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COMET P/2004 V5 (LINEAR-HILL)

Z. Sekanina, Jet Propulsion Laboratory, writes that his comet fragmentation model (cf. *IAUC* 8434) shows that the two nuclei of P/2004 V5 (*MPECs* 2004–V79 and 2004–W07) broke apart around 2001.9 ± 0.3 year, at a heliocentric distance of ~ 6.3 AU and 2.5 years before perihelion. The separation velocity of the companion (fragment B) relative to the primary (A) pointed below the orbital plane and was at least 2.6 m/s. The motion of B has since been subjected to a differential deceleration of 40 ± 6 units of 10^{-5} the solar attraction. Predicted separations and position angles of B relative to A are as follows (equinox 2000.0): 2004 Nov. 21.0 TT, 131″, 287°; Dec. 1.0, 137″, 288°; 11.0, 144″, 289°; 21.0, 152″, 290°; 31.0, 159″, 290°; 2005 Jan. 10.0, 167″, 291°; 20.0, 175″, 291°; 30.0, 181″, 291°.

SUPERNOVA 2004fz IN NGC 783

A. V. Filippenko and R. J. Foley, University of California, Berkeley, report that inspection of CCD spectra (range 320–730 nm), obtained by S. Mochnacki and J. Thomson (University of Toronto) on Nov. 15 UT with the 1.88-m reflector at David Dunlap Observatory, suggests that SN 2004fz (*IAUC* 8437) is of type Ia, roughly 1 week prior to maximum brightness. This classification was confirmed by inspection of higher-quality CCD spectra (range 310–710 nm) obtained by D. Kirkman and D. Tytler (University of California, San Diego) on Nov. 16 with the Shane 3-m reflector at Lick Observatory. Its spectral-feature age (Riess *et al.* 1997, *A.J.* **114**, 722), derived from the Lick data, is 5 ± 2 days before maximum brightness. The expansion velocity of the ejecta, as measured from the minimum in the Si II 635.5-nm absorption trough, is ~ 11000 km/s. No interstellar Na I D absorption lines are present, to an equivalent width limit of ~ 0.02 nm.

COMET C/2004 Q2 (MACHHOLZ)

Visual total-magnitude estimates: Nov. 6.79 UT, 7.2 (A. Pearce, Noble Falls, W. Australia, 8×40 binoculars); 13.10, 6.9 (J. J. Gonzalez, Leon, Spain, 7×50 binoculars); 14.45, 6.2 (D. A. J. Seargent, Cowra, N.S.W., naked eye); 16.60, 6.5 (Y. Nagai, Nagano, Japan, 7×35 binoculars).

COMET C/2003 K4 (LINEAR)

Visual total-magnitude estimates by Pearce (20×80 binoculars): Aug. 8.47 UT, 6.9; Oct. 22.84, 7.4; Nov. 6.80, 7.3; 13.80, 7.2; 17.80, 7.2.

2004 November 18 *Daniel W. E. Green*