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COMETS 210P/CHRISTENSEN AND 211P/HILL

Comet P/2008 X4 = P/2003 K2 (Christensen; cf. *IAUCs* 9005, 9007, 9008) has been assigned the permanent designation 210P. Comet P/2008 X1 = P/2003 F6 (Hill; cf. *IAUCs* 9001, 9009) has been assigned the permanent designation 211P. See also *MPC* 64693.

COMET 212P/2000 YN_{30} (NEAT)

An apparent asteroidal object discovered by the NEAT survey (the discovery observation tabulated below was originally assigned the designation 2000 YN_{30} and published on *MPO* 24160) was recovered a few months ago with the 0.9-m Spacewatch reflector at Kitt Peak (recovery observation also tabulated below; cf. *MPEC* 2008-V41 and *MPO* 263011) but only recently noted to show cometary activity. A. R. Gibbs reports that four co-added 60-s unfiltered CCD exposures taken on 2009 Jan. 2.53 with the Catalina 0.68-m Schmidt telescope show a compact coma 7″ across with a narrow 35″ tail in p.a. 285°. Y. C. Cheng and H. Y. Hsiao, Institute of Astronomy, National Central University, Jhongli, Taiwan, report that three 300-s *R*-band images obtained on Jan. 2.8 with the Lulin 1-m telescope show total mag 18.2–18.4 and a tail < 20″ long in p.a. 290°. J. V. Scotti writes that fifteen co-added exposures with the Spacewatch 1.8-m reflector on Jan. 7.4 show an 8″ coma and a narrow tail extending at least 2′.2 in p.a. 283°; the tail's width expands with distance from the nuclear condensation from ~ 8″ to 12″ as it fades.

Date	UT	α_{2000}	δ_{2000}	Mag.	*Observer*
2000 Dec.	26.46926	$4^h19^m20^s.45$	$+\ 6°03'33''.1$	20.4	NEAT
2008 Oct.	30.48499	8 50 58.52	+15 37 57.6	20.5	Spacewatch

The following orbital elements by B. G. Marsden, Smithsonian Astrophysical Observatory, from 69 observations, 2000-2009 (mean residual 0″.6), appear on *MPC* 64768 (with new observations on *MPC* 64748-64749). The permanent designation 212P has been assigned to this comet.

$$\text{Epoch} = 2008\ \text{Nov.}\ 30.0\ \text{TT}$$

$$\begin{array}{lll} T = 2008\ \text{Dec.}\ 3.2698\ \text{TT} & \omega = 15°.0488 & \\ e = 0.578876 & \Omega = 98.9290 & \left.\right\} 2000.0 \\ q = 1.654465\ \text{AU} & i = 22.3979 & \end{array}$$

$$a = 3.928686\ \text{AU} \qquad n° = 0.1265707 \qquad P = 7.79\ \text{years}$$

2009 January 12 *Daniel W. E. Green*