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Missed Supernova 1985 in PGC 2152385

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We report discovery and investigation of missed supernova 1985 on Moscow archive plates.

In the course of the search for new variable stars on the plates of Moscow archive, an unknown supernova was discovered. The star is seen only on five plates taken with the Crimean 40-cm astrograph in September 1985.

The scans of four of the five plates, where the supernova is seen, are shown on Fig. 1c-f, side by side with the POSS II blue image (Fig. 1a) and the scaned plate without the SN (Fig. 1b). Note that the parent galaxy, PGC 2152385, is hardly visible on Fig. 1b or on the other Moscow plates that include the field of the supernova. These four scans were analyzed with the aperture photometry package developed by V.P. Goranskij. Photographic blue magnitudes of neighboring USNO-A2.0 stars (Monet et al., 1998) were used as a photometric standard. The results are given in Table 1. The plate A17129 is not of good quality, the SN brightness on it was estimated by eye with big uncertainty. Unfortunately, the plates closest in time to the SN outburst are separated by many months (see the first and the last lines of Table 1), so we cannot determine the supernova's subtype or say anything about the light curve's shape.

The coordinates of the supernova measured on our plates relative to USNO-A2.0 stars are $\alpha = 2^{\rm h}25^{\rm m}41\overset{\rm s}{.}5$, $\delta = +39^\circ35'12\overset{''}{.}3$ (J2000.0), that is $1\overset{''}{.}2$ north and $0\overset{''}{.}2$ west of the parent galaxy's position in the USNO-A2.0 catalog.

plate	UT	JD2446...	pg
A16761	1985 Jan. 13.75 UT	079.246	[16.2
A17072	1985 Sept. 16.03 UT	324.528	15.2
A17081	1985 Sept. 17.02 UT	325.519	15.03
A17117	1985 Sept. 21.99 UT	330.487	15.19
A17118	1985 Sept. 22.09 UT	330.521	15.31
A17129	1985 Sept. 25.03 UT	333.529	15.9:
A17541	1986 Sept. 03.98 UT	677.478	[17.0

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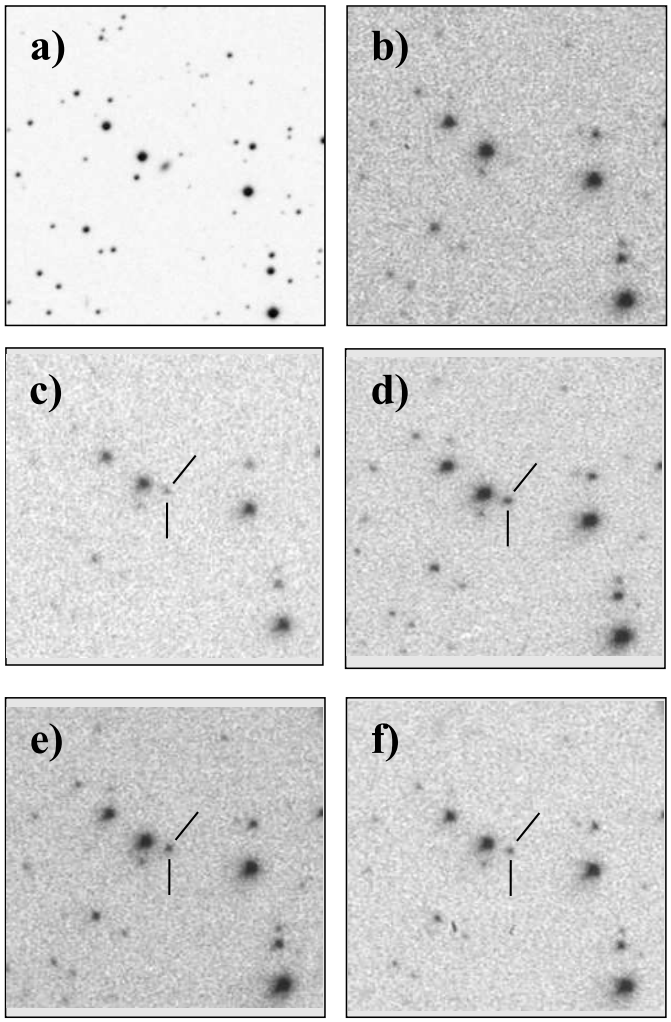

Figure 1. The field of SN 1985 on different images. a) POSS II blue, epoch 1989.686, PGC 2152385 is clearly seen. Moscow archive: b) plate A17541, 1986 Sept. 3.98 UT, without SN and with hardly visible parent galaxy; c) plate A17072, 1985 Sept. 16.03 UT; d) plate A17081, 1985 Sept. 17.02 UT; e) plate A17117, 1985 Sept. 21.99 UT; f) plate A17118, 1985 Sept. 22.02 UT. The supernova is marked. The size of charts is $5' \times 5'$, north is top, east is left.

References:

Monet, D. et al., 1998, USNO-A2.0, A Catalog of Astrometric Standards (U.S. Naval Observatory, Washington, DC)