SN 2012aw (A.R. 10 43 53.72, Dec. +11 40 17.7) scoperta il 16 marzo 2012 nella galassia M95 - NGC3351 (offset 60W 115N), magnitudine 15.4, tipo IIP.

SN scoperta da Paolo Fagotti e Jure Skvarc. Prima individuazione indipendente di Alessandro Dimai con il telescopio Vittore Maioni dell'Osservatorio del Col Drusciè (S.C. 0,28 m f/6,3) il 16.8493 di marzo.

La SN2012aw, al momento della scoperta, distava poco meno di un grado dal pianeta Marte, nella costellazione del Leone. A questo link si può scaricare l'immagine del 24 marzo 2012, con Marte e la SN2012aw nello stesso campo di ripresa.

Electronic Telegram No. 3054 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 Prepared using the Tamkin Foundation Computer Network SUPERNOVA 2012aw IN M95 = PSN J10435372+1140177 Paolo Fagotti, Bastia Umbra, Italy, reports his discovery of a possible supernova (magnitude R = 15) near M95 = NGC 3351 on CCD images taken on Mar. 16.86 UT with a 0.5-m reflector (+ MX916 camera) at Porziano d'Assisi, Italy, the object measured to be located at R.A. = 10h43m53s.76, Decl. = +11d40'17".9 (equinox 2000.0 presumed). Additional CCD magnitudes for the variable as reported to the Central Bureau: Mar. 13.96, [19.5 (Alessandro Dimai, Cortina d'Ampezzo, Italy; 51-cm Ullrich telescope); 14.89, [17.3 (U. Quadri, L. Strabla, R. Girelli, and A. Quadri, 25-cm f/5 robotic telescope, Bassano Bresciano, Italy; V band noted); 16.849, 15.4 (Dimai; 28-cm telescope; limiting mag 17.0; position end figures 53s.78, 17".0; independent discovery in the course of the Italian Supernovae Search Project
;
image posted at URL http://www.cortinastelle.it/M95_20120316_202322_20_Luminance_2_Maioni.jpg); 17.04, 13-14 (Luigi Fiorentino, Bari, Italy, 8-cm refractor + DSLR camera; no position given, possible independent detection); 17.90, R = 13 (Jure Skvarc, Crni Vrh Observatory, Slovenia, 0.60-m f/3.3 Cichocki telescope; independent discovery on four 60-s images; position end figures 53s.72, 17".7; offset 60" west, 115" south of the center of M95; image posted at URL http://www.observatorij.org/vstars/PSN20120317/PSNJ10435372+1140177.jpg; note that Mars' presence only about a half degree from the variable caused the four diffraction spikes on the composite image); 19.985, 13.3 (Gianluca Masi, 43-cm f/6.8 robotic telescope, Ceccano, Italy; position end figures 53s.73, 17".8; 24 reference stars from NOMAD catalogue). Skvarc notes that nothing is visible at the position of the variable in seven archive images taken during 2005 Apr. 25-2012 Feb. 15; he adds that the variable is only 3".3 from an x-ray source noted by Swartz et al. (2006, Ap.J. 647, 1030; object s8). The designation PSN J10435372+1140177 was assigned when Skvarc posted his discovery at the Central Bureau's TOCP webpage, and the designation SN 2012aw is assigned here based on the spectroscopic reports below. R. Itoh, T. Ui, and Masayuki Yamanaka, Hiroshima University, report that they obtained a low-resolution (R = 400) optical spectrum of PSN J10435372+1140177 = SN 2012aw on Mar. 19.5 UT at the Higashi-Hiroshima Observatory of Hiroshima University. After the recession velocity of the host galaxy is corrected for, the spectra show a broad P-Cyg profile of the H-alpha feature with a strong blue continuum, similar to profiles of the type-IIP supernova 2006bp at two days after maximum light. Ulisse Munari, Istituto Nazionale di Astrofisica, Padova Astronomical Observatory, obtained an under-exposed spectrum (peak S/N = 28; range 330-740 nm; dispersion 0.23 nm/pixel) of PSN J10435372+1140177 in a very short break (5 min) in the thick cloud cover over Asiago Observatory on Mar. 17.77 UT with the 1.22-m reflector (+ Boller & Chivens spectrograph). The spectrum tracing corresponds to a very blue (hot) continuum, essentially featureless, with no absorption bands and no detectable emission lines, resembling a black-body energy distribution, similar to what is seen in a cataclysmic variable close to maximum brightness. Munari adds that Antonio Vagnozzi and Flavio Castellani (ANS Collaboration) measured magnitudes B = 13.71 and V = 13.81 on Mar. 17.94, and B = 13.58 and V = 13.63 on Mar. 18.85. A. Siviero, L. Tomasella, A. Pastorello, S. Benetti, and U. Munari, Istituto Nazionale di Astrofisica, Osservatorio Astronomico di Padova; M. Ergon, J. Sollerman, and F. Taddia, Department of Astronomy, Stockholm University; and G. Barisevicius, Nordic Optical Telescope, report that two spectra of PSN

J10435372+1140177 = SN 2012aw were obtained on Mar. 19.85 UT with the 1.22-m Galileo telescope (+ Boller & Chivens spectrograph; range 320-780 nm, resolution 0.7 nm) and on Mar. 19.92 with the 2.5-m Nordic Optical Telescope (+ ALFOSC; range 320-910 nm, resolution 1.6 nm). They suggest that the object is a very young type-II supernova. Cross-correlation with a library of supernova spectra via GELATO (Harutyuyan et al. 2008, A.Ap. 488, 383) gives an excellent fit with the type-IIP supernova 1999gi (Leonard et al. 2002, A.J. 124, 2490) about 4-5 days after the core-collapse. The spectra of 2012aw show a very blue continuum and very prominent, broad hydrogen and He I 587.6-nm lines with a P-Cyg profile. The ejecta velocity, as deduced from the minimum of H_alpha, is about 15000 km/s. There is a clear evolution if these spectra are compared with that obtained on Mar. 18.77 at the 1.22-m Galileo telescope, which showed a blue, featureless continuum. NOTE: These 'Central Bureau Electronic Telegrams' are sometimes superseded by text appearing later in the printed IAU Circulars.

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