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COMET P/2009 SK$_{280}$ (SPACEWATCH-HILL)

R. E. Hill, Lunar and Planetary Laboratory, reports his discovery of a comet with the Mount Lemmon Survey's 1.5-m *f*/2 reflector on Oct. 15.4 UT. Four co-added 30-s exposures showed a small, condensed nuclear condensation with a 20″–30″ fan-shaped tail in p.a. 240°; the comet's appearance was similar on four further co-added exposures an hour later. Pre-discovery Spacewatch observations (all showing asteroidal appearance) obtained by T. H. Bressi, J. V. Scotti, and R. S. McMillan on Sept. 17, 25, and 29 were then identified at the Minor Planet Center, those on the last two nights having previously been linked under the designation 2009 SK$_{280}$ and published on *MPS* 297945. The two discovery observations are given below (the Spacewatch data from Sept. 25 being made with the 0.9-m *f*/3 reflector at Kitt Peak).

2009 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Sept. 25.28819	1^{h}44^{m}47^s.49	+4°15′40″.7	20.1	Spacewatch
Oct. 15.36043	1 32 40.70	+3 54 44.8	19.8	Hill

On Oct. 16.3, Scotti (using the Spacewatch II 1.8-m *f*/2.7 reflector) detected a 0′.39 tail in p.a. 239°, while Hill (at Mount Lemmon) noted a 20″–30″ tail in p.a. 230° and W. H. Ryan (Magdalena Ridge, 2.4-m *f*/8.9 reflector) found a tail in p.a. 225°.

The previously unpublished astrometric observations appear on *MPEC* 2009-U02, together with these elliptical orbital elements and an ephemeris:

$$\begin{array}{lll} T = 2009\text{ Apr. }22.2398\text{ TT} & \omega = 324^\circ.1478 & \\ e = 0.127467 & \Omega = 36.4871 & \Big\}\,2000.0 \\ q = 4.178926\text{ AU} & i = 16.7109 & \end{array}$$

$$a = 4.789418\text{ AU} \qquad n^\circ = 0.0940329 \qquad P = 10.5\text{ years}$$

COMETS C/2009 J1 AND C/2009 J2 (SOHO)

Further to *IAUC* 9083, additional Kreutz sungrazers have been found on SOHO website images. C/2009 J1 was slightly diffuse with a short tail (peak mag ~ 6.5–7). C/2009 J2 was very faint (mag ~ 8–8.5) and diffuse.

Comet	2009 UT	α_{2000}	δ_{2000}	Inst.	F	*MPEC*
C/2009 J1	May 3.008	2^{h}45^m.9	+14°20′	C2	MU	2009-N46
C/2009 J2	3.458	2 47.6	+14 27	C2	MK	2009-N46

2009 October 21 *Daniel W. E. Green*