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The International Comet Quarterly (*ICQ*) is a journal devoted to news and observation of comets, published by the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts. Regular issues are published 4 times per year (January, April, July, and October), with an annual *Comet Handbook* of ephemerides published normally in the first half of the year as a special fifth issue. An index to each volume normally is published in every other October issue (now in odd-numbered years); the *ICQ* is also indexed in *Astronomy and Astrophysics Abstracts* and in *Science Abstracts Section A*.

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Group subscription rates available upon request. Back issues are $10.00 each — *except* for "current" *Comet Handbooks*, which are available for $15.00 ($10.00 to subscribers if ordered with their *ICQ* subscription; see above). Up-to-date information concerning comet discoveries, orbital elements, and ephemerides can be obtained by subscribing to the *IAU Circulars* and/or the *Minor Planet Circulars* (via postal mail and also available via computer access); for further information, contact the above e-mail address (or the *ICQ* at the above postal address).

Manuscripts will be reviewed/refereed for possible publication; authors should first obtain a copy of "Information and Guidelines for Authors" from the *ICQ* website or from the Editor. Cometary observations should be sent to the Editor in Cambridge; again, see the *ICQ* website or contact the Editor for the proper format. Those who can send observational data (or manuscripts) in machine-readable form are encouraged to do so [especially through e-mail via the Internet (ICQ@CFA.HARVARD.EDU)]. The *ICQ* has extensive information for comet observers on the World Wide Web, including the Keys to Abbreviations used in data tabulation (see URL http://cfa-www.harvard.edu/icq/icq.html). In early 1997, the *ICQ* published a 225-page *Guide to Observing Comets*; this edition is now out of print, but a revised edition is under preparation.

Most of the Observation Coordinators (OCs) listed below have e-mail contacts with the *ICQ* Editor; observers in the general area of such OCs who lack access to e-mail networks may send data to the OC for relay to the *ICQ* in electronic form.

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This issue is No. 139 of the publication originally called *The Comet* (founded March 1973) and is Vol. 28, No. 3, of the *ICQ*. *[ISSN 0736-6922]*

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CORRIGENDA

The titles for the visual tabulated data for the first two components of comet 73P in the April 2006 issue were accidentally switched; *all* of the tabulated data attributed to component 'C' on pages 61-63 actually belong to component 'B', and all of the tabulated data attributed to component 'B' on pages 63-66 of that issue actually belong to component 'C'. (This problem did *not* occur with the tabulated CCD data. The descriptive information were unaffected.)

Cheng-Yuan Shao (1927-2005)

Cheng-Yuan Shao, a longtime observer of comets and meteors at the Oak Ridge Observatory (also know as the Agassiz Station of Harvard College Observatory), died on 2005 November 17 in Providence, Rhode Island, after a long illness. Known as "Jerome" to his American friends and colleagues, he was known both as a dedicated, careful observer and a very kind and quiet gentleman. He worked hard over the years to advance astronomy back in his native country, by maintaining contact with Chinese astronomers and helping to arrange for astronomical publications to be sent there. Shao even asked that donations in his memory could be made to the Purple Mountain Observatory in Nanjing, China, via his brother-in-law, Peter Chang (postal address 1828 Doric Dr.; Tallahassee, FL 32303, USA).

Shao was born on 1927 November 3 in Luyi county, Henan province, China, being the oldest child of Shao Ziqi and Shao Renshi. He attended National Taiwan University, where he met his wife of 50 years, Fen Fang, and together they had three daughters and one son. Shao moved to the United States in 1959 to pursue graduate studies at Harvard University, where he earned a Master's degree in astronomy. In the 1960s, he joined Richard McCrosky's program (headquartered at the Harvard and Smithsonian Observatories in Cambridge) to locate fallen meteorites by photographing fireballs from multiple stations in the midwestern United States, known as the "Prairie Network", which eventually found the "Lost City" meteorite.

In the early 1970s, McCrosky and Brian Marsden started a program to observe faint comets and interesting minor planets with the 61-inch reflector at Oak Ridge, located an hour west of Cambridge in Massachusetts. McCrosky pulled in both Shao and Gunther (Skip) Schwartz to work as observers on this program, which was one of the few such programs regularly producing important astrometry of comets during the 1970s and early 1980s (the other two being programs run by Elizabeth Roemer in Arizona, which ended in 1976, and by Antonin Mrkos at Kleť in Czechslovakia).

Shao wrote occasionally for the *ICQ* on such topics as outbursts of 29P/Schwassmann-Wachmann (Shao 1981, *ICQ* **3**, 76) and the observing program at Oak Ridge (McCrosky and Shao 1982, *ICQ* **4**, 10). He was a very patient mentor for me in the late 1970s and early 1980s in teaching me the procedures of taking plates at Oak Ridge; these procedures included "baking" glass plates with forming gas prior to use, insertion of plates and guiding at the prime focus of the 61-inch reflector (reached by an elevator-platform some 1-2 stories above floor level, from which Jerome took a fall near the end of his career, breaking a leg), developing the plates in the darkroom, and measuring the plates with one of the Observatory's measuring engines.

Shao was involved in recovering more than a dozen short-period comets from the mid-1970s through the mid-1980s, and his name was familiar to anybody reading about comet observations during the 1970s and 1980s. Shao retired from the Harvard-Smithsonian Center for Astrophysics in 1994.

These notes were put together from my personal knowledge of Jerome, aided with information supplied by Marsden and by Shao's family.

Daniel W. E. Green

Φ Φ Φ

Review of Recent Literature: Research Concerning Comets*

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Lunar and Planetary Laboratory
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In previous installments of this series, scientific results from recent spacecraft missions to comets including *Deep Space 1* (October 2004 issue, p. 185) and *Stardust* (July 2005, p. 158) were reviewed. This article will present finding from NASA's *Deep Impact* mission that collided with comet 9P/Tempel on 2005 July 3.[1]

A summary of the *Deep Impact* spacecraft and mission is provided by A'Hearn *et al.* (2005a, b) and by McDowell (2005). *Deep Impact* was the eighth mission in NASA's Discovery program, which focuses on investigations in planetary sciences; *Deep Impact* was proposed and operated by the University of Maryland and the Jet Propulsion Laboratory with renowned comet scientist Michael A'Hearn (University of Maryland) as Principal Investigator.

* This is the sixth installment of a semi-regular *ICQ* column; the last installment appeared in the July 2005 issue of the *ICQ*.

[1] *Deep Impact* images were reproduced in the July 2005 issue of the *ICQ*, pp. 162 and 163.

The spacecraft was launched from Cape Canaveral on 2005 January 12 on a Boeing Delta 7925 launch vehicle with a PAM-D third stage. The spacecraft was built by Ball Aerospace and Technologies Corporation of Boulder, Colorado, and weighed 601 kg. After launch, the spacecraft was placed on a 0.981 × 1.628 AU heliocentric orbit with an inclination of 0°.6. The mission consisted of two separate components, the flyby craft and the 372-kg impactor. The impactor contained a single science instrument, the Impactor Targeting Sensor (ITS) which was essential for guiding the impactor to its target. The ITS also allowed the highest resolution images taken of a comet nucleus in the last moments before impact. The main spacecraft included three instruments, including the High Resolution Infrared spectrometer (HRI-IR), the High Resolution Imager (HRI-Vis), and the Medium Resolution Imager (MRI).

Dust

The impact was well-placed for telescopic observations from the Pacific basin. This allowed many telescope and instrument assets, both ground-based and in near-earth space, to study the impact and its aftermath. Meech *et al.* (2005) provides a summary of the earth-based observing campaign. In 2005, over 73 telescopes at 35 observatories observed comet 9P on more than 550 whole or partial nights. The ejecta cloud was first resolved about 20 minutes after impact by earth-orbiting telescopes. Around 1 hour after impact, the cloud was observed to be semicircular and extended across position angles 145° to 325°. During the first 20 hours, the leading edge of the ejecta expanded outward at a projected speed of $\sim 200 \pm 20$ m s^{-1}. The southward orientation of the ejecta suggests that the impact occurred below the orbit plane. After a day or two, the dust cloud changed shape as solar radiation pressure forced the particles into a tail in the direction of p.a. 110°. Size-sorting of dust grains by radiation pressure led to color variations across the ejecta cloud. A bluer color on the tailward side suggests that smaller submicrometer dust grains were pushed outward first. By July 9, the impact-produced dust cloud had dispersed.

Observations made with the Gemini-North 8-m telescope and MICHELLE mid-infrared imaging spectrograph are presented by Harker *et al.* (2005). A short time before impact, the coma was centrally condensed. The 7.8- to 13.0-μm spectral energy distribution was featureless and consistent with a 287 ± 10 K blackbody. The pre-impact coma did not contain submicrometer-sized silicate grains in appreciable amounts and was dominated by amorphous olivine. One hour after impact, the spectrum indicated an increase in submicrometer-sized silicates, amorphous carbon grains, amorphous pyroxene, amorphous olivine and Mg-rich crystalline olivine. The new spectral features were short-lived, and a featureless spectrum was once again present 26 hours after impact. Due to the lack of any detectable change in the spectral properties of the coma between pre-impact and several days after impact, it appears that the *Deep Impact* experiment did not produce a significant new active region.

In Hawaii, Sugita *et al.* (2005) used the Subaru 8-m telescope and the Cooled Mid-Infrared Camera and Spectrometer (COSMICS) to determine that the ejecta plume expanded at a constant velocity of 125 ± 10 m/s. Similar to observations by Harker *et al.* (2005), the pre-impact coma was dominated by continuum, while the impact coma showed an increase in silicate emission. The observed high mass ratio ($\sim$ 0.3) of crystalline silicates to amorphous silicates is higher than that measured for other Jupiter-family comets (JFCs) but consistent with Oort-cloud comets (OCs). Though the heavily processed surfaces of JFCs are different than those of OCs, which have not been as significantly thermally altered, the interiors of JFCs and OCs appear to be very similar. This also suggests that the interior of JFCs may contain a large amount of material that went through high-temperature conditions in the early solar nebula — though how this high-temperature material was radially transported from the inner solar system to the outer regions where comet formation occurred is not yet understood.

Gas

The European Southern Observatory's Very Large Telescope, equipped with the Ultraviolet-Visual Echelle Spectrograph (UVES), was used by Jehin *et al.* (2005) in early June of 2005 and over 10 nights around the time of impact. The relative flux of the CN band showed variations up to 30% from night to night. Period analysis of the strength of the CN band yielded a period of 1.709 ± 0.009 days, which is consistent with the 1.701-day (± 0.014 day) rotation period. The repeating variation in CN relative flux is due to a number of active regions. Two active regions were detected — the second roughly 20% less active than the first. A very weak third region may also be present. Prior to the impact, *Deep Impact* observed a number of outbursts emanating from the nucleus. These outbursts were clearly associated with the active regions, since each outburst was coincident with the rotation of an active area into sunlight. The relative flux of the NH 0-0 *(A-X)* band at 336 nm also agrees with variations seen in the CN band. A shift in phase between CN and NH was very small, suggesting that the NH parent has a lifetime similar to that of the parent of CN. The NH parent lifetime is consistent with NH_2 as the main NH parent.

Interestingly, *Deep Impact* was not the only comet-bound spacecraft observing the impact. The European Space Agency's *Rosetta* spacecraft, en route to a rendezvous with 67P/Churyumov-Gerasimenko in 2011, trained its OSIRIS (Optical, Spectroscopic, and Infrared Remote Imaging System) camera on 9P continuously for 17 days from June 28 to July 14. A paper by Keller *et al.* (2005) presents data on observations of the CN spectral band at 387 ± 2.5 nm. The pre-impact lifetimes of the CN parent molecules were 3×10^4 s. The same lifetime length was observed a few days later after the initial impact debris had dispersed. Immediately after impact, the lifetime was measured at 5.5×10^4 s. Since HCN, a suspected CN parent molecule, has a lifetime of 7×10^4 s, this suggests that HCN was more important relative to other shorter-lived parents in the impact cloud.

A second paper based on *Rosetta* OSIRIS data was published by Küppers *et al.* (2005). The kinetic energy of the impact did not provide the required energy to sublimate the observed amount of water released during the impact. The observed water may have been ejected as icy grains that fragmented as water sublimated due to sunlight. Any new active

area created by the impact is two orders of magnitudes smaller than the active fraction of the nucleus' surface prior to impact. The derived size of the impact crater is $\geq$ 30 m in radius.

Surface Ice

Spectroscopic observations of distant objects such as transneptunian objects have detected evidence of ice on the surfaces of these bodies, though no comet nucleus had shown direct evidence of surface ice. Observations taken by the *Deep Impact* spacecraft detected a number of ice-rich regions on the surface of 9P. Sunshine *et al.* (2006) find that at least two of the ice-rich areas lie in local cold regions, and a third is near a local cold region. Stereo imaging reveals that the largest area is in a depression 80 $\pm$ 20 m below the surrounding surface. Derived temperatures vary from 285 to 295 K ($\pm$ 8 K), above the free sublimation temperature of water ice at 1.5 AU ($\sim$ 200 K). The temperatures indicate that pure water ice can not be present. Modeling of the spectrum as a mixture of water ice and non-ice constrains the ice component to be 6 $\pm$ 3 percent with particles 30 $\pm$ 20 μm in size. A surface area of 1.3 km^2 of 100% water ice is required to account for the observed outgassing of water. The ice-rich areas cover only 0.5 km^2 and, since they are only $\sim$ 6% water, make up only $\sim$ 0.03 km^2 of pure water ice. Hence, these regions are not the dominant sources of outgassing.

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Harker, D. E.; C. E. Woodward; and D. H. Wooden (2005). "The Dust Grains from 9P/Tempel 1 before and after the Encounter with Deep Impact", *Science* **310**, 278-280.

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Keller, H. U.; and 11 co-authors (2005). "Deep Impact observations by OSIRIS onboard the Rosetta spacecraft", *Science* **310**, 281-283.

Küppers, M.; and 17 co-authors (2005). "A large dust/ice ratio in the nucleus of comet 9P/Tempel 1", *Nature* **437**, 987-990.

McDowell, J. (2005). "Jonathan's Space Report No. 543", `http://www.planet4589.org/space/jsr/jsr.html`.

Meech, K. J.; and 208 co-authors (2005). "Deep Impact: observations from a worldwide Earth-based campaign", *Science* **310**, 265-269.

Sugita, S.; and 22 co-authors (2005). "Subaru telescope observations of Deep Impact", *Science* **310**, 274-278.

Sunshine, J. M.; and 22 co-authors (2006). "Exposed water ice deposits on the surface of comet 9P/Tempel 1", *Science* **311**, 1453-1455.

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Harmon, J. K.; and M. C. Nolan (2005). "Radar observations of Comet 2P/Encke during the 2003 apparition", *Icarus* **176**, 175-183.

Tsou, P.; and 19 co-authors (2004). "Stardust encounters comet 81P/Wild 2", *J. Geophys. Res.* **109**, E12S01.

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Tabulation of Comet Observations

Editor's note: As our printing costs have escalated greatly with our transition to a printer outside of the Observatory here in Cambridge, we need to find ways to reduce the printing costs and also to increase revenues to print the *ICQ*. One of the ideas that we have been considering for some years is likely to be implemented by the January 2007 issue: the cessation of publishing tabulated observations in the *ICQ* and instead posting them — at the time of *ICQ* publication, once every three months — in full format (as opposed to the reduced format to fit the printed pages) electronically at the *ICQ* website. The question has been, then, what to do in the *ICQ* printed pages to make note of the contributed observations; possibilities include (1) continuing to publish the descriptive information in print, (2) listing each observer with the number of observations contributed for that issue, along with (3) a list of comets and perhaps the observed arcs, and then perhaps (4) some regular column explaining the observations in condensed or analytical text form, likely (5) with the occasional (or even regular) inclusion of figures depicting light curves. Yet another possibility is to issue a supplemental electronic-only publication with the observations and send this file to subscribers who send their e-mail addresses, so that they do not need to access the *ICQ* webpage to learn of the observations' formal release ("electronic publication"). — *D.W.E.G.*

Descriptive Information, to complement the Tabulated Data (all times UT):

See the July 2001 issue (page 98) for explanations of the abbreviations used in the descriptive information.

◇ *Comet 4P/Faye* ⟹ 2006 May 2.76: "very low in the evening, but I could see very faint stars (clear sky)" [YOS04]. July 27.74 and 28.68: *Guide 8.0* software used for comp.-star mags [YOS02].

◇ *Comet 29P/Schwassmann-Wachmann* ⟹ 2006 July 23.12: "in evolution after the recent outburst" [GON05].

◇ *Comet 41P/Tuttle-Giacobini-Kresák* ⟹ 2006 Apr. 25.45: comp. star has $B-V = +0.54$ [TSU02]. Apr. 25.45, May 21.46, June 5.47, 7.47, 13.47 and July 26.46: *Guide 8.0* software used for comp.-star mags [TSU02]. Apr. 25.50: $B-V$ values of comp. stars were +0.51 and +0.54 [YOS02]. Apr. 25.50 and June 18.50: *Guide 8.0* software used for comp.-star mags [YOS02]. May 1.45: sky very hazy [YOS04]. May 3.46: only 4° from half moon, and very near a star of mag 9 [YOS04]. May 21.46: comp. star has $B-V = +0.50$ [TSU02]. May 30.94 and June 21.97: mountain location, very clear sky [GON05]. June 5.47: comp. star has $B-V = +0.52$ [TSU02]. June 7.47: comp. star has $B-V = +0.72$ [TSU02]. June 7.92: comp. stars has $V = 11.25$ ($B-V = +0.76$); moonlight [AMO01]. June 13.47: comp. star has $B-V = +0.42$ [TSU02]. June 13.90: comp. stars have $V = 10.78$ ($B-V = +0.71$) and $V = 11.56$ ($B-V = +0.16$) [AMO01]. June 14.86: twilight; 12.2-mag star located 0'.7 from the central cond. [SRB]. June 14.90: comp. stars have $V = 10.79$ ($B-V = +0.80$) and $V = 11.77$ ($B-V = +0.43$) [AMO01]. June 18.90: comp. stars have $V = 9.75$ ($B-V = +0.54$) and $V = 10.82$ ($B-V = +0.64$) [AMO01]. June 20.40: comet enhanced through Swan Band filter [SEA]. June 24.90: comp. stars have $V = 10.22$ ($B-V = +0.36$) and $V = 10.93$ ($B-V = +0.37$) [AMO01]. July 2.90: comp. stars have $V = 10.33$ ($B-V = +0.74$) and $V = 11.05$ ($B-V = +0.48$); moonlight [AMO01]. July 18.92: comp. stars have $V = 10.41$ ($B-V = +0.71$) and $V = 11.00$ ($B-V = +0.37$) [AMO01]. July 22.91: comp. stars have $V = 11.13$ ($B-V = +1.29$) and $V = 11.71$ ($B-V = +0.14$) [AMO01]. July 26.46: comp. star has $B-V = +0.61$ [TSU02]. July 29.90: comp. stars have cat. mags $V = 11.26$ (B-V = +0.54) and 11.72 ($B-V = +0.69$) [AMO01]. July 30.95: comp. stars have $V = 10.82$ ($B-V = +0.65$) and $V = 11.60$ ($B-V = +0.40$) [AMO01].

◇ *Comet 45P/Honda-Mrkos-Pajdušáková* ⟹ 2006 May 30.77: CCD images taken w/ 25-cm *f*/5 L in very poor conditions, at low alt. and in twilight, show total mag 13.5 (ref: HS, apparently both for comparison-star mags and for astrometry reported to the Minor Planet Center), coma dia. 0'.7, and no tail; comet diffuse w/ weak central cond. [K. Kadota, Ageo, Saitama-ken, Japan].

◇ *Comet 71P/Clark* ⟹ 2006 Apr. 25.78: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.76$ [TSU02]. May 2.79, June 5.69, and July 28.62: *Guide 8.0* software used for comp.-star mags [YOS02]. May 4.72: "somewhat low and not easy to see; looked unexpectedly large" [YOS04]. June 1.09: comp. stars have $V = 11.31$ ($B-V = +0.60$) and $V = 11.93$ ($B-V = +0.01$) [AMO01]. June 5.12: mountain location, very clear sky [GON05]. June 5.69: $B-V$ values of comp. stars were +0.54 and +0.59 [YOS02]. June 19.02: comp. stars have $V = 10.37$ ($B-V = +0.60$) and $V = 11.28$ ($B-V = +0.46$) [AMO01]. June 24.95: comp. stars have $V = 10.79$ ($B-V = +0.85$) and $V = 11.01$ ($B-V = +0.69$) [AMO01]. June 27.08: comp. stars have $V = 9.78$ ($B-V = 1.45$) and $V = 10.54$ ($B-V = +0.20$) [AMO01]. July 7.05: alt. 6° [GON05]. July 18.95: comp. stars have $V = 10.01$ ($B-V = +0.48$) and $V = 10.92$ ($B-V = +0.50$) [AMO01]. July 20.95, 22.09, and 22.98: comp. stars have $V = 10.01$ ($B-V = +0.48$) and $V = 10.89$ ($B-V = +0.60$); clouds [AMO01]. July 29.92 and 30.97: comp. stars have cat. mags $V = 10.89$ ($B-V = +0.60$) and 11.26 ($B-V = +0.45$) [AMO01].

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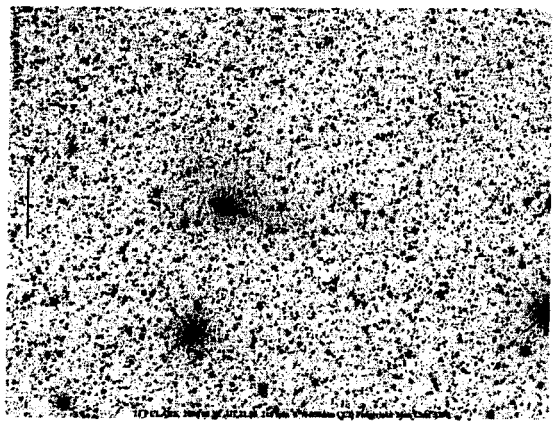

Composite of two 5-min CCD exposures of comet 71P/Clark taken by M. Jäger and G. Rhemann on 2006 May 30.91 UT with an 8-inch-aperture, 550-mm-focal length reflector (+ Fingerlake Max Cam 3200 camera). The bar near the left margin is 5' long, with north up. The comet is the diffuse object to left of center.

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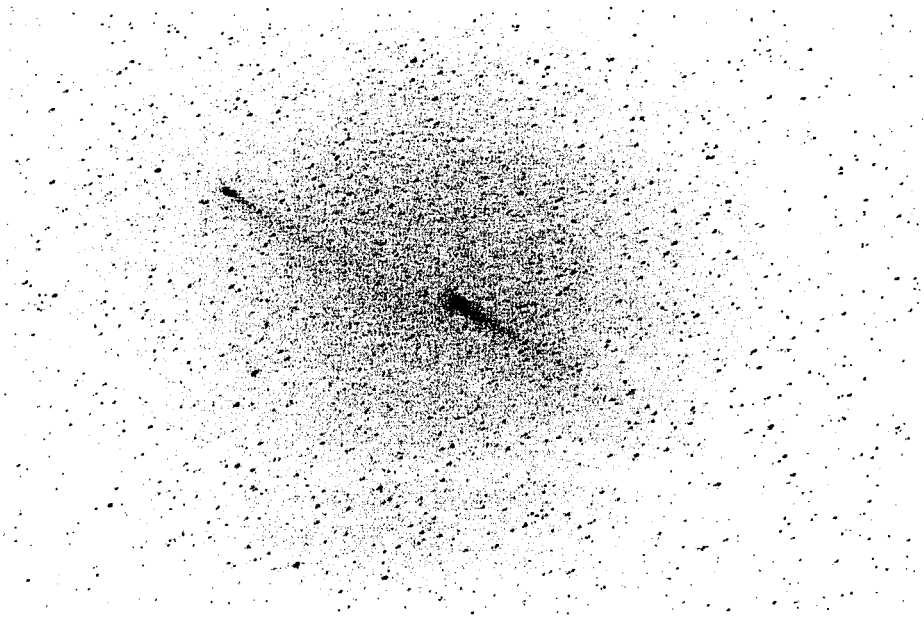

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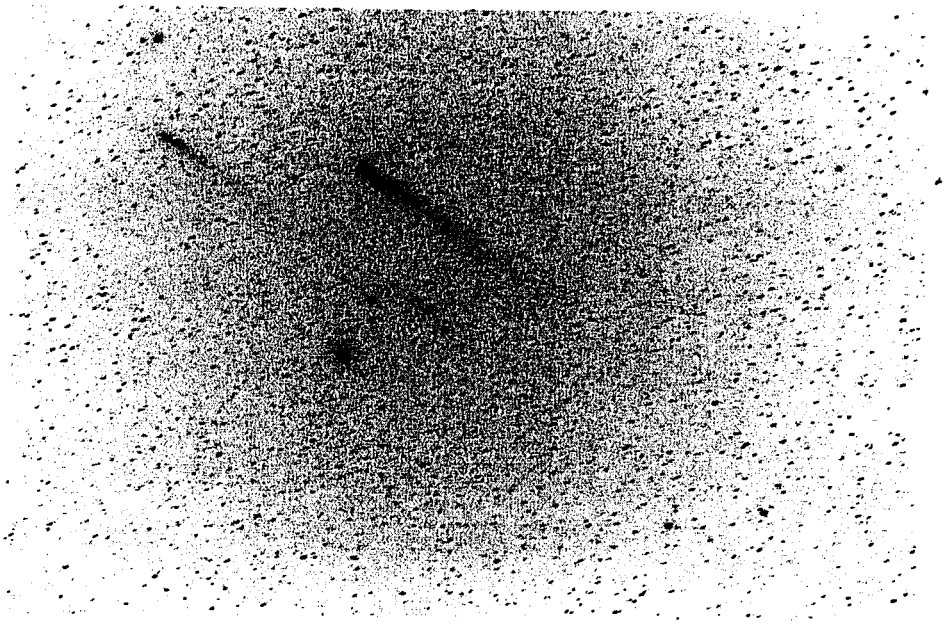
Images of components 'C' and 'B' of comet 73P/Schwassmann-Wachmann, taken by John Drummond of Gisborne, New Zealand, with a 200-mm-focal-length camera lens. Above: 2006 June 2.7 UT; seven 30-sec CCD exposures, co-added, camera operating at ASA 800 and lens at f/2. Below: 2006 June 7.7; thirteen 3-min exposures, co-added, lens at f/2.8. Component 'C' is the brighter object of the two fragments in both images. Note how the tail orientation changes over five days.



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[text continued from page 96]

◇ *Comet 73P/Schwassmann-Wachmann [comp. C (usually stated; occasionally presumed)]* ⟹ 2006 Mar. 4.4: six stacked CCD 60-sec exposures taken w/ a 35.6-cm *f*/10 T show a coma of size 35″ × 44″ elongated toward p.a. 275° and a faint tail 386″ long in p.a. 281° [J. E. McGaha, Tucson, AZ]. Mar. 18.91: obs. from Versailles, France; light polluted and a bit hazy [BIV]. Mar. 19.96 and Apr. 6.13: obs. made from Poigny-la-Foret, France [BIV]. Mar. 25.93, 27.87, and 29.91: desert location in south Libya; very dark skies [BIV]. Mar. 28.94, Apr. 5.02, 17.91, 19.93, 21.96, 23.04, 25.93, 26.00, May 4.89, 8.92, 10.05, 11.07, and 13.02: *Guide 7.0* software used for comp.-star mags [SAN07]. Mar. 29.00: possible tail 3′ long in p.a. 240° [RES]. Apr. 8.86 and 20.91: moonlight [SRB]. Apr. 17.83, 21.85, 22.83, 23.82, 24.82, and May 5.05: *Guide 8.0* software used for comp.-star mags [MAJ01]. Apr. 17.91, 20.90, and May 8.89: *Guide 8.0* software used for

comp.-star mags [TOT03]. Apr. 18.89: coma dia. ≈ 4′ × 7′; in 20-cm L (42×), short, weak tail ≈ 0°.1 long in p.a. 220°, and stellar central cond. of mag ≈ 10.0 [SCH04]. Apr. 19.63, 21.63, 25.57, 28.75, and May 4.7: *The Sky* ver. 5 software used for comp.-star mags [MIT]. Apr. 20.84 and 23.96: *Guide 8.0* software used for comp.-star mags [CSO]. Apr. 20.88, 28.97, May 3.01, and 13.04: *Guide 8.0* software used for comp.-star mags [SZA]. Apr. 21.53: comet close to α Cor; mag estimate may have been too bright [SEA]. Apr. 21.54, 28.51, and May 2.73: *Guide 8.0* software used for comp.-star mags [MIY01]. Apr. 21.64: comp. star has B–V = +0.73 [NAG08]. Apr. 21.64, 25.69, 28.62, May 2.51, 7.72, 11.65, and 20.77: *StellaNavigator* ver. 6.1 software used for comp.-star mags [NAG08]. Apr. 22.03, May 5.05, and 9.02: *Guide 8.0* software used for comp.-star mags [SAR02]. Apr. 24.93: in 30-cm L (92×), central cond. of mag ≈ 10.0 and weak tail ≈ 0°.2 long in p.a. 205-230° [SCH04]. Apr. 25.54: comet proved to be a spectacular sight in binoculars and, especially, in 25.4-cm L at 71×, where the dust tail was bright [SEA]. Apr. 25.59: comp. star has B–V = +0.60 [NAG08]. Apr. 25.61: B–V values of comp. stars were +0.58 and +0.67 [YOS02]. Apr. 25.61, 27.60, 29.71, 29.74, 30.78, May 2.70, 2.72, 3.67, and July 27.76: *Guide 8.0* software used for comp.-star mags [YOS02]. Apr. 25.69: B–V values of comp. stars were +0.51 and +1.26 [TSU02]. Apr. 25.69, May 3.67, 4.71, 20.79, and July 27.74: *Guide 8.0* software used for comp.-star mags [TSU02]. Apr. 26.55: in 25×100 B, tail 0°.8 long in p.a. 230° [SEA]. Apr. 27.88: in 20-cm L (42×), central cond. of mag ≈ 9.5 and weak tail ≈ 0°.2 long in p.a. 220°; at 144×, possible elongated central cond. [SCH04]. Apr. 27.97, 29.97, May 3.03, 10.04, and 11.02: 6.5×44 B [BUS01]. Apr. 30.10 and May 1.09: comp. stars have catalogued magnitudes V = 7.17 (B–V = +0.53) and 8.16 (B–V = +0.06) [AMO01]. Apr. 30.97: w/ 25×100 B, near-stellar central cond. of mag ~ 8.0 [GON05].

May 1.37: "I was able to definitively and unequivocally" see this comet via naked eye at alt. 82° — "constantly (averted vision) for ≈ 20 min doing so (on my back)" from a site near Portal, AZ (U.S.A.) [Raymond Brooks]. May 1.85: high clouds [HOR02]. May 2.03: in 20-cm L (42×), central cond. of mag ≈ 8 and weak tail ≈ 0°.5 long in p.a. 215° [SCH04]. May 2.55: comet low, and obs. time brief before comet disappeared behind nearby apartment building [SEA]. May 2.73: "magnificent and fantastic view with a broad, very long tail; the tail looks typical for a dust tail of a historical great comet" [YOS04]. May 2.88: w/ 44-cm f/5 L (63×), 0°.5 tail in p.a. 220° [HAS02]. May 2.91: w/ 15-cm R (75×), 8′ tail in p.a. 220° [DIE02]. May 2.96: with 15×80 B, tail 0.9° long in p.a. 230° [BOU]. May 3.02: in 9×63 B, significantly condensed coma with tail of high surface brightness; w/ 30-cm T (75×), highly condensed coma with bright central cond. and plainly visible broad tail; at 167×, a stellar false nucleus of mag 10.5 [KAM01]. May 3.04: obs. from Thalfang, Hunsrueck, Germany; fragment 'C', as well as M13, clearly visible with the naked eye [GIL01]. May 3.11: comp. stars have V = 7.22 (B–V = +0.52) and V = 7.94 (B–V = +0.20) [AMO01]. May 3.47: *StellaNavigator* ver. 6.1 software used for comp.-star mags [KON03]. May 4.11: comp. stars have cat. mags V = 6.97 (B–V = −0.10) and 7.73 (B–V = +0.21) [AMO01]. May 4.67: tail seemed very broad [YOS04]. May 4.90: w/ 44-cm f/5 L (63×), 0°.24 tail in p.a. 235° [HAS02]. May 4.97: clearly fainter than M13; hazy sky [GRA04]. May 5.04: in 20-cm L (42×), central cond. of mag ≈ 8.5 and weak tail ≈ 0°.4 long in p.a. 225° [SCH04]. May 6.02: hazy sky and twilight [GRA04]. May 7.00: comet only faintly visible due to strong haze [GRA04]. May 7.07: in 9×63 B, significantly condensed coma with tail of high surface brightness; w/ 30-cm T (75×), highly condensed coma w/ bright central cond. and conspicuous broad tail; at 167×, a stellar false nucleus of mag 10.0 [KAM01]. May 8.05: in 20-cm L (42×), central cond. of mag ≈ 9.5 and weak tail ≈ 0°.3 long in p.a. 240°; comet weakly visible w/ naked eye [SCH04]. May 8.08: in 9×63 B, not as conspicuous as the night before; considerably condensed, but surprisingly small coma, in spite of better conditions; tail not as conspicuous as the night before; w/ 30-cm T (75×), highly condensed coma w/ bright central cond. and plainly visible broad tail, only 11′ west of M57; at 167×, a stellar false nucleus of mag 11.0 (notably fainter than the night before) [KAM01]. May 8.33: comp. stars have V = 6.98 (B–V = +0.11) and V = 7.62 (B–V = −0.03) [AMO01]. May 8.85, 9.91, 10.92, 11.93, and 18.06: moonlight [HOR02]. May 9.00: comp. 'C' appeared considerably fainter and less condensed than comp. 'B' (it was, however, clearly visible in 7×50 B); moon, twilight, and somewhat-hazy sky, but the conditions were better than during the previous nights [GRA04]. May 9.00: moonlight; comet faintly visible; fragment 'B' now is clearly the brighter object [BOU]. May 10.08: in 20-cm L (42×), central cond. of mag ≈ 8.5; comet more diffuse than on May 8 [SCH04]. May 11.01: moonlight interference [GON05]. May 11.04: in 20-cm L (42×), central cond. of mag ≈ 8 (more diffuse than fragment 'B') and weak tail ≈ 0°.2 long in p.a. 250° [SCH04]. May 11.04: w/ 15-cm R (75×), 8′ tail in p.a. 245° [DIE02]. May 11.07: in 9×63 B, unconspicuous object against brightened background with strongly condensed coma and difficult tail; w/ 30-cm T (75×), highly condensed coma with bright central cond. and plainly visible tail; at 161×, stellar false nucleus of mag 11.0 [KAM01]. May 12.01: a quite challenging object due to moonlight, twilight, and some interference from high clouds [GRA04]. May 12.07: in 9×63 B, unconspicuous object against brightened background with moderately condensed coma and faint tail; w/ 30-cm T (75×), coma showed a bright central cond. and a plainly visible tail; at 161×, the stellar (perhaps a bit diffuse) false nucleus of mag 11.0 was situated within a small knot of material, which was apparently slightly elongated towards the tail [KAM01]. May 12.35: comp. stars have V = 6.41 (B–V = +0.14), 6.75 (+0.05), and 7.03 (+0.30) [AMO01]. May 13.13, 14.14, 15.15, 17.14, and 18.15: obs. from Pico-Veleta (IRAM observatory, at 2900 m elevation, Sierra-Nevada, Spain); cirrus clouds, and some moon interference most of the time — unusually marginal sky [BIV]. May 13.99: with 7.0-cm R, the glow of comet was of similar brightness as M27, although the latter object appeared smaller; comp. 'C' was faint in 7×50 B; twilight (sun 11° below horizon) [GRA04].

May 16.02: a challenging object due to its alt. (19°) and bright sky background (sun 9°.5 below horizon); visibility of comp. 'C' was considerably inferior to that of M15 [GRA04]. May 18.77: comet well condensed; mag estimate probably too conservative due to bright moonlight [SEA]. May 19.08: moonlight interference; comp. stars at the same low alt. (8°) as the comet [GON05]. May 19.36: comp. stars have V = 6.45 (B–V = +0.60) and V = 7.37 (B–V = +0.05); moonlight [AMO01]. May 20.13: obs. from Granada (Spain) near city border — clear sky but some light pollution [BIV]. May 20.77: B–V values of comp. stars were +0.38, +0.43, and +0.65 [NAG08]. May 20.79: comp. star has B–V = +0.68 [TSU02]. May 24.77: "both components 'C' and 'B' were very impressive this morning in a dark sky, both possessing

distinct central condensations (however, the central cond. of 'B' appeared 'softer' than that of 'C')" [SEA]. May 26.11: mountain location, very clear sky; comp. stars at the same low alt. (3°) as the comet [GON05]. May 26.13: obs. made at the beginning of morning astron. twilight; alt. 6° [GON05]. May 26.37: comp. stars have $V = 6.96$ ($B-V = +0.83$) and $V = 7.37$ ($B-V = +0.43$) [AMO01]. May 28.35: comp. stars have $V = 7.37$ ($B-V = +0.43$) and $V = 7.79$ ($B-V = +0.73$) [AMO01]. May 28.74: "an unusual spectacle — two relatively bright comets (components 'C' and 'B') visible in the same binocular field!" [SEA]. May 31.78: "w/ 10×50 B, there were times when the tail of 'B' seemed almost to reach comp. 'C' (probably some of this was just the eye's tendency to connect dots, but the twin comet was very impresive. nevertheless); comp. 'C' was a spectacular sight in the binoculars due to the relatively high intensity of tail" [SEA]. June 1.34: comp. stars have $V = 7.06$ ($B-V = +0.60$) and $V = 7.56$ ($B-V = +0.81$) [AMO01]. June 1.82: comp. 'C' is "a very spectacular sight in 25×100 B, as the tail is quite intense now" [SEA]. June 7.77: "in 25.4-cm L at 71×, a small 'spine' was visible extending from the central cond. in the anti-solar direction; a very similar feature was noted during the 1995 return" [SEA]. July 7.12: astron. twilight; alt. 7° [GON05].

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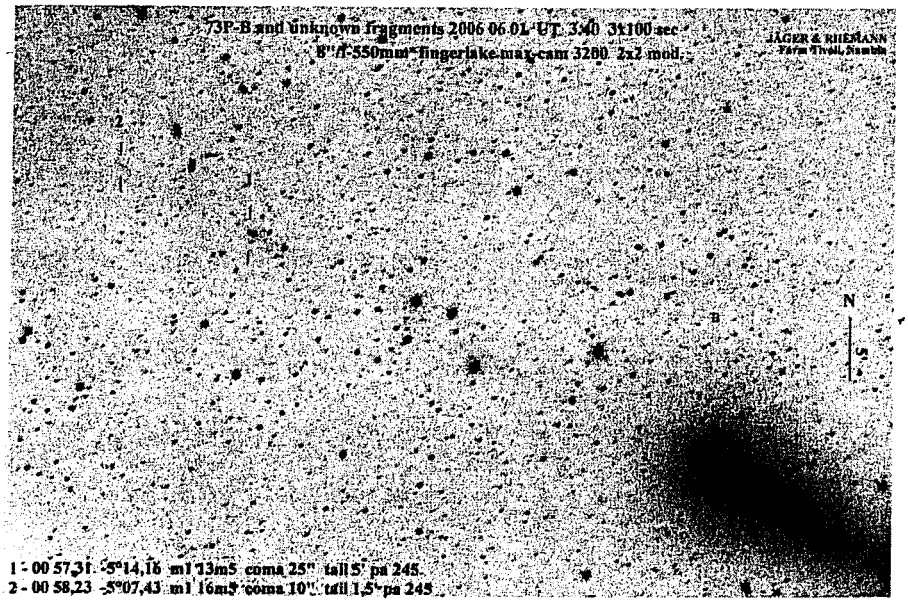

Composite of three 100-sec CCD exposures of fragments of comet 73P, taken by M. Jäger and G. Rhemann on 2006 June 1.15 UT with an 8-inch-aperture, 550-mm-focal length reflector (+ Fingerlake Max Cam 3200 camera). The bar near the right margin is 5′ long, with north up. Component 'B' is the bright object at lower right; Jäger has also identified two fainter fragments at the upper left.

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◇ *Comet 73P/Schwassmann-Wachmann [comp. B]* ⟹ 2006 Mar. 6.21: obs. made from Poigny-la-Foret, France [BIV]. Mar. 18.93: obs. from Versailles, France; light polluted and a bit hazy [BIV]. Apr. 5.95: "comet hard to estimate due to faint halo; possible tail ∼ 5′ long" [RES]. Apr. 8.83, 20.86, May 10.86, and 11.9: moonlight [SRB]. Apr. 17.90: coma dia. ≈ 5′ × 7′ [BUS01]. Apr. 17.96, 20.95, 21.01, 23.0, 25.01, and May 2.05: obs. made from Poigny-la-Foret, France [BIV]. Apr. 18.89: coma dia. ≈ 3′ × 6′ [SCH04]. Apr. 19.95, 20.95, 23.02, 25.98, May 4.92, 8.91, 9.94, 11.02, and 12.96: *Guide 7.0* software used for comp.-star mags [SAN07]. Apr. 20.83 and 21.87: *Guide 8.0* software used for comp.-star mags [CSO]. Apr. 20.86: brightest part of the coma elongated in p.a. 225° [SRB]. Apr. 20.88, 28.96, May 3.01, and 13.02: *Guide 8.0* software used for comp.-star mags [SZA]. Apr. 21.53: comet appeared as a diffuse glow — very different in appearance to comp. 'C' on same evening [SEA]. Apr. 21.55, 28.50, and May 2.75: *Guide 8.0* software used for comp.-star mags [MIY01]. Apr. 21.70, 25.58, 28.70, May 2.57, 4.74, and 11.62: *The Sky* ver. 5 software used for comp.-star mags [MIT]. Apr. 22.03, 23.99, May 5.03, 8.95, 10.01, and 18.05: *Guide 8.0* software used for comp.-star mags [SAR02]. Apr. 22.85, 24.82, May 5.06, and 12.89: *Guide 8.0* software used for comp.-star mags [MAJ01]. Apr. 23.4: CCD exposures taken w/ a 35.6-cm $f/10$ T show the new component 'BN' only 12″.4 from comp. 'B' in p.a. 226°.4, located inside the bright elongated 56″.7 × 8″.8 coma; the brightness of the nuclear cond. of 'BN' was 0.5 mag fainter than that of 'B' (14.9 vs. 14.4) in a 5″ aperture [J. E. McGaha, Tucson, AZ]. Apr. 24.94: in 30-cm L (92×), central cond. of mag ≈ 12.5 and weak tail ≈ 0°.1 long; in 30-cm L (211×), impression of two central condensations, separated by < 1′ [SCH04]. Apr. 25.54: very elongated in 25.5-cm L at 71×; no obvious central cond. [SEA]. Apr. 25.56: comp. star has $B-V = +0.63$ [NAG08]. Apr. 25.56, 28.63, May 2.52, 3.55, 7.74, 11.64, and 20.75: *StellaNavigator* ver. 6.1 software used for comp.-star mags [NAG08]. Apr. 25.57: $B-V$ values of comp. stars were +0.58 and +0.67 [YOS02]. Apr. 25.57, 27.62, 29.73, 29.75, May 2.77, 3.69, and July 27.78: *Guide 8.0* software used for comp.-star mags [YOS02]. Apr. 25.71: $B-V$ values of comp. stars were +0.51 and +1.26 [TSU02]. Apr. 25.71, 28.58, 30.58, May 3.65, 4.71, and 20.77: *Guide 8.0* software used for comp.-star mags [TSU02]. Apr. 26.85: "w/ 0.41-m L, considerably more condensed

than last night; small nearby component ('AQ') visible"; tail 0°.4 long in p.a. 235° [RES]. Apr. 27.54: comet clearly in outburst; very bright near-stellar central cond. in 25×100 B, and tail visible for possibly 0°.5 [SEA]. Apr. 27.89: in 20-cm L (42×), central cond. of mag ≈ 10.5 and second cond. ≈ 0'.5 away of mag 11.5-12 [SCH04]. Apr. 27.90: coma dia. ≈ 15' × 10' [RIE]. Apr. 27.95, May 3.02, 10.01, and 11.01: 6.5×44 B [BUS01]. Apr. 29.12 and 29.94: obs. from 'La Couyere' observatory, near Rennes, Brittany, France [BIV]. Apr. 29.95: star of mag 7.1 in coma [BUS01]. Apr. 30.58: comp. star has $B-V = +0.49$ [TSU02]. Apr. 30.68: coma appeared elongated; central cond. was weak [YOS04].

May 1.12: comp. stars have $V = 8.06$ ($B-V = +0.53$) and $V = 9.76$ ($B-V = +0.96$) [AMO01]. May 1.86: high clouds [HOR02]. May 1.98 and 8.91: *Guide 8.0* software used for comp.-star mags [TOT03]. May 2.03: in 20-cm L (42×), central cond. of mag ≈ 9 and weak tail ≈ 0°.3 long in p.a. 205° [SCH04]. May 2.73: "w/ 0.40-m telescope, a bright stellar nuclear cond. was visible, which had not been visible two days ago (even using smaller monocular or binoculars, the central cond. had been getting stronger day by day; completely different" appearance from that of comp. 'C') [YOS04]. May 2.91: w/ 15-cm R (75×), tail in p.a. 220° [DIE02]. May 2.97: faint, nearly stellar central cond. on the sunward side of large faint coma; with 15×80 B, tail 0°.5 long in p.a. 235° [BOU]. May 3.02: "in 9×63 B, plainly visible, but coma and tail more pale and more diffuse than those of component 'C'; w/ 30-cm T (75×), highly condensed coma w/ bright central cond.; no cigar-shaped brighter inner part of coma recognizable; broad tail fainter than that of component 'C', slightly curved counterclockwise; at 167×, stellar false nucleus of mag 10.5; at 333×, I suspected a faint secondary cond. tailwards of the false nucleus" [KAM01]. May 3.05: obs. from Thalfang, Hunsrueck, Germany; fragment 'B' *not* visible with the naked eye [GIL01]. May 3.10: comp. stars have $V = 8.33$ ($B-V = +0.53$) and $V = 9.52$ ($B-V = +0.60$); nuclear cond. of mag 9.6 w/ 20× 80 B [AMO01]. May 3.49: *StellaNavigator* ver. 6.1 software used for comp.-star mags [KON03]. May 3.55: $B-V$ values of comp. stars were +0.44, +0.48, and +0.54 [NAG08]. May 3.65 and 4.68: "fantastic rendezvous with M13; the comet was fainter, but much larger, than M13; I could see M13 clearly via naked eye, but the comet was not clearly visible w/ naked eyes" [YOS04]. May 4.10: comp. stars have cat. mags $V = 7.42$ ($B-V = +0.14$) and 8.63 ($B-V = -0.03$) [AMO01]. May 4.90: w/ 44-cm f/5 L (63×), 0°.08 tail in p.a. 225° [HAS02]. May 4.92: moonlight and somewhat hazy sky; comet appears to be slightly fainter than 2 days ago [DIJ]. May 4.97: appeared much fainter than nearby M13; hazy sky [GRA04]. May 5.04: in 20-cm L (42×), elongated central cond. and weak tail ≈ 0°.4 long in p.a. 250° [SCH04]. May 6.03: hazy sky, twilight [GRA04]. May 7.01: comp. 'B' only barely seen due to poor transparency, but it was later imaged using 20.3-cm T + CCD + V filter [GRA04]. May 7.07: in 9×63 B, plainly visible, but coma and tail more pale and more diffuse than those of component 'C'; w/ 30-cm T (75×), pale coma with a cigar-shaped brighter inner region without a significant center; broad tail fainter than that of 'C'; at 167×/242×, two condensations 30″ apart, with the sunward one harboring a stellar false nucleus of mag 14.0 [KAM01]. May 7.88: outburst; comet appears as a small diffuse nebula w/ very strong central cond. (stellar appearance) [LEH]. May 8.06: in 20-cm L (42×), central cond. of mag ≈ 9 and weak tail ≈ 0°.3 long in p.a. 220° [SCH04]. May 8.08: "in 9×63 B, plainly visible, but not as bright as comp. 'C'; coma more condensed than the night before and (surprisingly) significantly smaller, in spite of better conditions; w/ 30-cm T (75×), highly condensed coma with a very bright central cond. and a bright, narrow tail; no trace of the cigar-shaped brighter inner region seen the night before; at 167×, stellar false nucleus of mag 9.5; at 242×/333×, I could recognize a faint secondary cond. tailwards of the false nucleus" [KAM01]. May 8.83, 9.90, 10.90, 11.91, and 18.04: moonlight [HOR02]. May 8.83: comet in outburst; faint outer coma [HOR02]. May 8.90: outburst; comet appears as a slightly diffuse star (very strong and compact central cond. of stellar appearance) [LEH]. May 8.95: moonlight, but comet easily visible; clearly in outburst; strong central cond. in large faint coma; in 15.6-cm L at 102×, there was an elongated central cond. of dia. ≈ 1' w/ a nearly stellar nucleus of 8th mag on the sunward side [BOU]. May 8.95: outburst; in 15.5-cm L at 80×, the nuclear cond. seems to be elongated [DIJ]. May 8.97: comp. 'B' appeared about one mag brighter than comp. 'C' [SKI]. May 9.00: comp. 'B' was undergoing a major outburst and appeared much brighter and more condensed than until two nights ago; it was brighter than M13 and just not visible to naked eye; an apparently stellar central cond. of mag ~ 7.0 (ref = TK); obs. somewhat affected by haze, moonlight, and astron. twilight [GRA04]. May 9.53: *MegaStar* ver. 5.0 software used for comp.-star mags [MUR02]. May 9.97: not seen naked eye, but obs. in 2.5× opera glasses (in-focus mag 5.0; ref = TK); moonlight, twilight, and somewhat hazy [GRA04]. May 9.97: brighter than M13; coma appeared fan-shaped in 12.0-cm R (40× and 111×) [SKI]. May 9.98: "comet appears as a small, diffuse nebula w/ very strong central cond. of stellar appearance (looks like globular cluster); a few days after outburst" [LEH].

May 10.08: in 20-cm L (42×), central cond. of mag ≈ 8.5 and weak tail ≈ 0°.3 long in p.a. 230°; fan-shaped coma; comet in outburst since May 8 [SCH04]. May 10.08 and 11.03: comet weakly visible w/ naked eye [SCH04]. May 10.86 and 11.9: dense star field [SRB]. May 10.86: fan tail in p.a. 205°-255° [SRB]. May 10.91: moonlight; comet also visible with naked eye [DIJ]. May 10.99 and 11.98: comet appears like a diffuse cone nebula w/ very strong cond. (appears to have a stellar nuclear cond.) [LEH]. May 11.00: with 7.0-cm R, 'V'-shaped inner coma; first part of tail was rather bright; the 'N' magnitude refers to a nearly stellar central cond. [GRA04]. May 11.00: moonlight; comet less condensed, but over the last 48 hr, the inner coma has become larger and brighter — hence the total brightness shows little change [BOU]. May 11.02: moonlight interference [GON05]. May 11.03: in 20-cm L (42×), central cond. of mag ≈ 8 (possibly two condensations) and weak tail ≈ 0°.3 long in p.a. 235°; fan-shaped coma [SCH04]. May 11.04: w/ 15-cm R (75×), 15' tail in p.a. 250° [DIE02]. May 11.06: in 9×63 B, bright object against brightened background with significantly condensed coma and a surprisingly bright tail; w/ 30-cm T (75×), the fan-shaped coma emanated from the short linear central cond., which harbored an unconspicuous false nucleus; at 161×, the stellar false nucleus was of mag 11.0; at 242×/333×, a second cond. could be recognized ≈ 30″ tailward to the false nucleus [KAM01]. May 11.14: some moonlight interference, a half hour before moonset [GON05]. May 11.86: fan tail in p.a. 210°-285° [SRB]. May 11.91: 6.5-mag star in coma [HOR02]. May 12.06: in 9×63 B, bright object against brightened background w/ significantly condensed coma and a bright tail; however, coma and tail had faded a bit compared to May 11.06; w/ 30-cm T (75×), the overall morphology

was very similar compared to May 11.06, with the false nucleus more conspicuous; at 161×, the false nucleus was of mag 10.5; at 242×/333×, the second, rather diffuse cond. could be only glimpsed ≈ 30″ tailwards of the false nucleus [KAM01]. May 12.35: comp. stars have $V = 5.76$ (B–$V = +0.75$) and $V = 6.32$ (B–$V = -0.09$) [AMO01]. May 13.35: comp. stars have $V = 5.88$ (B–$V = +0.52$) and $V = 6.39$ (B–$V = +0.48$); moonlight and clouds [AMO01]. May 13.98: quite bright tail; twilight and low moon, but transparent sky [GRA04]. May 15.98: a not-too-easy object in 7×50 B (clearly harder to see than M13); twilight (sun 11° deg below horizon), but very good sky transparency [GRA04]. May 18.04: 7.4-mag star in coma [HOR02]. May 18.77: comet much less condensed than comp. 'C', but tail was of higher intensity [SEA]. May 19.05: obs. during moonrise; comp. stars at the same low alt. (7°) as the comet [GON05]. May 19.07: moonlight interference; comp. stars at the same low alt. (11°) as the comet [GON05]. May 19.36: comp. stars have $V = 6.54$ (B–$V = +0.57$) and $V = 6.76$ (B–$V = +0.01$); moonlight [AMO01].

May 20.75: B–V values of comp. stars were +0.38, +0.45, and +0.53 [NAG08]. May 20.77: comp. star has B–V = +0.68 [TSU02]. May 26.12: mountain location, very clear sky; comp. stars at the same low alt. (4°) as the comet [GON05]. May 26.13: obs. made at the beginning of morning astron. twilight; alt. 7° [GON05]. May 26.36: comp. stars have $V = 7.05$ (B–$V = +0.09$) and $V = 7.46$ (B–$V = +0.32$) [AMO01]. May 28.36: comp. stars have $V = 7.05$ (B–V = +0.09) and $V = 7.89$ (B–$V = +0.45$) [AMO01]. June 1.33: comp. stars have $V = 7.72$ (B–$V = +0.44$) and V = 8.28 (B–$V = +0.32$) [AMO01]. June 1.82: "the difference in brightness between components 'C' and 'B' appeared a lot less in 10× 50 B than in 25×100 B (comp. 'B' appeared significantly brighter in 10× 50 B) [SEA]. June 7.77: comet was just detected in 6×35 B as a very faint 'stain' on the background sky, in strong contrast to comp. 'C', which was easily visible; diffuse and featureless in 25.4-cm L at 71×; comet was considerably fainter than on June 1 [SEA]. July 14.75: CCD images w/ 25-cm f/5 L show total mag ≈ 13.6 (ref: HS, apparently both for comparison-star mags and for astrometry reported to the Minor Planet Center), coma dia. 3′ × 0′.8 (elongated in p.a. 235°), and a faint tail 14′ long in p.a. 235°; comet diffuse w/ a weak cond. toward the northeast [K. Kadota, Ageo, Saitama-ken, Japan].

◇ *Comet 73P/Schwassmann-Wachmann [comp. G]* ⟹ 2006 Apr. 4.11, 17.99, and 23.00: obs. made from Poigny-la-Foret, France [BIV]. Apr. 5.98: three hr of obs.; object moved in correct direction; no other objects in field when compared to Digitized Sky Survey and USNO-B1.0 catalogue (limiting stellar mag ~ 15.7) [RES]. Apr. 8.83, 20.88, May 11.88, and 11.97: moonlight [SRB]. Apr. 20.88: 13.4-mag star 1′.5 from the central cond. [SRB]. Apr. 25.56: *StellaNavigator* ver. 6.1 software used for comp.-star mags; comp. star has B–$V = +0.55$ [NAG08]. Apr. 25.60: comp. star has B–$V = +0.34$ [TSU02]. Apr. 25.60, 25.71, and 30.64: *Guide 8.0* software used for comp.-star mags [TSU02]. Apr. 25.66: B–V values of comp. stars were +0.58 and +0.67 [YOS02]. Apr. 25.66 and May 2.74: *Guide 8.0* software used for comp.-star mags [YOS02]. Apr. 25.71: B–V values of comp. stars were +0.51 and +1.26 [TSU02]. Apr. 30.00: obs. from 'La Couyere' observatory, near Rennes, Brittany, France [BIV]. Apr. 30.64: comp. star has B–$V = +0.49$ [TSU02]. May 2.71: "I could see a very faint diffuse object due to the excellent clear sky, but near limit" [YOS04]. May 3.69: *MegaStar* ver. 5.0 software used for comp.-star mags [MUR02]. May 3.96: at 81×, limiting stellar mag ≈ 15.5; second confirming detection made at May 3.98 UT [LEH]. May 11.88 and 11.97: dense star field [SRB].

◇ *Comet 73P/Schwassmann-Wachmann [comp. R]* ⟹ 2006 Apr. 6.01: two hr of obs.; object moved in correct direction; no other objects in field when compared to Digitized Sky Survey and USNO-B1.0 catalogue (limiting stellar mag ~ 15.7) [RES]. Apr. 8.83, 20.90, and May 11.98: moonlight [SRB]. Apr. 20.97, 23.00, May 2.09, and 4.08: obs. made from Poigny-la-Foret, France [BIV]. Apr. 25.58: comp. star has B–$V = +0.34$ [TSU02]. Apr. 25.58, 25.74, and 30.60: *Guide 8.0* software used for comp.-star mags [TSU02]. Apr. 25.74: B–V values of comp. stars were +0.51 and +1.26 [TSU02]. Apr. 26.85: diffuse glow; motion checked during a 2-hr period; *TheSky6* software shows no bright stars or galaxies near comet's position [RES]. Apr. 29.10 and 30.01: obs. from 'La Couyere' observatory, near Rennes, Brittany, France [BIV]. Apr. 30.60: comp. star has B–$V = +0.49$ [TSU02]. May 1.06: mountain location, very clear sky; motion checked during a 90-min period [GON05]. May 3.69: *MegaStar* ver. 5.0 software used for comp.-star mags [MUR02]. May 11.98: dense star field [SRB].

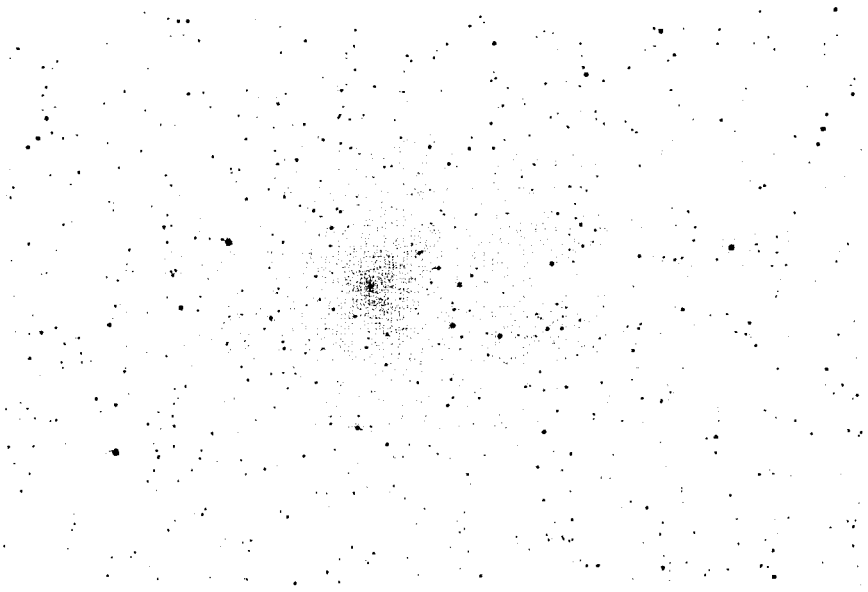
◇ *Comet 73P/Schwassmann-Wachmann [comp. AP]* ⟹ 2006 Apr. 26.90: barely visible glow, but seen at correct position; motion checked during a 2-hr period; *TheSky6* software shows no bright stars or galaxies near comet's position [RES].

◇ *Comet 73P/Schwassmann-Wachmann [comp. AQ]* ⟹ 2006 Apr. 25.01 and 27.02: obs. made from Poigny-la-Foret, France [BIV].

◇ *Comet 73P/Schwassmann-Wachmann [comp. AS]* ⟹ 2006 Apr. 26.91: definitely seen with 41-cm L; motion checked during a 2-hr period; *TheSky6* software shows no bright stars or galaxies near comet's position [RES]. Apr. 29.99: very faint object near limit of telescope; position and obs. motion near mag-13.7 star (ref. TA) in agreement with orbital elements from *MPEC* 2006-H48; checked against Digitized Sky Survey to avoid confusion with faint stars or nearby galaxies [BOU/DIJ]. Apr. 30.77 and May 2.70: "very tiny object visible at the [predicted] position, similar to a faint star, and near limit" [YOS04].

◇ *Comet 73P/Schwassmann-Wachmann [comp. BC]* ⟹ 2006 May 2.68: "very bright and large due to the clear sky; the fast motion among stars was evidently visible; however, it evidently faded rapidly" because it was invisible the next night [YOS04].

◇ *Comet 174P/2000 EC$_{98}$ (Echeclus)* ⟹ 2006 Apr. 25.52: *Guide 8.0* software used for comp.-star mags; comp. star has B–$V = +0.58$ [TSU02]. Apr. 28.68: *Guide 8.0* software used for comp.-star mags; comp. star has B–$V = +0.85$ [OHS].



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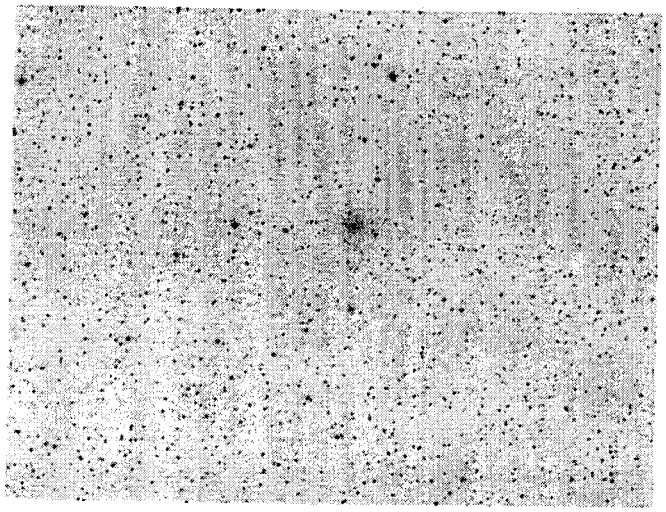
CCD images of comet 177P/Barnard. Above: Combined image from several 10-min exposures taken around 2006 July 29.33 UT by Geoff Collins and Robert J. Douglas with a 14.5-inch Ritchey-Chretian reflector with a focal reducer (pixel scale 1".57/pixel), observing from the western United States. Douglas discovered the comet visually with an 18-inch Dobsonian telescope just prior to the acquisition of the CCD images, not realizing that the comet had been rediscovered by LINEAR a month earlier (cf. IAUC 8726) after having been lost since its 1889 apparition. Below: CCD image taken on 2006 July 30.86 by Michael Jäger after modifying his 8-inch Schmidt camera from a focal length of 300 mm to 240 mm, so that the field was now flattened for a 10-mm chip.



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[text continued from page 103]

◇ *Comet 177P/2006 M3 (Barnard)* ⟹ 2006 July 7.07: mountain location, very clear sky; limiting stellar mag 15.5; motion checked during a 60-min period; comp. stars taken from Henden photometry near RY Ser [GON05]. July 12.46: comp. star has $B-V = +0.64$ [TSU02]. July 12.46, 26.53, and 27.58: *Guide 8.0* software used for comp.-star mags [TSU02]. July 15.54: $B-V$ values of comp. stars were +0.41 and +0.80 [YOS02]. July 15.54, 27.55, and 28.65: *Guide 8.0* software used for comp.-star mags [YOS02]. July 16.42: "very difficult object of low surface brightness, but strongly enhanced through Swan Band Filter; I would not have been able to locate it except for the Swan Band filter" [SEA]. July 16.97: before moonrise; rapid motion checked during a 60-min period; fainter outer coma must be undoubtedly greater in size in 25×100 B [GON05]. July 17.91: difficult object of low surface brightness, best seen w/ averted vision; strong enhancement with Lumicon Swan Band Filter (larger and more condensed) [MEY]. July 18.91: ill-defined large and faint outer coma [MEY]. July 18.93: comp. stars have $V = 10.17$ ($B-V = +0.89$) and $V = 10.76$ ($B-V = +0.71$) [AMO01].

July 20.95: comp. stars have $V = 9.85$ ($B-V = +0.26$) and $V = 10.34$ ($B-V = +0.46$); clouds interfering [AMO01]. July 22.08: comp. stars have $V = 10.16$ ($B-V = +0.81$) and $V = 10.63$ ($B-V = +0.27$) [AMO01]. July 22.90: ill-defined coma [MEY]. July 22.97: comp. stars have $V = 10.61$ ($B-V = +0.36$) and $V = 11.45$ ($B-V = +0.34$) [AMO01]. July 26.53: comp. star has $B-V = +0.54$ [TSU02]. July 30.52: *MegaStar* ver. 5.0 software used for comp.-star mags [MUR02].

◇ *Comet 178P/Hug-Bell* ⟹ 2006 July 22.41: CCD exposures w/ 70-cm L show almost no central cond.; coma extended slightly toward p.a. 250° [G. Hug, Eskridge, KS, U.S.A.].

◇ *Comet C/2002 VQ_{94} (LINEAR)* ⟹ 2006 Apr. 28.75: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.85$ [OHS]. June 13.55: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.46$ [TSU02].

◇ *Comet C/2003 WT_{42} (LINEAR)* ⟹ 2006 Jan. 31.84, Feb. 27.16, and Mar. 2.19: obs. made from Poigny-la-Foret, France [BIV]. May 3.85: at 81×, limiting stellar mag ≈ 15.5; second confirming detection made at May 3.95 UT [LEH]. June 24.77: coma elongated (to supplement tab. data publ. in the April 2006 *ICQ*) [BAR06].

◇ *Comet C/2004 B1 (LINEAR)* ⟹ 2006 Apr. 25.73: $B-V$ values of comp. stars were +0.56 and +0.72 [YOS02]. Apr. 25.73 and June 5.60: *Guide 8.0* software used for comp.-star mags [YOS02]. May 11.79, June 13.59, and July 26.50: *Guide 8.0* software used for comp.-star mags [TSU02]. May 11.79: comp. star has $B-V = +0.43$ [TSU02]. May 19.00: mountain location, very clear sky [GON05]. June 5.60: $B-V$ values of comp. stars were +0.78 and +0.88 [YOS02]. June 13.59: comp. star has $B-V = +0.42$ [TSU02]. June 13.91: moonlight [SRB]. July 26.50: comp. star has $B-V = +0.46$ [TSU02].

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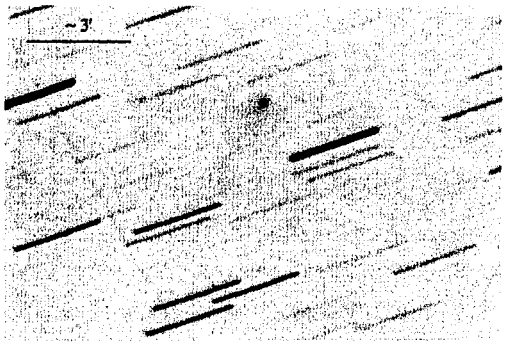

Sixty co-added 60-sec CCD exposures of comet C/2004 B1 taken on 2006 June 12.92 through an R-band filter with a Meade LX200 25-cm f/5.7 reflector (+ HI-Sis 23ME CCD camera). North is up and east to the left; the horizontal bar at upper left indicates a scale of ≈ 3′.

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◇ *Comet C/2004 D1 (NEAT)* ⟹ 2006 Apr. 25.52: *Guide 8.0* software used for comp.-star mags; $B-V$ values of comp. stars were +0.51 and +0.54 [YOS02].

◇ *Comet C/2004 Q2 (Machholz)* ⟹ 2006 June 5.63: *Guide 8.0* software used for comp.-star mags; $B-V$ values of comp. stars were +0.52 and +0.80 [YOS02].

◇ *Comet P/2004 VR_8 (LONEOS)* ⟹ 2006 Mar. 4.96 and 9.07: motion confirmed via 2 hr of obs. [RES]. Mar. 23.94, 24.96, and 29.06: obs. comet twice w/ 2-hr interval and confirmed its motion; no objects at comet's location on Digitized Sky Survey [RES]. Mar. 29.06: excellent conditions (limiting stellar mag in field ~ 16.2 [RES].

◇ *Comet C/2004 X3 (LINEAR)* ⟹ 2006 Mar. 31.38: CCD images taken with 1.0-m $f/7.7$ reflector show a coma of dia. < 10″ (FWHM = 5″) and total mag 19.9–20.2 (USNO-B1.0 catalogue used for astrometry and presumably also for comp.-star mags); possible tail in p.a. 70° [A. C. Gilmore, Mount John University Observatory, Lake Tekapo, NZ].

◇ *Comet C/2005 A1 (LINEAR) — component A* ⟹ 2005 Aug. 28-Oct. 27: observations are for both components of this split comet; "using larger photometric apertures was impossible to get data for each component separately" [HOR02 and SRB].

◇ *Comet C/2005 E2 (McNaught)* ⟹ 2006 May 2.45 and 3.45: extremely low in the evening [YOS04].

◇ *P/2005 XA_{54} (LONEOS-Hill)* ⟹ 2006 Mar. 23.89 and 29.00: obs. comet twice w/ 2-hr interval and confirmed its motion; no objects at comet's location on Digitized Sky Survey [RES]. May 21.55: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.52$ [TSU02].

◇ *Comet C/2006 A1 (Pojmanski)* ⟹ 2006 Mar. 2.17, 3.16, 6.16, 7.15, 24.04, and Apr. 1.05: *Guide 8.0* software used for comp.-star mags [MAJ01]. Mar. 7.14 and 8.14: *Guide 8.0* software used for comp.-star mags [CSO]. Mar. 8.14, Apr. 5.00, and 23.08: *Guide 7.0* software used for comp.-star mags [SAN07]. Mar. 8.17: *Guide 8.0* software used for comp.-star mags [TOT03]. Mar. 18.19: obs. from Versailles, France; light polluted and a bit hazy [BIV]. Mar. 19.18:

haze [GON06]. Mar. 20.13: *Guide 8.0* software used for comp.-star mags [SAR02]. Mar. 26.14, 28.13, and 30.13: desert location in south Libya; very dark skies [BIV]. Apr. 1.08: *Guide 8.0* software used for comp.-star mags [SZA]. Apr. 25.76: *Guide 8.0* software used for comp.-star mags; $B-V$ values of comp. stars were +0.60 and +0.82 [YOS02]. Apr. 25.80: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.67$ [TSU02]. May 4.71: "impressive to see [this] comet floating among many star in the Milky Way, similar to C/2004 B1; near a star of mag 12, but the comet was clearly visible" [YOS04]. June 14.01: moonlight [SRB].

◇ *P/2006 HR$_{30}$ (Catalina)* ⟹ 2006 July 26.03: eight co-added 20-sec astrometric exposures with a 44-cm L (+ ST-9E CCD camera) showed no cometary activity [HAS02].

◇ *Comet C/2006 K4 (NEAT)* ⟹ 2006 June 14.01: moonlight [SRB].

◇ *Comet C/2006 L2 (McNaught)* ⟹ 2006 June 18.91: comp. star has $V = 12.52$ [AMO01]. June 19.30-19.38: 73 CCD images taken w/ 35-cm $f/3.3$ T over 2 hr show no variability; alt. > 50°; coma dia. 25″ and 1′ tail in p.a. ≈ 157° at June 19.357; nuclear cond. of mag $V = 14.8$ (USNO-B1.0 comp. stars evidently used) [N. Teamo, observing at Punaauia, Tahiti; and Sebastian F. Hoenig, measurer and reporter from Bonn, Germany]. June 21.94: alt. 10° [GON05]. June 23.02: comp. stars have $V = 12.76$ and 13.39 [AMO01]. July 15.50: *Guide 8.0* software used for comp.-star mags; $B-V$ values of comp. stars were +0.47 and +0.70 [YOS02]. July 26.47: *Guide 8.0* software used for comp.-star mags; comp. star has $B-V = +0.53$ [TSU02].

◇ *Comet C/2006 M4 (SWAN)* ⟹ 2006 July 20.35: "easily visible despite low alt. and twilight; enhanced through Swan Band Filter; I was surprised to find that this was such a bright and relatively easy object!" [SEA].

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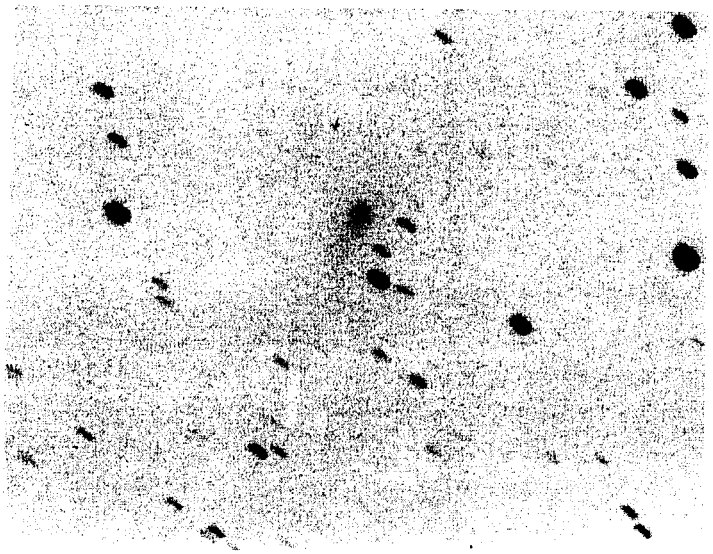

An image from a stack of four CCD exposures of comet C/2006 M4 taken with the 0.5-m Uppsala Schmidt telescope at Siding Spring, Australia, on 2006 July 12.36 by Robert H. McNaught.

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Key to observers with observations published in this issue, *with 2-digit numbers between Observer Code and Observer's Name indicating source [16 = Japanese observers (via Akimasa Nakamura, Kuma, Ehime); 32 = Hungarian observers (via Krisztián Sárneczky, Budapest); etc.]:*

ADA05	23	Martin Adamovsky, Czech Rep.	
AMO01	35	Alexandre Amorim, Brazil	
BIV		Nicolas Biver, France	
BOR04	37	Sergiy A. Borysenko, Ukraine	
BOU		Reinder J. Bouma, Netherlands	
BUS01	11	E. P. Bus, The Netherlands	
CHE03	33	Kazimieras T. Cernis, Lithuania	
COM	11	Georg Comello, The Netherlands	
CSO	32	Tibor Csörgei, Slovak Republic	
DES01		Jose G. de Souza Aguiar, Brazil	
DIE02		Alfons Diepvens, Belgium	
DIJ		Edwin van Dijk, The Netherlands	
GIL01	11	Guus Gilein, The Netherlands	
GON05		Juan Jose Gonzalez, Spain	
GON06		Virgilio Gonano, Udine, Italy	
GRA04	24	Bjoern Haakon Granslo, Norway	
HAD01	32	Csaba Hadházi, Hungary	
HAS02		Werner Hasubick, Germany	
HOE		Sebastian F. Hoenig, Germany	
HOR02	23	Kamil Hornoch, Czech Republic	
HOR03	23	Petr Horalek, Czech Republic	
KAM01		Andreas Kammerer, Germany	
KES01		S. Keszthelyi, Pécs, Hungary	
KON03	16	Eitoshi Konno, Iwate, Japan	

LABO2		C. Labordena, Castellon, Spain
LEH		Martin Lehky, Czech Republic
LIN04		Mike Linnolt, U.S.A.
*MAJ01	32	Leonel Majzik, Hungary
MARO2	13	Jose Carvajal Martinez, Spain
MEY	28	Maik Meyer, Germany
MIC	36	Marco Micheli, Pompiano, Italy
MIT	16	Shigeo Mitsuma, Saitama, Japan
MIY01	16	Osamu Miyazaki, Ibaraki, Japan
MUR02	16	S. Murakami, Niigata, Japan
NAG08	16	Yoshimi Nagai, Gunma, Japan
OHS	16	Yuuji Ohshima, Nagano, Japan
PAP02	05	S. Papp, Kecskemét, Hungary
RES	18	M. Reszelski, Szamotuly, Poland
RIE	11	Hermanus Rietveld, Netherlands
ROB06		W. Robledo, Cordoba, Argentina
SAN04	38	Juan M. San Juan, Madrid, Spain
SAN07	32	Gábor Sánta,Hungary
SAR02	32	Krisztián Sárneczky, Hungary
SCH04	11	Alex H. Scholten, Netherlands
SEA	14	David A. J. Seargent, Australia
SHU	42	Sergey E. Shurpakov, Belarus
SKI	24	Oddleiv Skilbrei, Norway
SOU01	35	Willian C. de Souza, Brazil
SRB	23	Jiri Srba, Vsetin, Czech Rep.
SZA		Sándor Szabó, Sopron, Hungary
TOT03	32	Zoltán Tóth, Hungary
TSU02	16	Mitsunori Tsumura, Japan
URB01	23	Ľubomír Urbančok, Slovak Rep.
YOS02	16	K. Yoshimoto, Yamaguchi, Japan
YOS04	16	S. Yoshida, Kanagawa, Japan
ZAN01	11	W. T. Zanstra, The Netherlands

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TABULATED VISUAL DATA (also format for old-style CCD data)

NOTE: As begun in the October 2001 issue, the CCD and visual tabulated data are separated. The tabulated CCD data are also now generally further separated into two "CCD" sections: the first in the old format for those observations submitted only in the old format, and the second in the new format (whose columns are described on page 208 of the July 2002 *ICQ*).

The headings for the tabulated data are as follows: "DATE (UT)" = Date and time to hundredths of a day in Universal Time; "N" = notes [* = correction to observation published in earlier issue of the *ICQ*; an exclamation mark (!) in this same location indicates that the observer has corrected his estimate in some manner for atmospheric extinction (prior to September 1992, this was the standard symbol for noting extinction correction, but following publication of the extinction paper — July 1992 *ICQ* — this symbol is only to be used to denote corrections made using procedures different from that outlined by Green 1992, *ICQ* **14**, 55-59, and in Appendix E of the *ICQ Guide to Observing Comets* — and then only for situations where the observed comet is at altitude > 10°); '**&**' = comet observed at altitude 20° or less with no atmospheric extinction correction applied; '**$**' = comet observed at altitude 10° or lower, observations corrected by the observer using procedure of Green (*ibid.*); for a correction applied by the observer using Tables Ia, Ib, or Ic of Green (*ibid.*), the letters '**a**', '**w**', or '**s**', respectively, should be used; **x** indicates that a secondary source (often amateur computer software) was used to get supposedly correct comparison-star magnitudes from an accepted catalogue].

"MM" = the method employed for estimating the total (visual) magnitude; see article on page 186 of the Oct. 1996 issue [B = VBM method, M = Morris method, S = VSS or In-Out method, I = in-focus, C = unfiltered CCD, c = same as 'C', but for 'nuclear' magnitudes, V = electronic observations — usually CCD — with Johnson *V* filter, *etc.*]. "MAG." = total (visual) magnitude estimate; a colon indicates that the observation is only approximate, due to bad weather conditions, *etc.*; a left bracket ([) indicates that the comet was not seen, with an estimated limiting magnitude given (if the comet IS seen, and it is simply estimated to be fainter than a certain magnitude, a "greater-than" sign (>) must be used, not a bracket). "RF" = reference for total magnitude estimates (see pages 98-100 of the October 1992 issue, and Appendix C of the *ICQ Guide to Observing Comets*, for all of the 1- and 2-letter codes; an updated list is also maintained at the *ICQ* World Wide Website). "AP." = aperture in centimeters of the instrument used for the observations, usually given to tenths. "T" = type of instrument used for the observation (R = refractor, L = Newtonian reflector, B = binoculars, C = Cassegrain reflector, A = camera, T = Schmidt-Cassegrain reflector, S = Schmidt-Newtonian reflector, E = naked eye, *etc.*). "F/" and "PWR" are the focal ratio and power or magnification, respectively, of the instrument used for the observation — given to nearest whole integer (round even); note that for CCD observations, in place of magnification is given the exposure time in seconds [see page 11 of the January 1997 issue; a lower-case "**a**" indicates an exposure time under 1000 seconds, an upper-case "**A**" indicates an exposure time of 1000-1999 seconds (with the thousands digit replaced by the "**A**"), an upper-case "**B**" indicates an exposure time of 2000-2999 seconds (with the thousands digit replaced by the "**B**"), etc.].

"COMA" = estimated coma diameter in minutes of arc; an ampersand (&) indicates an approximate estimate; an exclamation mark (!) precedes a coma diameter when the comet was not seen (*i.e.*, was too faint) and where a limiting magnitude estimate is provided based on an "assumed" coma diameter (a default size of 1′ or 30″ is recommended; cf. *ICQ* **9**, 100); a plus mark (+) precedes a coma diameter when a diaphragm was used electronically, thereby specifying the diaphragm size (i.e., the coma is almost always larger than such a specified diaphragm size). "DC" = degree of condensation on a scale where 9 = stellar and 0 = diffuse (preceded by lower- and upper-case letters S and D to indicate the presence of stellar and disklike central condensations; cf. July 1995 issue, p. 90); a slash (/) indicates a value midway between the given number and the next-higher integer. "TAIL" = estimated tail length in degrees, to 0.01 degree if appropriate; again, an ampersand indicates a rough estimate. Lower-case letters between the tail length and the p.a. indicate that the tail was measured in arcmin ("m") or arcsec ("s"), *in which cases the decimal point is shifted one*

column to the right. "PA" = estimated measured position angle of the tail to nearest whole integer in degrees (north = 0°, east = 90°). "OBS" = the observer who made the observation (given as a 3-letter, 2-digit code).

A complete list of the Keys to abbrevations used in the *ICQ* is available from the Editor for $4.00 postpaid (available free of charge via e-mail); these Keys (with the exception of the Observer Codes) are also available in the *Guide to Observing Comets* and via the *ICQ*'s World Wide Web site. *Please note that data in archival form, and thus the data to be sent in machine-readable form, use a format that is different from that of the Tabulated data in the printed pages of the ICQ;* see pages 59-61 of the July 1992 issue, p. 10 of the January 1995 issue, and p. 100 of the April 1996 issue for further information [note correction on page 140 of the October 1993 issue]. Further guidelines concerning reporting of data may be found on pages 59-60 of the April 1993 issue, and in the *ICQ Guide to Observing Comets.*

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NOTE: *The new-style CCD tabulated data begin on page 123 of this issue.*

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Visual Data

Comet 4P/Faye

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 02.76		S	[13.2	AU	40.0	L	4	257	! 0.5				YOS04
2006 05 04.76		S	[12.3	AU	40.0	L	4	257	! 0.5				YOS04
2006 07 23.10		S	12.6	TK	20.3	T	10	100	0.8	5			GON05
2006 07 26.08		S	12.6	HS	44.0	L	5	156	0.7	4			HAS02
2006 07 27.74		S	12.6	TA	25.4	L	4	113	1.0	3			YOS02
2006 07 28.00		S	12.4	AC	41.0	L	6	72	1.1	3/			RES
2006 07 28.68		S	12.7	TA	25.4	L	4	113	1.0	3			YOS02

Comet 29P/Schwassmann-Wachmann

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 01 22.77		S	[13.6	HS	27.0	L	6	167	! 0.7				TOT03
2006 01 31.82		S	14.4	HS	40.7	L	4	233	0.8	3			BIV
2006 02 27.84		S	13.2	AC	41.0	L	6	72	0.7	3			RES
2006 03 04.82		S	12.8	AC	41.0	L	6	72	0.7	4			RES
2006 03 20.79		S	13.5	HS	50.8	L	5	273	0.7	2/			TOT03
2006 07 23.12		S	12.2	TA	20.3	T	10	100	1.2	5			GON05
2006 07 28.04		S	13.3	AC	41.0	L	6	72	0.8	2			RES

Comet 41P/Tuttle-Giacobini-Kresak

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 20.81		S	[16.0	HS	50.8	L	5	273	! 0.5				TOT03
2006 05 01.45		S	13.6	AU	40.0	L	4	257	0.6	3			YOS04
2006 05 02.46		S	13.1	AU	40.0	L	4	144	1.0	3			YOS04
2006 05 03.46		S	[11.5	TJ	40.0	L	4	144	! 0.6				YOS04
2006 05 04.46		S	12.4	AU	40.0	L	4	257	0.7	3			YOS04
2006 05 12.85			[10.5	TK	13	L		90	! 1.5				URB01
2006 05 15.86			[11.3	TK	13	L		90	! 1.3				URB01
2006 05 18.93		S	11.4	TK	20.3	T	10	100	2.5	3			GON05
2006 05 23.94		S	11.2	TA	31.0	J	6	72	1.5	3/			BOU
2006 05 25.92		S	10.6	TK	20.3	T	10	77	3.0	3			GON05
2006 05 25.94		S	10.2	TK	10.0	B		25	4	3			GON05
2006 05 27.89		S	11.8	TI	23.5	T	10	188	1.3	3			LAB02
2006 05 30.92		S	10.1	TK	20.3	T	10	77	4.0	3			GON05
2006 05 30.94		S	9.8	TK	10.0	B		25	5	3			GON05
2006 05 31.88		S	[12.0	HS	50.8	L	5	273	! 1.0				TOT03
2006 06 07.92		S	[11.2	TK	18	L	8	115					AMO01
2006 06 13.90		S	11.1	TK	18	L	8	115	1	0/			AMO01
2006 06 14.90		S	11.0:	TK	18	L	8	115					AMO01
2006 06 15.89		S	9.5	TK	10	B		25	3	4			SOU01
2006 06 15.89		S	9.6	TK	10	B		25	5				DES01
2006 06 15.90		S	9.6	TK	20	T	10	82	2	1			SOU01
2006 06 15.90		S	9.8	TK	20	T	10	118					DES01

Comet 41P/Tuttle-Giacobini-Kresak [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 06 18.50		S	11.7	TA	25.4	L	4	113	1.4	2			YOS02
2006 06 18.90		S	10.5	TK	18	L	8	45	1	1/			AMO01
2006 06 20.40		S	10.9	GA	25.4	L	4	71	2				SEA
2006 06 21.40		S	10.5	GA	25.4	L	4	71	4				SEA
2006 06 21.95		S	10.1	TK	20.3	T	10	77	4	3			GON05
2006 06 21.97		S	9.7	TK	10.0	B		25	5	3			GON05
2006 06 24.90		S	10.2	TK	18	L	8	115		1			AMO01
2006 06 25.89		S	11.1	TI	23.5	T	10	67	2	3			LAB02
2006 06 28.94		S	10.3	TK	20.3	T	10	77	3	3			GON05
2006 07 02.90		S	10.5:	TK	18	L	8	45					AMO01
2006 07 16.92		S	10.5	TK	20.3	T	10	77	2.5	3			GON05
2006 07 18.92		S	11.0:	TK	18	L	8	115					AMO01
2006 07 20.91		S	10.8	TI	23.5	T	10	94	2	3			LAB02
2006 07 22.88		S	10.8	TI	23.5	T	10	67	2	3			LAB02
2006 07 22.91		S	11.4:	TK	18	L	8	115					AMO01
2006 07 29.90		S	11.5:	TK	18	L	8	115					AMO01
2006 07 29.92		S	12.4	TI	32	L	5	75	2	2			MAR02
2006 07 30.95		S	11.4	TK	18	L	8	115					AMO01

Comet 71P/Clark

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 30.75		S	12.2	AU	40.0	L	4	144	0.7	4			YOS04
2006 05 02.76		S	12.7	HS	40.0	L	4	144	0.7	3			YOS04
2006 05 02.79	x	S	11.9	HS	25.4	L	4	113	1.0	5/			YOS02
2006 05 03.74		S	12.6	AU	40.0	L	4	144	0.8	4			YOS04
2006 05 04.72		S	12.4	AU	40.0	L	4	144	1.3	4			YOS04
2006 05 26.10		S	11.7	TK	20.3	T	10	100	1.2	4			GON05
2006 06 01.09		S	11.5	TK	18	L	8	115	1	3			AMO01
2006 06 05.12		S	10.9	TK	20.3	T	10	100	1.7	4			GON05
2006 06 15.98		S	10.9	TK	10	B		25	5	3/			DES01
2006 06 15.99		S	11.0	TK	10	B		25	3	2			SOU01
2006 06 19.02		S	11.0	TK	18	L	8	115	1	3			AMO01
2006 06 20.43		S	11.0	GA	25.4	L	4	71	3				SEA
2006 06 21.42		S	10.7	GA	25.4	L	4	71					SEA
2006 06 24.95		S	10.9:	TK	18	L	8	115					AMO01
2006 06 26.22		S	10.5	TK	20.3	T	10	57	3	3			ROB06
2006 06 27.08		S	10.0	TK	18	L	8	45	1	3			AMO01
2006 07 07.05		S	10.3	TK	20.3	T	10	77	2.0	5			GON05
2006 07 13.96		S	10.3	TK	18	L	8	115		5			AMO01
2006 07 17.96		S	10.3	TK	18	L	8	115	1	5			AMO01
2006 07 18.95		S	10.3	TK	18	L	8	115	1	5			AMO01
2006 07 19.08		S	10.9	TK	20.3	T	10	57	2	1			ROB06
2006 07 20.46		M	10.9	GA	25.4	L	4	71	2	4			SEA
2006 07 20.95		S	10.1:	TK	18	L	8	45		5			AMO01
2006 07 22.09		S	10.1	TK	18	L	8	45	1	6			AMO01
2006 07 22.98		S	10.2	TK	18	L	8	45	1	5			AMO01
2006 07 28.07		S	11.4	TK	20.3	T	10	57	1.5	1			ROB06
2006 07 28.62		S	11.9	AU	25.4	L	4	113	1.0	4/			YOS02
2006 07 29.92		S	11.0	TK	18	L	8	115	1	6			AMO01
2006 07 30.97		S	10.9	TK	18	L	8	115	1	6			AMO01

Comet 73P/Schwassmann-Wachmann [component C, stated or presumed]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 01 24.09		S	13.2	HS	40.7	L	4	116	0.8	5			BIV
2006 01 30.13		S	13.5	HS	40.7	L	4	116	1.0	4			BIV
2006 02 23.99		S	13.0	AC	41.0	L	6	72	0.9	3/			RES
2006 02 26.98		S	12.7	AC	41.0	L	6	72	1.1	3/			RES
2006 02 27.12		S	12.3	HS	40.7	L	4	58	1.6	6			BIV
2006 03 02.17		S	11.9	HS	25.6	L	5	84	1.5	6			BIV
2006 03 04.16		S	12.5	AC	41.0	L	6	72	1.1	3/			RES
2006 03 04.98		S	12.6	AC	41.0	L	6	72	0.9	4/			RES
2006 03 06.21		S	12.3	HS	25.6	L	5	42	1.5	6			BIV
2006 03 07.09		S	12.1	HS	50.8	L	5	164	1.0	5	2.5m	260	TOT03

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 08.10		S	12.3	HS	50.8	L	5	164	1.0	5	2.0m	260	TOT03
2006 03 09.08		S	11.9	AC	41.0	L	6	72	1.2	5			RES
2006 03 18.91		S	11.8	TK	25.6	L	5	84	1.5	5			BIV
2006 03 19.90		S	11.8	HS	50.8	L	5	164	2.0	5	4.0m	270	TOT03
2006 03 19.95		S	11.4	TK	40.7	L	4	58	2.5	5			BIV
2006 03 19.96		N	14.6	HS	40.7	L	4	233	0.02	9			BIV
2006 03 20.92		S	11.5	HS	50.8	L	5	164	2.0	5	3.5m	270	TOT03
2006 03 22.94		S	11.1	AC	41.0	L	6	72	1.5	4/			RES
2006 03 23.96		S	10.9	AC	41.0	L	6	72	1.7	4/			RES
2006 03 24.93		S	10.7	AC	41.0	L	6	72	1.7	4/			RES
2006 03 25.04		B	10.8	HS	10.0	L	10	50	4	4	1.5m	270	MAJ01
2006 03 25.93		B	10.7	TK	10.0	M	10	33	3.0	5			BIV
2006 03 27.87		S	10.3	TK	10.0	M	10	33	3.0	6	0.1	260	BIV
2006 03 27.88		N	12.1	HS	10.0	M	10	80	0.05	9			BIV
2006 03 28.94		S	9.6	TI	11.4	L	5	50	3	3			SAN07
2006 03 29.00		S	10.0	AC	41.0	L	6	72	2.1	5			RES
2006 03 29.91		S	10.1	TK	10.0	M	10	33	3.0	6	0.1	260	BIV
2006 03 29.92		N	12.0	HS	10.0	M	10	80	0.05	9			BIV
2006 03 30.07		S	11.0	HS	50.8	L	5	164	2.0	5	0.1	270	TOT03
2006 03 31.95		B	10.3	HS	50.8	L	5	123	0.7	6	4 m	255	SZA
2006 03 31.96		S	10.3	HS	50.8	L	5	164	1.5	6	0.16	260	TOT03
2006 04 01.03		B	10.3	HS	10.0	L	10	50	2	6	3 m	275	MAJ01
2006 04 04.06		S	10.0	TK	40.7	L	4	58	4.0	6	0.17	255	BIV
2006 04 04.07		N	13.2	HS	40.7	L	4	233	0.02	9			BIV
2006 04 05.02		M	9.6	TI	11.4	L	5	50	2.5	d3	0.1	290	SAN07
2006 04 05.95		S	9.3	AC	41.0	L	6	72	3.0	5/	0.05	255	RES
2006 04 06.13		N	13.6	HS	40.7	L	4	233	0.02	9			BIV
2006 04 07.12		S	9.5	TK	15	L	6	90	2.0	7	0.03	220	URB01
2006 04 07.86		S	10.0	HS	50.8	L	5	123	1.2	7	1.5m	265	TOT03
2006 04 08.01		S	10.2	TK	40.7	L	4	58	3.5	6			BIV
2006 04 08.02		N	12.6	HS	40.7	L	4	233	0.06	9			BIV
2006 04 08.86		S	10.5	HS	50.8	L	5	123	1.5	4	3 m	230	SZA
2006 04 09.99		S	9.3	AC	41.0	L	6	72	2.8	6			RES
2006 04 15.97		S	8.8	AC	41.0	L	6	72	2.5	6			RES
2006 04 17.83		B	9.1	TI	10.0	L	10	50	2.5	3	0.13	220	MAJ01
2006 04 17.86		B	8.4	TJ	8.0	B		18	3	3			CHE03
2006 04 17.91		S	8.4	TK	5.6	B		10	> 5	5/			BUS01
2006 04 17.91		S	8.7	TI	11.4	L	5	50	3	s6	0.16	260	SAN07
2006 04 17.91		S	9.3	TI	50.8	L	5	123	1.5	6	0.25	235	TOT03
2006 04 17.93		S	8.2	TK	5.0	B		7	7	5			BIV
2006 04 17.93		S	8.5	TK	40.7	L	4	58	4.5	6	0.33	220	BIV
2006 04 17.94		N	12.6	HS	40.7	L	4	233	0.02	9			BIV
2006 04 17.94		S	8.5	AC	6.0	B	6	20	4.0	5			RES
2006 04 18.89		S	8.2	TK	8.0	B		15	& 5	5			SCH04
2006 04 18.94		B	8.2	TJ	8.0	B		18	5	7			CHE03
2006 04 19.63	x	M	8.5	HV	15.0	B		25	4.5	6	10 m	220	MIT
2006 04 19.91		S	8.1	AC	6.0	B	6	20	4.5	6			RES
2006 04 19.93		M	8.3	TI	11.4	L	5	20	4.5	S7	0.25	260	SAN07
2006 04 19.95		B	7.9	TJ	5.0	B		7	3	7	0.2		CHE03
2006 04 20.81		M	8.0	TI	10	B		25	4.1	3/	0.3	220	HOR03
2006 04 20.84		S	9.8	TI	36.0	L	4	100	5	1	5 m	175	CSO
2006 04 20.88		S	8.0	TI	34.0	L	4	120	3	5			SZA
2006 04 20.90		S	9.0	TI	50.8	L	5	123	1.2	6	0.13	230	TOT03
2006 04 20.91		S	7.9	AC	6.0	B	6	20	5.0	6			RES
2006 04 20.91		S	8.0	TK	5.0	B		7	8	5			BIV
2006 04 20.91		S	8.2	TK	40.7	L	4	58	4.5	6	0.35	225	BIV
2006 04 20.99		N	12.4	HS	40.7	L	4	233	0.02	9			BIV
2006 04 21.53		S	7.4	AA	10.0	B		25					SEA
2006 04 21.54	x	S	9.6	TJ	31.7	L	6	63	1.3	5	6 m	220	MIY01
2006 04 21.63	x	M	8.4	HV	15.0	B		25	4	7	15 m	215	MIT
2006 04 21.85		B	8.6	TI	10.0	L	10	50	3.5	D6	0.25	220	MAJ01
2006 04 21.88		M	7.8	TI	5.0	B		7	6	3/	0.5	225	HOR03
2006 04 21.89		M	7.9	TI	7	R	4	25	8.5	3	0.9	227	HOR03
2006 04 21.96		M	8.0	TI	11.4	L	5	20	6	s6/	0.5	235	SAN07
2006 04 22.03		S	8.5	TI	6.0	B		20	6	5	0.3	225	SAR02

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 22.54		S	7.6	AA	5.0	B		10					SEA
2006 04 22.83		B	8.5	TI	10.0	L	10	50	3.5	d4	0.26	235	MAJ01
2006 04 22.96		S	8.1	TK	5.0	B		7	7	6			BIV
2006 04 22.98		S	8.4	TK	40.7	L	4	58	4.5	6	0.4	225	BIV
2006 04 23.03		N	12.3	HS	40.7	L	4	233	0.02	9			BIV
2006 04 23.04		M	8.0	TI	11.4	L	5	20	4	s7	0.4	235	SAN07
2006 04 23.06		S	8.3	TK	15	L	6	45	5.5	6	0.2	200	URB01
2006 04 23.08		S	8.1	TK	5.0	B		7	10	3			URB01
2006 04 23.82		B	9.2	TI	10.0	L	10	50	3.5	4	0.26	240	MAJ01
2006 04 23.86		S	7.7	AC	6.0	B	6	20	4.5	5/			RES
2006 04 23.86		S	8.6	AC	24.4	L	5	70	5	S4			PAP02
2006 04 23.87		S	8.0	AC	4.0	B		15	10	5	0.5	250	HAD01
2006 04 23.90		B	7.4	TJ	5.0	B		7	3	7	0.2		CHE03
2006 04 23.96		S	9.8	TI	36.0	L	4	100	5	1	5 m	175	CSO
2006 04 24.02		S	8.2	TK	15	L	6	45	5.5	5	0.2	230	URB01
2006 04 24.04		S	8.1	TK	5.0	B		7	10	2			URB01
2006 04 24.06		S	8.1	AC	6.0	B		20	6	s6	0.75	225	SAR02
2006 04 24.50		B	7.6	AA	10.0	B		25					SEA
2006 04 24.56		S	7.7	AA	3.5	B		6					SEA
2006 04 24.82		B	8.7	TI	10.0	L	10	50	3.5	5	0.22	245	MAJ01
2006 04 24.84		S	7.5	AC	6.0	B	6	20	5.0	5/			RES
2006 04 24.90		B	7.4	TJ	5.0	B		7	3	7	0.2		CHE03
2006 04 24.93		S	7.5	AC	9.0	B		20	12	5			SZA
2006 04 24.93		S	7.6	AC	5.0	B		7	15	4			SZA
2006 04 24.93		S	7.7	TK	5.0	B		10	& 8	6			SCH04
2006 04 24.93		S	7.8	AC	8.0	B		12	15	5			SZA
2006 04 24.93		S	8.3	AC	34.0	L	4	120	1	s5			SZA
2006 04 24.96		S	7.7	TK	5.0	B		7	7	6			BIV
2006 04 24.97		M	7.5	AC	6.0	B		20	8	d5	0.33	225	SAR02
2006 04 24.98		B	8.0	TK	40.7	L	4	58	5	6	0.5	230	BIV
2006 04 24.99		N	12.8	HS	40.7	L	4	233	0.02	9			BIV
2006 04 25.04		M	8.1	TK	15	L	6	45	4.1	5/	0.2	230	URB01
2006 04 25.06		S	8.0	TK	5.0	B		7	10	3/			URB01
2006 04 25.54		B	7.6	AA	10.0	B		25	3		0.6	235	SEA
2006 04 25.57	x	M	8.2	HV	15.0	B		25	3.5	6	20 m	240	MIT
2006 04 25.81		M	7.5	TI	10	B		25	8.5	3/	1.1	225	HOR03
2006 04 25.85		S	7.4	AC	6.0	B	6	20	5.5	6			RES
2006 04 25.92		B	7.2	TJ	5.0	B		7	5	7			CHE03
2006 04 25.93		M	7.7	TI	5.0	B		10	5	s6	0.25	230	SAN07
2006 04 26.00		M	7.5	TI	11.4	L	5	20	5	s7	0.66	225	SAN07
2006 04 26.03		M	7.5	AC	6.0	B		20	6	5	0.3	230	SAR02
2006 04 26.55		S	7.4	AA	3.5	B		6					SEA
2006 04 26.85		S	7.2	AC	6.0	B	6	20	5.5	6			RES
2006 04 26.88		S	8.0	TK	15.0	R	8	75	3	6			DIE02
2006 04 26.97		S	7.6	TK	5.0	B		7	8	6			BIV
2006 04 26.97		S	7.9	TK	40.7	L	4	58	4	6	0.5	225	BIV
2006 04 26.98		N	12.9	HS	40.7	L	4	233	0.02	9			BIV
2006 04 27.54		S	7.3	AA	3.5	B		6					SEA
2006 04 27.60	x	M	7.8	TK	10.0	B		20	6	6	18 m	220	YOS02
2006 04 27.88		S	7.2	TK	5.0	B		10	&15	6			SCH04
2006 04 27.90		S	7.1	TK	4.0	B		8	14	6			RIE
2006 04 27.96		S	7.1	TK	5.6	B		10	16	5/	0.5	215	BUS01
2006 04 27.97		S	6.8	TK	4.4	B		7	23	4/			BUS01
2006 04 27.97		S	6.9	TK	5.0	B		7	21	5			BUS01
2006 04 28.51	x	S	9.3	TJ	31.7	L	6	63	1.7	s5/	6 m	215	MIY01
2006 04 28.62	x	M	8.1	TJ	10.0	B		20	6	6			NAG08
2006 04 28.75	x	M	8.4	HV	15.0	B		25	4	6			MIT
2006 04 28.83		B	6.9	TJ	8.0	B		18	5	5			CHE03
2006 04 28.87		S	7.3	TK	5.0	B		20	11	7			DIE02
2006 04 28.94		S	7.1	TK	5.0	B		7	10	6			BIV
2006 04 28.97		S	6.9	TI	5.0	B		7	16	3			SZA
2006 04 28.97		S	7.3	TI	8.0	B		20	20	5			SZA
2006 04 29.01		S	6.5	TK	5.0	B		10	10	1			ZAN01
2006 04 29.01		S	7.7	TK	40.7	L	4	58	4	6	0.5	225	BIV
2006 04 29.02		N	12.0	HS	40.7	L	4	233	0.03	9			BIV

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 29.71	x	M	7.5	TK	10.0	B		20	7	6	20 m	220	YOS02
2006 04 29.74	x	M	7.1	TK	3.5	B		7		5			YOS02
2006 04 29.76		S	6.3	TJ	7.0	R		10	12	6			YOS04
2006 04 29.91		B	7.6	TK	5.0	B		10	5.3	4			HAS02
2006 04 29.93		S	6.5	TK	5.0	B		10	12	1			ZAN01
2006 04 29.93		S	7.0	TK	5.0	B		7	13	6	0.8	225	BIV
2006 04 29.96		N	12.0	HS	40.7	L	4	233	0.02	9			BIV
2006 04 29.96		S	6.9	TK	5.6	B		10	>18	4/	>0.7	220	BUS01
2006 04 29.97		S	6.6	TK	4.4	B		7	25	4			BUS01
2006 04 29.97		S	6.7	TK	5.0	B		7	>23	4			BUS01
2006 04 29.97		S	7.5	TK	40.7	L	4	58	4.5	6	0.5	225	BIV
2006 04 30.09		S	7.4	TK	5.0	B		7	4	6			SOU01
2006 04 30.09		S	7.5	TK	8.0	B		20	4	5			AMO01
2006 04 30.10		S	7.4	TK	5.0	B		7		6			AMO01
2006 04 30.10		S	7.5	TK	8.0	B		20	3	4			SOU01
2006 04 30.58		B	7.4	AA	10.0	B		25					SEA
2006 04 30.68		S	6.4	TJ	7.0	R		10	12	7	0.8	235	YOS04
2006 04 30.69		S	6.2	TJ	2.4	B		10	12	7	0.4	235	YOS04
2006 04 30.78	x	M	7.2	TK	3.5	B		7		5			YOS02
2006 04 30.86		S	7.5	TK	5.0	B		10					HAS02
2006 04 30.94		M	7.8	TJ	41	L	4	89	2.3	7	15 m	233	SHU
2006 04 30.96		S	6.5	TK	5.0	B		10	12	1			ZAN01
2006 04 30.97		M	7.2	TK	10.0	B		25	6	S7	0.8	230	GON05
2006 05 01.01		M	6.8	TK	5.0	B		7	8	S7	0.8	230	GON05
2006 05 01.02		S	6.6	TK	5.0	B		10	&16	6	&0.4	240	SCH04
2006 05 01.09		S	7.4	TK	5.0	B		7	5	5			AMO01
2006 05 01.28		S	7.2	TK	5.0	B		7	4	6			SOU01
2006 05 01.85		M	6.8	TT	8.0	B		10	12	4/			HOR02
2006 05 01.87		S	6.6	TK	5.0	B		20	10	7			DIE02
2006 05 02.01		M	7.5	TJ	41	L	4	89	2	5/			SHU
2006 05 02.03		S	6.5	TK	5.0	B		7	&17	6	&0.3	215	SCH04
2006 05 02.05		S	6.7	TK	5.0	B		7	8	6	0.8	225	BIV
2006 05 02.06		N	12.3	TK	40.7	L	4	233	0.03	9			BIV
2006 05 02.51	x	M	7.4	TJ	10.0	B		20	5	6/	15 m	235	NAG08
2006 05 02.55		S	7.2	AA	10.0	B		25					SEA
2006 05 02.58	x	M	7.3	HV	8.0	B		11	6	5			MIT
2006 05 02.58	x	M	7.5	HV	15.0	B		25	4	6	30 m	240	MIT
2006 05 02.70	x	M	6.8	TK	10.0	B		20	7	6	1.0	232	YOS02
2006 05 02.72	x	M	6.5	TK	3.5	B		7		6	1.6	230	YOS02
2006 05 02.73		M	6.4	TJ	7.0	R		10	13	7	2.5	250	YOS04
2006 05 02.73		S	6.4	TJ	2.4	B		10	14	6/	1.2	250	YOS04
2006 05 02.73	x	S	7.3	HV	8.0	B		11	6	5/	20 m	235	MIY01
2006 05 02.86		M	5.7	TI	5.0	B		7	19	3/	0.8	235	HOR03
2006 05 02.87		B	6.6	TK	5.0	B		10	9.1	4			HAS02
2006 05 02.90		M	6.6	TT	8.0	B		10	10	5	0.5	230	HOR02
2006 05 02.91		S	6.6	TK	5.0	B		20	10	7			DIE02
2006 05 02.92		B	7.2	TI	8.0	B		11	4	7	10 m		LAB02
2006 05 02.93		M	7.3	TK	30.5	T	10	56	& 5	8	0.4		COM
2006 05 02.96		M	6.4	TK	5.0	B		7	12	5/			BOU
2006 05 02.96		M	6.8	TK	6.0	B		15	9	6			DIJ
2006 05 02.96		S	6.4	TK	5.0	B		10	15	1			ZAN01
2006 05 03.00		M	6.4	TK	5.0	B		10	17	D5/	0.25		MEY
2006 05 03.01		S	6.4	TI	5.0	B		7	5	4			SZA
2006 05 03.02		M	7.5	TJ	41	L	4	89	& 2	6/	12 m		SHU
2006 05 03.02		S	6.4	TK	5.6	B		10	18	5/	&1.0	230	BUS01
2006 05 03.02		S	6.8	HV	6.3	B		9	9	5	0.7	235	KAM01
2006 05 03.03		S	6.3	TK	4.4	B		7	20	4/			BUS01
2006 05 03.03		S	6.3	TK	5.0	B		7	20	4/			BUS01
2006 05 03.04		S	5.8	TK	5.0	B		10	15	7	0.8	240	GIL01
2006 05 03.04		S	6.2	TK	3.0	B		3	>15	3			BUS01
2006 05 03.05		I	6.0:	TK	0.0	E		1	&15	2/			BUS01
2006 05 03.09		S	6.5	TK	5.0	B		7	&17	6			SCH04
2006 05 03.11		S	7.3	TK	5.0	B		7		6			AMO01
2006 05 03.11		S	7.5	TK	8.0	B		20	3	5	0.3	250	AMO01
2006 05 03.47	x	M	6.5	TK	5.0	B		7	9	5	1.2	230	KON03

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 03.65		S	6.0	TJ	7.0	R		10	16	7	1.2	240	YOS04
2006 05 03.66		S	5.9	TJ	2.4	B		10	14	7	0.6	240	YOS04
2006 05 03.67	x	M	5.9	TT	3.5	B		7					TSU02
2006 05 03.67	x	M	6.4	TK	3.5	B		7	9	5	1.0	230	YOS02
2006 05 03.82		B	6.8	TJ	8.0	B		18	8	6			CHE03
2006 05 03.86		M	5.4	TI	5.0	B		7	14	3	0.4	235	HOR03
2006 05 03.87		M	7.2	TJ	10	B		25	9	5	0.3	215	ADA05
2006 05 03.90		M	6.5	TT	8.0	B		10	10	4/	0.7	230	HOR02
2006 05 03.91		M	6.6	TT	10	B	4	25	10	4	0.50	230	LEH
2006 05 04.03		S	6.7	TK	5.0	B		10	10.2	4			HAS02
2006 05 04.04		S	6.6	TK	5.0	B		7	14	6	1.0	230	BIV
2006 05 04.09		N	12.2	NO	40.7	L	4	233	0.02	9			BIV
2006 05 04.11		S	7.3	TK	5.0	B		7		6			AMO01
2006 05 04.11		S	7.4	TK	8.0	B		20	4	5	0.5	220	AMO01
2006 05 04.30		S	6.9	TK	5.0	B		7	4	6			SOU01
2006 05 04.30		S	6.9	TK	8.0	B		11	4	5	0.25	220	SOU01
2006 05 04.67		M	6.2	TJ	7.0	R		10	12	7/	1.4	240	YOS04
2006 05 04.68		S	6.1	TJ	2.4	B		10	18	7	0.7	240	YOS04
2006 05 04.68	x	M	7.3	HV	15.0	B		25	4	6	30 m	240	MIT
2006 05 04.69	x	M	7.0	HV	8.0	B		11	6	6			MIT
2006 05 04.71	x	M	6.6	TT	3.5	B		7					TSU02
2006 05 04.84		M	6.4	TT	5.0	B		10	15	3/	0.33	230	LEH
2006 05 04.85		S	6.7	TK	5.0	B		10					HAS02
2006 05 04.87		M	7.2	TJ	8.0	B		10	6	4			ADA05
2006 05 04.88		M	5.4	TI	5.0	B		7	15	3	0.5	235	HOR03
2006 05 04.89		M	6.8	TI	5.0	B		10	10	s5	1	215	SAN07
2006 05 04.92		M	6.6	TT	8.0	B		10	10	4/	0.9	230	HOR02
2006 05 04.93		M	6.7	TK	6.0	B		15	9	6	0.6	231	DIJ
2006 05 04.94		B	6.5:	TJ	5.0	B		7					CHE03
2006 05 04.97		M	6.6	TK	5.0	B		7	12	5			GRA04
2006 05 04.97		M	6.7	TK	10.0	R	6	25	10	6	0.4	225	GRA04
2006 05 04.97		M	7.2	TK	15	L	6	45	5.0	5	0.25	230	URB01
2006 05 04.98		S	6.0	TK	5.0	B		10	22	1			ZAN01
2006 05 04.99		S	6.9	TK	5.0	B		7	12	3			URB01
2006 05 05.04		S	6.4	TK	5.0	B		7	&20	5			SCH04
2006 05 05.05		B	7.5	TI	10.0	L	10	50	2.5	7	0.3	230	MAJ01
2006 05 05.05		S	6.8	TI	6.0	B		20	8	4/	0.13	240	SAR02
2006 05 05.10		M	6.4	TK	5.0	B		7	8	7	0.8	245	GON05
2006 05 05.11		I	6.2	TK	0.0	E		1	10	8	0.5	245	GON05
2006 05 05.30		S	6.8	TK	8.0	B		11	5	4			SOU01
2006 05 05.86		M	6.3	TT	5.0	B		10	15	3/	0.50	240	LEH
2006 05 05.97		S	6.0	TK	5.0	B		10	16	1			ZAN01
2006 05 06.02		M	6.5	TK	5.0	B		7	10	5	0.5	230	GRA04
2006 05 06.02		M	6.7	TK	10.0	R	6	25	8	6			GRA04
2006 05 06.04		M	5.3	TI	3.0	B		8	7	4	0.9	235	HOR03
2006 05 06.89		M	5.3	TI	3.0	B		8	6	4/	0.9	235	HOR03
2006 05 06.91		I	5.5	TK	0.0	E		1	&30	4			RIE
2006 05 06.91		S	5.7	TK	3.0	B		4	&30	3			RIE
2006 05 07.00		M	6.5	TK	5.0	B		7	10	4			GRA04
2006 05 07.07		S	6.0	HV	6.3	B		9	17	5	1.2	250	KAM01
2006 05 07.33		S	7.2	TK	5.0	B		7	5	6/			SOU01
2006 05 07.33		S	7.3	TK	8.0	B		11	5	6	0.2	245	SOU01
2006 05 07.72	x	M	6.6	TJ	3.5	B		7	18	6/	1.1	240	NAG08
2006 05 07.89		M	6.2	TT	5.0	B		10	20	3	0.50	240	LEH
2006 05 07.91		B	7.2	TJ	8.0	B		10	6	3			ADA05
2006 05 08.02		M	7.4	TK	15	L	6	45	4.0	6	0.15	250	URB01
2006 05 08.05		M	5.1	TI	3.0	B		8	8	4/	0.8	240	HOR03
2006 05 08.05		S	5.8	TK	5.0	B		7	&15	6			SCH04
2006 05 08.05		S	7.2	TK	5.0	B		7	12	3			URB01
2006 05 08.06	G	O	4.9	TI	0.8	E		1	3	4	0.15	240	HOR03
2006 05 08.07		B	6.5	TK	5.0	B		10					HAS02
2006 05 08.08		S	6.0	HV	6.3	B		9	11	5	0.7	245	KAM01
2006 05 08.33		B	7.6	TK	8.0	B		20	3	6	0.2	250	AMO01
2006 05 08.33		S	7.5	TK	5.0	B		7					AMO01
2006 05 08.85		M	6.1	TT	8.0	B		10	17	2	0.8	240	HOR02

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 08.89		M	7.4	TI	50.8	L	5	123	1.5	S6	5 m	250	TOT03
2006 05 08.91		M	5.8	TT	5.0	B		10	15	3	0.50	245	LEH
2006 05 08.92		M	6.3	TI	5.0	B		10	4	s5	0.75	285	SAN07
2006 05 08.93		B	7.0	TJ	8.0	B		10	8	3			ADA05
2006 05 08.95		M	6.7	TK	6.0	B		15	6	5			DIJ
2006 05 09.00		M	6.2	TK	5.0	B		7	10	4/			BOU
2006 05 09.00		M	6.5	TK	5.0	B		7	10	5			GRA04
2006 05 09.01		M	7.3	TK	7	R	14	50	4.0	5	0.16	220	URB01
2006 05 09.02		M	6.6	TI	6.0	B		20	7	5/	0.8	250	SAR02
2006 05 09.02		S	7.0	TK	5.0	B		7	10	3/			URB01
2006 05 09.91		M	6.0	TT	8.0	B		10	20	2/			HOR02
2006 05 09.95		M	6.5	TK	5.0	B		7	9	4/			DIJ
2006 05 09.99		M	5.7	TT	5.0	B		10	20	3/	0.50	245	LEH
2006 05 10.04		S	6.0	TK	5.0	B		7	12	4			BOU
2006 05 10.04		S	6.1	TK	4.4	B		7	&15	3/			BUS01
2006 05 10.04		S	6.1	TK	5.6	B		10	&15	3/	0.5	240	BUS01
2006 05 10.05		M	6.5	TI	5.0	B		10	8	s4	3.5	240	SAN07
2006 05 10.08		S	6.3	TK	5.0	B		7	&20	3			SCH04
2006 05 10.92		M	5.9	TT	8.0	B		10	18	2/			HOR02
2006 05 10.98		M	5.6	TK	3.0	B		8	9	2			HOE
2006 05 10.98		M	5.6	TT	5.0	B		10	15	3/			LEH
2006 05 10.99		B	6.5	TJ	8.0	B		18	10	5			CHE03
2006 05 10.99		M	6.6	TK	5.0	B		7	10	4			GRA04
2006 05 10.99		M	6.7	TK	7.0	R	7	20	9	5			GRA04
2006 05 11.01		M	6.0	TK	5.0	B		7	6	7	0.5	255	GON05
2006 05 11.01		M	6.0	TK	5.0	B		7	12	4			BOU
2006 05 11.01		M	6.2	TK	6.0	B		15	10	4/			DIJ
2006 05 11.02		N	11.1	TK	40.7	L	4	233	0.02	9			BIV
2006 05 11.02		S	5.9	TK	5.6	B		10	&15	3/	0.4	250	BUS01
2006 05 11.02		S	6.0	TK	4.4	B		7	&15	3/			BUS01
2006 05 11.02		S	6.9:	TK	5.0	B		7	8	5	0.5	240	BIV
2006 05 11.04		B	6.8	TJ	10	B		25	15	5	1	252	ADA05
2006 05 11.04		S	6.0	TK	5.0	B		7	&17	3			SCH04
2006 05 11.04		S	6.3	TK	5.0	B		20	5	4			DIE02
2006 05 11.07		M	6.5	TI	5.0	B		10	5	s4	1.5	240	SAN07
2006 05 11.07		S	6.0	HV	6.3	B		9	9	7/	0.6	250	KAM01
2006 05 11.08		S	6.6	TK	5.0	B		7	8	5			BIV
2006 05 11.35		S	6.4	TK	5.0	B		7					SOU01
2006 05 11.35		S	6.4	TK	8.0	B		11	5	6	0.1	245	SOU01
2006 05 11.65	x	M	5.3	TJ	3.5	B		7	16	7			NAG08
2006 05 11.89		B	6.8	TJ	8.0	B		18	10	4			CHE03
2006 05 11.93		M	5.9	TT	8.0	B		10	23	2			HOR02
2006 05 11.98		M	5.2	TK	3.0	B		8	7	2			HOE
2006 05 11.99		M	5.4	TT	5.0	B		10	20	3/			LEH
2006 05 12.01		M	6.5	TK	5.0	B		7	9	4			GRA04
2006 05 12.01		M	6.6	TK	7.0	R	7	20	8	5			GRA04
2006 05 12.07		S	6.1	HV	6.3	B		9	8	4/	0.5	250	KAM01
2006 05 12.35		B	6.5	TK	5.0	B		7	4	5			AMO01
2006 05 12.35		S	6.9	TK	8.0	B		20	2	6	0.25	255	AMO01
2006 05 12.97		M	5.4	TT	5.0	B		10	20	3		260	LEH
2006 05 12.98		S	6.4	TK	13	L	8	55	7	4			URB01
2006 05 13.02		M	6.2	TI	5.0	B		10	7	s5	0.5	250	SAN07
2006 05 13.04		S	6.9	TI	9.0	B		20	10	5			SZA
2006 05 13.13		S	6.3	TK	5.0	B		7	15	6	0.9	245	BIV
2006 05 13.14		B	7.0	TI	8.0	B		11	3	6	5 m		LAB02
2006 05 13.99		M	6.4	TK	5.0	B		7	11	4			GRA04
2006 05 13.99		M	6.6	TK	7.0	R	7	20	9	5			GRA04
2006 05 14.10		N	11.7	HS	20.3	T	10	267	0.03	9			BIV
2006 05 14.14		S	6.5	TK	5.0	B		7	15	5	1.0	250	BIV
2006 05 15.15		N	11.3	HS	20.3	T	10	267	0.03	9			BIV
2006 05 15.15		S	6.6	TK	5.0	B		7	15	6	0.8	255	BIV
2006 05 15.96		M	7.7	TJ	41	L	4	89	1	4/	20 m		SHU
2006 05 16.02		M	6.8:	TK	10.0	R	6	30	6	4			GRA04
2006 05 17.13		N	11.2	HS	20.3	T	10	267	0.03	9			BIV
2006 05 17.14		S	6.6	TK	5.0	B		7	15	5	0.8	250	BIV

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 18.06		M	6.2	TT	8.0	B		10	17	2/			HOR02
2006 05 18.15		N	11.4	HS	20.3	T	10	267	0.03	9			BIV
2006 05 18.15		S	6.7	TK	5.0	B		7	15	5	0.8	260	BIV
2006 05 18.77		B	7.4	AA	8.0	B		15					SEA
2006 05 19.08		M	6.7	TK	10.0	B		25	4	S7	0.5	260	GON05
2006 05 19.36		M	6.4	TK	5.0	B		7	4	6			AMO01
2006 05 19.36		S	7.0	TK	8.0	B		20	3	6	0.5	260	AMO01
2006 05 20.13		S	6.5	TK	5.0	B		7	13	5	0.8	250	BIV
2006 05 24.13		B	7.0	TI	8.0	B		11	3	6	6 m		LAB02
2006 05 24.76		B	6.6	AA	10.0	B		25	3		1.3	250	SEA
2006 05 26.11		M	6.7	TK	10.0	B		25	5	6	0.4	250	GON05
2006 05 26.13		M	6.4	TK	5.0	B		7	7	6			GON05
2006 05 26.34		B	6.8	TK	5	R	7	13	12	5	15 m	250	ROB06
2006 05 26.36		M	7.0	TK	8.0	B		20	3	6	0.3	230	AMO01
2006 05 26.37		B	6.9	TK	5.0	B		7					AMO01
2006 05 27.13		B	6.9	TI	8.0	B		11	3	6	6 m		LAB02
2006 05 28.35		B	7.3	TK	5.0	B		7	4	6			AMO01
2006 05 28.35		B	7.5	TK	8.0	B		20	2	6	0.25	240	AMO01
2006 05 28.35		S	6.9	TK	8.0	B		11	3	6			SOU01
2006 05 28.74		S	6.7	AA	5.0	B		10					SEA
2006 05 31.35		S	7.3	TK	8.0	B		11					SOU01
2006 05 31.78		B	7.4	AA	10.0	B		25	3		1.3	245	SEA
2006 06 01.34		B	7.3	TK	5.0	B		7	7	7	0.25	240	AMO01
2006 06 01.34		M	7.3	TK	8.0	B		20	4	6	0.25	240	AMO01
2006 06 01.82		S	7.3	AA	5.0	B		10					SEA
2006 06 06.75		B	7.6	AA	10.0	B		25			1.3	240	SEA
2006 06 07.77		B	7.8	AA	10.0	B		25					SEA
2006 06 09.33		S	7.9	TK	8.0	B		11	5	5			SOU01
2006 06 10.33		S	7.8	TK	8.0	B		11	5	4			SOU01
2006 07 07.12		S	10.5	TK	20.3	T	10	100	2	5			GON05
2006 07 23.11		S	11.6	TI	23.5	T	10	94	2	3			LAB02
2006 07 23.13		S	10.7	TK	20.3	T	10	100	2	4			GON05
2006 07 27.74	xa	M	11.0	HV	25.0	L	6	63	2.5	4			TSU02
2006 07 27.76		S	11.3	AU	25.4	L	4	113	1.5	4			YOS02
2006 07 28.05		S	10.6:	AC	41.0	L	6	72	1.5	2			RES

Comet 73P/Schwassmann-Wachmann [component B]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 02 27.14		S	13.5	HS	40.7	L	4	116	1.2	4			BIV
2006 03 06.21		S	14.1	HS	25.6	L	5	169	0.5	5			BIV
2006 03 18.93		S	12.8	HS	25.6	L	5	84	0.5	5			BIV
2006 03 19.97		S	13.1	HS	40.7	L	4	116	0.8	5			BIV
2006 03 20.91		S	13.8	HS	50.8	L	5	123	0.7	5	1.2m	270	TOT03
2006 03 22.95		S	12.9	AC	41.0	L	6	72	0.7	3			RES
2006 03 23.95		S	12.7	AC	41.0	L	6	72	0.8	3/			RES
2006 03 29.01		S	12.4	AC	41.0	L	6	72	0.8	3			RES
2006 03 31.96		S	12.1	HS	50.8	L	5	123	0.5	3			SZA
2006 03 31.97		S	12.1	HS	50.8	L	5	123	1.0	4	2 m	240	TOT03
2006 04 04.09		N	12.8	HS	40.7	L	4	233	0.02	9			BIV
2006 04 04.09		S	10.1	TK	40.7	L	4	58	4.0	7	0.13	250	BIV
2006 04 05.95		S	9.6	AC	41.0	L	6	72	2.2	7/			RES
2006 04 06.16		N	12.5	HS	40.7	L	4	233	0.02	9			BIV
2006 04 07.86		S	9.5:	TJ	10.0	M		40	1				CHE03
2006 04 07.86		S	9.8	HS	36.0	L	4	100	1	5	3 m	210	CSO
2006 04 07.91		S	9.8	HS	50.8	L	5	123	1.0	7	1.5m	245	TOT03
2006 04 08.02		S	10.0	TK	40.7	L	4	58	2.0	6			BIV
2006 04 08.03		N	12.4	HS	40.7	L	4	233	0.04	9			BIV
2006 04 08.86		S	10.2	HS	50.8	L	5	123	2	3			SZA
2006 04 09.99		S	9.4	AC	41.0	L	6	72	2.3	7/			RES
2006 04 11.79		S	9.5:	TJ	11.0	B		20	1				CHE03
2006 04 12.80		S	9.5:	TJ	11.0	B		20	2				CHE03
2006 04 15.97		S	9.5	AC	41.0	L	6	72	2.0	4			RES
2006 04 17.85		B	9.2	TJ	8.0	B		18	3	1			CHE03
2006 04 17.86		S	9.5	HS	50.8	L	5	123	1.3	3	10 m	230	TOT03

Comet 73P/Schwassmann-Wachmann [component B] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 17.90		S	8.7	TK	5.6	B		10	> 5	4			BUS01
2006 04 17.94		S	9.3	AC	41.0	L	6	72	3.5	3			RES
2006 04 17.95		S	8.4	TK	5.0	B		7	5	4			BIV
2006 04 17.96		N	14.5	HS	40.7	L	4	233	0.02	9			BIV
2006 04 17.96		S	8.8	TK	40.7	L	4	58	4	3	0.3	225	BIV
2006 04 18.90		S	9.6	TK	20.0	L	4	42	& 4	4			SCH04
2006 04 18.94		B	8.8	TJ	8.0	B		18	5	1			CHE03
2006 04 19.91		S	8.7	AC	6.0	B	6	20	3.5	3/			RES
2006 04 19.95		B	8.8	TJ	5.0	B		7	5	2			CHE03
2006 04 19.95		S	9.5	TI	11.4	L	5	50	3	3			SAN07
2006 04 20.83		S	8.9	TI	36.0	L	4	100	4	5	0.2	210	CSO
2006 04 20.88		S	9.2	TI	34.0	L	4	120	7	3			SZA
2006 04 20.90		S	9.6	HS	50.8	L	5	123	1.2	2/	10 m	220	TOT03
2006 04 20.91		S	8.5	AC	6.0	B	6	20	3.5	3			RES
2006 04 20.94		S	9.1	TK	5.0	B		7	7	2			BIV
2006 04 20.94		S	9.5	TK	40.7	L	4	58	4	2	0.25	225	BIV
2006 04 20.95		N	15.0	HS	40.7	L	4	233	0.02	9			BIV
2006 04 20.95		S	9.3	TI	11.4	L	5	50	4	3	8 m	250	SAN07
2006 04 21.01		N	15.0	HS	40.7	L	4	461	0.02	9			BIV
2006 04 21.53		S	8.9	AA	10.0	B		25					SEA
2006 04 21.55	x	S	10.2	TJ	31.7	L	6	63	2.1	4	7 m	228	MIY01
2006 04 21.70	x	M	9.2	TJ	15.0	B		25	6	3	10 m	215	MIT
2006 04 21.87		S	8.8	TI	36.0	L	4	100	5	5	0.2	210	CSO
2006 04 22.03		S	9.2	TI	6.0	B		20	6	2			SAR02
2006 04 22.85		B	9.8	TI	10.0	L	10	50	2	3	10 m	215	MAJ01
2006 04 22.97		S	9.1	TK	5.0	B		7	6	2			BIV
2006 04 22.99		S	9.3	TK	40.7	L	4	58	5	2	0.25	225	BIV
2006 04 23.01		N	15.2	HS	40.7	L	4	233	0.02	9			BIV
2006 04 23.02		S	9.0	TI	11.4	L	5	50	5	s4	0.5	235	SAN07
2006 04 23.04		N	15.2	HS	40.7	L	4	461	0.02	9			BIV
2006 04 23.86		S	8.1	AC	6.0	B	6	20	3.5	2/			RES
2006 04 23.89		B	8.5	TJ	5.0	B		7	5	2			CHE03
2006 04 23.99		S	8.9	TI	6.0	B		20	9	1			SAR02
2006 04 24.54		S	9.5	AA	10.0	B		25					SEA
2006 04 24.82		B	10.3	TI	10.0	L	10	50	2.5	3	0.1	210	MAJ01
2006 04 24.88		S	8.0	AC	6.0	B	6	20	4.0	2/			RES
2006 04 24.89		B	8.3	TJ	5.0	B		7	5	2			CHE03
2006 04 24.92		S	7.7	AC	9.0	B		20	16	2			SZA
2006 04 24.92		S	8.2	AC	5.0	B		7	15	0			SZA
2006 04 24.92		S	8.4	AC	8.0	B		12	20	1			SZA
2006 04 24.94		S	9.1	TK	8.0	B		15	& 6	3			SCH04
2006 04 24.97		S	8.5	AC	6.0	B		20	10	1/			SAR02
2006 04 25.00		S	8.8	TK	5.0	B		7	8	3			BIV
2006 04 25.01		N	14.1	HS	40.7	L	4	233	0.02	9			BIV
2006 04 25.01		S	9.1	TK	40.7	L	4	58	5	3	0.4	225	BIV
2006 04 25.54		S	9.3	AA	10.0	B		25					SEA
2006 04 25.58	x	S	9.5	TJ	15.0	B		25	5	2			MIT
2006 04 25.82		M	7.8	TI	10	B		25	6	3	0.2	230	HOR03
2006 04 25.92		S	8.0	AC	6.0	B	6	20	4.5	3			RES
2006 04 25.98		S	9.7	TI	11.4	L	5	50	3	s3/	0.25	210	SAN07
2006 04 26.05		S	9.1	AC	6.0	B		20	10	1			SAR02
2006 04 26.85		S	7.9	AC	6.0	B	6	20	4.0	6			RES
2006 04 26.99		S	8.0	TK	5.0	B		7	8	5			BIV
2006 04 27.00		S	8.6	TK	40.7	L	4	58	4.5	6	0.4	220	BIV
2006 04 27.01		N	12.1	HS	40.7	L	4	233	0.02	9			BIV
2006 04 27.54		S	7.6	AA	3.5	B		6					SEA
2006 04 27.62	x	M	8.4	TK	10.0	B		20	6	s6	10 m	210	YOS02
2006 04 27.89		S	7.5	TK	5.0	B		10	&15	5			SCH04
2006 04 27.90		S	7.5	TK	4.0	B		8	&15	4			RIE
2006 04 27.94		S	7.4	TK	5.0	B		7	15	3			BUS01
2006 04 27.94		S	7.6	TK	5.6	B		10	12	4	0.4	205	BUS01
2006 04 27.95		S	7.3	TK	4.4	B		7	17	3/			BUS01
2006 04 28.50	x	S	9.6	TJ	31.7	L	6	63	1.1	5	5 m	210	MIY01
2006 04 28.58	x	M	7.2	TT	3.5	B		7					TSU02
2006 04 28.63	x	M	8.7	TJ	10.0	B		20	4	5			NAG08

Comet 73P/Schwassmann-Wachmann [component B] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 28.70	x	M	8.7	TJ	15.0	B		25	3	7			MIT
2006 04 28.87		S	7.5	TK	5.0	B		20	4	8			DIE02
2006 04 28.94		S	7.5	TK	5.0	B		7	10	4			BIV
2006 04 28.96		S	7.4	TI	8.0	B		20	12	3			SZA
2006 04 28.96		S	7.6	TI	5.0	B		7	12	1			SZA
2006 04 28.96		S	8.5	TK	40.7	L	4	58	3.5	5	0.35	230	BIV
2006 04 28.98		N	12.7	HS	40.7	L	4	233	0.03	9			BIV
2006 04 29.12		N	14.5	HS	40.7	L	4	461	0.02	9			BIV
2006 04 29.73	x	M	8.6	TK	10.0	B		20	6	6	15 m	210	YOS02
2006 04 29.75	x	M	8.1	TK	3.5	B		7		5			YOS02
2006 04 29.92		S	8.2	TK	5.0	B		7	8	4			BIV
2006 04 29.94		N	14.4	HS	40.7	L	4	233	0.02	9			BIV
2006 04 29.95		S	7.0:	TK	5.6	B		10	>15		0.4	210	BUS01
2006 04 30.57		S	8.8	AA	10.0	B		25					SEA
2006 04 30.68		S	7.1	TJ	7.0	R		10	13	3/	0.5	230	YOS04
2006 04 30.69		S	7.1	TJ	2.4	B		10	14	3			YOS04
2006 05 01.02		S	7.0	TK	5.0	B		7	12	S4			GON05
2006 05 01.02		S	7.5	TK	5.0	B		10	&15	4			SCH04
2006 05 01.12		S	9.5	TK	35.5	T	6	55	1	6	0.1	220	AMO01
2006 05 01.29		S	7.7	TK	5.0	B		7	5	5			SOU01
2006 05 01.86		M	7.3	TT	8.0	B		10	14	2/			HOR02
2006 05 01.88		S	8.0	TK	5.0	B		20	4	6			DIE02
2006 05 01.98		S	8.7	HS	50.8	L	5	70	2.0	5	0.25	220	TOT03
2006 05 02.02		M	8.6	TJ	41	L	4	89	& 1	6/			SHU
2006 05 02.03		S	7.6	TK	5.0	B		7	10	3			BIV
2006 05 02.04		S	7.7	TK	5.0	B		7	&15	2			SCH04
2006 05 02.05		N	14.1	HS	40.7	L	4	233	0.02	9			BIV
2006 05 02.52	x	M	8.0	TJ	10.0	B		20	5	5			NAG08
2006 05 02.57	x	M	8.6	HV	15.0	B		25	4	5	20 m	215	MIT
2006 05 02.73		S	6.8	TJ	7.0	R		10	19	6	0.6	250	YOS04
2006 05 02.73		S	7.1	TJ	2.4	B		10	20	4/			YOS04
2006 05 02.75	x	S	8.6	HV	8.0	B		11	4	5	6 m	225	MIY01
2006 05 02.77	x	M	8.6	TK	10.0	B		20	4	S7	18 m	215	YOS02
2006 05 02.87		B	7.5	TK	5.0	B		10					HAS02
2006 05 02.87		M	7.1	TI	5.0	B		7	8.5	4	0.2	240	HOR03
2006 05 02.88		M	7.3	TT	8.0	B		10	13	3	0.4	230	HOR02
2006 05 02.91		S	8.0	TK	5.0	B		20	4	6			DIE02
2006 05 02.93		B	8.3	TI	8.0	B		11	3	4	5 m		LAB02
2006 05 02.93		M	7.5	TK	30.5	T	10	56	& 8	5/	0.3		COM
2006 05 02.97		M	7.0	TK	5.0	B		7	12	5			BOU
2006 05 02.97		M	7.3	TK	6.0	B		15	8	5/			DIJ
2006 05 03.00		M	6.8	TK	5.0	B		10	18	D4			MEY
2006 05 03.01		S	6.9	TK	5.6	B		10	>19	3/	0.4	210	BUS01
2006 05 03.01		S	7.2	TI	5.0	B		7	11	5			SZA
2006 05 03.02		S	6.7	TK	4.4	B		7	>21	3			BUS01
2006 05 03.02		S	6.7	TK	5.0	B		7	>21	3			BUS01
2006 05 03.02		S	7.2	HV	6.3	B		9	9	3	0.3	220	KAM01
2006 05 03.05		S	6.4	TK	5.0	B		10	18	5	0.7	230	GIL01
2006 05 03.09		B	8.5	TK	8.0	B		20	1	7	0.15	215	AMO01
2006 05 03.09		S	7.2	TK	5.0	B		7	&16	3			SCH04
2006 05 03.10		S	8.5	TK	5.0	B		7					AMO01
2006 05 03.49	x	M	7.0	TK	5.0	B		8	15	s5	1.0	220	KON03
2006 05 03.65		S	6.4	TJ	7.0	R		10	26	7	0.7	230	YOS04
2006 05 03.65	x	M	6.7	TT	3.5	B		7	30	4			TSU02
2006 05 03.66		S	6.0	TJ	2.4	B		10	33	3/			YOS04
2006 05 03.69	x	M	7.2	TK	3.5	B		7	13	s4	0.6	225	YOS02
2006 05 03.83		B	7.5	TJ	8.0	B		18	15	2			CHE03
2006 05 03.86		B	8.4	TJ	10	B		25	5	3			ADA05
2006 05 03.87		M	6.7	TI	5.0	B		7	8.5	4			HOR03
2006 05 03.91		M	7.1	TT	8.0	B		10	15	2	0.4	220	HOR02
2006 05 03.92		M	7.7	TT	10	B	4	25	10	4	0.33	225	LEH
2006 05 04.03		B	7.1	TK	5.0	B		10					HAS02
2006 05 04.10		S	7.1	TK	5.0	B		7	15	4			BIV
2006 05 04.10		S	8.1	TK	8.0	B		20	3	6			AMO01
2006 05 04.10		S	8.2	TK	5.0	B		7					AMO01

Comet 73P/Schwassmann-Wachmann [component B] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 04.11		N	13.4	HS	40.7	L	4	461	0.03	9			BIV
2006 05 04.11		N	13.5	HS	40.7	L	4	233	0.03	9			BIV
2006 05 04.31		S	7.3	TK	5.0	B		7					SOU01
2006 05 04.31		S	7.3	TK	8.0	B		11	3	4			SOU01
2006 05 04.66		S	6.2	TJ	7.0	R		10	29	7	0.8	245	YOS04
2006 05 04.68		S	6.1	TJ	2.4	B		10	26	6			YOS04
2006 05 04.71	x	M	7.4	TT	3.5	B		7					TSU02
2006 05 04.74	x	M	8.2	HV	15.0	B		25	3.5	5	10 m	215	MIT
2006 05 04.85		M	7.3	TT	5.0	B		10	10	4			LEH
2006 05 04.87		M	8.1	TJ	8.0	B		10	5	3			ADA05
2006 05 04.89		M	6.6	TI	5.0	B		7	8	4			HOR03
2006 05 04.89		S	7.3	TK	5.0	B		10					HAS02
2006 05 04.92		M	7.4	TI	5.0	B		10	5	s4	0.8	240	SAN07
2006 05 04.92		M	7.4	TK	6.0	B		15	7	4/			DIJ
2006 05 04.93		B	6.5:	TJ	5.0	B		7					CHE03
2006 05 04.94		M	7.2	TT	8.0	B		10	14	3	0.6	220	HOR02
2006 05 04.97		M	7.4	TK	10.0	R	6	25	9	4			GRA04
2006 05 05.03		S	7.4	AC	6.0	B		20	12	3	0.2	240	SAR02
2006 05 05.04		S	7.4	TK	5.0	B		7	&25	2			SCH04
2006 05 05.06		B	8.8	TI	10.0	L	10	50	2	5	0.15	200	MAJ01
2006 05 05.12		M	6.8	TK	5.0	B		7	10	6	0.6	235	GON05
2006 05 05.85		M	7.3	TT	5.0	B		10	15	4/			LEH
2006 05 06.03		M	7.4	TK	10.0	R	6	25	10	4			GRA04
2006 05 06.05		M	6.4	TI	10	L	4	20	4.5	3/	0.3	240	HOR03
2006 05 06.90		M	6.1	TI	3.0	B		8	4.5	4	0.3	240	HOR03
2006 05 06.92		S	6.6	TK	3.0	B		4	19	4			RIE
2006 05 07.00		S	8.3	TK	20	T	10	70	2.5	2	4 m	220	MIC
2006 05 07.01		M	7.4	TK	10.0	R	6	25	9	3			GRA04
2006 05 07.07		S	6.5	HV	6.3	B		9	18	3	0.4	255	KAM01
2006 05 07.34		S	7.7	TK	8.0	B		11	5	5			SOU01
2006 05 07.74	x	M	7.3	TJ	3.5	B		7	15	5	45 m	230	NAG08
2006 05 07.88		M	6.4	TT	5.0	B		10	10	7			LEH
2006 05 08.01		S	7.4	TK	5.0	B		7	11	3			URB01
2006 05 08.03		S	7.7	TK	15	L	6	45	4.0	4/	0.18	215	URB01
2006 05 08.04		M	5.4	TI	25	L	5	50	4.5	8/	0.4	245	HOR03
2006 05 08.06		S	6.8	TK	5.0	B		7	&20	2			SCH04
2006 05 08.08		S	6.7	HV	6.3	B		9	11	4	0.3	225	KAM01
2006 05 08.83		M	5.9	TT	8.0	B		10	15	7	0.5	240	HOR02
2006 05 08.90		M	6.0	TT	5.0	B		10	10	8/			LEH
2006 05 08.91		M	5.2	TI	5.0	B		10	15	s7	1	235	SAN07
2006 05 08.91		M	6.3	HS	50.8	L	5	123	2.5	S6	4 m	250	TOT03
2006 05 08.95		M	5.5	TK	5.0	B		7	10	8			BOU
2006 05 08.95		M	5.9	AC	6.0	B		20	8	S7	0.33	255	SAR02
2006 05 08.95		M	5.9	TK	5.0	B		7	7	8			DIJ
2006 05 08.97		M	5.7	TK	5.0	B		7	10	8			SKI
2006 05 09.00		B	5.6	TJ	3.0	B		8	15	6			ADA05
2006 05 09.00		M	5.4	TK	5.0	B		7	10	7/			GRA04
2006 05 09.04		S	6.3	TK	5.0	B		7	10	6			URB01
2006 05 09.06		M	6.5	TK	7	R	14	50	5	7	0.13	230	URB01
2006 05 09.53	x	S	6.1	TK	5.0	B		7	23	4			MUR02
2006 05 09.90		M	5.6	TK	5.0	B		7	10	8			DIJ
2006 05 09.90		M	5.7	TT	8.0	B		10	15	5/			HOR02
2006 05 09.90		S	5.3	TK	3.0	B		4	22	4/	0.5	210	RIE
2006 05 09.93		B	6.1	TJ	8.0	B		10	8	6			ADA05
2006 05 09.94		M	5.2	TI	5.0	B		10	9	s7	2	225	SAN07
2006 05 09.96		S	5.1	TK	5.0	B		10	12	3			ZAN01
2006 05 09.97		M	4.9	TK	5.0	B		7	15	6			GRA04
2006 05 09.97		M	5.4	TK	5.0	B		7	15	6			SKI
2006 05 09.98		M	5.9	TT	5.0	B		10	15	7			LEH
2006 05 10.01		M	6.1	AC	6.0	B		20	8	s7	0.33	245	SAR02
2006 05 10.01		S	5.2	TK	4.4	B		7	18	5			BUS01
2006 05 10.02		I	5.0	TK	0.0	E		1	>15	3/			BUS01
2006 05 10.02		S	5.2	TK	5.6	B		10	&18	5	0.4	230	BUS01
2006 05 10.04		M	5.4	TK	5.0	B		7	9	7/			BOU
2006 05 10.08		S	5.2	TK	5.0	B		7	&20	5/			SCH04

Comet 73P/Schwassmann-Wachmann [component B] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 10.89		S	5.1	TK	5.0	B		10	25	1			ZAN01
2006 05 10.90		M	5.6	TT	8.0	B		10	16	5/	0.4	245	HOR02
2006 05 10.91		M	5.5	TK	5.0	B		7	10	7			DIJ
2006 05 10.93		I	4.9	TK	0.0	E		1	&20	5			RIE
2006 05 10.93		S	5.1	TK	3.0	B		4	&23	4	0.5	220	RIE
2006 05 10.97		M	5.5	TK	3.0	B		8	13	4	0.4	255	HOE
2006 05 10.97		S	5.9:	TK	5.0	B		7	12	6			BIV
2006 05 10.98		B	5.2	TJ	8.0	B		18	12	5			CHE03
2006 05 10.98		N	12.1	TK	40.7	L	4	233	0.02	9			BIV
2006 05 10.99		M	5.7	TT	5.0	B		10	20	7	0.50	250	LEH
2006 05 11.00		M	5.1	TK	5.0	B		7	15	5/			GRA04
2006 05 11.00		M	5.3	TK	5.0	B		7	10	5/			BOU
2006 05 11.00		N	8.5	TK	7.0	R	7	20	11	6	0.5	245	GRA04
2006 05 11.01		S	5.1	TK	4.4	B		7	&18	4			BUS01
2006 05 11.01		S	5.1	TK	5.6	B		10	&18	4	0.4	240	BUS01
2006 05 11.02		M	5.3	TK	5.0	B		7	8	6	0.3	245	GON05
2006 05 11.02		M	5.4	TI	5.0	B		10	6	s6/	1.5	230	SAN07
2006 05 11.03		S	5.2	TK	5.0	B		7	&15	5/	0.4	235	SCH04
2006 05 11.04		M	6.5	TJ	10	B		25	7	6	0.5	250	ADA05
2006 05 11.04		S	5.2	TK	5.0	B		20	6	7			DIE02
2006 05 11.05		N	12.0	HS	40.7	L	4	461	0.02	9			BIV
2006 05 11.06		S	5.2	HV	6.3	B		9	12	6/	0.6	240	KAM01
2006 05 11.07		S	5.7	TK	5.0	B		7	13	6	0.8	240	BIV
2006 05 11.09		B	5.3	TK	0.0	E		1	10	6			BIV
2006 05 11.14		I	5.2	TK	0.0	E		1	10	7			GON05
2006 05 11.34		S	5.6	TK	5.0	B		7	10	6	0.1	240	SOU01
2006 05 11.34		S	5.7	TK	8.0	B		11	8	5	0.2	240	SOU01
2006 05 11.62	x	M	5.8	HV	8.0	B		11	12	6			MIT
2006 05 11.64	x	M	5.5	TJ	3.5	B		7	16	6/			NAG08
2006 05 11.90		B	5.4	TJ	5.0	B		7	15	5			CHE03
2006 05 11.91		S	5.8	TT	8.0	B		10	15	5/			HOR02
2006 05 11.94		S	5.1	TK	5.0	B		7	&12	6			SCH04
2006 05 11.98		M	5.1	TT	5.0	B		10	20	6	0.50	250	LEH
2006 05 11.98		M	5.3	TK	3.0	B		8	9	4	0.4	280	HOE
2006 05 12.00		M	5.5	TK	5.0	B		7	15	4/			GRA04
2006 05 12.06		S	5.6	HV	6.3	B		9	10	6	0.5	240	KAM01
2006 05 12.34		S	6.5	YG	8.0	B		20	2	6	0.15	255	AMO01
2006 05 12.35		B	6.0	YG	5.0	B		7	3	5	0.2	255	AMO01
2006 05 12.89		E	6.6	TI	10.0	L	10	50	2	S6			MAJ01
2006 05 12.90		B	5.6	TJ	5.0	B		7	10	4	0.3		CHE03
2006 05 12.92		M	5.1	TT	5.0	B		10	20	4	0.50	260	LEH
2006 05 12.96		M	5.8	TI	5.0	B		10	6	s3	2	240	SAN07
2006 05 12.96		S	6.0	TK	7.0	B		7	10	5			URB01
2006 05 13.02		S	6.1	TI	9.0	B		20	8	3			SZA
2006 05 13.11		S	5.9	TK	5.0	B		7	20	5	0.8	245	BIV
2006 05 13.14		B	5.6	TI	8.0	B		11	4	7	10 m		LAB02
2006 05 13.35		S	6.2	YG	5.0	B		7					AMO01
2006 05 13.98		M	5.6	TK	5.0	B		7	12	3	0.5		GRA04
2006 05 13.98		M	5.8	TK	7.0	R	7	20	10	3/	0.6	250	GRA04
2006 05 14.07		N	11.5	HS	20.3	T	10	267	0.08	9			BIV
2006 05 14.11		S	5.8	TK	5.0	B		7	20	5	1.0	250	BIV
2006 05 15.11		N	11.9	HS	20.3	T	10	267	0.03	9			BIV
2006 05 15.14		S	6.2	TK	5.0	B		7	20	5	0.9	250	BIV
2006 05 15.15		B	5.7	TK	0.0	E		1	25	4			BIV
2006 05 15.16		N	12.1	HS	20.3	T	10	267	0.03	9			BIV
2006 05 15.93		M	6.8	TJ	41	L	4	89	0.83		40 m	260	SHU
2006 05 15.95		M	5.8	TJ	3.0	B		8	6	3	10 m		SHU
2006 05 15.98		M	6.2	TK	5.0	B		7	11	3			GRA04
2006 05 15.98		M	6.4	TK	7.0	R	7	20	8	3/			GRA04
2006 05 17.09		N	11.9	HS	20.3	T	10	267	0.03	9			BIV
2006 05 17.12		S	6.3	TK	5.0	B		7	20	4	0.9	250	BIV
2006 05 17.16		N	11.9	HS	20.3	T	10	267	0.03	9			BIV
2006 05 18.04		M	5.6	TT	8.0	B		10	20	3/	1.0	265	HOR02
2006 05 18.05		S	6.6	AC	6.0	B		20	8	2	1	260	SAR02
2006 05 18.14		N	13.0:	HS	20.3	T	10	267	0.03	9			BIV

Comet 73P/Schwassmann-Wachmann [component B] (cont.)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 18.14		S	6.6	TK	5.0	B		7	18	4	0.7	260	BIV
2006 05 18.77		S	7.6	AA	8.0	B		15					SEA
2006 05 19.05		M	5.8	TK	5.0	B		7	10	6	0.7	260	GON05
2006 05 19.07		M	6.5	TK	10.0	B		25	5	7	0.4	260	GON05
2006 05 19.35		S	6.6	TK	8.0	B		20	3	4	0.3	265	AMO01
2006 05 19.36		S	6.7	TK	5.0	B		7	5	3			AMO01
2006 05 20.12		S	6.6	TK	5.0	B		7	18	4	0.8	250	BIV
2006 05 24.13		B	7.9	TI	8.0	B		11	3	4	5 m		LAB02
2006 05 24.77		B	6.9	AA	10.0	B		25	4		1.3	248	SEA
2006 05 26.12		S	6.9	TK	10.0	B		25	7	5	0.3	250	GON05
2006 05 26.13		S	6.5	TK	5.0	B		7	10	4			GON05
2006 05 26.36		S	7.5	TK	5	R	7	13	20	2			ROB06
2006 05 26.36		S	7.5	TK	8.0	B		20	2	4	0.1	255	AMO01
2006 05 27.13		B	7.5	TI	8.0	B		11	3	5	5 m		LAB02
2006 05 28.34		S	7.3	TK	8.0	B		11	2	4			SOU01
2006 05 28.36		S	7.4	TK	5.0	B		7	10	1			AMO01
2006 05 28.36		S	7.7	TK	8.0	B		20	4	2/	0.1	255	AMO01
2006 05 28.74		S	7.3	AA	5.0	B		10					SEA
2006 05 31.36		S	7.6	TK	8.0	B		11					SOU01
2006 05 31.78		S	8.4	AA	10.0	B		25	4		1.3	245	SEA
2006 06 01.33		S	8.0	TK	8.0	B		20	5	1	0.2	240	AMO01
2006 06 01.82		S	7.6	AA	5.0	B		10					SEA
2006 06 06.75		S	9.1	AA	10.0	B		25			1.0	240	SEA
2006 06 07.77		S	9.2	AA	10.0	B		25			1.0	240	SEA
2006 06 09.34		S	8.5	TK	8.0	B		11	3	1			SOU01
2006 06 10.34		S	8.5	TK	8.0	B		11	3	0			SOU01
2006 07 23.11		S	12.5	TI	23.5	T	10	94	1	2			LAB02
2006 07 27.78		S	12.6:	AU	25.4	L	4	113	1.2	2			YOS02
2006 07 28.05		I[	11.8	AC	41.0	L	6	72					RES

Comet 73P/Schwassmann-Wachmann [component G]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 02.92		S	14.8	HS	50.8	L	5	273	0.5	2			TOT03
2006 04 04.11		S	15.5:	HS	40.7	L	4	116	0.7	4			BIV
2006 04 05.98		S	14.2	AC	41.0	L	6	121	0.6	4			RES
2006 04 07.88		S	13.0	HS	50.8	L	5	273	0.7	5			TOT03
2006 04 08.03		S	12.3:	TK	40.7	L	4	233	0.8	5			BIV
2006 04 10.00		S	12.4	AC	41.0	L	6	72	1.0	5/			RES
2006 04 15.97		S	12.2	AC	41.0	L	6	72	1.0	4			RES
2006 04 17.93		S	12.3	HS	50.8	L	5	123	1.3	2	1 m	230	TOT03
2006 04 17.94		S	12.0	AC	41.0	L	6	72	1.2	3			RES
2006 04 17.98		S	12.9	HS	40.7	L	4	116	1.3	5			BIV
2006 04 17.99		N	15.1	HS	40.7	L	4	233	0.02	9			BIV
2006 04 19.95		B	12.0:	TJ	35.0	L	5	99		1			CHE03
2006 04 20.89		S	11.7	HS	50.8	L	5	164	1.7	2			TOT03
2006 04 20.92		S	11.7	AC	41.0	L	6	72	1.7	5/			RES
2006 04 20.96		S	13.4	HS	40.7	L	4	116	1.5	3			BIV
2006 04 23.00		S	14.1	HS	40.7	L	4	116	1.5	2			BIV
2006 04 23.86		S	11.6	AC	41.0	L	6	72	1.8	6			RES
2006 04 23.93		B	11.8	TJ	35.0	L	4	75	3	1			CHE03
2006 04 24.87		S	11.5	AC	41.0	L	6	72	2.2	6			RES
2006 04 24.92		S	13.4	HS	34.0	L	4	120	1	1			SZA
2006 04 25.93		S	11.6	AC	41.0	L	6	72	1.4	4			RES
2006 04 26.85		S	11.6	AC	41.0	L	6	72	1.7	4			RES
2006 04 27.04		S	12.8:	HS	40.7	L	4	116	1.5	2			BIV
2006 04 29.09		S	12.8	HS	40.7	L	4	116	2.0	2			BIV
2006 04 30.00		S	13.7	HS	40.7	L	4	116	1.3	3			BIV
2006 04 30.71		S[	13.6	HS	40.0	L	4	144	! 0.9				YOS04
2006 05 02.08		S	13.5	HS	40.7	L	4	116	1.2	3			BIV
2006 05 02.71		S	13.9	HS	40.0	L	4	144	1.0	2			YOS04
2006 05 02.74		S	13.0	TA	25.4	L	4	113	1.3	2			YOS02
2006 05 02.99		S	13.0	HS	50.8	L	5	164	1.5	1			TOT03
2006 05 03.69	x	S	13.0	HS	45.7	L	4	170	0.9	0			MUR02
2006 05 04.06		S	13.4	HS	40.7	L	4	116	1.4	2			BIV

Comet 73P/Schwassmann-Wachmann [component H]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 07.89		S	[13.4	HS	50.8	L	5	123	! 0.5				TOT03

Comet 73P/Schwassmann-Wachmann [component R]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 06.01		S	14.8	AC	41.0	L	6	121	0.5	4			RES
2006 04 17.94		S	13.9	AC	41.0	L	6	72	0.6	3			RES
2006 04 20.88		S	14.7	HS	50.8	L	5	273	0.33	3			TOT03
2006 04 20.93		S	13.8	AC	41.0	L	6	72	0.8	4/			RES
2006 04 20.97		S	14.5:	HS	40.7	L	4	233	0.5	4			BIV
2006 04 23.00		S	14.7:	HS	40.7	L	4	233	0.4	4			BIV
2006 04 24.88		S	[14.5	AC	41.0	L	6	72					RES
2006 04 25.94		S	[14.5	AC	41.0	L	6	72					RES
2006 04 26.85		S	14.2:	AC	41.0	L	6	121	0.5	2/			RES
2006 04 29.10		S	14.2	HS	40.7	L	4	116	1.0	4			BIV
2006 04 30.01		S	14.0	HS	40.7	L	4	116	0.9	4			BIV
2006 05 01.06		S	13.3	HN	20.3	T	10	100	0.8	4			GON05
2006 05 02.09		S	14.2	HS	40.7	L	4	116	0.8	3			BIV
2006 05 03.69	x	S	[13.0	HS	45.7	L	4	170	! 1.0				MUR02
2006 05 03.96		B	14.3	HS	42	L	5	162	0.8	3			LEH
2006 05 04.08		S	14.1	HS	40.7	L	4	116	1	3			BIV

Comet 73P/Schwassmann-Wachmann [component AP]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 26.90		S	14.2	AC	41.0	L	6	121	0.6	2			RES
2006 04 30.76		S	[13.4	HS	40.0	L	4	144	! 0.6				YOS04
2006 05 02.68		S	[13.9	HS	40.0	L	4	257	! 0.6				YOS04
2006 05 03.68		S	[13.9	HS	40.0	L	4	257	! 0.6				YOS04
2006 05 04.70		S	[14.2	HS	40.0	L	4	257	! 0.6				YOS04

Comet 73P/Schwassmann-Wachmann [component AQ]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 25.01		N	14.4	HS	40.7	L	4	233	0.02	9			BIV
2006 04 27.02		N	14.8	HS	40.7	L	4	233	0.02	9			BIV

Comet 73P/Schwassmann-Wachmann [component AS]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 26.91		S	13.9	AC	41.0	L	6	121	0.7	4			RES
2006 04 29.99		S	14.0:	TA	31.0	J	6	155		3			BOU
2006 04 29.99		S	14.0:	TA	31.0	J	6	155		4			DIJ
2006 04 30.77		S	14.2	HS	40.0	L	4	144	0.8	3			YOS04
2006 05 02.70		S	13.8	HS	40.0	L	4	257	0.6	2			YOS04
2006 05 03.70		S	[14.4	HS	40.0	L	4	257	! 0.5				YOS04

Comet 73P/Schwassmann-Wachmann [component BC]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 05 02.68		S	13.2	HS	40.0	L	4	257	0.7	3/			YOS04
2006 05 03.68		S	[13.9	HS	40.0	L	4	257	! 0.7				YOS04

Comet 177P/Barnard

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 07 07.07		S	13.2	HN	20.3	T	10	133	0.7	3			GON05
2006 07 16.42		S	10.3	AA	10.0	B		25	6				SEA
2006 07 16.97		S	10.8	TK	20.3	T	10	77	3.5	3			GON05
2006 07 17.91		S	10.1	TK	15.0	R	5	36	6	2			MEY
2006 07 18.91		S	10.0	TK	15.0	R	5	36	4	2			MEY
2006 07 18.93		S	10.8:	TK	18	L	8	115					AMO01
2006 07 19.91		S	9.8	TK	10.0	B		20	7	2			MEY
2006 07 19.98		S	9.3	TK	10.0	B		25	6	2/			GON05
2006 07 20.01		S	9.1	TK	8.0	B		11	7	2			GON05

Comet 177P/Barnard [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 07 20.46		S	9.7	AA	10.0	B		25	12	1			SEA
2006 07 20.89		S	9.1	TK	10.0	B		20	7	2/			MEY
2006 07 20.95		S	10.3:	TK	18	L	8	45		5			AMO01
2006 07 20.97		S	10.6	TI	23.5	T	10	67	5	3			LAB02
2006 07 22.08		S	10.4:	TK	18	L	8	115					AMO01
2006 07 22.42		S	9.1	AA	10.0	B		25	12	2			SEA
2006 07 22.90		S	8.6	TK	10.0	B		20	8	2/			MEY
2006 07 22.90		S	9.9	TI	23.5	T	10	67	5	3			LAB02
2006 07 22.95		S	9.3	TI	8.0	B		11	7	3			LAB02
2006 07 22.97		S	10.7:	TK	18	L	8	115					AMO01
2006 07 22.99		S	8.5	TK	5.0	B		7	12	2			GON05
2006 07 23.93		S	8.9	TK	10.0	R	5	20	5.9	3			HAS02
2006 07 25.92		S	8.5	AC	6.0	B		20	7	2/			RES
2006 07 25.92		S	8.5	TK	5.0	B		7	13	2			GON05
2006 07 27.55	x	S	9.1	TK	10.0	B		20	10	2			YOS02
2006 07 27.58	xa	M	8.9	HV	4.5	B		15	14	3			TSU02
2006 07 27.92		S	8.3	AC	6.0	B		20	8	2/			RES
2006 07 28.65	x	S	8.7	TK	10.0	B		20	10	2			YOS02
2006 07 28.91		S	9.2	TI	8.0	B		11	8	3			LAB02
2006 07 29.93		S	9.0	TI	8.0	B		11	9	3			LAB02
2006 07 30.04		M	7.9	S	5.0	B		7	10	4			SAN04
2006 07 30.04		M	8.1	S	5.0	B		7	8	4			MAR02
2006 07 30.52	x	S	8.7	TK	45.7	L		68	9	2			MUR02

Comet C/2003 WT_42 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 01 22.75		S	13.2	HS	27.0	L	6	167	0.8	3			TOT03
2006 01 26.95		S	13.3	HS	27.0	L	6	167	0.6	3			TOT03
2006 01 31.84		S	13.2	HS	40.7	L	4	116	1	5			BIV
2006 01 31.84		S	13.2	HS	40.7	L	4	233	0.9	4			BIV
2006 01 31.95		S	13.4	HS	27.0	L	6	167	0.5	3			TOT03
2006 02 22.83		S	13.4	HS	27.0	L	6	167	0.6	4			TOT03
2006 02 23.95		S	13.3	AC	41.0	L	6	72	0.8	3			RES
2006 02 26.98		S	13.4	AC	41.0	L	6	72	0.8	3/			RES
2006 02 27.16		S	13.7	HS	40.7	L	4	116	0.8	6			BIV
2006 02 27.89		S	13.4	AC	41.0	L	6	72	0.8	3			RES
2006 03 02.19		S	13.8	HS	25.6	L	4	169	0.5	5			BIV
2006 03 02.86		S	13.5	HS	27.0	L	6	167	0.6	4			TOT03
2006 03 04.87		S	13.3	AC	41.0	L	6	72	0.6	5			RES
2006 03 19.94		S	13.5	HS	50.8	L	5	123	1.2	3			TOT03
2006 03 20.80		S	13.5	HS	50.8	L	5	123	1.0	5			TOT03
2006 03 22.88		S	13.2	AC	41.0	L	6	72	0.9	4			RES
2006 03 23.94		S	13.2	AC	41.0	L	6	72	1.0	5			RES
2006 03 24.96		S	13.2	AC	41.0	L	6	72	0.7	3/			RES
2006 03 29.02		S	13.3	AC	41.0	L	6	72	1.1	4			RES
2006 03 31.92		S	14.3	HS	50.8	L	5	273	0.3	3			SZA
2006 03 31.93		S	13.8	HS	50.8	L	5	123	0.7	5			TOT03
2006 04 02.87		S	13.9	HS	50.8	L	5	123	0.7	4			TOT03
2006 04 17.97		S	13.6	AC	41.0	L	6	72	1.0	4			RES
2006 04 20.86		S	14.0	HS	50.8	L	5	164	0.5	3/			TOT03
2006 04 24.96		S	13.2	HS	34.0	L	4	120	0.4	3			SZA
2006 04 25.95		S	13.5	AC	41.0	L	6	72	1.2	4			RES
2006 04 26.91		S	13.5	AC	41.0	L	6	121	1.2	4/			RES
2006 05 01.46		S	12.8	HS	40.0	L	4	144	1.0	6			YOS04
2006 05 02.48		S	13.1	HS	40.0	L	4	144	1.1	5/			YOS04
2006 05 02.92		S	14.0	HS	50.8	L	5	273	0.5	2/			TOT03
2006 05 03.64		S	13.3	HS	40.0	L	4	144	0.9	6			YOS04
2006 05 03.85		B	14.0	HS	42	L	5	81	0.8	4			LEH
2006 05 04.47		S	12.8	HS	40.0	L	4	257	0.8	5			YOS04
2006 05 17.90		S	14.2	HS	50.8	L	5	273	0.5	4			TOT03
2006 05 31.91		S	13.8	HS	50.8	L	5	164	0.7	3			TOT03

Comet C/2004 B1 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 25.05			[11.3	TK	15	L	6	90	! 1.3				URB01
2006 04 30.74		S	12.0	TJ	40.0	L	4	144	2.5	2/			YOS04
2006 05 02.74		S	12.2	AU	40.0	L	4	144	1.0	4			YOS04
2006 05 03.02		S	13.0	HS	50.8	L	5	273	0.4	1			SZA
2006 05 03.02		S	13.2	HS	50.8	L	5	273	0.7	4			TOT03
2006 05 03.73		S	12.5	AU	40.0	L	4	144	1.2	3/			YOS04
2006 05 04.73		S	12.6	AU	40.0	L	4	144	1.5	3/			YOS04
2006 05 08.10		S	12.0	HS	44.0	L	5	156	0.5	3			HAS02
2006 05 17.94		S	12.4	HS	50.8	L	5	164	0.9	4			TOT03
2006 05 19.00		S	13.0	TK	20.3	T	10	160	0.5	4			GON05
2006 05 23.96		S	12.8	GA	31.0	J	6	109	1.2	4			BOU
2006 05 25.96		S	12.8	TK	20.3	T	10	100	0.7	4			GON05
2006 05 28.31		S	12.5	TK	50	L	4	114	1.0	4			LIN04
2006 05 31.95		S	12.4	HS	50.8	L	5	164	1.5	4/			TOT03
2006 06 05.07		S	12.8	TK	20.3	T	10	100	1.0	3			GON05
2006 06 25.99		S	12.8	TA	23.5	T	10	94	1.5	3			LAB02
2006 07 30.02		S	12.9	TI	32	L	5	125	1	1/			MAR02

Comet C/2004 D1 (NEAT)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 19.91		S	15.7	HS	50.8	L	5	272	0.5	3			TOT03
2006 03 20.83		S	16.2	HS	50.8	L	5	409	0.5	3			TOT03

Comet C/2004 K1 (Catalina)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 20.91		S	[15.8	HS	50.8	L	5	409	! 0.5				TOT03

Comet C/2004 Q2 (Machholz)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2005 05 07.99		S	8.5	TK	15.0	R		25	11	3			HOE

Comet P/2004 VR_8 (LONEOS)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 04.96		S	13.8	AC	41.0	L	6	121	0.4	4			RES
2006 03 08.10		S	15.3	HS	50.8	L	5	273	0.5	3			TOT03
2006 03 09.07		S	13.8	AC	41.0	L	6	72	0.5	3			RES
2006 03 20.93		S	15.5	HS	50.8	L	5	273	0.3	4			TOT03
2006 03 23.94		S	13.9	AC	41.0	L	6	121	0.5	3/			RES
2006 03 24.96		S	14.1	AC	41.0	L	6	121	0.5	3			RES
2006 03 29.06		S	14.4	AC	41.0	L	6	121	0.5	5/			RES
2006 03 31.99		S	15.8	HS	50.8	L	5	327	0.3	3			TOT03

Comet C/2005 B1 (Christensen)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 01 22.74		S	13.2	HS	27.0	L	6	167	0.5	3/			TOT03

Comet C/2005 E2 (McNaught)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 03 04.80		S	10.2	AC	13.0	L	6	45	1.2	3			RES
2006 03 20.78		S	12.0	HS	50.8	L	5	273	0.8	3/			TOT03
2006 05 02.45		S	9.7	TJ	40.0	L	4	144	1.6	3			YOS04
2006 05 03.45		S	9.8	TJ	40.0	L	4	144	1.4	3/			YOS04

Comet P/2005 JQ_5 (Catalina)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2005 09 03.08			[10.5	TK	15	L	6	45	! 2.2				URB01

Comet P/2005 XA_54 (LONEOS-Hill)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 02 23.97		S	13.7	AC	41.0	L	6	121	0.5	4			RES
2006 02 26.95		S	13.7	AC	41.0	L	6	121	0.4	4			RES
2006 02 27.87		S	13.7	AC	41.0	L	6	121	0.5	4			RES
2006 03 02.84		S	13.8	HS	27.0	L	6	167	0.4	5			TOT03
2006 03 04.86		S	13.6	AC	41.0	L	6	121	0.5	3/			RES
2006 03 19.84		S	14.2	HS	50.8	L	5	273	1.0	5			TOT03
2006 03 20.84		S	14.3	HS	50.8	L	5	273	1.0	4			TOT03
2006 03 23.89		S	14.1	AC	41.0	L	6	121	0.4	6/			RES
2006 03 29.00		S	14.3	AC	41.0	L	6	121	0.4	6			RES
2006 03 31.84		S	14.7	HS	50.8	L	5	164	0.6	3/			TOT03
2006 03 31.84		S	14.7	HS	50.8	L	5	164	0.4	1			SZA

Comet C/2006 A1 (Pojmanski)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 02 27.20		S	5.1	AC	6.0	B	6	20	3	6/	0.4		RES
2006 02 27.22		S	4.8	TK	5.0	B		7	4	6			BIV
2006 02 27.23		S	4.7	TK	40.7	L	4	58	5	6			BIV
2006 03 02.17		B	6.3	TI	10.0	L	10	50	7.3	6			MAJ01
2006 03 02.21		B	5.3	HV	5.0	B		7	4	7			BIV
2006 03 02.22		S	5.6	HV	40.7	L	4	58	4	7	0.5	270	BIV
2006 03 03.16		B	5.8	TI	10.0	L	10	50	6.9	5			MAJ01
2006 03 05.14		S	5.4	AC	6.0	B	6	20	3.5	4/	0.5		RES
2006 03 06.16		B	6.0	TI	10.0	L	10	50	7.3	6	10 m	285	MAJ01
2006 03 06.23		B	5.5	HV	5.0	B		7	4	7	0.6	280	BIV
2006 03 07.14		S	6.2	TI	36.0	L	4	100	4	D6			CSO
2006 03 07.15		B	6.1	TI	10.0	L	10	50	6.8	5			MAJ01
2006 03 08.14		M	5.6	TI	5.0	B		10	5	D7	1.5	290	SAN07
2006 03 08.14		S	6.1	TI	36.0	L	4	100	5	D6	8 m	280	CSO
2006 03 08.16		S	5.3	AA	6.0	B		20	6	3			KES01
2006 03 08.17		S	5.3	TI	5.0	R	5	8	5	6	10 m	290	TOT03
2006 03 09.20		S	5.6	AC	6.0	B	6	20	3.5	7			RES
2006 03 16.19		S	6.3	HV	5.0	B		7	6	6			BIV
2006 03 18.19		S	6.8:	HV	5.0	B		7	5	6			BIV
2006 03 19.18		S	6.5	TK	5.0	B		10	4	5			GON06
2006 03 20.04		S	5.9	TK	15	L	6	45	4.0	4/			URB01
2006 03 20.13		S	7.1	TI	6.0	B		20	5	5/			SAR02
2006 03 21.11		M	5.9	TK	15	L	6	45	4.0	5			URB01
2006 03 23.00		S	6.5	AC	6.0	B	6	20	3.3	5/			RES
2006 03 24.02		S	6.7	AC	6.0	B	6	20	3.0	5/			RES
2006 03 24.04		B	7.8	TI	10.0	L	10	50	6.5	4			MAJ01
2006 03 26.14		B	6.7	TK	10.0	M	10	33	5	6			BIV
2006 03 28.13		S	7.7	TK	10.0	M	10	33	4	6			BIV
2006 03 29.04		S	7.3	AC	6.0	B		20	3.2	5			RES
2006 03 30.04		B	8.0	TJ	11.0	B		20	3	5			CHE03
2006 03 30.05		B	7.8	TJ	5.0	B		7	3	4			CHE03
2006 03 30.13		S	8.2	TK	10.0	M	10	33	3.5	6			BIV
2006 03 30.78		B	8.0	TJ	11.0	B		20	3	5			CHE03
2006 04 01.05		B	7.9	TI	10.0	L	10	50	4.7	4			MAJ01
2006 04 01.08		S	8.6	TI	5.0	B		7	6	3			SZA
2006 04 02.04		S	7.6	AC	6.0	B	6	20	4	5			RES
2006 04 04.14		S	8.9	TK	40.7	L	4	58	3	4	0.1	255	BIV
2006 04 05.00		S	8.3	TI	11.4	L	5	50	3	3	0.1	330	SAN07
2006 04 05.01		S	8.0	AC	6.0	B	6	20	3.5	5			RES
2006 04 06.02		S	8.2	AC	6.0	B	6	20	3.2	5			RES
2006 04 17.95		S	9.3	AC	41.0	L	6	72	2.5	4			RES
2006 04 18.02		S	9.7	TK	40.7	L	4	116	2.2	3			BIV
2006 04 18.87		B	9.4	TJ	11.0	B		20	3	1			CHE03
2006 04 19.82		B	9.6	TJ	15.0	R	5	25	3	2			CHE03
2006 04 20.88		S	10.8	HS	34.0	L	4	120	0.5	6			SZA
2006 04 23.08		S	10.0	TI	11.4	L	5	50	3	1			SAN07
2006 04 23.10		S	10.8	TK	40.7	L	4	58	2	4			BIV
2006 04 24.99		S	11.3	HS	34.0	L	4	120	1	7			SZA
2006 04 25.03		S	10.5	TK	15	L	6	90	2.2	2			URB01
2006 04 25.96		S	10.3	AC	41.0	L	6	72	2.3	3			RES

Comet C/2006 A1 (Pojmanski) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 04 26.93		S	10.5	AC	41.0	L	6	72	2.5	3			RES
2006 04 29.14		S	11.4	TK	40.7	L	4	58	2	3			BIV
2006 04 30.75		S	11.1	TJ	40.0	L	4	144	1.4	1			YOS04
2006 05 02.75		S	11.7	HS	40.0	L	4	144	1.9	3			YOS04
2006 05 03.72		S	12.3	TJ	40.0	L	4	144	1.5	3			YOS04
2006 05 04.04		M	10.3	TT	10	B	4	25	2	3/			LEH
2006 05 04.71		S	11.9	HS	40.0	L	4	144	1.6	3			YOS04
2006 05 11.04		M	11.2	TT	42	L	5	81	1.5	3/			LEH
2006 05 13.06		M	11.4	TI	42	L	5	81	1.5	3			LEH
2006 05 19.01		S	11.9	TK	20.3	T	10	100	1.5	3			GON05
2006 05 25.99		S	12.2	TK	20.3	T	10	100	1.5	3			GON05
2006 05 31.96		S	13.0	HS	50.8	L	5	164	1.5	1			TOT03

Comet C/2006 L2 (McNaught)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 06 15.95		S	13.2:	HS	20	T	10	118	1				DES01
2006 06 15.96		S	13.0:	TK	20	T	10	118					SOU01
2006 06 16.01		S	13.4	HS	31	L	5	40	2	3			DES01
2006 06 16.01		S	13.4	TK	31	L	5	40	1	2			SOU01
2006 06 18.91		S	[12.5	HS	18	L	8	115					AMO01
2006 06 20.50		S	13.4	GA	25.4	L	4	114					SEA
2006 06 21.94		S	12.6	TK	20.3	T	10	133	1.0	4			GON05
2006 06 23.02		S	13.0:	AU	18	L	8	115					AMO01
2006 06 25.90		S	12.2	TA	23.5	T	10	94	1	3			LAB02
2006 07 21.44		S	13.6	GA	25.4	L	4	71	1				SEA
2006 07 29.91		M	11.3	TI	32	L	5	75	2.5	1/			MAR02

Comet C/2006 M4 (SWAN)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2006 07 20.35		S	9.6	GA	25.4	L	4	71	3				SEA

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Non-Visual Data (new format)

TABULATED NON-VISUAL DATA

The new format for non-visual data was introduced in the October 2001 issue of the *ICQ*, chiefly to help researchers make more sense of comet photometry obtained with CCD cameras, to determine what effects various instrumental factors play (spectral responses, exposure times, photometric aperture sizes, etc.). As described in that issue, almost all of the new information is added to the original observation records in columns 81-129, thereby leaving the first 80 columns essentially unchanged (except that in the "coma-diameter" column, true coma diameters are now given without exception in the new format; the old format allowed CCD users to put instead an aperture size in the "coma-diameter" column, but this is now allowed for in columns 87-93 of the new-format records). See also page 208 of the July 2002 issue.

Most of the columns below are as for the visual data (described on page 105 of this issue). While electronic magnitudes *can* be submitted to 0.01 magnitude, for many reasons it is highly advised to continue giving total comet magnitudes only to 0.1 mag. Similarly, it is advised to continue giving all times to 0.01 day, as 0.001 day is usually unnecessary for cometary photometry.

The headings for the tabulated data are as follows: The date (UT), notes, magnitude method (including filters for CCDs, and "P" for photographs), magnitude, reference, instrument aperture, instrument type, instrument *f*-ratio, exposure time, coma diameter, degree of condensation, tail length and position angle, and observer are all as described for the visual tabulation. The column headed "APERTUR" gives the photometric aperture, preceded by "S" for square aperture and "C" for circular aperture, and followed by "d" for degrees, "m" for arcmin, and "s" for arcsec. The column "Chp" contains the 3-character code for the computer chip, given to indicate spectral response of the CCD camera. This column will also be used to indicate photographic emulsion when such information is provided for photographic photometry. The column "Sfw" contains the 3-character code for the software used to actually perform the photometric

measures (not solely to extract comparison-star magnitudes). A lower-case "a" between these two columns indicates an anti-blooming CCD. The column headed "C" gives a number as follows: 0 = no correction; 1 = correction for bias (bias subtracted); 2 = flat-field corrected (flat-fielded); 3 = 1 + 2; 4 = dark-subtracted (and bias-subtracted) 5 = 2 + 4. The column headed "P" includes a P if the images used to measure the photometry were also measured for astrometry *and* those astrometric measures were published in the *Minor Planet Circulars* (meaning they were refereed); a U in this column indicates that the respective astrometric was sent to the MPC for publication but that either (a) they are unpublished at the time of reporting the photometry or (b) the observer is unaware of the publication status; a blank in this column indicates that no astrometry was measured. The 3-character CCD-camera code is listed under "Cam".

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Comet 41P/Tuttle-Giacobini-Kresak

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 20.83	d	k	[15.6	LB	14.5	L	8	a600					C 0.30m	K40	GAI	4	*	ST7	SRB
2006 04 25.45	a	xC	13.2	HV	35.0	C	10	a270	1.0	4			S 1.80m	KAIaSI4		5		ST2	TSU02
2006 04 25.50	x	C	14.2	GA	15.0	L	6	a240	0.6				C 0.3 m	K26	SI5	5		ST9	YOS02
2006 05 21.46	a	xC	12.5	HV	35.0	C	10	a600	1.0	5			S 1.50m	KAIaSI4		5		ST2	TSU02
2006 06 05.47	a	xC	12.3	HV	35.0	C	10	a720	0.8	5			S 1.51m	KAIaSI4		5		ST2	TSU02
2006 06 07.47	a	xC	12.2	HV	35.0	C	10	a360	0.8	5			S 1.29m	KAIaSI4		5		ST2	TSU02
2006 06 13.47	a	xC	12.1	HV	35.0	C	10	a270	0.8	5			S 1.74m	KAIaSI4		5		ST2	TSU02
2006 06 14.86	d	k	11.9	LB	14.5	L	8	a800	1.6				C 2.00m	K40	GAI	5	*	ST7	SRB
2006 06 14.86	d	k	11.9	LB	14.5	L	8	a800	1.6				C 1.60m	K40	GAI	5	*	ST7	SRB
2006 06 14.86	d	k	12.9	LB	14.5	L	8	a800	1.6				C 0.80m	K40	GAI	5	*	ST7	SRB
2006 06 14.86	d	k	13.3	LB	14.5	L	8	a800	1.6				C 0.60m	K40	GAI	5	*	ST7	SRB
2006 06 14.86	d	k	13.9	LB	14.5	L	8	a800	1.6				C 0.40m	K40	GAI	5	*	ST7	SRB
2006 06 14.86	d	k	15.0	LB	14.5	L	8	a800	1.6				C 0.20m	K40	GAI	5	*	ST7	SRB
2006 07 26.46	a	xC	13.0	HV	35.0	C	10	a720	1.2	3			S 2.06m	KAIaSI4		5		ST2	TSU02

Comet 71P/Clark

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.78	a	xC	13.6	HV	35.0	C	10	a720	0.4	5			S 0.55m	KAIaSI4		5		ST2	TSU02
2006 06 05.69	x	C	12.0	TJ	15.0	L	6	a180	0.8				C 0.8 m	K26	SI5	5		ST9	YOS02

Comet 73P/Schwassmann-Wachmann [component C, stated or presumed]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 08.86	d	C	7.9	LB	5.0	a	4	a900	6.5		>13	m232	C13.55m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	8.1	LB	5.0	a	4	a900	6.5		>13	m232	C 9.85m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	8.2	LB	5.0	a	4	a900	6.5		>13	m232	C 6.15m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	8.2	LB	5.0	a	4	a900	6.5		>13	m232	C 7.40m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	8.3	LB	5.0	a	4	a900	6.5		>13	m232	C 4.90m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	8.8	LB	5.0	a	4	a900	6.5		>13	m232	C 2.45m	K40	GAI	4	*	ST7	SRB
2006 04 08.86	d	C	9.6	LB	5.0	a	4	a900	6.5		>13	m232	C 1.25m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	8.9	LB	14.5	L	8	a400	> 3		>10	m221	C 3.25m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	8.9	LB	14.5	L	8	a400	> 3		>10	m221	C 4.45m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	9.4	LB	14.5	L	8	a400	> 3		>10	m221	C 1.60m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	9.7	LB	14.5	L	8	a400	> 3		>10	m221	C 0.80m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	10.4	LB	14.5	L	8	a400	> 3		>10	m221	C 0.40m	K40	GAI	4	*	ST7	SRB
2006 04 20.91	d	k	11.4	LB	14.5	L	8	a400	> 3		>10	m221	C 0.20m	K40	GAI	4	*	ST7	SRB
2006 04 21.64	x	C	8.3	TJ	3.6	A	6	a 60	5.3		5	m220	S 6.0 m	K16	SI3	4		MCV	NAG08
2006 04 25.59	x	C	8.1	TJ	3.6	A	6	a 45	6.0		7	m225	S 8.7 m	K16	SI3	4		MCV	NAG08
2006 04 25.61	a	xC	7.6	GA	15.0	L	6	a240	6.9		16	m230	C 6.9 m	K26	SI5	5		ST9	YOS02
2006 04 25.69	a	xC	7.6	HV	10.0	R	4	a120	5.8	6	25	m226	S10.49m	KAIaSI4		5		ST2	TSU02
2006 04 30.90		C	8.8	UO	15.0	L	5	a120	0.65		10	m220	C 0.65m	T25	A32	4		PIX	SHU
2006 05 03.90		C	8.9	UO	15.0	L	5	a150	0.61		8	m235	C 0.61m	T25	A32	4		PIX	SHU
2006 05 04.93		C	8.6	UO	15.0	L	5	a180	1.3		220	C	1.30m	T25	A32	4		PIX	SHU
2006 05 11.93		C	8.8	UO	15.0	L	5	a 90	0.60		3	m255	C 0.60m	T25	A32	4		PIX	SHU
2006 05 11.95	d	k	7.0	LB	14.5	L	8	a500	> 7		>12	m249	C 8.70m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	7.1	LB	14.5	L	8	a500	> 7		>12	m249	C 6.50m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	7.4	LB	14.5	L	8	a500	> 7		>12	m249	C 3.25m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	8.0	LB	14.5	L	8	a500	> 7		>12	m249	C 1.60m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	8.8	LB	14.5	L	8	a500	> 7		>12	m249	C 0.80m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	9.6	LB	14.5	L	8	a500	> 7		>12	m249	C 0.40m	K40	GAI	5	*	ST7	SRB
2006 05 11.95	d	k	10.6	LB	14.5	L	8	a500	> 7		>12	m249	C 0.20m	K40	GAI	5	*	ST7	SRB
2006 05 15.97		C	8.7	UO	15.0	L	5	a 90	0.64		3.5	m245	C 0.64m	T25	A32	4		PIX	SHU
2006 05 17.97		C	9.7	UO	15.0	L	5	a 50	0.57		4.5	m245	C 0.57m	T25	A32	4		PIX	SHU

Comet 73P/Schwassmann-Wachmann [component C] (cont.)

DATE (UT)	n	M	MAG.	RF	AP. T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 05 20.77	x	C	6.6	TJ	5.4A	6	a 30	9.5		25	m250	S13.5 m	K16	SI3	5		MCV	NAG08
2006 05 20.79	ax	C	6.9	HV	10.0R	4	a 60	5	6	21	m250	S 9.41m	KAIaSI4		5		ST2	TSU02

Comet 73P/Schwassmann-Wachmann [component B]

DATE (UT)	n	M	MAG.	RF	AP. T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 08.83	d	C	7.6	LB	5.0a	4	a900	4.5		> 7	m211	C14.75m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	7.8	LB	5.0a	4	a900	4.5		> 7	m211	C 9.85m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	7.9	LB	5.0a	4	a900	4.5		> 7	m211	C 7.40m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	8.0	LB	5.0a	4	a900	4.5		> 7	m211	C 6.15m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	8.2	LB	5.0a	4	a900	4.5		> 7	m211	C 4.90m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	8.7	LB	5.0a	4	a900	4.5		> 7	m211	C 2.45m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	9.4	LB	5.0a	4	a900	4.5		> 7	m211	C 1.25m	K40	GAI	4*		ST7	SRB
2006 04 20.86	d	k	11.3	LB	14.5L	8	a600	> 2		>10	m224	C 3.25m	K40	GAI	4*		ST7	SRB
2006 04 20.86	d	k	11.4	LB	14.5L	8	a600	> 2		>10	m224	C 1.60m	K40	GAI	4*		ST7	SRB
2006 04 20.86	d	k	11.8	LB	14.5L	8	a600	> 2		>10	m224	C 0.80m	K40	GAI	4*		ST7	SRB
2006 04 20.86	d	k	12.8	LB	14.5L	8	a600	> 2		>10	m224	C 0.40m	K40	GAI	4*		ST7	SRB
2006 04 20.86	d	k	14.1	LB	14.5L	8	a600	> 2		>10	m224	C 0.20m	K40	GAI	4*		ST7	SRB
2006 04 25.56	x	C	9.7	TJ	3.6A	6	a 45	2.4				S 4.0 m	K16	SI3	4		MCV	NAG08
2006 04 25.57	x	C	8.7	GA	15.0L	6	a240	6.1		17	m224	C 6.1 m	K26	SI5	5		ST9	YOS02
2006 04 25.71	ax	C	9.0	HV	10.0R	4	a120	8.0	5	26	m226	S 9.12m	KAIaSI4		5		ST2	TSU02
2006 04 30.58	ax	C	8.6	HV	35.0C	10	a 60	2.8	5	> 5	m213	S 6.34m	KAIaSI4		5		ST2	TSU02
2006 04 30.97		C	9.2	UO	15.0L	5	a240	0.72		3	m220	C 0.72m	T25	A32	4		PIX	SHU
2006 05 03.55	x	C	8.1	TJ	3.6A	6	a 45	3.8				S 7.7 m	K16	SI3	5		MCV	NAG08
2006 05 03.97		C	9.6	UO	15.0L	5	a180	0.75		3	m235	C 0.75m	T25	A32	4		PIX	SHU
2006 05 04.94		C	9.2	UO	15.0L	5	a240	0.66		5	m210	C 0.66m	T25	A32	4		PIX	SHU
2006 05 10.86	d	k	5.7	LB	14.5L	8	a600	>11		>17	m234	C 6.50m	K40	GAI	5*		ST7	SRB
2006 05 10.86	d	k	6.3	LB	14.5L	8	a600	>11		>17	m234	C 3.25m	K40	GAI	5*		ST7	SRB
2006 05 10.86	d	k	6.7	LB	14.5L	8	a600	>11		>17	m234	C 1.60m	K40	GAI	5*		ST7	SRB
2006 05 10.86	d	k	7.5	LB	14.5L	8	a600	>11		>17	m234	C 0.80m	K40	GAI	5*		ST7	SRB
2006 05 10.86	d	k	8.4	LB	14.5L	8	a600	>11		>17	m234	C 0.40m	K40	GAI	5*		ST7	SRB
2006 05 10.86	d	k	9.5	LB	14.5L	8	a600	>11		>17	m234	C 0.20m	K40	GAI	5*		ST7	SRB
2006 05 11.83		C	8.0	UO	15.0L	5	a 60	0.71		4	m247	C 0.71m	T25	A32	4		PIX	SHU
2006 05 11.86	d	k	4.9	LB	6.3M	8	a450	>10		>12	m242	C15.80m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	6.1	LB	6.3M	8	a450	>10		>12	m242	C11.85m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	6.3	LB	6.3M	8	a450	>10		>12	m242	C 7.90m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	6.8	LB	6.3M	8	a450	>10		>12	m242	C 3.95m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	7.3	LB	6.3M	8	a450	>10		>12	m242	C 2.00m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	8.1	LB	6.3M	8	a450	>10		>12	m242	C 1.00m	K40	GAI	5*		ST7	SRB
2006 05 11.86	d	k	9.1	LB	6.3M	8	a450	>10		>12	m242	C 0.50m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	6.1	LB	14.5L	8	a500	>10		>12	m244	C 9.75m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	6.4	LB	14.5L	8	a500	>10		>12	m244	C 6.50m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	7.1	LB	14.5L	8	a500	>10		>12	m244	C 3.25m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	7.8	LB	14.5L	8	a500	>10		>12	m244	C 1.60m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	8.4	LB	14.5L	8	a500	>10		>12	m244	C 0.80m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	9.2	LB	14.5L	8	a500	>10		>12	m244	C 0.40m	K40	GAI	5*		ST7	SRB
2006 05 11.91	d	k	10.1	LB	14.5L	8	a500	>10		>12	m244	C 0.20m	K40	GAI	5*		ST7	SRB
2006 05 15.92		C	8.9	UO	15.0L	5	a 60	1.3		4	m260	C 1.30m	T25	A32	4		PIX	SHU
2006 05 17.96		C	10.4	UO	15.0L	5	a 60	0.70		4	m250	C 0.70m	T25	A32	4		PIX	SHU
2006 05 20.75	x	C	7.0	TJ	5.4A	6	a 20	6.6		25	m255	S12.4 m	K16	SI3	5		MCV	NAG08
2006 05 20.77	ax	C	6.4	HV	10.0R	4	a120	4.2	5	36	m255	S24.23m	KAIaSI4		5		ST2	TSU02

Comet 73P/Schwassmann-Wachmann [component G]

DATE (UT)	n	M	MAG.	RF	AP. T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 08.83	d	C	10.9	LB	5.0a	4	a900	2.5				C 4.90m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	11.1	LB	5.0a	4	a900	2.5				C 3.70m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	11.6	LB	5.0a	4	a900	2.5				C 2.45m	K40	GAI	4*		ST7	SRB
2006 04 08.83	d	C	12.3	LB	5.0a	4	a900	2.5				C 1.25m	K40	GAI	4*		ST7	SRB
2006 04 20.88	d	k	12.1	LB	14.5L	8	a600	> 1		> 2	m229	C 2.45m	K40	GAI	4*		ST7	SRB
2006 04 20.88	d	k	12.4	LB	14.5L	8	a600	> 1		> 2	m229	C 0.80m	K40	GAI	4*		ST7	SRB
2006 04 20.88	d	k	14.5	LB	14.5L	8	a600	> 1		> 2	m229	C 0.40m	K40	GAI	4*		ST7	SRB
2006 04 20.88	d	k	15.7	LB	14.5L	8	a600	> 1		> 2	m229	C 0.20m	K40	GAI	4*		ST7	SRB
2006 04 25.56	x	C	12.8:TJ		3.6A	6	a 45	1.5				S 2.5 m	K16	SI3	4		MCV	NAG08
2006 04 25.60	ax	C	14.7	HV	35.0C	10	a180	0.7	3	2.5	m235	S 1.29m	KAIaSI4		5		ST2	TSU02

Comet 73P/Schwassmann-Wachmann [component G] (cont.)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.66	x	C	13.0	GA	15.0L	6	a240		1.3		8	m218	S 1.3 m	K26	SI5	5		ST9	YOS02
2006 04 25.71	ax	C	12.5	HV	10.0R	4	a120		1.0	3	4.7m	233	S 4.04m	KAIa	SI4	5		ST2	TSU02
2006 04 30.64	ax	C	13.9	HV	35.0C	10	a600		0.5	3	2.0m	212	S 1.26m	KAIa	SI4	5		ST2	TSU02
2006 05 11.88	d	k[	13.2	LB	6.3M	8	a450						C 1.00m	K40	GAI	5*		ST7	SRB
2006 05 11.97	d	k[	16.5	LB	14.5L	8	a500						C 0.40m	K40	GAI	5*		ST7	SRB

Comet 73P/Schwassmann-Wachmann [component J]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 05 11.92		C	15.9	UO	15.0L	5	a360		0.14				C 0.14m	T25	A32	4		PIX	SHU

Comet 73P/Schwassmann-Wachmann [component R]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 08.83	d	C[	13.0	LB	5.0a	4	a900						C 2.45m	K40	GAI	4*		ST7	SRB
2006 04 20.90	d	k[	16.0	LB	14.5L	8	a600						C 0.40m	K40	GAI	4*		ST7	SRB
2006 04 25.58	ax	C	17.4	HV	35.0C	10	a720		0.4				S 0.70m	KAIa	SI4	5		ST2	TSU02
2006 04 25.74	ax	C	16.8	HV	10.0R	4	A320						S 1.02m	KAIa	SI4	5		ST2	TSU02
2006 04 30.60	ax	C	14.1	HV	35.0C	10	A200		0.4	4	1.5m	203	S 1.26m	KAIa	SI4	5		ST2	TSU02
2006 05 04.97		C	15.1	UO	15.0L	5	a420		0.26		1.5m	225	C 0.26m	T25	A32	4		PIX	SHU
2006 05 11.98	d	k[	16.1	LB	14.5L	8	a500						C 0.40m	K40	GAI	5*		ST7	SRB

Comet 174P/Echeclus

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.52	ax	C	15.0	HV	35.0C	10	B280		0.5	3			S 1.35m	KAIa	SI4	5		ST2	TSU02
2006 04 28.68	x	C	16.7	HV	25.0L	5	a240		0.5				S 0.5 m	K42	SI5	5	P	SE7	OHS

Comet 177P/Barnard

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 07 12.46	ax	C	13.4	HV	35.0C	10	a180		1.0	5			S 1.54m	KAIa	SI4	5		ST2	TSU02
2006 07 15.54	x	C	12.7	TJ	15.0L	6	a120		1.8				C 1.8 m	K26	SI5	5		ST9	YOS02
2006 07 26.53	ax	C	12.2	HV	35.0C	10	a120		2.0	5			S 2.93m	KAIa	SI4	5		ST2	TSU02

Comet C/2002 VQ_94 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 28.75	x	C	16.6	HV	25.0L	5	a240		0.4		0.5m	66	S 0.4 m	K42	SI5	5	U	SE7	OHS
2006 05 15.87		C	17.2	HS	60.0C	13	a300	+	0.3	6	0.6 m	60	C 9.67s	K10	MIm	5	U	ST1	BOR04
2006 06 13.55	ax	C	17.2	HV	35.0C	10	a720		0.2	5			S 0.54m	KAIa	SI4	5		ST2	TSU02

Comet C/2003 WT_42 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 05 13.89		C	15.3	HS	60.0C	13	a900		0.5	4	2.92m	285	C12.89s	K10	MIm	5	U	ST1	BOR04
2006 05 15.80		C	15.4	HS	60.0C	13	a150		0.5	4	1.24m	290	C12.89s	K10	MIm	5	U	ST1	BOR04
2006 05 17.87		C	15.0	UO	15.0L	5	a240		0.18	3/			C 0.18m	T25	A32	4		PIX	SHU
2006 06 14.88	d	k	15.4	LB	14.5L	8	a800		0.7				C 0.60m	K40	GAI	5*		ST7	SRB
2006 06 14.88	d	k	15.5	LB	14.5L	8	a800		0.7				C 0.40m	K40	GAI	5*		ST7	SRB
2006 06 14.88	d	k	15.8	LB	14.5L	8	a800		0.7				C 0.30m	K40	GAI	5*		ST7	SRB
2006 06 14.88	d	k	16.3	LB	14.5L	8	a800		0.7				C 0.20m	K40	GAI	5*		ST7	SRB
2006 06 21.91		C	15.5	UO	19.0L	5	a300		0.18	4			C 0.18m	T25	A32	4		PIX	SHU

Comet C/2004 B1 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.73	x	C	13.0	GA	15.0L	6	a240		1.0		1.6m	175	S 1.0 m	K26	SI5	5		ST9	YOS02
2006 05 11.79	ax	C	12.8	HV	35.0C	10	a 90		0.9	5			S 1.85m	KAIa	SI4	5		ST2	TSU02
2006 06 05.60	x	C	12.9	GA	15.0L	6	a240		0.7		2.0m	170	C 0.7 m	K26	SI5	5		ST9	YOS02
2006 06 13.59	ax	C	13.4	HV	35.0C	10	a180		0.6	5			S 1.61m	KAIa	SI4	5		ST2	TSU02
2006 06 13.91	d	k	13.8	LB	14.5L	8	a800		1.1				C 1.60m	K40	GAI	5*		ST7	SRB
2006 06 13.91	d	k	13.9	LB	14.5L	8	a800		1.1				C 1.00m	K40	GAI	5*		ST7	SRB
2006 06 13.91	d	k	14.0	LB	14.5L	8	a800		1.1				C 0.80m	K40	GAI	5*		ST7	SRB
2006 06 13.91	d	k	14.2	LB	14.5L	8	a800		1.1				C 0.60m	K40	GAI	5*		ST7	SRB

Comet C/2004 B1 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 06 13.91	d	k	14.5	LB	14.5L		8	a800	1.1				C 0.40m	K40	GAI	5*		ST7	SRB
2006 06 13.91	d	k	15.4	LB	14.5L		8	a800	1.1				C 0.20m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	13.0	LB	14.5L		8	a800	1.1				C 1.60m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	13.3	LB	14.5L		8	a800	1.1				C 1.10m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	13.6	LB	14.5L		8	a800	1.1				C 0.80m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	13.9	LB	14.5L		8	a800	1.1				C 0.60m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	14.3	LB	14.5L		8	a800	1.1				C 0.40m	K40	GAI	5*		ST7	SRB
2006 06 14.91	d	k	15.2	LB	14.5L		8	a800	1.1				C 0.20m	K40	GAI	5*		ST7	SRB
2006 07 26.50	ax	C	14.7	HV	35.0C		10	a180	0.4	5	0.8m	120	S 0.97m	KAIa	SI4	5		ST2	TSU02

Comet C/2004 D1 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.52	ax	C	16.2	GA	15.0L		6	a300	0.4				S 0.4 m	K26	SI5	5		ST9	YOS02
2006 05 15.84		C	16.7	HS	60.0C		13	a300	+ 0.4	5	1.56m	280	C12.89s	K10	MIm	5	U	ST1	BOR04

Comet C/2004 Q2 (Machholz)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 06 05.63	x	C	16.3	GA	15.0L		6	a900	0.4				C 0.4 m	K26	SI5	5		ST9	YOS02

Comet C/2005 A1 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2005 08 28.88	d	k	12.2	LA	35	L	5	a760	2.4		> 8.5m	190	C 2.40m	T24	GAI	5*	P	ST6	HOR02
2005 08 28.88	d	k	12.7	LA	35	L	5	a760	2.4		> 8.5m	190	C 1.50m	T24	GAI	5*	P	ST6	HOR02
2005 08 28.88	d	k	13.0	LA	35	L	5	a760	2.4		> 8.5m	190	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2005 08 30.90	d	k	12.6	LA	35	L	5	a800	2.0		>11.5m	189	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2005 08 30.90	d	k	12.8	LA	35	L	5	a800	2.0		>11.5m	189	C 1.50m	T24	GAI	5*	P	ST6	HOR02
2005 08 30.90	d	k	13.0	LA	35	L	5	a800	2.0		>11.5m	189	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2005 09 06.89	d	C	13.2	LB	6.3M		8	a900	2.4		> 5	m178	C 2.45m	K40	GAI	5*		ST7	SRB
2005 09 06.89	d	C	13.8	LB	6.3M		8	a900	2.4		> 5	m178	C 1.00m	K40	GAI	5*		ST7	SRB
2005 09 06.89	d	C	13.8	LB	6.3M		8	a900	2.4		> 5	m178	C 2.00m	K40	GAI	5*		ST7	SRB
2005 09 06.89	d	C	14.5	LB	6.3M		8	a900	2.4		> 5	m178	C 0.50m	K40	GAI	5*		ST7	SRB
2005 09 08.88	d	C	12.9	LB	6.3M		8	a900	1.8		> 6	m183	C 2.95m	K40	GAI	5*		ST7	SRB
2005 09 08.88	d	C	13.1	LB	6.3M		8	a900	1.8		> 6	m183	C 2.00m	K40	GAI	5*		ST7	SRB
2005 09 08.88	d	C	13.6	LB	6.3M		8	a900	1.8		> 6	m183	C 1.00m	K40	GAI	5*		ST7	SRB
2005 09 08.88	d	C	14.3	LB	6.3M		8	a900	1.8		> 6	m183	C 0.50m	K40	GAI	5*		ST7	SRB
2005 09 08.92	d	k	12.6	LA	35	L	5	a480	1.4		>10	m181	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2005 09 08.92	d	k	13.0	LA	35	L	5	a480	1.4		>10	m181	C 1.40m	T24	GAI	5*	P	ST6	HOR02
2005 09 08.92	d	k	13.3	LA	35	L	5	a480	1.4		>10	m181	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2005 09 23.84	d	k	13.0	LA	35	L	5	a520	1.3		>10	m170	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2005 09 23.84	d	k	13.3	LA	35	L	5	a520	1.3		>10	m170	C 1.30m	T24	GAI	5*	P	ST6	HOR02
2005 09 23.84	d	k	13.6	LA	35	L	5	a520	1.3		>10	m170	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2005 09 25.77	d	k	13.2	LA	35	L	5	a600	1.8		>11	m171	C 1.80m	T24	GAI	5*	P	ST6	HOR02
2005 09 25.77	d	k	13.7	LA	35	L	5	a600	1.8		>11	m171	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2005 10 10.82	d	C	14.3	LB	6.3M		8	a900	0.8		> 5.5m	146	C 2.00m	K40	GAI	5*		ST7	SRB
2005 10 10.82	d	C	14.8	LB	6.3M		8	a900	0.8		> 5.5m	146	C 1.50m	K40	GAI	5*		ST7	SRB
2005 10 10.82	d	C	15.0	LB	6.3M		8	a900	0.8		> 5.5m	146	C 0.75m	K40	GAI	5*		ST7	SRB
2005 10 10.82	d	C	15.2	LB	6.3M		8	a900	0.8		> 5.5m	146	C 0.50m	K40	GAI	5*		ST7	SRB
2005 10 11.81	d	C	14.1	LB	6.3M		8	a900	0.8		> 4	m155	C 1.50m	K40	GAI	5*		ST7	SRB
2005 10 11.81	d	C	14.3	LB	6.3M		8	a900	0.8		> 4	m155	C 1.00m	K40	GAI	5*		ST7	SRB
2005 10 11.81	d	C	14.7	LB	6.3M		8	a900	0.8		> 4	m155	C 0.75m	K40	GAI	5*		ST7	SRB
2005 10 11.81	d	C	15.1	LB	6.3M		8	a900	0.8		> 4	m155	C 0.50m	K40	GAI	5*		ST7	SRB
2005 10 19.78	d	C	14.8	LB	6.3M		8	a900	0.9		> 1	m135	C 1.00m	K40	GAI	5*		ST7	SRB
2005 10 19.78	d	C	14.9	LB	6.3M		8	a900	0.9		> 1	m135	C 0.75m	K40	GAI	5*		ST7	SRB
2005 10 19.78	d	C	15.1	LB	6.3M		8	a900	0.9		> 1	m135	C 0.50m	K40	GAI	5*		ST7	SRB
2005 10 27.78	d	k	15.3	LA	35	L	5	a440	0.8		4.0m	136	C 0.80m	T24	GAI	5*	P	ST6	HOR02
2005 10 27.80	d	C	15.4	LB	6.3M		8	a900	0.8				C 1.00m	K40	GAI	5*		ST7	SRB
2005 10 27.80	d	C	15.8	LB	6.3M		8	a900	0.8				C 0.75m	K40	GAI	5*		ST7	SRB
2005 10 27.80	d	C	16.1	LB	6.3M		8	a900	0.8				C 0.50m	K40	GAI	5*		ST7	SRB

Comet C/2005 B1 (Christensen)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 05 17.95		C	15.7	UO	15.0L		5	a480	0.33				C 0.33m	T25	A32	4		PIX	SHU

Comet P/2005 XA_54 (LONEOS-Hill)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 05 21.55	ax	C	18.6	HV	35.0C		10	a720	0.2				S 0.68m	KAIaSI4		5		ST2	TSU02

Comet C/2006 A1 (Pojmanski)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 04 25.76	x	C	13.2	GA	15.0L		6	a240	1.0		8 m330		S 1.0 m	K26	SI5	5		ST9	YOS02
2006 04 25.80	ax	C	12.1	HV	35.0C		10	a120	1.0	4	> 6.0m327		S 1.33m	KAIaSI4		5		ST2	TSU02
2006 05 17.90		C	14.9	UO	15.0L		5	a300	0.32	3/			C 0.32m	T25	A32	4		PIX	SHU
2006 06 14.01	d	k[	16.3	LB	14.5L		8	a800					C 0.40m	K40	GAI	5*		ST7	SRB

Comet C/2006 K4 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 06 13.97	d	k[	17.0	LB	14.5L		8	a800					C 0.40m	K40	GAI	5*		ST7	SRB

Comet C/2006 L2 (McNaught)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2006 07 15.50	x	C	14.1	TJ	15.0L		6	a240	0.7		0.5m180		C 0.7 m	K26	SI5	5		ST9	YOS02
2006 07 26.47	ax	C	14.2	HV	35.0C		10	a360	0.4	5			S 1.17m	KAIaSI4		5		ST2	TSU02

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DESIGNATIONS OF RECENT COMETS

Listed below, for handy reference, are the last 20 comets (non-spacecraft) to have been given designations. The name, preceded by a star (⋆) if the comet was a new discovery (compared to a recovery from predictions of a previously-known short-period comet) or a # if a re-discovery of a 'lost' comet. Also tabulated below are such values as the orbital period (in years) for periodic comets, date of perihelion, T (month/date/year), and the perihelion distance (q, in AU). Four-digit numbers in the last column indicate the *IAU Circular* (4-digit number) containing the discovery/recovery or permanent-number announcement. (Additional explanatory information is given for the list in the Apr. 2005 issue, p. 137.) [Update of list in the Apr. 2006 issue, p. 90].

	New-Style Designation	*P*	*T*	*q*	*IAUC*
⋆	P/2006 H1 (McNaught)	13.6	5/7/06	2.38	8706
⋆	C/2006 K1 (McNaught)		7/20/07	4.43	8712
⋆	P/2006 K2 (McNaught)	7.10	6/27/06	2.09	8714
⋆	C/2006 K3 (McNaught)		3/13/07	2.50	8715
⋆	C/2006 HW_{51} (Siding Spring)		9/29/06	2.27	8718
⋆	C/2006 L1 (Garradd)		10/18/06	1.46	8719
⋆	C/2006 L2 (McNaught)		11/20/06	1.99	8721
⋆	C/2006 M1 (LINEAR)		2/13/07	3.56	8724
⋆	C/2006 M2 (Spacewatch)		11/20/05	5.21	8725
#	177P/2006 M3 (Barnard)	120	8/28/06	1.11	8726
⋆	C/2006 M4 (SWAN)		9/28/06	0.78	8729
⋆	178P/2006 O1 (Hug-Bell)	7.06	7/6/06	1.95	8730
⋆	C/2006 O2 (Garradd)		10/5/06	1.55	8734
⋆	P/2006 HR_{30} (Siding Spring)	21.9	1/2/07	1.23	8735
⋆	C/2006 P1 (McNaught)		1/12/07	0.17	8737
⋆	C/2006 Q1 (McNaught)		7/3/08	2.76	8742
⋆	P/2006 Q2 (LONEOS)	5.96	9/2/06	1.34	8743
⋆	P/2006 R1 (Siding Spring)	13.3	9/3/06	1.67	8744
⋆	P/2006 R2 (Christensen)	8.51	6/15/06	3.04	8748
⋆	P/2006 S1 (Christensen)	6.54	8/30/06	1.36	8749