Circular No. 8643

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URL `http://cfa-www.harvard.edu/iau/cbat.html` ISSN 0081-0304
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SUPERNOVA 2005ls IN MCG +07-7-1

M. Armstrong, Rolvenden, Kent, England, reports his discovery of an apparent supernova (mag 15.8) on unfiltered CCD images taken on Dec. 9.052 and 9.712 UT with a 0.35-m reflector. SN 2005ls is located at $\alpha = 2^h54^m15^s.97$, $\delta = +42^o43'29''.8$ (equinox 2000.0), which is $\approx 6''.6$ west and $2''.9$ south of the center of MCG +07-7-1. Nothing was visible at this position on his image taken on 2003 Aug. 30 (limiting mag 19.5) or on Palomar Sky Survey images from 1989 Aug. 31 (limiting red mag 20.8) and 1989 Sept. 2 (limiting blue mag 22.5).

V574 PUPPIS

R. J. Rudy, D. K. Lynch, S. Mazuk, and C. C. Venturini, Aerospace Corporation; R. C. Puetter, University of California at San Diego; R. B. Perry, Langley Research Center, NASA; and B. Walp, Lick Observatory, report 0.40- to 2.5-μm spectroscopy of V574 Pup (cf. *IAUC* 8443, 8445) using the Lick 3.0-m telescope (+ VNIRIS) on Nov. 16 UT. One year after outburst, the object was well into its coronal phase with lines of [Si VI], [Si VII], [Ca VIII], [S VIII], and [S IX]. The unidentified nova features at 0.8926, 1.1110, 1.5545, and 2.0996 μm were present, as well. Two distinct profile shapes existed for the emission lines: flat-topped for the H I and He I lines, and centrally peaked for the coronal and higher excitation features. There was no evidence of self-emission from dust. Broadband magnitudes measured for V574 Pup: $V = 13.6$, $J = 12.7$, $H = 12.7$, $K = 11.7$.

COMET P/2005 T4 (SWAN)

Elliptical orbital elements from *MPEC* 2005-W25:

$$\begin{array}{llll} T = 2005 \text{ Oct. } 10.538 \text{ TT} & \omega = 41^\circ.444 & \\ e = 0.93058 & \Omega = 25.422 & \left.\right\} 2000.0 \\ q = 0.64940 \text{ AU} & i = 160.036 & \end{array}$$

$$a = 9.35420 \text{ AU} \qquad n^\circ = 0.034450 \qquad P = 28.6 \text{ years}$$

COMET C/2005 E2 (McNAUGHT)

Visual total-magnitude estimates by J. J. Gonzalez, Leon, Spain, with a 0.20-m reflector (all made with the comet at altitudes of $\sim 11^o$–17^o): Sept. 21.83 UT, 11.2; Oct. 26.84, 11.3; Nov. 22.79, 11.2; Dec. 4.81, 10.9.

2005 December 9 *Daniel W. E. Green*