

**SN2013df** (A.R. 12 26 29.33, Dec. +31 13 38.3), scoperta il 7 giugno 2013 nella galassia ngc 4414 (offset 32E 14N), magnitudine 14.4, tipo IIb.

SN scoperta da Fabrizio Ciabattari e Emiliano Mazzoni con il telescopio Newton da 50cm dell'Osservatorio di Monte Agliale (Lucca).



Electronic Telegram No. 3557 Central Bureau for Astronomical Telegrams INTERNATIONAL ASTRONOMICAL UNION CBAT Director: Daniel W. E. Green; Hoffman Lab 209; Harvard University; 20 Oxford St.; Cambridge, MA 02138; U.S.A. e-mail: [cbatiau@eps.harvard.edu](mailto:cbatiau@eps.harvard.edu)

(alternate

[cbat@iau.org](mailto:cbat@iau.org)

) URL

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Prepared using the Tamkin Foundation Computer Network SUPERNOVA 2013df IN NGC 4414 = PSN J12262933+3113383 F. Ciabattari, E. Mazzoni, S. Donati and G. Petroni, Borgo a Mozzano, Italy, report the discovery of an apparent supernova (mag 14.4) on unfiltered CCD images (limiting magnitude 19.5) obtained on June 7.87 and 8.83 UT with a 0.5-m Newtonian telescope in the course of the Italian Supernovae Search Project. The new object is located at R.A. = 12h26m29s.33, Decl. +31d13'38".3 (equinox 2000.0; astrometry with respect to UCAC-2 stars), which is 32" east and 14" north of the center of the galaxy NGC 4414. Nothing is visible at this position on the digitized plates of the Palomar Sky Survey from 1993 Mar. 21 (F plate; limiting magnitude 20.3) and 1993 Apr. 15 (J plate; limiting mag 20.3). The variable was designated PSN J12262933+3113383 when it was posted at the Central Bureau's TOCP webpage and is here designated SN 2013df based on the spectroscopic confirmation reported below. Additional CCD magnitudes (unfiltered unless noted otherwise) for 2013df: Apr. 15, [19.2 (Ciabattari et al.); June 8.910, 14.0 (Gianluca Masi and Francesca Nocentini; remotely using a 43-cm robotic telescope at Ceccano, Italy; position end figures 29s.35, 38".2); 10.321, 13.7 (Joseph Brimacombe, Cairns, Australia; remotely with a 51-cm RCOS telescope + STL11K camera + luminance filter at the New Mexico Skies observatory near Mayhill, NM, U.S.A.; position end figures 29s.35, 38".3; image posted at website URL

<http://www.flickr.com/photos/43846774@N02/9011768240/>

); 12.902, 14.4 (S. Foglia and G. Galli, Pogliano Milanese, Italy; 0.28-m f/6.8 Schmidt-Cassegrain reflector + ST8XME camera; position end figures 29s.36, 38".1; UCAC-4 reference stars). S. B. Cenko, Goddard Space Flight Center, NASA; K. I. Clubb, W. Zheng, P. L. Kelly, and A. V. Filippenko, University of California, Berkeley; and S. D. Van Dyk, IPAC, California Institute of Technology, report that inspection of a CCD spectrum (range 450-960 nm), obtained on June 10.8 UT with the 10-m Keck II telescope (+ DEIMOS spectrograph) at Keck Observatory, shows that PSN J12262933+3113383 = SN 2013df is a type-II supernova. The spectrum exhibits a strong blue continuum, with weak, broad P-Cyg features corresponding to H-alpha and He I 587.6-nm. The absorption minima for both features are blueshifted by approximately 14000 km/s. The spectrum resembles early-time spectra of SN 1993J (e.g., Filippenko et al. 1993, Ap.J. 415, L103), suggesting that SN 2013df may evolve into a type-IIb supernova. Further observations are encouraged. NOTE: These 'Central Bureau Electronic Telegrams' are sometimes superseded by text appearing later in the printed IAU Circulars. (C) Copyright 2013 CBAT 2013 June 13 (CBET 3557) Daniel W. E. Green