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INTERNATIONAL ASTRONOMICAL UNION**

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COMET C/2009 W1 (HILL)

R. E. Hill, Lunar and Planetary Laboratory, reports his discovery of a comet (discovery observation tabulated below) on CCD images taken with the 0.68-m Schmidt telescope in the course of the Catalina Sky Survey; three co-added 30-s exposures in 4''–5'' seeing show a small nuclear condensation 7''–8'' across with a diffuse, faint tail 20''–30'' long in p.a. $\sim 300^\circ$. Four co-added 40-s exposures in 2''–3'' seeing by Hill on Nov. 19.4 UT show a nuclear condensation 4''–5'' across with a 1''–2'' coma and a tail 20''–30'' long and 10''–12'' wide in p.a. $\sim 300^\circ$. After posting on the Minor Planet Center's 'NEOCP' webpage, other CCD astrometrists have also noted the object's cometary appearance. F. Fratev, Sofia, Bulgaria, reports that twenty-one stacked 40-s CCD exposures obtained with a 0.35-m reflector at Plana, Bulgaria, on Nov. 19.1 shows a diffuse coma nearly 10'' in diameter and a tail $\sim 60''$ long in p.a. 275° . G. Hug (Scranton, KS, U.S.A., 0.56-m reflector, Nov. 19.5) notes a condensed nuclear condensation and a short, diffuse tail 20'' long in p.a. 290° . A. R. Gibbs (Mt. Lemmon 1.5-m reflector, Nov. 19.5) writes that four co-added 60-s unfiltered CCD images taken in good seeing show a bright, diffuse coma of size $5'' \times 7''$ with a 30'' tail in p.a. 290° whose width is constant and equal to the coma diameter. D. Chestnov, Moscow, reports that five stacked 300-s unfiltered CCD exposures taken by T. Kryachko and B. Satovski with a 0.3-m reflector at the Zelenchukskaya Station of Engelhardt Observatory on Nov. 19.04 show a tiny coma and a 0.2 tail in p.a. 285° .

2009	UT	α_{2000}	δ_{2000}	Mag.	Observer
Nov.	18.50653	9 ^h 46 ^m 17.11 ^s	+28° 51' 20.0''	18.5	Hill

The available astrometry, the following very preliminary parabolic orbital elements, and an ephemeris appear on *MPEC* 2009-W34; the true orbit may well be of short period.

$$\begin{array}{ll}
 T = 2009 \text{ June } 26.522 \text{ TT} & \omega = 18.740 \\
 & \Omega = 54.303 \\
 q = 2.46311 \text{ AU} & i = 14.413
 \end{array}
 \left. \vphantom{\begin{array}{l} \omega \\ \Omega \\ i \end{array}} \right\} 2000.0$$

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Visual magnitude estimates (cf. *IAUC* 9093): Nov. 14.724 UT, 7.6 (P. Schmeer, Bischmisheim, Germany); 18.719, 7.2 (Schmeer); 18.722, 7.3 (K. Hornoch, Vohancice, Czech Republic).