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INTERNATIONAL ASTRONOMICAL UNION

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SUPERNOVAE 2004gf, 2004gg, 2004gh, 2004gi

Four new apparent supernovae have been reported from unfiltered CCD images, 2004gf by T. Boles (cf. *IAUC* 8437), and the rest by M. Moore, K. Shimasaki, and W. Li (LOSS/KAIT; cf. *IAUC* 8443).

SN	2004 UT	α_{2000}	δ_{2000}	Mag.	Offset
2004gf	Nov. 20.872	21 ^h 57 ^m 52 ^s .39	+42°18'57".8	17.2	26".3 W, 35".6 N
2004gg	Nov. 16.50	9 46 49.10	+16 02 44.5	18.5	6".1 W, 10".7 N
2004gh	Nov. 16.55	10 24 31.55	-23 33 18.2	17.6	0".7 E, 7".5 S
2004gi	Nov. 17.55	10 39 23.34	-27 54 40.0	14.9	21".4 W, 4".8 N

Additional magnitudes from the respective discoverers: SN 2004gf in UGC 11864, 1989 July 9, [20.0 (blue, Digitized Sky Survey); Sept. 3, [20.5 (red, Digitized Sky Survey); 2004 Oct. 4, [19.5; Nov. 21.871, 17.2. SN 2004gg in UGC 5234, May 2.21, [19.5; Nov. 22.58, 18.7. SN 2004gh in MCG -04-25-6, May 4.20, [19.0; Nov. 22.56, 17.6. SN 2004gi in MCG -05-25-32, May 4.21, [19.5, Nov. 22.58, 15.1. SN 2003W also appeared in UGC 5234, somewhat closer to the galaxy's center.

COMET C/2004 RG₁₁₃ (LINEAR)

M. Bezpalko, Lincoln Laboratory, reports the LINEAR discovery of an apparent comet with a short tail in p.a. $\sim 195^\circ$ on Nov. 20.435 UT. This object was identified by the Minor Planet Center with the apparently asteroidal object 2004 RG₁₁₃ (also found by LINEAR; cf. *MPS* 113143 — Sept. 19 batch), with the discovery observations given below.

2004	UT	α_{2000}	δ_{2000}	Mag.
Sept.	6.39770	5 ^h 30 ^m 15 ^s .54	+41°08'17".9	19.2
Nov.	20.43521	7 32 14.63	+53 40 09.8	18.4

The available observations, the following orbital elements, and an ephemeris appear on *MPEC* 2004-W38.

$$\begin{array}{rcl}
 \text{Epoch} & = & 2005 \text{ Mar. } 11.0 \text{ TT} \\
 T & = & 2005 \text{ Mar. } 3.7235 \text{ TT} \\
 e & = & 0.997212 \\
 q & = & 1.942281 \text{ AU} \\
 \omega & = & 125^\circ 31' 04" \\
 \Omega & = & 8^\circ 77' 20" \\
 i & = & 21^\circ 61' 80"
 \end{array}
 \left. \vphantom{\begin{array}{rcl} T \\ e \\ q \\ \omega \\ \Omega \\ i \end{array}} \right\} 2000.0$$