

SN 2013dy (A.R. 22 18 17.60 Dec. +40 34 09.6) scoperta il 10 luglio 2013 nella galassia NGC 7250 (offset 2W 25N), magnitudine 19.1.

SN scoperta da *LOSS* il 10.450 luglio e *Kuniaki Goto*, indipendentemente da Fabrizio Ciabattari con il telescopio di Monte Agliale (Newton 0.5 m) il 10.086 di luglio.

Classificazione: tipo Ia - *very young*



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Prepared using the Tamkin Foundation Computer Network SUPERNOVA 2013dy IN NGC 7250 = PSN J22181760+4034096 Further to CBET 3561, C. Casper, W. Zheng, W. Li, and A. V. Filippenko, University of California at Berkeley; and S. B. Cenko, Goddard Space Flight Center, report the LOSS discovery of an apparent supernova on unfiltered KAIT images: SN 2013 UT R.A. (2000.0) Decl. Mag. Offset 2013dy July 10.45 22 18 17.60 +40 34 09.6 17.0 2".1 W, 24".9 N Note that the offset was incorrectly posted as 24".9 south on the TOCP. The variable was designated PSN J22181760+4034096 when it was posted at the Central Bureau's TOCP webpage and is here designated SN 2013dy based on the spectroscopic confirmation reported below. Additional CCD magnitudes for 2013dy: July 8.45 UT, [18.5 (KAIT); 10.086, 19.1 (F. Ciabattari, Borgo a Mozzano, Italy; 0.5-m Newtonian telescope + FLI Proline 4710 camera; pre-discovery

; limiting magnitude about 19.5; position end figures 17s.77, 10".5; UCAC-2 reference stars; image posted at the following website URL:

<http://www.flickr.com/photos/snimages/9277396759/>

); 10.7, 16.6 (Andrea Mantero, Bernezzo, Italy; 0.25-m f/4 reflector; position end figures 17s.58, 09".1; reference stars from UCAC-4 catalogue; image posted at website URL

<http://www.flickr.com/photos/andreagalaxy/9261869119/>

); 11.735, about 16 (Kuniaki Goto, Miyoshi-shi, Hiroshima Prefecture, Japan; 35-cm Schmidt-Cassegrain telescope; independent discovery; communicated by Shoichi Itoh, National Astronomical Observatory of Japan); 11.909, 16.0 (Gianluca Masi and Francesca Nocentini, remotely using the 43-cm robotic telescope of the Virtual Telescope Project facility in Ceccano, Italy; position end figures 17s.61, 09".5); 11.994, V = 16.3 (Massimiliano Martignoni, Magnago, Italy; 0.25-m f/10 Schmidt-Cassegrain reflector; position end figures 17s.59, 09".5); 12.423, 15.7 (L. Elenin, Lyubertsy, Russia, and I. Molotov, Moscow, Russia; remotely taken with a 0.45-m f/2.8 telescope at the ISON-NM Observatory near Mayhill, NM, USA; position end figures 17s.60, 09".6; UCAC-4 reference stars; limiting mag about 20.4; image posted at the following website URL:

<http://spaceobs.org/images/TOCP/PSNJ22181760+4034096-20130712.png>

). D. D. Balam, Dominion Astrophysical Observatory, National Research Council of Canada; M. L. Graham, Las Cumbres Observatory Global Telescope, University of California at San Diego; and E. Y. Hsiao, Las Campanas Observatory, report that a spectrogram (range 369-700 nm, resolution 0.3 nm) of PSN J22181760+4034096 = SN 2013dy, obtained on July 13.31 UT with the 1.82-m Plaskett Telescope of the National Research Council of Canada, shows it to be a type-Ia supernova one week prior to maximum light. Cross-correlation with a library of supernova spectra using the "Supernova Identification" code (Blondin and Tonry 2007, Ap.J. 666, 1024) indicates that 2013dy is most similar to the type-Ia supernova 1990N at 7 days pre-maximum. J.-J. Zhang, Yunnan Astronomical Observatory (YNAO); and X.-F. Wang, Tsinghua University, report on an optical spectrogram (range 340-900 nm) of PSN J22181760+4034096 = SN 2013dy that was obtained on July 14.75 UT with the 2.4-m telescope (+YFOSC) at LiJiang Gaomeigu Station of YNAO. The spectrum is consistent with a normal type-Ia supernova a few days before maximum light. Cross-correlation with a library of supernova spectra using the "Supernova Identification" code (SNID; Blondin and Tonry

2007, Ap.J. 666, 1024) shows that the spectrum of 2013dy matches with that of SN 2003du at -7 days. Adopting a recession velocity 1166 km/s for the host galaxy, NGC 7250 (Schneider 1992, Ap.J. Suppl. 81, 5), they measure the velocity of the Si II 635.5-nm absorption feature to be about 13800 km/s. W. Zheng, University of California, Berkeley, S. B. Cenko, Goddard Space Flight Center, NASA; K. I. Clubb, O. D. Fox, P. L. Kelley, and A. V. Filippenko, University of California, Berkeley; and J. M. Silverman, University of Texas, report that PSN J22181760+4034096 = SN 2013dy is a young type-Ia supernova. Additional KAIT photometry shows that the supernova brightness increased from mag 17.0 when discovered on July 10.45 UT to 14.5 on July 14.37. A CCD spectrum (range 450-960 nm), obtained on July 11.7 with the 10-m Keck II telescope (+ DEIMOS spectrograph) at Keck Observatory, shows a strong Si II 635.5-nm feature and other features due to C II, Ca II, and O I, characteristic of a type-Ia supernova. We note that C II 658.0-nm is unusually strong -- nearly as strong as Si II 635.5-nm. Comparison with early-time spectra of SN 2011fe (e.g., Nugent et al. 2011, Nature 480, 344) indicates that 2013dy is a young type-Ia supernova at about one to two weeks before maximum light. Assuming that the host galaxy is NGC 7250, with redshift 0.00389 according to SIMBAD, the velocity at the photosphere, estimated from the minimum of the Si II 635.5-nm feature, is about 18400 km/s. NOTE: These 'Central Bureau Electronic Telegrams' are sometimes superseded by text appearing later in the printed IAU Circulars. (C) Copyright 2013 CBAT 2013 July 16 (CBET 3588) Daniel W. E. Green