Circular No. 8529

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)

V378 SERPENTIS AND V2361 CYGNI

D. Gaggero, I. Martire, R. Poggiani, V. Puccetti, S. N. Shore, and E. Tognelli, Department of Physics, University of Pisa; and S. Bernabei, Osservatorio Astrofisica, Bologna, and Istituto Nazionale di Astrofisica (INAF), report 0.4–1.0-μm observations of V378 Ser and V2361 Cyg using the Loiano 1.52-m telescope (+ BFOSC grism spectrograph) of the Bologna Observatory/INAF during Apr. 29.8–May 2.2 UT (at resolutions of 700 and 900). V378 Ser (*IAUC* 8505) showed weak Hα P-Cyg absorption (Hβ and Hγ indicate a Balmer progression in emission intensity, while the velocity of the minimum of each of the three Balmer absorption troughs was -2200 km/s); stronger absorption is seen for Paschen 10–13, and weak emission appears at C I 908.5- and 940.6-nm and O I 777.3- and 844.2-nm but with similar velocities. No He II or O II is observed. Strong P-Cyg absorption is detected for He I 587.5-nm at -1500 km/s and also for Fe II (42, 48, 49). The spectrum resembles those of the nova in the Large Magellanic Cloud 1988 No. 1 and V443 Sct at two weeks after maximum — consistent with the ejecta being in the pre-nebular phase (no change observed in line profile or intensity during the 3 days of observation). The spectrum is developing relatively slowly for the observed optical velocities. V2361 Cyg (*IAUC* 8483) displays strong emission at Hα with principal asymmetric peaks at -700 km/s (weaker) and +705 km/s, and a still-weaker third peak at -200 km/s (FWHM = 2200 km/s and FWZI = 4500 km/s for the entire profile); O I 844.2-nm shows the same peak velocities and intensities as that of the Hα emission (FWHM = 2000 km/s and FWZI 3800 km/s); the Paschen series has similar widths; and other emission lines (e.g., [O III] 436.3-, 495.9-, and 500.7-nm; He I 587.5-nm; O I 777.3, 844.2 nm; N I 821.6-nm; and Mg II 823.2-nm) show symmetric peaks at the same peak velocities. The Hα/Hβ intensity ratio is consistent with the high reported reddening (*IAUC* 8524). Both novae resemble CO-type outbursts.

COMETS C/2005 F3 AND C/2005 F4 (SOHO)

Additional diffuse Kreutz sungrazers (cf. *IAUC* 8527); C/2005 F3 had no tail (too faint for photometry, but at mag ~ 8), while C/2005 F4 had a possible hint of a tail and reached mag ~ 6.5 at $7.1 R_\odot$ (Mar. 28.842 UT).

Comet	2005 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2005 F3	Mar. 28.017	$0^h35^m.5$	$+\ 2^\circ 17'$	C2	MM	2005-J25
C/2005 F4	28.429	0 44.9	+ 2 08	C3/2	HS	2005-J25

2005 May 16 *Daniel W. E. Green*