\\ i = 165.459\end{array}\right\}2000.0$$
$$q = 4.12483 \text{ AU}$$

2006 September 21 *Daniel W. E. Green*