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2003 QW$_{111}$

K. S. Noll, Space Telescope Science Institute; W. M. Grundy, Lowell Observatory; D. C. Stephens, Johns Hopkins University; and H. F. Levison, Southwest Research Institute, report the detection of a binary companion to the transneptunian object 2003 QW$_{111}$ (cf. *MPEC* 2003-S19, *MPO* 86083; with osculating elements a = 43.54 AU, e = 0.109, i = 2°.67); orbit integrations carried out by the Deep Ecliptic Survey group show this object to be in 4:7 resonance with Neptune, and this is the first binary to be found in this dynamical group. The observations were made during 2006 July 25.365–25.410 UT with the High Resolution Camera of the Advanced Camera for Surveys on the Hubble Space Telescope (HST), using the clear filters with one 300-s exposure at each of four dithered positions on the detector. Two components are clearly resolved in each image and in the coadded image. The two components are separated by an angular distance of 0''.325 ± 0''.005. The fainter component lies at a position angle of 114°.6 ± 0°.8, as measured from the primary. The projected separation of the objects in the sky plane is 10360 ± 160 km. The fainter component is 1.5 magnitudes fainter than the brighter of the two. The HST corrected for parallax and tracked both components of 2003 QW$_{111}$ as they moved together at an average rate of 0''.035/min.

SUPERNOVAE 2006es, 2006et, 2006eu

Three apparent supernovae have been discovered on unfiltered CCD images: 2006es and 2006eu by J. Schwehr, N. Lee, and W. Li (LOSS/KAIT; cf. *IAUC* 8744); and 2006et by K. Itagaki (Teppo-cho, Yamagata, Japan; via S. Nakano, Sumoto, Japan). Additional magnitudes for 2006es in UGC 2828: Feb. 14.20 UT, [19.5; Aug. 14.53, 17.0 (poor seeing). SN 2006es is a type-Ia supernova, now ~ 3–4 weeks past maximum brightness (cf. *CBET* 613). Additional magnitudes for 2006et in NGC 232: Aug. 24.69, [18.5; 30.68, 17.0. Nothing was visible at the location of 2006et on Itagaki's survey frames taken prior to Aug. 24 (limiting mag 19) or on the Digitized Sky Survey. Additional KAIT magnitudes for 2006eu in MCG +08-36-16: Aug. 16.23, [19.5; 25.22, 19.1: (hint, at limit); Sept. 4.26, 17.2.

SN	2006 UT	α_{2000}	δ_{2000}	Mag.	*Offset*
2006es	Sept. 1.54	$3^h42^m24^s.48$	$+39°14'31''.0$	18.0	5''.1 E, 8''.3 S
2006et	Sept. 3.77	0 42 45.82	–23 33 30.4	16.1	0''.3 E, 11''.0 N
2006eu	Sept. 3.21	20 02 51.15	+49 19 02.3	17.4	12''.7 E, 9''.3 S

2006 September 7 *Daniel W. E. Green*