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RINGS OF SATURN (R/2006 S 1, R/2006 S 2, R/2006 S 3, R/2006 S 4)

C. C. Porco, CICLOPS, Space Science Institute, Boulder; and the Cassini Imaging Science Team report the sighting of several new rings around Saturn. One new diffuse ring, R/2006 S 1, has been found at an orbital distance of ~ 151500 km, coincident with the co-orbital satellites, Saturn X (Janus) and XI (Epimetheus) with a radial width of ~ 5000 km. Another new diffuse ring, R/2006 S 2, has been found coincident with the tiny moon Saturn XXXIII (Pallene; *IAUC* 8389), at an orbital distance of ~ 212000 km and radial width of ~ 2500 km. Two other newly sighted rings have been seen within the Cassini division. R/2006 S 3 is located in the outer gap of the Cassini division at an orbital distance of 119930 km, with a radial width of ~ 50 km. Finally, a very narrow, discontinuous, and tenuous ringlet, R/2006 S 4, has been seen in between two broad bands in the Cassini division, at an orbital distance of 118960 km; its width is ~ 6 km. R/2006 S 3 appears to have substantial numbers of small particles as it brightens considerably at high-phase-viewing geometries.

SUPERNOVAE 2006iv, 2006iw, 2006ix, 2006iy, 2006iz, 2006ja

An apparent supernova (2006iv) has been discovered on unfiltered CCD images by Grzegorz Duszanowicz (Akersberga, Sweden, 0.32-m $f/3.1$ reflector); he measured the position of the new object to be $\alpha = 11^{\text{h}}48^{\text{m}}12^{\text{s}}.35$, $\delta = +54^{\circ}59'14''.6$ (equinox 2000.0), which is $7''$ east and $18''$ south of the center of UGC 6774. Approximate magnitudes for 2006iv from Duszanowicz's unfiltered images: Jan. 3.145 UT, [18.5; Sept. 13.989, [18.0; 22.92, 16.7; Oct. 5.875, 15.9 (discovery); 7.87, 15.9.

Five additional faint supernovae (2006iw–2006ja; all in the magnitude range $g = 20.4$ – 22.6) have been reported by J. Frieman on behalf of the SDSS II collaboration (details on *CBETs* 663 and 667); 2006iw and 2006ix are type-II supernovae, 2006iy and 2006iz are type-Ia supernovae, and 2006ja is a probable type-Ia supernova.

COMET C/2006 P1 (McNAUGHT)

Improved orbital elements (cf. *IAUC* 8737) from *MPC* 57794:

$$\left. \begin{array}{ll} T = 2007 \text{ Jan. } 12.8217 \text{ TT} & \omega = 155.9746 \\ & \Omega = 267.4139 \\ q = 0.170773 \text{ AU} & i = 77.8512 \end{array} \right\} 2000.0$$