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*COMET C/2009 U3 (HILL)*

R. E. Hill reports his discovery of a comet (discovery observation tabulated below) on CCD images taken in 3''–4'' seeing with the Catalina 0.68-m Schmidt telescope, noting the object in co-added exposures to have an nuclear condensation of diameter  $\sim 5''$ – $7''$  elongated southwest-northeast, with a coma of diameter  $\sim 12''$ – $15''$ , and a diffuse tail  $\sim 15''$ – $20''$  long in p.a.  $220^\circ$ – $230^\circ$ . A similar appearance was noted by Hill on four co-added 60-s exposures from Oct. 22.4 UT in slightly better seeing, noting a nuclear condensation of diameter  $\sim 10''$ – $15''$  and “no noticeable coma”, with the broad, diffuse tail being  $\sim 20''$  long in p.a.  $220^\circ$ . After posting on the ‘NEOCP’ webpage, other CCD astrometrists have also commented on the object’s cometary appearance. G. Sostero, E. Guido, and P. Camilleri (fifteen co-added unfiltered 60-s exposures obtained remotely with a 0.35-m reflector at the Skyline-Grove Creek Observatory near Trunkley, Australia; Oct. 21.7) report a diffuse coma  $\sim 10''$  in diameter with a central condensation and a tail  $\sim 12''$  long toward the west; their further co-added frames on Oct. 22.6 also show a diffuse coma of size  $\sim 12''$ . Exposures taken by A. Asami and N. Hashimoto (Bisei Spaceguard Center 1.0-m reflector; Oct. 21.74–21.76) show a  $15''$  coma with a tail  $25''$  long in p.a.  $235^\circ$ . P. R. Holvorcem notes that three co-added 120-s exposures taken by M. Schwartz and himself on Oct. 22.4 with the Tenagra II 0.81-m telescope near Nogales, AZ, USA, show a coma diameter of  $9''$  with a  $5''$  tail toward p.a.  $195^\circ$ . A. D. Grauer (Mt. Lemmon 1.5-m reflector, Oct. 22.4) reported that his co-added 60-s exposures show a  $9''$  coma and a flared tail  $15''$  long in p.a.  $230^\circ$ . H. Sato (Tokyo, Japan, remotely using a 0.25-m reflector at the RAS Observatory near Mayhill, NM, U.S.A., on Oct. 22.5) finds a diffuse coma of diameter  $15''$ . R. Miles writes that four stacked 15-s frames taken by G. Privett with the 2.0-m ‘Faulkes Telescope North’ at Haleakala on Oct. 22.6 show the comet to be elongated  $5''.0 \times 1''.5$ , aligned in p.a.  $75^\circ$ – $255^\circ$ .

2009	UT	$\alpha_{2000}$	$\delta_{2000}$	Mag.	Observer
Oct. 21.32407		$3^{\text{h}}50^{\text{m}}08.41^{\text{s}}$	$+14^\circ50'23.7''$	17.6	Hill

Additional astrometry, the following parabolic orbital elements, and an ephemeris appear on *MPEC* 2009-U67:

$$\begin{array}{ll}
 T = 2010 \text{ Mar. } 11.739 \text{ TT} & \omega = 83.676 \\
 & \Omega = 48.951 \\
 q = 1.22986 \text{ AU} & i = 49.134
 \end{array}
 \left. \vphantom{\begin{array}{l} \omega \\ \Omega \\ i \end{array}} \right\} 2000.0$$