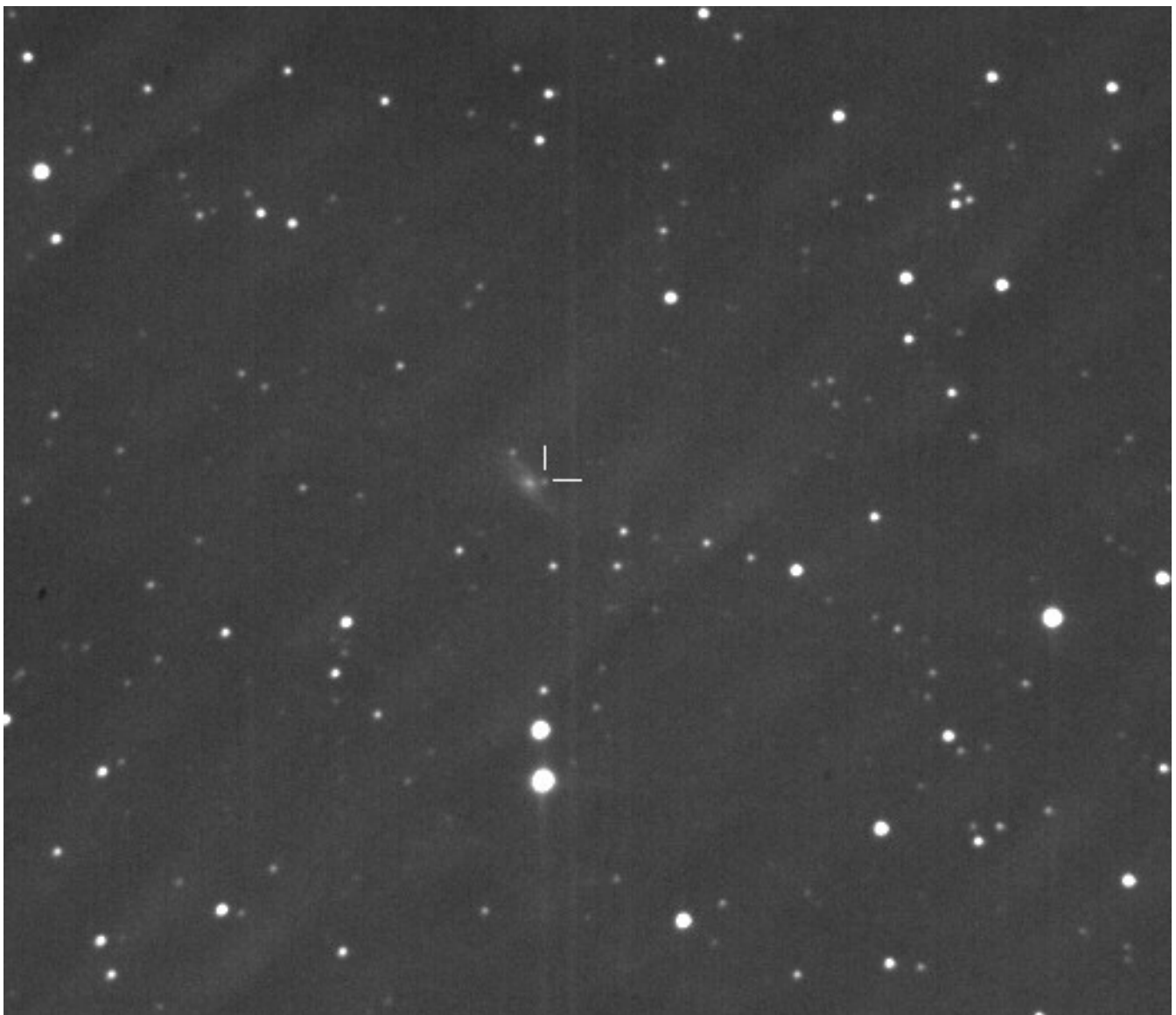


[SN 2012eo](#) (A.R. 22 14 37.82, Dec. +32 57 18.7), scoperta il 27 agosto 2012 nella galassia pgc 68367 (offset 9W 2N), magnitudine 17.2, tipo Ia ([ATEL 4370](#)).

SN scoperta da F. Ciabattari ed E. Mazzoni con il telescopio Newton da 50cm dell'Osservatorio di Monte Agliale (Lucca).



Electronic Telegram No. 3220

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 (alternate cbat@iau.org)

URL <http://www.cbat.eps.harvard.edu/index.html>

SUPERNOVA 2012eo IN PGC 68367 = PSN J22143782+3257187

F. Ciabattari, E. Mazzoni, and R. Simonetti, Borgo a Mozzano, Italy, report their discovery of an apparent supernova (mag 17.2) on unfiltered CCD images (limiting mag 19) obtained on Aug. 27.99 and 29.04 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. = 22h14m37s.82, Decl. = +32d57'18".7 (equinox 2000.0; astrometry with respect to UCAC-2 stars), which is 9" west and 2" north of the center of the galaxy PGC 68367. The variable was designated PSN J22143782+3257187 when it was posted at the Central Bureau's TOCP webpage and is here designated SN 2012eo based on the spectroscopic confirmation reported below. Additional magnitudes for 2012eo (via unfiltered CCD unless noted otherwise): 1986 Sept. 30, [20.3 (Palomar Sky Survey, F plate, via Digitized Sky Survey; reported by Ciabattari); 1989 Sept. 7, [20.3 (Palomar Sky Survey, J plate, via DSS; reported by Ciabattari); 2012 Aug. 7, [19.5 (Ciabattari); Aug. 15.60, [18.2 (D. Denisenko, V. Lipunov, V. Yurkov, and E. Sinyakov; 0.40-m f/2.5 MASTER-Amur robotic reflector + 16-megapixel camera); Aug. 15.60, [19.8 (D. Denisenko, V. Lipunov, N. Budnev, O. Gress, K. Ivanov, V. Poleshchuk, and S. Yazev; 0.40-m f/2.5 MASTER-Tunka robotic reflector + 16-megapixel camera); Aug. 20.731, 17.0 (D. Denisenko, V. Lipunov, V. Yurkov, and E. Sinyakov; pre-discovery; MASTER-Amur images posted at <http://master.sai.msu.ru/static/OT/PSNJ22143782+3257187-MASTER-Amur.jpg>); Aug. 23.67, 16.9 (D. Denisenko, V. Lipunov, N. Budnev, O. Gress, K. Ivanov, V. Poleshchuk, and S. Yazev; MASTER-Tunka telescope; pre-discovery; the MASTER-Tunka predisccovery and reference images are posted at website URL <http://master.sai.msu.ru/static/OT/PSNJ22143782+3257187-MASTER-Tunka.jpg>); Aug. 29.388, 16.7 (L. Elenin, Lyubertsy, Russia; and I. Molotov, Moscow; remotely taken at with a 0.45-m f/2.8 telescope at the ISON-NM Observatory near Mayhill, NM, USA; position end figures 37s.86 +/- 0".11, 18".1 +/- 0".12; NOMAD reference stars; limiting mag about 19.9; image posted at website URL <http://spaceobs.org/images/TOCP/PSNJ22143782+3257187-20120829.png>); Aug. 30.319, R = 17.2 +/- 0.2 (Joseph Brimacombe, Cairns, Australia; remotely using a 51-cm RCOS telescope + STL11K camera + red filter at the New Mexico Skies Observatory near Mayhill; position end figures 37s.83, 18".7; image posted at website URL <http://www.flickr.com/photos/43846774@N02/7897019644/>); Aug. 30.942, 16.6 (D. Grennan, Dublin, Ireland; 0.35-m Schmidt Cassegrain reflector; position end figures 37s.83 +/- 0".33, 18".6 +/- 0".25; image posted at website URL <http://www.webtreatz.com/images/J22143782+3257187.jpg>); Sept. 7.084, 18.2 (Federica Luppi and Luca Buzzi, Varese, Italy; 0.38-m f/6.8 reflector; position end figures 37s.80, 18".4; reference stars from CMC-14 catalogue; image posted at http://www.astrogeo.va.it/pub/TOCP/PSN_P68367.jpg); Sept. 10.908, R_c = 18.1 (Massimiliano Martignoni, Magnago, Italy; 0.25-m

f/10 Schmidt-Cassegrain reflector; position end figures 37s.75, 17".9).

S. Benetti, L. Tomasella, E. Cappellaro, A. Pastorello, M. Turatto, and S. Valenti, Osservatorio Astronomico di Padova, Istituto Nazionale di Astrofisica, report that a spectrogram of PSN J22143782+3257187 = 2012eo, obtained on Sept. 10.89 UT with the 1.82-m Copernico telescope (+ Afosc spectrograph; range 350-820 nm, resolution 1.3 nm), suggests that 2012eo is a type-Ia supernova. Adopting for the host galaxy (PGC 68367) a redshift $z = 0.028546$ (Huchra et al. 2012, Ap.J. Suppl. 199, 26; via NED), comparison with a library of supernova spectra via GELATO (Harutyuyan et al. 2008, A.Ap. 488, 383) shows that 2012eo is a type-Ia event similar to several type-Ia supernovae at two weeks after maximum light. The expansion velocity, measured from the Si II 635.5-nm minimum, is about 13100 km/s, which places it among the high-velocity gradient type-Ia supernovae (Benetti et al. 2005, Ap.J. 623, 1011). The spectrum also shows an intense Na I D interstellar absorption (EW about 0.31 nm).

NOTE: These 'Central Bureau Electronic Telegrams' are sometimes superseded by text appearing later in the printed IAU Circulars.

(C) Copyright 2012 CBAT

2012 September 13

(CBET 3220)

Daniel W. E. Green