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SUPERNOVA 2004et IN NGC 6946

J. Fabbri, University College, London; and B. Sugerman, Space Telescope Science Institute, on behalf of the 'Survey for Evolution of Emission from Dust in Supernovae' (SEEDS) collaboration (M. Barlow, principal investigator), report the detection of the type-II supernova 2004et in archival Spitzer spacecraft 'InfraRed Array Camera' (IRAC) images of NGC 6946 obtained by the 'Spitzer Infrared Nearby Galaxy Survey' (SINGS) Legacy program (cf. Kennicutt *et al.* 2003, *PASP* **115**, 928) taken on 2004 Nov. 25.7 UT, or 56 days after discovery. A source was detected in all four IRAC bands at $\alpha = 20^{\rm h}35^{\rm m}25^{\rm s}.38$, $\delta = +60^{\circ}07'17''.8$ (equinox 2000.0; $\pm$ $0''.3$ in each coordinate), in close agreement with the optical (*IAUC* 8413) and radio positions (*IAUC* 8415). The measured flux densities (mJy) at 3.6, 4.5, 5.8, and 8.0 μm are 21.9 $\pm$ 1.7, 13.8 $\pm$ 0.8, 10.0 $\pm$ 0.4, and 6.7 $\pm$ 0.3, respectively. Given the proximity of NGC 6946 (6 Mpc) and the rapid mid-infrared variability of the similarly-aged SN 2004dj (see below), this supernova should be closely monitored at all wavelengths.

SUPERNOVA 2004dj in NGC 2403

Sugerman, again on behalf of the SEEDS collaboration, also reports the detection of the type-IIP supernova 2004dj in archival Spitzer images of NGC 2403 taken by the SINGS Legacy project and by S. Van Dyk *et al.* A source is detected in all IRAC bands at $\alpha = 7^{\rm h}37^{\rm m}17^{\rm s}.04$, $\delta = +65^{\circ}35'57''.9$ (equinox 2000.0; $\pm$ $0''.3$ in each coordinate), in close agreement with the optical position (*IAUC* 8377). The epochs (UT), days since discovery, and flux densities (mJy) from the pipeline-calibrated images at 3.6, 4.5, 5.8, and 8.0 μm are: 2004 Oct. 7.1, 68, 10.3 $\pm$ 1.0, 7.9 $\pm$ 0.6, 6.9 $\pm$ 0.3, 4.2 $\pm$ 0.2; Oct. 12.1, 73, 7.6 $\pm$ 0.9, 8.8 $\pm$ 0.4, 5.9 $\pm$ 0.2, 3.4 $\pm$ 0.2; Nov. 1.1, 93, 4.8 $\pm$ 0.4, 7.0 $\pm$ 0.4, 4.6 $\pm$ 0.2, 2.5 $\pm$ 0.1. The supernova is marginally detected in the Mid-Infrared Photometry and Spectrograph 24-μm imager in the wings of a bright, extended region located $19''.5$ away at p.a. 152°. Dates of observation, days after discovery, and estimated flux densities (mJy) are: 2004 Oct. 12.9, 73, 0.5 $\pm$ 0.3; Oct. 14.5, 75, 0.8 $\pm$ 0.3; Nov. 6.7, 98, 0.8 $\pm$ 0.3. Follow-up observations should continue at all wavelengths to monitor these rapid (< 5 days) variations.

2005 February 28 *Daniel W. E. Green*