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INTERNATIONAL ASTRONOMICAL UNION**

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*COMETS C/2008 B1–B4, C/2008 C3–C5, AND C/2008 E4 (SOHO)*

Further to *IAUC* 8932, additional apparent comets have been found on SOHO website images; all are Kreutz sungrazers except for C/2008 C3 (no known group) and C/2008 E4 (Kracht group). In the tabulated column for instrument below, an asterisk (\*) indicates that astrometry was also measured and reduced from H1I images aboard the STEREO-A spacecraft. C/2008 B1 was tiny, stellar, and faint (mag  $\sim 7$ ). C/2008 B2 reached mag  $\sim 6$  in H1A and C3 images and was just barely visible with a thin, faint tail in C2 images. C/2008 B3, C/2008 B4, and C/2008 C4 were very faint (mag 7.5), the first and third being slightly diffuse and the second being quite diffuse. C/2008 C3 was stellar in appearance and brightened slowly and gradually, reaching mag  $\sim 7$  as it left the field-of-view. C/2008 C5 was also stellar in appearance, reaching mag  $\sim 6.5$ .

C/2008 E4 is described by K. Battams as “typically [for a Kracht-group object] small, stellar, and faint (maybe peaking at mag 7 as it entered the C2 coronagraph), fading fast as it neared the sun”. R. Kracht suggested the identity of the Kracht group comets C/2002 Q8 and C/2008 E4 on the basis of the *MPEC* 2002-Q46 measurements of the former and his own measurements of the latter; Kracht gave the previous perihelion date  $T = 1997$  Feb. 14.9 but was unable to locate the comet on C2 images from that time. Linked orbital elements ( $P = 5.52$  yr) for 2002 and 2008 by B. G. Marsden appear on *MPEC* 2008-F32.

| Comet     | 2008 | UT     | $\alpha_{2000}$                    | $\delta_{2000}$ | Inst. | F  | <i>MPEC</i> |
|-----------|------|--------|------------------------------------|-----------------|-------|----|-------------|
| C/2008 B1 | Jan. | 26.221 | 20 <sup>h</sup> 46 <sup>m</sup> .1 | −21° 03′        | C3    | HS | 2008-G59    |
| C/2008 B2 |      | 27.138 | 21 00.0                            | −21 43          | C3/2* | AK | 2008-G59    |
| C/2008 B3 |      | 28.696 | 20 57.9                            | −19 43          | C3    | HS | 2008-G59    |
| C/2008 B4 |      | 29.904 | 21 03.8                            | −19 33          | C3    | BZ | 2008-G59    |
| C/2008 C3 | Feb. | 3.146  | 21 02.9                            | −18 12          | C2    | RK | 2008-G60    |
| C/2008 C4 |      | 3.821  | 21 22.3                            | −18 16          | C3*   | HS | 2008-G60    |
| C/2008 C5 |      | 5.738  | 21 33.9                            | −17 30          | C3*   | AK | 2008-G60    |
| C/2008 E4 | Mar. | 3.254  | 23 02.6                            | − 5 18          | C2    | HS | 2008-F32    |

*COMET C/2008 E1 (CATALINA)*

Prediscovery astrometry (*MPEC* 2008-F36) shows this comet (*IAUC* 8923) to be of intermediate period; elements from *MPEC* 2008-G33: epoch 2008 Aug. 2.0 TT,  $T = 2008$  Aug. 11.284 TT,  $q = 4.82971$  AU,  $e = 0.54759$ ,  $\omega = 269^\circ.910$ ,  $\Omega = 189^\circ.035$ ,  $i = 35^\circ.038$  (equinox 2000.0),  $P = 34.9$  years.