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P/2007 R5 = 1999 R1 = 2003 R5 (SOHO)

K. Battams, Naval Research Laboratory, informs us that B. Zhou reported his detection of a member of the 'Kracht II comet group' in SOHO-LASCO C2 data on Sept. 10; the object was immediately confirmed by R. Kracht as showing 'Kracht-II' group motion. Kracht had in Sept. 2002 (*MPEC* 2002-S35) and Sept. 2003 (*MPEC* 2004-J59) noted the similarity of the motions of 1999 R1 (cf. *IAUC* 7251) to the motions of 2002 R5 (*IAUC* 7984) and 2003 R5 (*IAUC* 8340), and B. G. Marsden noted (*MPEC* 2004-J59) that his orbital elements of 2003 R5 were essentially identical with his elements of 1999 R1 that were given on *MPEC* 1999-R19; following these developments a couple of years later, S. Hönig (2006, *A.Ap.* **445**, 759) published his prediction that the presumed *single* object 1999 R1 = 2003 R5 would return to perihelion around 2007 Sept. 11.26 UT. All the 'Kracht II' objects were uncritically called "comets" when announced, despite their lack of an obvious coma or tail (on the standing assumption that the SOHO objects must generally be either active or extinct cometary nuclei); the cometary designation 2007 R5 has been assigned to these new observations to follow the pattern of earlier designations, but with mild support also from the photometric behavior of the object (see also *IAUC* 8872).

2007 UT	α_{2000}	δ_{2000}	Mag.
Sept.10.28755	$11^h18^m09^s$	$+3°52'.8$	8.8

Battams has now submitted his measurements for C2 and C3 images of 2007 R5 (initial observation tabulated above), as well as astrometric remeasurements from C2 images (only) for 1999 R1 and 2003 R5. The reduced positions by Marsden appear on *MPEC* 2007-S16, together with linked orbital elements by Marsden for C2 data only from all three apparitions (satisfying 44 observations with mean residual 9''.6), including those given below; the excluded C3 positions have systematic residuals > 1'.

$$\text{Epoch} = \text{2007 Sept. 17.0 TT}$$

$$\begin{array}{llll} T = \text{2007 Sept.11.3197 TT} & \omega = 48°.5655 & \\ e = 0.978649 & \Omega = 0.0489 & \Big\} 2000.0 \\ q = 0.053720 \text{ AU} & i = 12.6400 & \end{array}$$

$$a = 2.516068 \text{ AU} \quad n° = 0.2469565 \quad P = 3.99 \text{ years}$$

2007 September 18 *Daniel W. E. Green*