

Central Bureau for Astronomical Telegrams
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Mailstop 18, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.
IAUSUBS@CFA.HARVARD.EDU or FAX 617-495-7231 (subscriptions)
BMARSDEN@CFA.HARVARD.EDU or DGREEN@CFA.HARVARD.EDU (science)
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SUPERNOVA 2000ck IN IC 4355

S. Benetti, R. Cosentino, J. Licandro, F. Paulli, M. Pedani, G. Trancho, A. Zacchei, and E. Giro, Telescopio Nazionale Galileo (TNG); P. Conconi, G. Crimi, and E. Molinari, Osservatorio Astronomico di Brera; and A. Caproni, M. Comari, C. Corte, S. Monai, and M. Pucillo, Osservatorio Astronomico di Trieste, report: \A fully reduced CCD spectrum (range 333.3{722.3 nm, resolution 1 nm), obtained on May 31.03 UT with the TNG re°ector (+ D.o.lo.res spectrograph), tentatively shows SN 2000ck (cf. IAU 7431) to be a type-II supernova near maximum light. The spectrum is dominated by a very blue continuum ($T_{bb} \gg 17\,000$ K), upon which we identify (even if faint) H_{\pm} , H° , and H^{-} lines with relatively narrow P-Cyg profiles (from which we derive an expansion velocity of $\gg 6200$ km/s). There is no sign of a broad H° feature. From weak interstellar lines due to the Na I D absorption feature ($EW \gg 0.12$ nm) seen at $\gg 605.3$ nm, we derive a parent-galaxy recession velocity of $\gg 8150$ km/s."

S. Jha, P. Challis, and R. Kirshner, Harvard-Smithsonian Center for Astrophysics; and P. Garnavich, University of Notre Dame, write: \Spectra of SN 2000ck, taken by P. Berlind and Garnavich on May 27.4, 28.3, 29.2, 30.2, and 31.3 UT with the Whipple Observatory 1.5-m telescope (+ FAST spectrograph), show it to be an unusual type-II supernova at an early epoch. The spectra exhibit a blue continuum with narrow emission lines of [O II], H° , H^{-} , [O III], [O I], [N II], H° , and [S II] from a superimposed H II region at the recession velocity of IC 4355 (8048 km/s in the NASA/IPAC Extragalactic Database). From the supernova itself, there are broad but very weak absorption features of H^{-} (expansion velocity 6700 km/s) and He I (rest 587.6 nm, expansion velocity 5300 km/s) that have developed only very slowly. Strong interstellar Na I absorption (with equivalent width 0.1 nm) at the host-galaxy redshift implies significant extinction by dust."

A. V. Filippenko and A. C. Coil, University of California at Berkeley, communicate: \A CCD spectrum (range 320{1000 nm) of SN 2000ck obtained on May 31 UT with the Shane 3-m re°ector at Lick Observatory exhibits a blue, nearly featureless continuum. It resembles the spectrum of the peculiar type-II supernova 1993J at very early times (Filippenko 1997, ARAA 35, 309), but the type-II classification is not yet certain."

COMET C/1999 S4 (LINEAR)

Visual m_1 estimates by N. Biver, Oahu, HI (0.26-m re°ector): May 25.61 UT, 11.3; 29.61, 11.0.