

EARLY WARNING CIRCULAR 133
THE ASTRONOMER

Ed: Guy M Hurst, 16, Westminster Close, Kempshott Rise, Basingstoke,
Hants, RG22 4PP, England. Telephone/FAX (0256) 471074 Int: +44256471074
TELEX: 9312111261 Answerback: TA G TELECOM GOLD: 10074:MIK2885
GMH at UK.AC.RUTHERFORD.STARLINK.ASTROPHYSICS STARLINK: RLSAC::GMH
GMH at UK.AC.CAM.ASTRONOMY.STARLINK STARLINK: CAVAD::GMH

SUPERNOVA 1993J IN NGC 3031

J. Ripero, Madrid, Spain, reports that F. Garcia, Lugo, Spain, discovered a possible supernova on Mar. 28 as much as 5' southwest of the nucleus of NGC 3031 = M81. The object was also recorded in an ST-4 CCD image obtained by D. Rodriguez as some 30" northeast of a mag 14 foreground star. Magnitude estimates: Mar. 26.9 UT, 11.0 (Garcia and P. Pujol); 28.86, 12.0 (Garcia, visual), 29.1, 11.8 (Rodriguez, CCD unfiltered); 29.88, 11.3 (Pujol); 29.88, 11.0 (Rodriguez).

A. V. Filippenko, University of California at Berkeley, reports: "A CCD image of M81 obtained on Mar. 30.1 UT by R. R. Treffers and Y. Paik (also of Berkeley) with the 0.8-m reflector at Leuschner Observatory confirms the presence of a new stellar object roughly 45" west and 160" south of the nucleus. The visual magnitude is approximately 11. Inspection of CCD spectra (range 356-731 nm) obtained on Mar. 30.3 by M. Davis and D. Schlegel (also of Berkeley) with the Lick 3-m Shane reflector reveals that the object is indeed a supernova. The continuum is very blue and remarkably featureless. The only clear absorption lines are narrow Na I D and Ca II H + K, undoubtedly of interstellar origin. It is probable, but not yet certain, that the object is a type II supernova observed only a few days after the explosion. Note, however, that the type Ia SN 1991T exhibited a relatively featureless spectrum well before maximum brightness (Filippenko et al. 1992, Ap.J. 384, L15). Depending on its spectral type, distance and extinction, SN 1993J may reach eighth magnitude during the next two weeks. Aside from SN 1987A in the LMC, it is therefore the brightest supernova since SN 1972E in NGC 5253. Further observations throughout the electromagnetic spectrum are urged."

F. D. A. Hartwick, D. D. Balam, D. Zurek and R. M. Robb, Climenhaga Observatory, University of Victoria, provide the following precise position for the supernova, measured by Balam from a CCD image obtained with the 0.5-m reflector on Mar. 30.25 UT:

R.A. = 9h51m19s.27, Decl. = +69D15'25".7 (equinox 1950.0).

Photometry yields $V = 10.2 \pm 0.1$.

IAUC 5731

Seq: (TA 930330)

- A 8.9
- B 9.4
- C 10.32
- D 10.7
- E 11.8
- F 11.91
- G 12.45
- H 12.89
- J 13.00
- K 13.78
- L 14.10
- M 14.77
- N 14.99

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