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INTERNATIONAL ASTRONOMICAL UNION
Mailstop 18, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.
IAUSUBS@CFA.HARVARD.EDU or FAX 617-495-7231 (subscriptions)
CBAT@CFA.HARVARD.EDU (science)
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COMET P/2008 QP_{20} (LINEAR-HILL)

R. E. Hill reports his discovery of a comet on Catalina Sky Survey unfiltered CCD images taken with the 0.68-m Schmidt telescope, the object showing a well-condensed coma of diameter 6″–8″ and a narrow 18″ tail in p.a. 250° in four stacked 30-s exposures in 3″-4″ seeing (discovery observation tabulated below, though with magnitude added from Sept. 23.279 UT image); his stacked 60-s images from Sept. 24.3 show the comet to be well condensed with an elongated nuclear condensation with coma size 12″ × 20″ and a narrow 4′ tail in p.a. 260°. Following posting on the Minor Planet Center's 'NEOCP' webpage, numerous other CCD astrometrists have reported this object to show cometary appearance, and at this point, K. Smalley (Minor Planet Center) identified Hill's comet with an apparently asteroidal object discovered by LINEAR and designated 2008 QP_{20} on *MPS* 255263 (discovery observation also tabulated below). G. Muler (Lanzarate, Spain, 0.30-m Schmidt-Cassegrain reflector) writes that fifteen co-added 130-s exposures on Sept. 24.06 show a tail ~ 29″ long in p.a. 245°.2. J. E. McGaha (Tucson, AZ, U.S.A., 0.62-m *f*/5.1 reflector) reports that a 180-s exposure from Sept. 24.2 shows a bright, round 7″ coma with a narrow 44″ tail in p.a. 243°. H. Devore measured a 52″.5 tail in p.a. 241° from exposures taken by R. Holmes (Charleston, IL, U.S.A., 0.61-m *f*/4.0 astrograph) on Sept. 24.34–24.36. E. Guido, Castellammare di Stabia, Italy, notes that forty unfiltered co-added 60-s exposures taken remotely by G. Sostero, P. Camilleri, and himself (0.25-m *f*/3.4 reflector located near Mayhill, NM, U.S.A.) on Sept. 24.4 show a coma ~ 10″ in diameter and a narrow tail ~ 30″ long in p.a. 233°. D. T. Durig (Sewanee, TN, U.S.A., 0.30-m *f*/2.5 Schmidt-Cassegrain reflector, Sept. 24.4, twenty 120-s co-added exposures) reports a tail ~ 65″ long in p.a. 245°. A. C. Gilmore and P. M. Kilmartin (Mt. John 1.0-m *f*/7.7 reflector, Sept. 24.5, poor seeing) write that the object shows a stellar head and a tail ~ 40″ long in p.a. 240°.

2008 UT	α_{2000}	δ_{2000}	Mag.	*Observer*
Aug. 25.39837	$1^h35^m21^s.33$	$+18°23'41''.1$	20.7	LINEAR
Sept. 23.26302	1 48 57.76	+24 38 26.1	17.7	Hill

The available astrometry, elliptical orbital elements (T = 2008 Nov. 2.277 TT, e = 0.50670, q = 1.72410 AU, P = 6.53 years, ω = 71°.796, Ω = 325°.167, i = 7°.752, equinox 2000.0), and an ephemeris appear on *MPEC* 2008-S48.

2008 September 24 *Daniel W. E. Green*