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COMET C/2007 N3 (LULIN)

M. Knight and D. Schleicher, Lowell Observatory, obtained and analyzed extensive CN narrowband images of comet C/2007 N3 on eleven nights between Jan. 30 and Mar. 2, along with CN snapshots on five additional nights, using the Hall 1.1-m telescope at Lowell Observatory. Following the removal of median radial profiles, two side-on gas jets are seen centered at position angles near 110° and 290°, with each showing a corkscrew morphology. Intervals between fifteen pairs of matching CN images from various rotational cycles, coupled with the spacing and the outward motion of the features, imply a nucleus rotation period of 42.0 ± 0.5 hr. Preliminary modeling yields an obliquity of the rotation axis near 95° and source locations within 30° of each pole.

COMETS C/2008 W1 AND C/2009 A1 (STEREO)

Further to *IAUCs* 8955 and 9005, K. Battams has measured (and B. G. Marsden has reduced) astrometry for two additional near-sun presumed comets that were found on STEREO website images by A. Watson. C/2008 W1, which was observed only by the 'HI1-B' instrument (onboard STEREO-B), was a Kreutz sungrazer. C/2008 W1 peaked at magnitude perhaps 9–10; the SOHO LASCO instrument was not operational when this object was found. C/2009 A1, which was detected by the HI1 instruments on both STEREO-A and STEREO-B, belongs to no known group; D. Chestnov and R. Kracht aided in the finding of images of this object in HI1-B images after it was initially found in HI1-A images. Battams notes that C/2009 A1 was very faint, peaking around mag 13 (with 14 being the limiting magnitude of the HI-1 instruments), and it was small and seemingly diffuse. The parabolic orbital elements below for C/2009 A1 by Marsden were published on *MPC* 65057.

Comet	2008 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2008 W1	Nov. 18.739	$12^{h}28^{m}.7$	$-7°38'$	H1B	AW	2009-B10

Comet	2009 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2009 A1	Jan. 10.017	$22^{h}28^{m}.1$	$-3°51'$	H1A	AW	2009-B10

$$T = 2009\ \text{Jan.}\ 11.785\ \text{TT} \qquad \left.\begin{array}{l}\omega = 102^{\circ}.326\\ \Omega = 340.014\\ i = 51.472\end{array}\right\}2000.0$$

$$q = 0.12713\ \text{AU}$$

2009 March 5 *Daniel W. E. Green*