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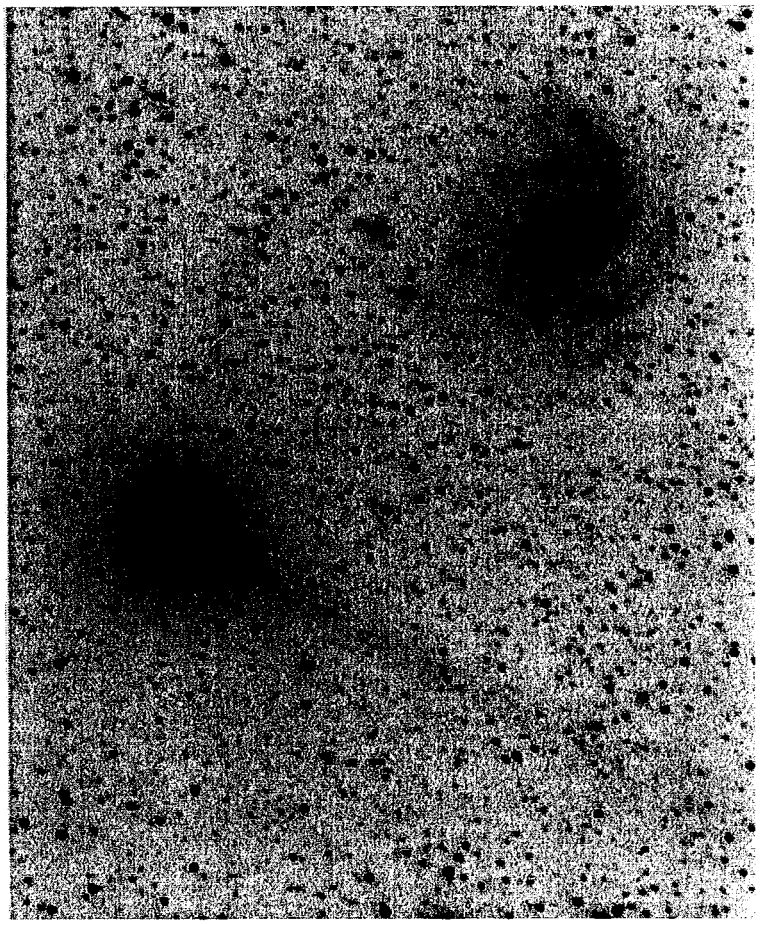

CCD image of comet C/2002 Y1 taken on 2003 Feb. 25.77 UT by Gerald Rhemann and Michael Jäger. NGC 6946 (upper right corner) is located to the northeast of the comet.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY
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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 (even-numbered years); the *ICQ* is also indexed in *Astronomy and Astrophysics Abstracts* and in *Science Abstracts Section A*.

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Cometary observations should be sent to the Editor in Cambridge; all data intended for publication in the *ICQ* that is not sent via computer electronic mail should be sent on standard *ICQ* observation report forms, which can be obtained upon request from the Editor. Those who can send observational data (or manuscripts) in machine-readable form are encouraged to do so [especially through e-mail to ICQ@CFA.HARVARD.EDU], and should contact the Editor for further information. 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. 126 of the publication originally called *The Comet* (founded March 1973) and is Vol. 25, No. 2, of the *ICQ*. *[ISSN 0736-6922]*

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CORRIGENDA

• In the January 2003 issue, page 26, the comparison-star reference for the four tabulated observations of C/2002 Y1 by MIYO1 on Jan. 28.85, 29.79, 30.77, and 31.75 UT (*not* for his earlier observations on the same page) was incorrect: *for* HS *read* TJ.

Special ICQ Observing Project

During June 2003-February 2004, the *ICQ* is organizing a project to intensely observe about a dozen comets. The project is aimed at CCD photometry, in which roughly a week is chosen around new moon each month during which all interested observers are asked to observe the specific comets every possible night using a variety of photometric-aperture sizes, exposure times, instruments, and (if possible) filters. These data should be reported in the full 129-column format for CCD data for publication in the *ICQ* and archiving, the intention being to collect a large amount of data so that important information can be learned about the comets' varying brightness and the contribution of biases by the use of different CCD methods and procedures; when comets are bright enough, visual photometry is also encouraged. The first observing period was 2003 June 27-July 1, during which observers were asked (at the *ICQ* website) to observe comets 29P, 43P, and 104P on every clear night. The additional observing periods and comets are as follows:

	2003		Observing Period				2004	
Comet	July 26-Aug. 1	Aug. 24-30	Sept. 22-28	Oct. 23-28	Nov. 20-25	Dec. 20-26	Jan. 17-25	Feb. 16-24
2001 HT50			x	x	x	x	x	x
2002 R3	x	x	x	x	x			
2002 T7		x	x	x	x	x	x	
2002 X1		x	x	x	x	x	x	
2P	x	x	x	x	x	x		
22P	x	x	x	x	x	x		
28P			x	x	x	x	x	x
29P	x	x	x	x	x	x		
43P	x	x	x	x	x	x	x	
104P	x	x	x	x	x	x		
123P					x	x	x	x

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IWCA III in Paris (2004 June 4-5)

In addition to more limited information at the *ICQ* website, IWCA III co-organizer Nicolas Biver has set up a website for this meeting at `http://wwwusr.obspm.fr/biver/IWCAIII/`. First formally announced in the October 2002 *ICQ*, the Workshop will be held on Friday and Saturday, 2004 June 4 and 5. Quite a good program is planned, with some emphasis on panel discussions, broken into various topics concerning the useful collaboration between amateur and professional astronomers in obtaining comet data.

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Tabulation of Comet Observations

A new tabulation code has been assigned for computer software used for photometric reduction of CCD images: `SI4` = `StellaImage 4`.

Most observations contributed recently on paper are being held off until the July issue, to speed up publication of this issue.

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 29P/Schwassmann-Wachmann* ⟹ 2002 Nov. 4.51: "fresh outburst?" [MAT08].

◇ *Comet 30P/Reinmuth* ⟹ 2003 Feb. 9.55, Mar. 9.46, and Apr. 6.54: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 13.81, 26.68, 27.62, 28.62, Mar. 4.78, 9.78, 10.75, and 12.74: Guide 7.0 software used for comp.-star mags [MIY01]. Feb. 26.88: limiting mag ~ 16 (81×); second confirming detection made at Feb. 27.00 [LEH]. Mar. 7.79: GUIDE 6.0 software used for comp.-star mags [NAG08]. Mar. 9.46 and Apr. 6.54: w/ infrared-block filter [TSU02]. Mar. 9.66: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 22.93: "comet in same field with bright galaxies NGC 3605, 3607, and 3608 (comet clearly the fainter object)" [BOU]. Mar. 23.82: ephemeris from Minor Planet Center WWW ephemeris service, checked w/ Digitized Sky Survey; limiting stellar mag 15.5 [HAS02]. Mar. 24.87: limiting mag ~ 16 (162×); second confirming detection made at Mar. 24.91 [LEH]. Apr. 4.88: obs. during a power outage due to a storm, giving dark skies [KAR02]. Apr. 8.91: limiting stellar mag ~ 16.0; comet easily seen [HOR02].

◇ *Comet 53P/Van Biesbroeck* ⟹ 2003 Mar. 12.77: GUIDE 8.0 software used for comp.-star mags [OHS].

◇ *Comet 65P/Gunn* ⟹ 2003 Apr. 6.81: GUIDE 8.0 software used for comp.-star mags [NAK01].

◇ *Comet 67P/Churyumov-Gerasimenko* ⟹ 2003 Feb. 2.17: fan-shaped coma [HOR02]. Feb. 6.79: 0′.5 anti-tail in p.a. 128° [NAK01]. Feb. 9.57, Mar. 9.51, and 29.53: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 23.83: anti-tail 1′.0 long in p.a. 116°; fan-shaped coma [HOR02]. Feb. 25.82: anti-tail 1′.0 long in p.a. 124°; fan-shaped coma [HOR02]. Feb. 26.82: anti-tail 0′.8 long in p.a. 125°; fan-shaped coma [HOR02]. Mar. 9.68: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 23.01: fan-shaped coma [HOR02]. Mar. 24.01: anti-tail 1′.0 long in p.a. 126°; fan-shaped coma [HOR02]. Apr. 8.97: anti-tail 0′.9 long in p.a. 121° [HOR02].

◇ *Comet 81P/Wild* ⟹ 1997 Jan. 12.51 and 13.53: comet easily visible; strong starlike cond. of mag ~ 13, with a fainter outer coma having a possible hint of elongation to the NW [CAM03]. 2003 Feb. 3.52 and 28.47: GUIDE 8.0 software used for comp.-star mags [OHS]. Feb. 14.82 and Apr. 13.82: moonlight [HOR02]. Feb. 23.85: elongated coma in p.a. 255° [HOR02]. Feb. 25.79: elongated coma in p.a. 70° and 255° [HOR02]. Mar. 11.45, 20.49, and 29.46: GUIDE 8.0 software used for comp.-star mags [TSU02]. Mar. 20.49: w/ infrared-block filter [TSU02]. Mar. 22.86: "small, faint object with some cond.; Digitized Sky Survey shows nothing stellar or nebular near calculated position" [BOU]. Mar. 24.81: limiting mag ~ 15.5 (162×); second confirming detection made at Mar. 24.83 [LEH].

◇ *Comet 116P/Wild* ⟹ 2003 Mar. 10.72 and Apr. 6.70: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 10.78: Guide 7.0 software used for comp.-star mags [MIY01]. Apr. 5.68: GUIDE 8.0 software used for comp.-star mags [YOS02].

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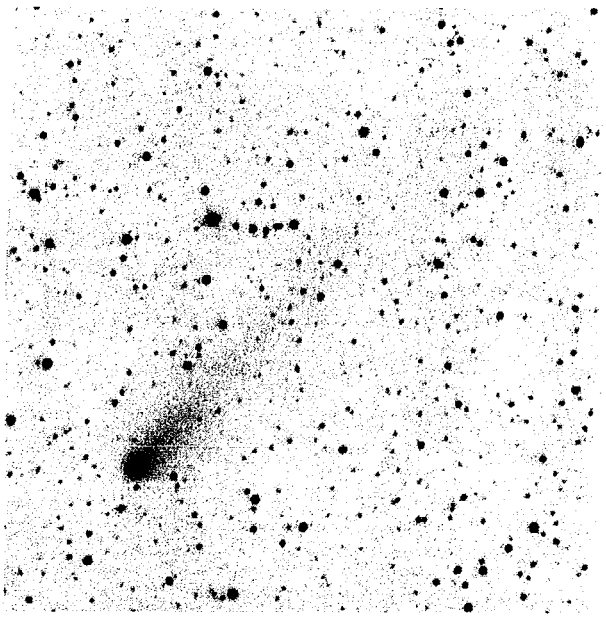

CCD image of comet 116P/Wild taken on 2003 Mar. 3.94 UT by Gerald Rhemann and Michael Jäger (near Vienna) with a 35.6-cm f/3.3 telescope; from two 3-min exposures.

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◇ *Comet 141P/Machholz* ⟹ 1999 Nov. 12.44: "comet very hard to observe due to the 5-day-old moon close by; mag estimate was difficult to make" [CAM03].

◇ *Comet 154P/Brewington* ⟹ 2003 Feb. 3.42: GUIDE 8.0 software used for comp.-star mags [NAK01]. Feb. 3.44, 12.41, and 28.42: GUIDE 8.0 software used for comp.-star mags [OHS]. Feb. 12.41 and Mar. 20.42: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 14.74: moonlight [HOR02]. Mar. 20.42: w/ infrared-block filter [TSU02]. Mar. 21.79 and 22.79: low alt. [HOR02]. Mar. 22.82: very faint and diffuse object; obs. at alt. 15°.5, w/ some interference from twilight and zodiacal light [BOU].

◇ *Comet 155P/Shoemaker* ⟹ 2003 Feb. 9.53, 28.54, and Mar. 29.51: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 22.86: close to ϵ Leo [HOR02]. Feb. 26.83: limiting mag ~ 16 (81×); second confirming detection made at Feb. 26.96 [LEH]. Feb. 28.54 and Mar. 29.51: w/ infrared-block filter [TSU02]. Feb. 28.57 and Mar. 12.71: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 22.92: "very faint, diffuse object; Digitized Sky Survey shows nothing stellar or nebular near calculated position" [BOU]. Mar. 23.94: close to star [HOR02]. Apr. 4.86: close to galaxy of mag R ~ 15.5 [HOR02].

◇ *Comet C/1995 O1 (Hale-Bopp)* ⟹ 1996 Nov. 9.45: "comet low in W, difficult to obs.; tail visible, but at a reduced length due to the low alt." [CAM03]. 1997 Apr. 25.34: "comet very low in twilight sky; haze made obs. very difficult; starlike central cond. w/ a fainter outer coma, and a hint of tail to the N of the cond." [CAM03]. Apr. 26.34: "comet low in bright-twilight sky; haze made obs. difficult; starlike, yellow-orange cond.; short tail to the N, but very limited due to the bright sky; still an impressive sight" [CAM03]. May 5.35: "comet a most brilliant sight; the coma was a bright 0.2-mag star w/ a diffuse outer coma of dia. ~ 10′; tail 3° long to the N and orange-yellow in color; via naked eye, it was a 0-mag object with a short tail, even though it was low in the NW sky" [CAM03]. May 7.35: "comet a brilliant sight, very much the same as on May 5.35 — still with the yellow-orange color; via naked eye, the comet was similar to a 0-mag star w/ a short tail, though the twilight (and at very low alt.) made the tail very much shorter than what has been reported from the N hemisphere at around the same time" [CAM03]. May 9.35: "comet was a brilliant sight, similar to the last obs., but the comet had faded a little; tail quite broad, ~ 3° long; crescent moon only 3° W of the comet" [CAM03]. May 10.36: "comet was a great sight; coma still has a very strong central starlike cond. with a orange-yellow color; tail extends some 4° to the N side of the coma, while there is a fainter, well-defined tail extending in p.a. 300° from the coma — more likely to be the gas tail; w/ 20×80 B, comet was a great sight, w/ 3° tail in p.a. 120° [CAM03]. May 11.36: "comet was slightly fainter than yesterday; bright moon made the tail harder to see; w/ 20×80 B, comet still a nice sight", w/ 2° tail in p.a. 120° [CAM03]. May 12.36: "comet's tail harder to see from the increasing moonlight" [CAM03]. May 13.35: "comet tail's E edge is brighter than the W side — seems like a stream of brighter material, and has been evident for the last several days; tail appears shorter as the moonlight increases each day, but still a very easy naked-eye object, even in twilight and w/ first-quarter moonlight" [CAM03]. May 18.36: "comet similar in appearances to last obs.; tail is brighter on the E edge than on W edge; central cond. like an orange-yellow starlike cond.; still easily visible to the naked eye as a fuzzy star" [CAM03]. May 19.36: "comet's central cond. is slightly softer than on May 18.36; via naked eye, under moonlit conditions, the comet looks like a soft, 1st-mag star" [CAM03]. May 25.35: "comet's main tail has swung around to the W more, w/ a flat, diffuse sheet of material extending from the coma as a fan tail in p.a. 30°, while the main tail extends away at p.a. 290° (this tail being brighter than the other); cond. is still strong, though a little softer than it was last week" [CAM03]. May 26.36: "comet similar to yesterday and still a very impressive sight — still very easy to see via naked eye, w/ a short tail to the NW" [CAM03]. May 27.35: "comet seems a little different from last night's obs.; the coma seems to come out of the starlike cond. in the form of a cone; on the opposite side of the starlike cond., there is very little if any coma; main tail extends from the cond. at p.a. ~ 260°, then swings around like the shape of a banana towards p.a. 280° and extends out for~ 2°; there seems to be a flat sheet of material extending out from p.a. ~ 30°, which then fans out to p.a. ~ 280° to join the main tail (but very much fainter than the main tail)"; w/ 20×80 B, 3°.5 tail in p.a. 150° [CAM03]. May 30.36: w/ 20×80 B, large fan tail spanning p.a. 45°-280°; the brighter part of the tail extends from the S side of the coma; to the naked eye, the comet appears as a diffuse blob of mag ~ 2 [CAM03]. July 18.81: morning sky; coma appears smaller and the comet's tail is fan-shaped [CAM03]. Oct. 18.70: light twilight [CAM03].

1998 Oct. 15.56: still easy to obs., very similar to when obs. after discovery, though comet at rather low alt. [CAM03]. Oct. 24.72: "comet at much higher alt. than when obs. on Oct. 15.56; broad fan (~ 5′ wide) extends out ~ 5′ from the coma" [CAM03]. 1999 Feb. 16.42: "appearance much the same as at discovery in the last days of July 1995" [CAM03]. Mar. 7.45: easy to see w/ 20-cm L; "I was also able to obs. comet w/ 20×80 B, which I thought was remarkable, since it is now 7.92 AU from the sun" [CAM03]. Mar. 9.46: comet was obs. from a dark-sky location, confirming obs. w/ 20×80 B from mildly-light-polluted sight on Mar. 7 [CAM03]. June 7.41: "comet was close to a star of mag 8, which made it hard to observe the comet" [CAM03].

2003 Feb. 3.70: coma expands in N-NE; Guide 8.0 software used for comp.-star mags [TSU02]. Feb. 5.67: obs. from Waddi Farm, W. Australia; Guide 8.0 software used for comp.-star mags [TSU02].

◇ *Comet C/1999 H1 (Lee)* ⟹ 1999 June 3.39: "comet was a nice sight through the scope; it showed a slight brown color;" tail ~ 20′ [CAM03].

◇ *Comet C/1999 U4 (Catalina-Skiff)* ⟹ 2003 Mar. 9.75: GUIDE 8.0 software used for comp.-star mags [OHS].

◇ *Comet C/2000 SV$_{74}$ (LINEAR)* ⟹ 2003 Mar. 23.90: possible faint tail 2′.0 long in p.a. 20° [HOR02]. Mar. 24.93: limiting mag ~ 16.5 (162×); second confirming detection made at Mar. 24.98 [LEH]. Mar. 29.63: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02]. Mar. 30.92: comet appeared as a "very faint nebula situated near a 14th-mag star; identity of star and reality of comet confirmed via check of Digitized Sky Survey image" [BOU]. Apr. 6.66: GUIDE 8.0 software used for comp.-star mags [OHS].

◇ *Comet C/2000 WM$_1$ (LINEAR)* ⟹ 2002 Jan. 4.46 and 5.44: "comet was an impressive sight through 20×80 B" [CAM03]. Feb. 7.73: "fog and mist made obs. difficult" [CAM03]. Feb. 8.73: "tail 3° long through 80-mm B, and 2° long w/ 60-mm R; coma small and almost stellar; tail thin coming off the coma, then broadened out into a magnificent tail; very impressive comet" [CAM03].

◇ *Comet C/2001 A2 (LINEAR)* ⟹ 2001 May 19.37: "comet was a nice sight; could trace out tail to at least 7°; comet visible as a faint, fifth-mag star" [CAM03]. June 14.80: "comet easily seen w/ the naked eye despite moonlight, w/ hint of a tail visible; through binoculars, very condensed coma surrounded by an outer coma that extended some 15′; tail traced out for 3° from the coma" [CAM03]. June 15.82: obs. made through broken clouds; nuclear cond. of dia. ∼ 2′-3′ [CAM03]. June 16.78: "obs. of the central coma w/ 12.5-cm *f*/10 T (100×) seemed to show what looks like two jets extending ∼ 1′-2′ at p.a. 120° and 300° — some 90° from the main tail, almost looking like tiny wings emanating from the central cond." [CAM03]. June 17.78: "comet seems somewhat fainter than yesterday" [CAM03]. June 18.78: comet looks fainter than two days ago; tail is shorter and less intense, even though there was slight haze in the morning sky; obs. of the central coma with 12.5-cm *f*/10 T (50×, 100×) shows two wing-like jets extending 1′-2′ at p.a. 100° and 320° [CAM03]. June 19.77: "comet somewhat fainter than yesterday; tail still faint and less intense than on previous days; obs. with 12.5-cm *f*/10 T (100×, 138×) showed circular central cond. of dia. 2′; the jets of the previous two days were not seen" [CAM03]. June 21.78: "comet fainter than two days ago, but still looks similar; tail is fainter and less defined than on previous days" [CAM03]. June 29.77: "comet's tail is very faint — hard to see against the background sky" [CAM03].

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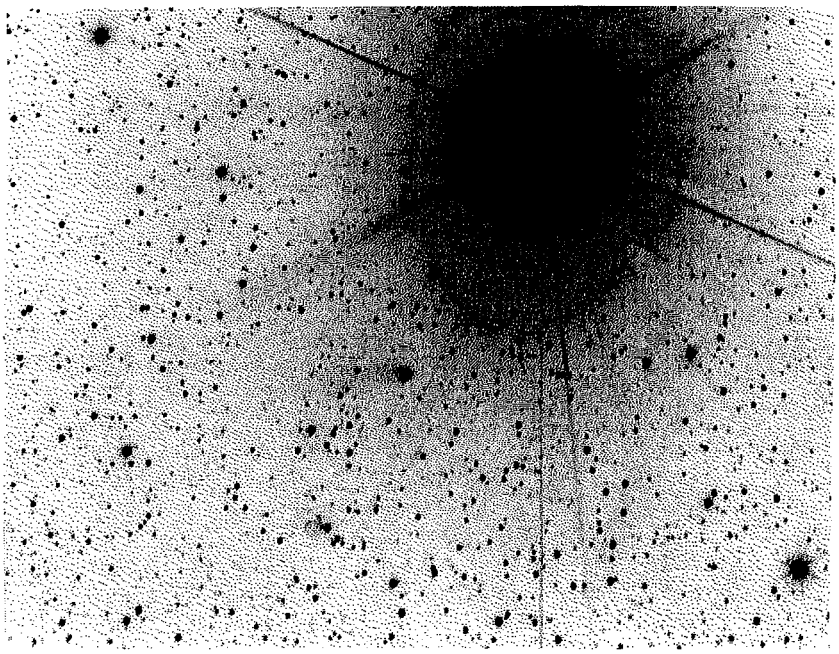

CCD image of comet C/2001 HT$_{50}$ (at center; Betelgeuse to upper right) taken on 2003 Mar. 21.85 UT by Rhemann and Jäger with a 30-cm Deltagraph (+ HX916 camera); two 4-min exposures.

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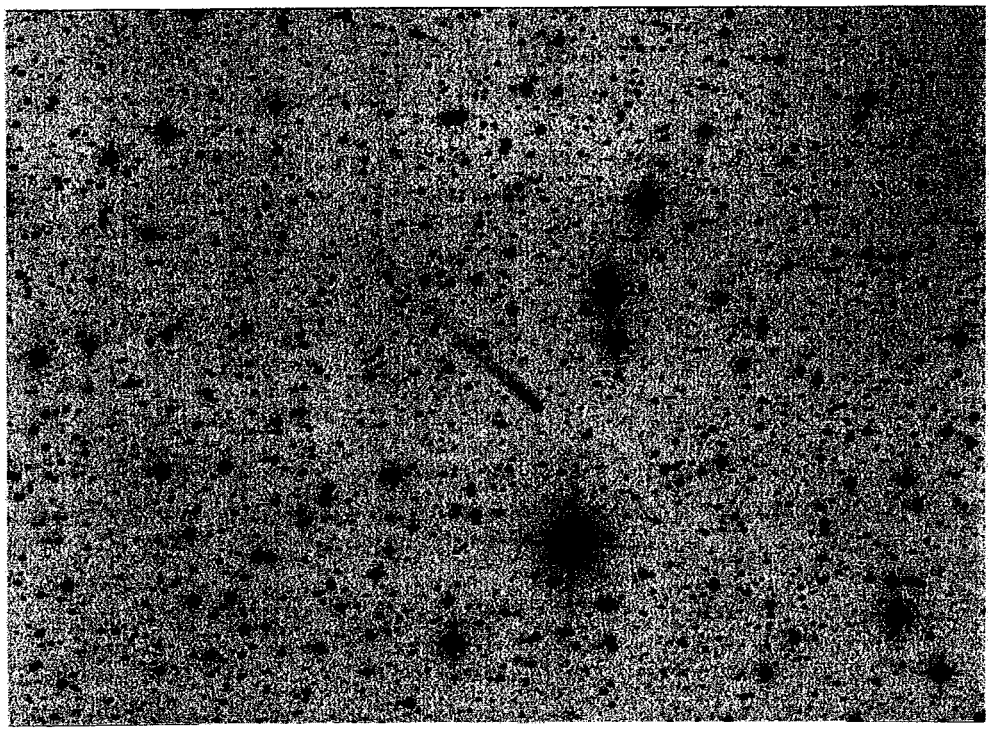
◇ *Comet C/2001 HT$_{50}$ (LINEAR-NEAT)* ⟹ 2002 Dec. 3.62: low alt.; haze [MAT08]. 2003 Feb. 2.04: strongly curved, wide, fan-shaped tail [HOR02]. Feb. 3.72, 7.43, 21.48, 27.60, and 28.56: `Guide 7.0` software used for comp.-star mags [MIY01]. Feb. 6.65 and 27.45: `GUIDE 6.0` software used for comp.-star mags [NAG08]. Feb. 9.51: `GUIDE 8.0` software used for comp.-star mags [TSU02]. Feb. 20.80: "comet rather inconspicuous; some interference from nearby star of (HS) mag 12.8" [BOU]. Feb. 23.80: some interference from star of (TK) mag 6.3, only 5′ away [BOU]. Feb. 25.46: `Guide 7.0` software used for comp.-star mags [YOS02]. Feb. 25.79: faint stellar cond. of mag 13 [BOU]. Feb. 25.89: w/ 30-cm T (161×), surprisingly easy object; well-condensed coma with a small central cond. displaced towards southwest; at 242×, starlike false nucleus of mag 14.0 [KAM01]. Feb. 28.48, Mar. 20.52, 29.47, and Apr. 6.46: w/ infrared-block filter; `Guide 8.0` software used for comp.-star mags [TSU02]. Feb. 28.53: `Megastar Ver. 4.0` software used for comp.-star mags [MUR02]. Feb. 28.54 and Mar. 9.61: `GUIDE 8.0` software used for comp.-star mags [OHS]. Mar. 16.87: moonlight [HOR02]. Mar. 21.85 and 22.85: close to Betelgeuse [HOR02]. Mar. 22.84: comet only 10′ from α Ori; ∼ 1′ from (and approaching) star of (HS) mag 12.5 [BOU]. Mar. 22.88: difficult object, due to 13th-mag star nearby (13′ W of Betelgeuse); at 222×, coma more condensed towards center [KAM01]. Mar. 26.76: coma slightly elongated [BAR06]. Mar. 30.46: low contrast due to glow from Cowra (N.S.W.) town center; comet appeared very faint due to the bright sky [SEA]. Mar. 30.83: faint, diffuse object; some interference from nearby star of (TK) mag 8.2 [BOU]. Apr. 13.84: moonlight; comet close to star [HOR02]. Apr. 21.47: `GUIDE 8.0` software used for comp.-star mags [NAK01].



Four-minute CCD exposure of C/2001 K5 taken on 2003 May 6.03 UT by Jäger and Rhemann with the 35.6-cm f/3.3 telescope; field size 28′ × 22′.

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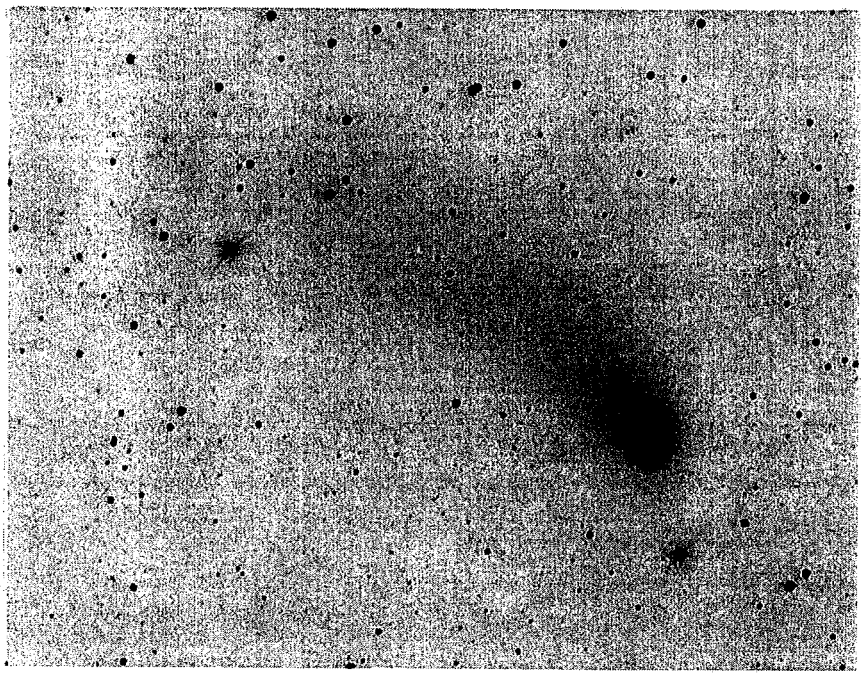
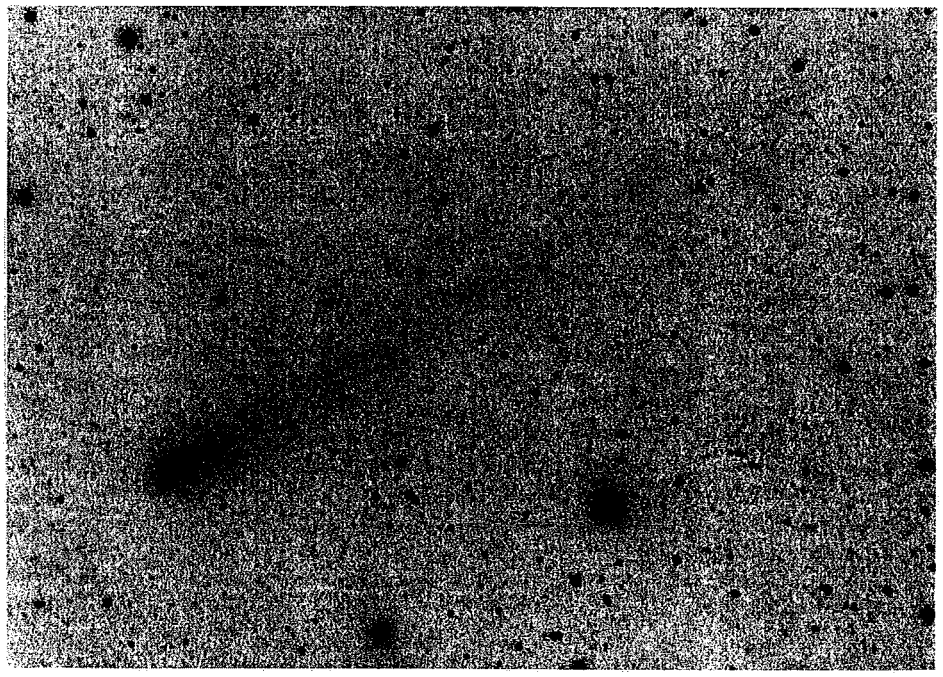
◇ *Comet C/2001 K5 (LINEAR)* ⟹ 2003 Mar. 12.75: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 17.13: moonlight [HOR02]. Mar. 22.99: "small, somewhat condensed object in rather dense Milky Way field; Digital Sky Survey shows nothing stellar or nebular near calculated position" [BOU]. Apr. 9.00: limiting stellar mag ~ 16.0; comet easily seen [HOR02]. Apr. 23.97: small, somewhat condensed object, only 12′ from well-known variable star MV Lyr [BOU].

◇ *Comet C/2001 N2 (LINEAR)* ⟹ 2003 Mar. 11.77 and 29.68: GUIDE 8.0 software used for comp.-star mags [NAK01]. Mar. 29.65: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02].

◇ *Comet C/2000 RX_{14} (LINEAR)* ⟹ 2003 Jan. 23.94: difficult, seen only with averted vision [ATA]. Jan. 24.91 and Mar. 2.87: w/ 25.6-cm L (169×), central cond. of mag 14.0 [BIV]. Feb. 1.71, Mar. 9.73, and Apr. 6.58: GUIDE 8.0 software used for comp.-star mags [OHS]. Feb. 1.80, 3.78, 6.80, 7.79, 13.83, 26.70, 27.61, 28.58, Mar. 4.80, 7.78, 9.79, 10.76, and 12.74: Guide 7.0 software used for comp.-star mags [MIY01]. Feb. 4.79, Mar. 22.49, and Apr. 5.59: GUIDE 8.0 software used for comp.-star mags [YOS02]. Feb. 5.14: w/ 25.6-cm L (169×), central cond. of mag 14.1 [BIV]. Feb. 6.66, 27.47, Mar. 7.80, and 22.55: GUIDE 6.0 software used for comp.-star mags [NAG08]. Feb. 9.50: broad tail spans p.a. 278°-313°; GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 11.93, 14.86, and Apr. 13.86: moonlight [HOR02]. Feb. 24.95: short, broad tail of low surface brightness; nearly stellar central cond. of mag 13 [BOU]. Feb. 26.99: comet very diffuse and close to double star of mag 9 [COM]. Feb. 28.57 and Mar. 29.55: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02]. Feb. 25.49: Guide 7.0 software used for comp.-star mags [YOS02]. Feb. 27.05: close to star [HOR02]. Feb. 27.51 and Mar. 7.81: The Sky ver. 5 software used for comp.-star mags [MIT]. Feb. 28.54: MegaStar Ver. 4.0 software used for comp.-star mags [MUR02]. Mar. 6.89: w/ 25.6-cm L (169×), central cond. of mag 13.5 [BIV]. Mar. 9.01: elongated coma [GON05]. Mar. 11.65: tail extends in p.a. 125°, then strongly curves and reaches the edge of the field at p.a. 300° [NAK01]. Mar. 12.20: w/ 20.3-cm T (133×), central cond. of mag 13.9; obs. from IRAM observatory site (elev. 2900 m) at Pico-Veleta, Spain [BIV]. Mar. 14.19: w/ 20.3-cm T (133×), central cond. of mag 13.5 [BIV]. Mar. 21.93: "1′ disk-like false nucleus seen transformed in a 'star-like nucleus surrounded by a faint and diffuse coma' when using averted vision; no background star brighter than mag 11 in a 2′ area" around comet [MAR02]. Mar. 22.93: barely visible as a small diffuse spot [GRA04]. Mar. 23.85: some interference from star of (HS) mag 12.6, near edge of coma [BOU]. Mar. 23.93: easy object exhibiting a pronounced central cond., contrasting with the rather faint coma; at 222×, central knot of material of dia. ~ 15″; no starlike false nucleus discernible [KAM01]. Mar. 25.98: coma slightly elongated [BAR06]. Mar. 27.05: hazy sky [GRA04]. Mar. 30.50: "low alt.; brightness estimate may have been too conservative" [SEA]. Mar. 31.47: better conditions than on previous evening; comet a very easy object in telescope and faintly visible in 25×100 B at $m_1 \approx 11$ [SEA]. Mar. 31.91: at 242×, central knot of material of dia. ≃ 15″; in moments of good seeing, a 14th-mag false nucleus seen [KAM01]. Apr. 4.93: comet significantly fainter; at 242×, small central cond. w/ a false nucleus of mag 14 just glimpsed [KAM01]. Apr. 7.99: again fainter with smaller coma; at 242×, conspicuous inner coma, but no false nucleus brighter than mag 14 discernible [KAM01].



Above: CCD image of C/2001 RX$_{14}$ taken by Jäger and Rhemann on 2003 Feb. 28.865 with the 30-cm f/3.3 Deltagraph (two 5-min exposures). Below: Image of the same comet taken by Rhemann and Jäger on Mar. 31.90 with a 12.5-cm f/3.8 telescope (three 4-min exposures).



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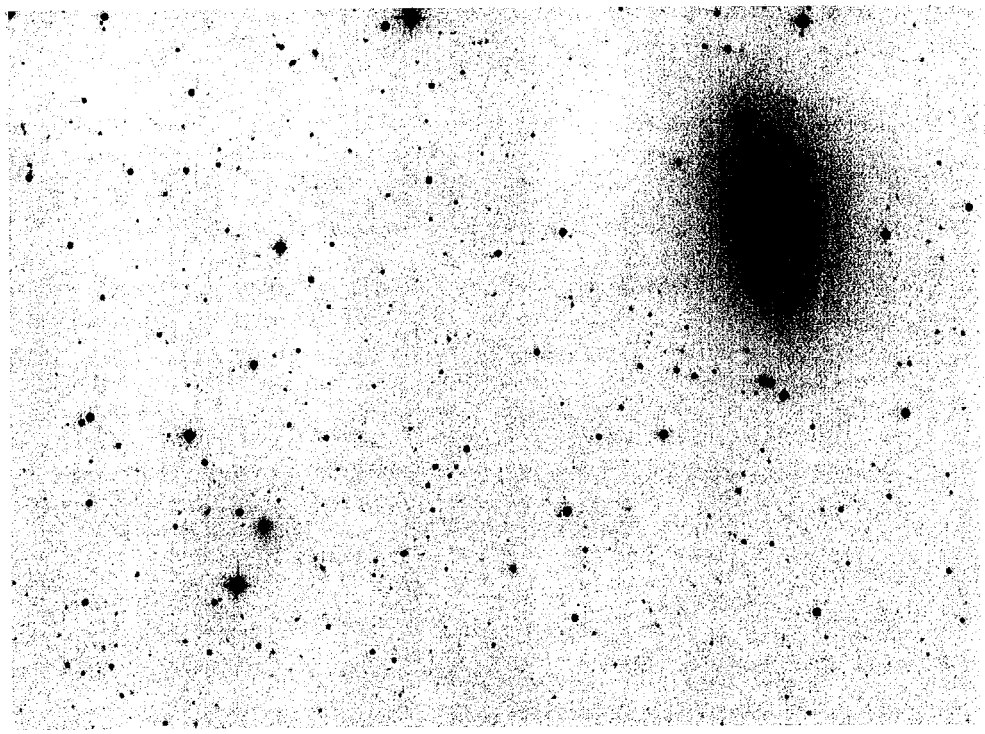
◇ *Comet C/2002 J4 (NEAT)* ⟹ 2003 Apr. 5.82 and 6.81: GUIDE 8.0 software used for comp.-star mags [NAK01].

◇ *Comet C/2002 O7 (LINEAR)* ⟹ 2003 Feb. 24.00: elongated coma in p.a. 325° [HOR02]. Feb. 26.00: elongated coma in p.a. 315° [HOR02]. Feb. 26.02: "small, slightly condensed object; very faint, but definitely seen; a check with Digital Sky Survey showed nothing near position of comet, as calculated from the most recent orbital elements (*MPC* 47292)" [BOU]. Mar. 10.70 and Apr. 6.67: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 25.04: limiting mag ~ 16.5 (162×); second confirming detection made at Mar. 25.08 [LEH]. Mar. 29.63: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02]. Apr. 13.88: moonlight [HOR02].



Four-minute CCD exposure of comet C/2002 O7 taken on 2003 March 5.90 UT by Rhemann and Jäger with the 35.6-cm f/3.3 telescope; the galaxy M63 is at upper right, and the comet is just to the upper right of the brightest star at lower left.

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◇ *Comet C/2002 Q5 (LINEAR)* ⟹ 2003 Mar. 9.70: GUIDE 8.0 software used for comp.-star mags [OHS]. Mar. 29.52: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02]. Mar. 29.57: GUIDE 8.0 software used for comp.-star mags [NAK01].

◇ *Comet C/2002 R3 (LONEOS)* ⟹ 2003 Feb. 3.46: GUIDE 8.0 software used for comp.-star mags [OHS].

◇ *Comet C/2002 T5 (LINEAR)* ⟹ 2003 Feb. 3.50, 25.48, and 28.48: GUIDE 8.0 software used for comp.-star mags [OHS].

◇ *Comet C/2002 T7 (LINEAR)* ⟹ 2003 Feb. 3.45: GUIDE 8.0 software used for comp.-star mags [OHS]. Feb. 14.80, Mar. 16.82, and Apr. 13.80: moonlight [HOR02]. Feb. 26.84: elongated coma in p.a. 325° [HOR02]. Feb. 28.44, Mar. 11.52, 20.51, and Apr. 6.45: w/ infrared-block filter; Guide 8.0 software used for comp.-star mags [TSU02]. Mar. 22.89: "small, diffuse object observed near calculated position; Digital Sky Survey shows nothing stellar or nebular near calculated position; observed angles w/ nearby bright stars preclude confusion with nearby Guide Star Catalog star of mag 15.1" [BOU]. Mar. 23.81: ephemeris from Minor Planet Center (MPC) WWW ephemeris service, checked w/ Digitized Sky Survey; limiting stellar mag 15.5 [HAS02]. Apr. 4.81: elongated coma in p.a. 45° [HOR02]. Apr. 21.46 and 22.45: GUIDE 8.0 software used for comp.-star mags [NAK01]. Apr. 22.45: coma extends E [NAK01].

◇ *Comet C/2002 V1 (NEAT)* ⟹ 2002 Dec. 23.53: large and diffuse; brighter than M74 [MAT08]. 2003 Jan. 2.68: w/ 8.0-cm $f/6$ R (19×), coma dia. 11′, DC = 2 [KOS]. Jan. 3.74: w/ 8.0-cm $f/6$ R (19×), coma dia. 12′, DC = 2 [KOS]. Jan. 3.76: difficult object, estimate not very accurate; possible interference from thin cirrus [ATA]. Jan. 4.71: w/ 8.0-cm $f/6$ R (19×), coma dia. 8′, DC = 2 [KOS]. Jan. 6.49, 8.50, 13.49, Mar. 8.43, 10.46, 12.44, 16.45, and 17.45: moonlight [MAT08]. Jan. 6.69: w/ 8.0-cm $f/6$ R (19×), coma dia. 10′, DC = 2 [KOS]. Jan. 11.78: comet 29° from 62%-lit Moon [KAC02]. Jan. 12.73: moonlight; comet fairly easily visible w/ averted vision [ATA]. Jan. 17.76: full moon [KAC02]. Jan. 18.72: full moon; large coma w/ a strong central cond. [ATA]. Jan. 19.72: slight haze; large coma with a strong central cond. [ATA]. Jan. 20.75: obs. made before moonrise [KAC02]. Jan. 21.47: twilight; comet alt. 9° [MAT08]. Jan. 22.83: w/ 25.6-cm L (169×), central cond. of mag 12.3; note that "these m_2 estimates are in-focus estimates with high magnification as much as possible, and often a lower magnification would yield a brighter estimate" [BIV]. Jan. 24.82: w/ 25.6-cm L (169×), central cond. of mag 11.8 [BIV]. Jan. 25.72: poor conditions, observed through holes in clouds [ATA]. Jan. 27.78: comet low in the west, w/ some light pollution in that area of the sky [ATA]. Jan. 27.80: w/ 25.6-cm L (169×), central cond. of mag 12.1 [BIV]. Jan. 28.73: strong winds, exceptionally clear; comet easily seen w/ naked eye; tail very thin and very faint; very bright zodiacal light extending 75°; M33 seen with naked eye [ATA]. Jan. 29.73: "very transparent sky; tail seems a bit broader but shorter; comet does not appear any brighter than yesterday" [ATA]. Jan.

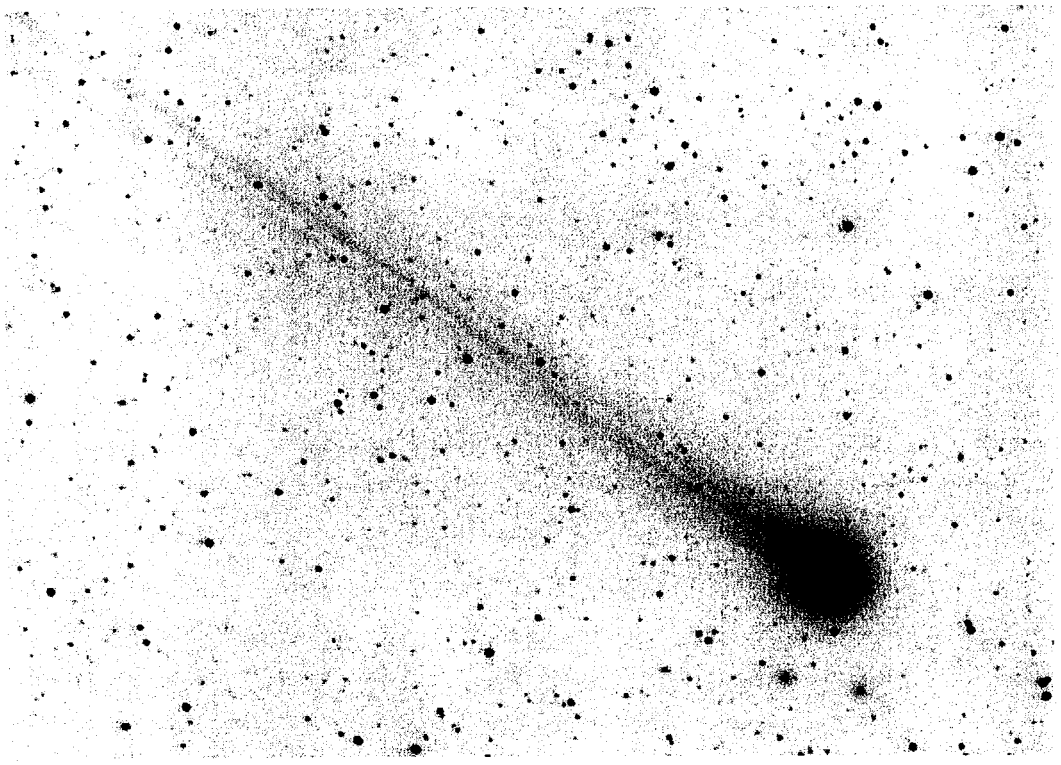

Image of comet C/2002 V1 taken on 2003 Jan. 26.73 by Michael Jäger with a 20-cm f/1.5 Schmidt telescope; composite of two 6-min exposures on hypered Technical Pan film.

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30.78: weak tail [SCH04]. Jan. 31.73: some light pollution in the W; comet seen w/ naked eye; very condensed; first half of tail very obvious, second half faint [ATA]. Jan. 31.77: w/ 25.6-cm L (169×), central cond. of mag 11.6 [BIV]. Jan. 31.81: comet strongly condensed with long, narrow tail [RIE].

Feb. 1.39, 6.39, 7.39, and 9.39: `Guide 7.0` software used for comp.-star mags [MIY01]. Feb. 1.40, 6.39, and 9.38: `The Sky ver. 5` software used for comp.-star mags [MIT]. Feb. 1.41, 3.41, and 9.39: `StellaNavigator` software used for comp.-star mags [OOT]. Feb. 1.73: hazy sky; comet visible with the naked eye [ATA]. Feb. 2.71: strong central cond.; round coma; parabolic tail slightly bent counter-clockwise; overall appearance similar to that of C/2002 C1 in Mar. 2002 [BAR06]. Feb. 2.73: haze [ATA]. Feb. 2.78: w/ 25.6-cm L (169×), central cond. of mag 9.5 [BIV]. Feb. 3.41, 6.40, and 9.39: `GUIDE 6.0` software used for comp.-star mags [NAG08]. Feb. 3.41: `GUIDE 8.0` software used for comp.-star mags [OHS]. Feb. 3.69: w/ 7×50 B, starlike coma (DC = S8); w/ 6-cm R (40×), coma is more diffuse (DC = 5) [BAR06]. Feb. 3.76: wedge-shaped tail in 10×50 B [RIE]. Feb. 3.76, 4.76, and 5.77: w/ 25.6-cm L (169×), central cond. of mag 9.3 [BIV]. Feb. 5.73: thin cirrus clouds over the comet; bluish color noted in coma [ATA]. Feb. 5.74: comet alt. 14° [KAC02]. Feb. 6.01: outstanding in 16×80 B, w/ a 3′ coma, intensely condensed, with a 2°.5 tail in p.a. 50° [CRE01]. Feb. 6.43 and 9.42: `GUIDE 8.0` software used for comp.-star mags [YOS02]. Feb. 6.73: comet alt. 13° [KAC02]. Feb. 6.73: comet seen with naked eye [ZAK]. Feb. 6.75: nearly starlike, highly condensed object with a rather faint tail, getting wider towards the end; w/ 20-cm T (50×), intense, starlike false nucleus near the sunward side of a rather faint, ≃ 1′-sized parabolic coma, leading to the tail; moon brightened the sky background to some degree [KAM01]. Feb. 7.73: comet alt. 12°; moonlight [KAC02]. Feb. 7.74: moonlight, twilight [BAR]. Feb. 7.74: comet alt. 10°; moonlight; comet seen w/ naked eye [ZAK]. Feb. 8.01: moonlight [CRE01]. Feb. 8.80: moonlight; comet obs. from commercial jet aircraft flying at alt. 8000 m over Valladolid, Spain [GON05]. Feb. 9.00: moonlight, twilight; intense cond.; almost 1° of tail visible 50 min after sundown [CRE01]. Feb. 9.69: round coma w/ starlike central cond. of mag ~5; low alt. [AND01]. Feb. 9.73: "the comet was faintly visible to the naked eye; the tail curved slightly to the E, and the W border was sharper; coma almost stellar and intense; alt. 7°; first-quarter moon" [KAR02]. Feb. 9.75: nearly star-like, highly condensed object with a medium bright tail (displaying an apex angle of ≃ 10 deg); w/ 9-cm M (39×), intense, starlike false nucleus near the sunward side of a 1′-1′.5 large, parabolic coma (showing a higher surface brightness than three days ago); moon brightened the sky background significantly [KAM01].

Feb. 10.73: comet alt. 6°; moonlight, strong winds; comp. stars w/in 1° of the comet in alt. [KAC02]. Feb. 10.73: comet alt. 7°; moonlight [ZAK]. Feb. 10.75: "moonlight, twilight, and some horizontal haze; comet at only 8° alt.; first half-degree of tail very obvious, but the rest faint under these conditions" [BOU]. Feb. 11.05: twilight; haze and urban light pollution; comet 12° above horizon; comparison star w/in a degree of the comet [PEP]. Feb. 11.68: strong central

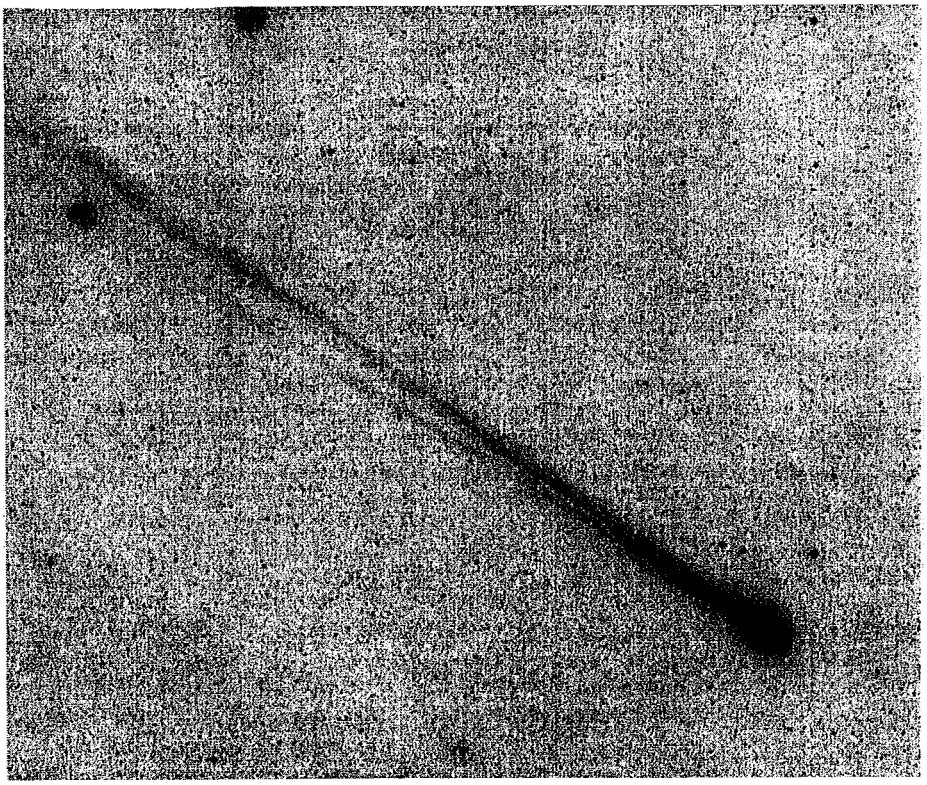

Image of comet C/2002 V1 taken on 2003 Feb. 1.73 by Michael Jäger with a 20-cm f/1.5 Schmidt telescope; composite of two 6-min exposures on hypered Technical Pan film.

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cond.; parabolic tail [BAR06]. Feb. 11.71: poor conditions due to haze near the horizon [KAC02]. Feb. 11.73: windy; w/ 20-cm $f/10$ T (50×), round disklike object of dia. 2′ w/ tail ~ 0°.5 long [ATA]. Feb. 12.38: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 12.68: strong central cond.; parabolic tail [BAR06]. Feb. 12.71: alt. 5°; twilight [HOR02]. Feb. 12.72: comet alt. 5°; sun alt. −11° [ZAK]. Feb. 12.72: w/ 20-cm $f/10$ T (50×), round disk-like coma of dia. 1′ w/ 10′ tail [ATA]. Feb. 13.00: "twilight, low alt.; tail has remarkably high surface brightness" [CRE01]. Feb. 13.71 and 14.70: alt. 4°; bright twilight [HOR02]. Feb. 13.73: "despite nautical twilight and true alt. of 3°, the comet and its tail very 'neat' and easily seen with 7×50 B; not visible to naked eye; w/ 7.0-cm $f/6.8$ R (24×), the coma appeared yellowish and showed an intense and apparently stellar central cond. of mag 2.8 (ref TK); the W part of the tail was bright, curved, and with a sharply defined boundary; several streamers were suspected within the tail; m_1 not corrected for extinction, as the comp. star (α Aqr) was located at nearly the same alt. as the comet; comet remained visible to a true alt. of −0°.3!; my first obs. of this comet for 2 weeks due to unfavorable weather conditions" [GRA04]. Feb. 13.73: "comet obs. in strong twilight, at elongation of only 14°.2 from the sun; very strongly condensed object with some coma; head looked yellowish, but this may have been due to extinction; best extinction parameter determined by comparing brightness of nearby α Aqr to γ, ζ, and η Aqr; a further check of the brightness, using a 5-cm diaphragm on the comet (giving an attenuation of 1.0 mag), vs. the full-aperture view of α Aqr, confirmed that the comet was slightly brighter than mag 2" [BOU]. Feb. 13.99: twilight (sun at alt. −9°); comet seen at < 3° above the horizon [CRE01]. Feb. 14.70: "m_1 difficult to estimate due to lack of comparison stars in the bright twilight; the fainter α Aqr was the only visible star in field; comet reminded me of a 'fuzzy' Mercury; alt. 3°.8; 20×100 B showed a small, yellow disk-like coma and short tail; comet followed for 21 min to alt. 1°.1, when it disappeared behind the distant tree tops"; comet's elongation only 12° [KAR02]. Feb. 14.72: "obs. in strong twilight (sun 8°.5 below horizon) at true alt. 2°.5; comet seen for 11 min, until it set — a considerably more challenging object than on the previous evening, but still clearly visible in binoculars; tab. obs. made shortly before setting, when both the comet and the comp. star (α Aqr) were seen at true alt. 4°.1 (comet 0.6 mag brighter than this star, and its mag was corrected by −0.9 mag for extinction by using an empirically determined extinction coefficient of 0.21 mag/airmass; despite these corrections, the final mag should be fairly precise and correct to within ± 0.3 mag)" [GRA04]. Feb. 14.72: "comet and its tail seen for 6 min — easily visible and a more prominent object than C/1996 B2 (Hyakutake) during my final pre-perihelion obs. of it on 1996 Apr. 27.86, obtained under a similar geometry with the same instrument and from nearly the same location; an apparently stellar nucleus appeared yellowish (similar to Capella) and was surrounded by a small, diffuse coma; tab. obs. made at true alt. 2°.8, when the sun was 8°.2 below horizon; m_1 uncertain, as the ref. star (α Aqr) was only obs. after the comet had set (true alt. 3°.7), but the comet appeared at least

1.0 mag brighter than this star" [SKI]. Feb. 16.29: obs. from Sierra del Aramo, elevation 1240 m, Asturias, Spain; m_1 corrected for atmospheric extinction with *ICQ* winter table; comet at only 2° alt.; solar elongation 8°; Mercury and the comet were clearly visible in the twilight, half an hour before sunrise [GON05]. Feb. 18.42: "searched for comet before local noon w/ 0.20-m *f*/17.5 R (87× and 140×); light haze; at Feb. 18.38 (≈ 1 hr after culmination), I found Venus (its visibility and phase were seen easily); at Feb. 18.422 ≈ 38 min before culmination), the field of C/2002 V1 was searched, and after 40 min, I saw something near the comet's position — a small fuzzy spot, perhaps of mag −2 or −3 (not sure)" [LEH]. Feb. 18.43: daylight [HOR02]. Feb. 18.81: w/ 10×50 B, nothing visible to mag ~ −4.0 (in-focus) [SHA02]. Feb. 22.05: w/ 10×50 B, nothing visible to mag ~ 0.0 (in-focus) [SHA02]. Feb. 24.43: comet alt. 3°; solar elong. 16° (bright twilight); low clouds and dust haze; comet obs. w/ difficulty; m_1 estimate was a best guess; starlike core w/ a hint of tail [MAT08]. Feb. 25.43: haze; comet alt. 4°; solar elong. 18° (bright twilight); haze; comet faintly visible in 7×50 B, but not to naked eye [MAT08]. Feb. 26.44: comet alt. 4°; twilight; comp. stars α and δ PsA [MAT08]. Feb. 27.39: strong yellow color; tail possibly 30′ long [SEA]. Feb. 28.41: brief obs. due to clouds; tail possibly 1° long and relatively intense close to head [SEA]. Feb. 28.44: "rushed obs.; δ Scl used for comp." [MAT08].

Mar. 1.41: yellow color possibly not as strong as previously; comet appeared yellowish-green rather than pure yellow; visible to naked eye [SEA]. Mar. 3.41: "second, type-III tail visible to ≈ 0°.5 in p.a. 235°; there seemed to be a faint glow connecting both tails; main tail curved toward S; leading (convex) edge of main type-II tail sharply defined, whereas the concave edge was not, but seemed to melt away into the dim glow extending around the S side of comet to the secondary tail" [SEA]. Mar. 4.00: alt. 7°; interference from clouds and light pollution [MAN04]. Mar. 4.44: "comparable to β Scl at same alt." [MAT08]. Mar. 4.94: alt. 15°; twilight [HIC02]. Mar. 5.96: bright sky [AGU]. Mar. 6.41: "type-III tail visible to 1° in p.a. 235°; obs. w/ 25×100 B; in 25.4-cm L (71×), false nucleus appeared almost stellar, though slightly diffuse at 114×; using Swan Band filter at 71×, false nucleus appeared somewhat more diffuse and comet was not as bright" [SEA]. Mar. 7.41: "false nucleus possibly a little displaced from center, toward the type-III tail, giving main tail a slight 'hooked' appearance; cloud prevented seeing full length of main tail" [SEA]. Mar. 8.43 and 16.45: light pollution [MAT08]. Mar. 13.40: at least 1° of tail visible in 10×50 B and 25×100 B; yellow color of comet no longer apparent [SEA]. Mar. 14.40: "appeared fainter than previous evening; sky background very bright on both nights" [SEA]. Mar. 30.39: "comet fainter through Swan Band filter, in contrast to pre-perihelion observations" [SEA]. Mar. 31.41: tail appeared quite broad and curved [SEA]. Apr. 7.40: obs. under rather poor conditions and at low alt. [SEA].

◇ *Comet C/2002 X1 (LINEAR)* ⟹ 2003 Feb. 9.50 and 28.52: GUIDE 8.0 software used for comp.-star mags [TSU02]. Feb. 11.97: moonlight [HOR02]. Feb. 26.79: limiting mag ~ 16 (81×); second confirming detection made at Feb. 26.92 [LEH]. Feb. 28.52: w/ infrared-block filter [TSU02]. Mar. 16.89: moonlight [HOR02]. Mar. 21.87 and 22.87: dense star field [HOR02]. Mar. 30.86: "comet very close to star of mag 14 that was not shown in *Guide8* software; check of Digital Sky Survey confirmed reality of obs. object" [BOU].

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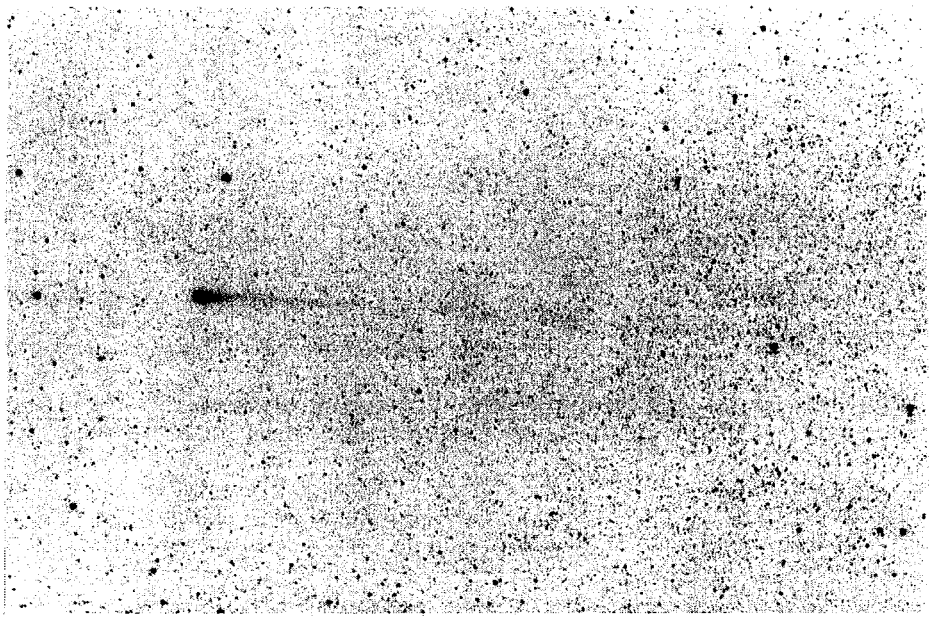

Image of comet C/2002 X5 taken on 2003 Jan. 12.20 by Jäger with a 25-cm f/1.8 Schmidt telescope; composite of two 4-min exposures on Extrachrome 100S film.

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◇ *Comet C/2002 X5 (Kudo-Fujikawa)* ⟹ 2002 Dec. 23.18: bright moonlight [ATA]. 2003 Jan. 3.19: alt. 18° [KAC02]. Jan. 3.71: alt. 13° [KAC02]. Jan. 11.70: comet alt. 8°; sun alt. −14° [KAC02]. Jan. 12.22: quick obs. during break in fog; coma dia. and tail length somewhat uncertain; sun at alt. −13° [ATA]. Jan. 12.70: moonlight; comet difficult to estimate due to close proximity of 29 Aql (m_v = 6.0) [ATA]. Jan. 12.71: obs. during twilight; alt. 6° [HAS02]. Jan. 19.23:

bright twilight, comet fairly easy; comet alt. 8°; sun alt. −9°; estimate fairly uncertain due to bright sky and a lack of suitable comp. stars [ATA].

Feb. 7.47: twilight and moonlight; comet alt. 3°; minor correction for atmospheric extinction not applied [MAT08]. Feb. 10.46: moonlight [MAT08]. Feb. 17.43: comet bright despite moonlight; enhanced when viewed through Swan Band filter and appeared blue in color; apparently in outburst [SEA]. Feb. 18.42: though m_1 estimate was the same, the comet seemed a little 'paler' than on previous night; in darker skies before moonrise, tail appeared as a broad fan from p.a. 120° to 150° and seemed to blend into extended outer coma [SEA]. Feb. 19.02: light pollution, moonlight [MAN04]. Feb. 19.43: "tail diffuse and very broad toward the SE; some very thin high clouds, but in clearer moments the tail was suspected to as long as 1°; coma enhanced through Swan Band filter, but maybe a little less so than on Feb. 17" [SEA]. Feb. 20.51: humid conditions; comet alt. 16°; moonlight [MAT08]. Feb. 22.9: w/ 11×80 B, comet very diffuse; small central cond.; w/ 0.27-m L, strong central cond. and faint fan-shaped tail [DES01]. Feb. 25.46: brightened since last obs.; w/ 20-cm L, moderately condensed w/ a large circular coma and a hint of broad dust tail [MAT08].

Mar. 4.42 and 9.42: GUIDE 6.0 software used for comp.-star mags [NAG08]. Mar. 6.46: faint tail suspected to ~ 0°.5; confirmed w/ 25.4-cm L (71×) [SEA]. Mar. 8.43 and 22.45: GUIDE 8.0 software used for comp.-star mags [YOS02]. Mar. 9.42: The Sky ver. 5 software used for comp.-star mags [MIT]. Mar. 11.42, 20.47, and 29.42: w/ infrared-block filter; GUIDE 8.0 software used for comp.-star mags [TSU02]. Mar. 11.85 and 12.85: good sky transparency, but some moon interference; comet diffuse; obs. from IRAM observatory site (elev. 2900 m) at Pico-Veleta, Spain [BIV]. Mar. 20.44: obs. made during moonrise [MAT08]. Mar. 21.41: somewhat-hazy conditions; comet appeared very faint and diffuse [SEA]. Mar. 21.78, 22.78 and 23.78: low alt. [HOR02]. Mar. 22.83: comet very diffuse; obs. in very transparent sky at alt. of only 8°.5 [BOU]. Mar. 23.82: comet large and diffuse; obs. at alt. 10° [BOU]. Mar. 26.44: tail spans p.a. 115°-190° [NAK01]. Mar. 30 (25×100 B) and 31 (25-cm L): could not find comet; "evidently, it has faded rapidly since Mar. 21" [SEA].

Apr. 4.77: twilight [HOR02]. Apr. 6.46: another short tail in p.a. 110°; GUIDE 8.0 software used for comp.-star mags [NAK01]. Apr. 16.408: five 60-sec CCD stacked exposures (taken w/ 1.0-m $f/8$ L) show a near-asteroidal nucleus at mag ~ 19.4 (FWHM 3″.5, in similar seeing); nine stacked 60-sec exposures reveal a tail 1′.3 long in p.a. 135° (only five exposures were used to examine the coma, as the nuclear cond. was involved w/ stars on the other four exposures; astrometry (and presumably also the mag) reduced w/ Astrometrica 4.2.0.314 software and USNO-A2.0 cat.; astrometry submitted to MPC [obs. G. J. Garradd and R. H. McNaught; meas. McNaught; Siding Spring Obs.]. Apr. 17.370 and 17.399: image very weak from images taken as on Apr. 16.408, still in moonlight; m_2 = 19.6-19.7; four 60-sec stacked CCD exposures taken in 2″.5 seeing show slightly-nonstellar central cond. elongated in direction of tail; ten stacked 60-sec exposures again show an almost-asteroidal central cond. in poor (4″) seeing, with a diffuse coma/tail about 2′.0 long to the SE (p.a. ~ 135°); while the astrometry of last night and tonight (submitted to MPC) have good S/N (due to the stacking), the individual 60-sec images are largely unmeasurable [obs. G. J. Garradd, R. H. McNaught, M. A. Verrender; meas. McNaught]. Apr. 18.376 and 18.385: exposures taken as on Apr. 16 and 17 (see above) show m_2 = 19.2 from five 60-sec stacked exposures in 2″.2 seeing; still not a dark sky, with the Moon just risen; the FWHM of the central cond. is 4″.5 on these stacked images and also on an image composed of ten stacked 60-sec exposures; there is a slight extension of the cond. 5″ long in p.a. 90° [Garradd, McNaught]. Apr. 22.380: 6-min unfiltered CCD exposure (taken as on Apr. 16, 17, and 18; see above) shows m_2 = 18.9; central cond. FWHM 4″.1 in 1″.8 seeing; tail 1′.2 long in p.a. 135° [Garradd, McNaught].

◇ *Comet C/2002 Y1 (Juels-Holvorcem)* ⟹ 2003 Jan. 30.95: "w/ 12×50 B, faintly visible — comet larger but more difficult to see than M97; w/ 25.4-cm L, very diffuse coma of low surface brightness, but clearly seen; appearance of comet similar to C/2002 V1 on 2002 Dec. 24; dark sky" [GRA04]. Feb. 1.73, 28.41, and Mar. 12.82: GUIDE 8.0 software used for comp.-star mags [OHS]. Feb. 1.81, 3.74, 6.82, 7.82, 13.84, 26.73, 27.81, Mar. 4.82, 7.82, 8.81, 9.82, 10.81, 11.82, 12.79, and 13.81: Guide 7.0 software used for comp.-star mags [MIY01]. Feb. 2.10: comet close to bright star [HOR02]. Feb. 3.92: very diffuse [SCH04]. Feb. 4.81, 5.86, 11.86, Mar. 7.83, and Apr. 5.82: GUIDE 8.0 software used for comp.-star mags [YOS02]. Feb. 5.17: w/ 25.6-cm L (169×), central cond. of mag 14.5 [BIV]. Feb. 6.12: diffuse coma, only barely brighter than the sky background [GRA04]. Feb. 6.67, 27.42, Mar. 3.82, 7.82, 9.43, 10.82, and 25.81: GUIDE 6.0 software used for comp.-star mags [NAG08]. Feb. 11.95, 12.93, 14.00, and 15.0: moonlight [HOR02]. Feb. 14.19: diffuse; not to difficult to see w/ 12×50 B [GRA04]. Feb. 16.22: obs. from elev. 1090 m at Camposagrado, Leon, Spain; moonlight [GON05]. Feb. 20.05: inner 3′ of coma quite bright (mag 8.7, ref TK), surrounded by a very diffuse outer coma; moonlight [GR04]. Feb. 20.82: a disklike central region of dia. 5′, containing most of the brightness, is surrounded by a very wide and faint outer halo [MEY]. Feb. 20.85: w/ 25.6-cm L (169×), central cond. of mag 14.0 [BIV]. Feb. 21.04: coma showed a bright disk at center w/ fairly uniform brightness; moon and thin clouds present [GRA04]. Feb. 21.82: w/ 25.6-cm L (169×), central cond. of mag 13.5 [BIV]. Feb. 21.83: almost-stellar pseudo-nucleus, but the coma had diffuse edges via 20×100 B; obs. at lower culmination [KAR02]. Feb. 23.01: jet 0′.8 long in p.a. 40°; dense star field [HOR02]. Feb. 24.02: jet 0′.8 long in p.a. 35°; dense star field [HOR02]. Feb. 24.99: obs. near lower culmination, but sky very transparent; w/ 9×63 B, easy object showing medium cond. towards center [KAM01]. Feb. 26.02: jet 0′.4 long in p.a. 69°, curved to p.a. 343°, emanating as second stream of tail; dense star field [HOR02]. Feb. 26.12: coma bright at center, its outer parts faint and diffuse [GRA04]. Feb. 26.80: "tail very faint — general direction and length confirmed in 25.4-cm J (58×), where the tail appeared to consist of several very faint streamers (but this was very elusive)" [BOU]. Feb. 26.83 and Mar. 7.82: The Sky ver. 5 software used for comp.-star mags [MIT]. Feb. 27.01: dense star field [HOR02]. Feb. 27.73: w/ 8.0-cm $f/6$ R (19×), coma dia. 10′, DC = 3 [KOS]. Feb. 28.94: clearly visible under a quite dark sky, but its proximity to a star of mag 7 made it somewhat challenging to obtain the formal obs. [GRA04].

Mar. 2.84: w/ 25.6-cm L (169×), central cond. of mag 13.2 [BIV]. Mar. 6.86: w/ 25.6-cm L (169×), central cond. of mag 12.5 [BIV]. Mar. 7.77: tail very faint [MEY]. Mar. 9.83: w/ 25.6-cm L (169×), central cond. of mag 12.7 [BIV]. Mar. 9.90: comet well condensed; moonlight [BOU]. Mar. 11.81, 20.81, and 23.82: round coma w/ central cond. of dia.

$\sim 1'$ [AND01]. Mar. 12.22: w/ 20.3-cm T (133×), central cond. of mag 12.3; obs. from IRAM observatory site (elev. 2900 m) at Pico-Veleta, Spain [BIV]. Mar. 12.96: round and well condensed coma; possibly elongated $\approx$ towards N; bright gibbous Moon [WAR01]. Mar. 14.17: surprisingly unconspicious object with small, highly condensed coma; no tail seen [KAM01]. Mar. 14.17, 11-day moon 3° over W horizon; comet strongly condensed with still a very faint tail visible in a very transparent sky [BOU]. Mar. 14.20: w/ 20.3-cm T (133×), central cond. of mag 11.8 [BIV]. Mar. 18.09: only faintly visible in 12×50 B; full moon [GRA04]. Mar. 18.84: w/ infrared-block filter; `Guide 8.0` software used for comp.-star mags [TSU02]. Mar. 21.75: a second tail 30′ long in p.a. 329° [SAJ]. Mar. 21.85: "*ICQ* summer (due to dusty horizon) and average tables (used to correct for atmospheric extinction) both give same result (0.3 mag brighter)" [MAR02]. Mar. 22.76: comet more condensed than 12 days earlier; easily visible faint tail [BAR06]. Mar. 22.77: a second tail 30′ long in p.a. 337° [SAJ]. Mar. 22.92: alt. 11° (lower culmination) [GRA04]. Mar. 23.03: m_1 estimate made w/ a 6×30 finder; a faint tail $\sim 0.^{\circ}2$ long towards the N was suspected w/ 20-cm T [KAR02]. Mar. 23.77: in twilight, w/ the comet at alt. 12° [KAC02]. Mar. 24.14: w/ 15.2-cm L, coma appeared blue-green with a bright central cond. and a false nucleus w/ $m_2 \approx 9.0$; tail was faint; w/ 12×50B, appearance similar to globular clusters M15 and M92 [GRA04]. Mar. 24.78: in twilight, w/ the comet at alt. 10°-11° [KAC02]. Mar. 26.04: w/ 36-cm L (70×), short tail visible [BAR06]. Mar. 28.10: tail was faint and broad [GRA04]. Mar. 30.10: well condensed; round coma; clear but hazy, and bright sky due to light pollution [WAR01]. Mar. 30.82: twilight; obs. at alt. of only 8° [BOU]. Apr. 3.11: w/ 7×50 B, comet appeared somewhat fainter and smaller than M15, which was seen under a similar geometry; w/ 15.2-cm L, tail faint and rather broad, but easier to see than previously [GRA04]. Apr. 7.09: clearly visible despite alt. 10° and twilight; clouds made m_1 estimate somewhat challenging [GRA04]. Apr. 8.11: tail only barely visible with 15.2-cm L [GRA04]. Apr. 9.11: twilight, alt. 12° [GRA04]. Apr. 12.13: twilight; 10-day moon 4° over W horizon; comet at alt. $7.^{\circ}5$ [BOU]. Apr. 14.10: only faintly visible due to twilight (sun 12° below horizon) and 8° alt. [GRA04].

◇ *Comet P/2003 A1* $\Longrightarrow$ 2003 Apr. 6.44: `GUIDE 8.0` software used for comp.-star mags [NAK01].

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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 [07 = Comet Section, British Astronomical Association; 11 = Dutch Comet Section (Werkgroep Kometen); 16 = Japanese observers (via Akimasa Nakamura, Kuma, Japan); 35 = South American observers (c/o Jose G. de Souza Aguiar, Brazil); 42 = Belarus observers (c/o V. S. Nevski and S. E. Shurpakov, Vitebsk); 48 = Ukrainian observers (c/o Denis A. Svechkarev); etc.]:*

ADA02	18	Jacek Adamik, Poland
AGU	35	Jose Serrano Agustoni, Brazil
AMO01	35	Alexandre Amorim, Brazil
AND01		Karl-Gustav Andersson, Sweden
ARA	35	Wesley Araujo, Salvador, Brazil
ARQ	35	Adrian Paulo Arquiola, Argentina
*ATA	43	Jure Atanackov, Slovenia
BAR		Sandro Baroni, Italy
BAR06	37	Alexandr R. Baransky, Ukraine
BIV		Nicolas Biver, France
BOH02	18	Jerzy Bohusz, Gdynia, Poland
BOU		Reinder J. Bouma, Netherlands
BUR04	18	Wojciech Burzynski, Poland
BUS01	11	E. P. Bus, The Netherlands
CAM03	14	Paul Camilleri, Australia
CER01	23	Jakub Černý, Praha, Czech Rep.
CHE03	33	K. T. Cernis, Moletai, Lithuania
CHR	18	Antoni Chrapek, Pikulice, Poland
COM	11	Georg Comello, The Netherlands
CRE01		Phillip J. Creed, OH, U.S.A.
CRE02	36	C. Cremaschini, Pompiano, Italy
CSU	32	Mátyás Csukás, Salonta, Romania
DES01		Jose G. de Souza Aguiar, Brazil
*DID01	37	Kostiantyn Didoboret's, Ukraine
DIE02		Alfons Diepvens, Belgium
DIJ		Edwin van Dijk, The Netherlands
*DOR02	18	Dariusz Dorosz, Poland
DUB01	37	Yuriy Dubrovs'ky, Kyiv, Ukraine
*DUL	37	Yu. M. Dulitch, Kyiv, Ukraine
DUS	18	Grzegorz Duszanowicz, Sweden
END	16	T. Endo, Nagano, Japan
EZA	16	Y. Ezaki, Toyonaka, Osaka, Japan
FIL04	18	Marcin Filipek, Poland
FOG		Sergio Foglia, Italy
GON05		J. J. Gonzalez, Asturias, Spain
GRA04	24	Bjoern Haakon Granslo, Norway
GRA09	18	K. Graczewski, Izabelin, Poland
GRE		Daniel W. E. Green, U.S.A.
HAS02		Werner Hasubick, Germany
*HIC02		Gabriel Rodrigues Hickel, Brazil
HIS	16	Tsutomu Hishikura, Japan
HOR02	23	Kamil Hornoch, Czech Republic
JAN03	23	Otto Janoušek, Czech Republic
*JAN06	18	Piotr Januszkiewicz, Poland
JOH01		C. Johannink, The Netherlands
JON	09	Albert F. Jones, New Zealand
*KAC02	43	Javor Kac, Slovenia
KAM01		A. Kammerer, Ettlingen, Germany
KAR02	21	Timo Karhula, Virsbo, Sweden
KEZ	18	Piotr Kezwon, Jasienica, Poland
KID01	18	Krzysztof Kida, Elblag, Poland
KIE	18	Grzegorz Kieltyka, Poland
KIS03	18	Adam Kisielewicz, Poland
KIT02		Maxim Kititsa, Kiev, Ukraine

KOS		A. Kősa-Kiss, Salonta, Romania
KOZ02	42	Alexandr Kozlovski, Russia
*KOZ03	37	S. Kozlov, Ukraine
KWI	18	Maciej Kwinta, Krakow, Poland
LAB02		C. Labordena, Castellon, Spain
LEH		Martin Lehky, Czech Republic
MAK02	18	Pawel Maksym, Lodz, Poland
MAN02	23	Roman Maňák, Lipov, Czech Rep.
MAN04		L. Mansilla, Rosario, Argentina
MAR02	13	Jose Carvajal Martinez, Spain
MAR12	18	Leszek Marcinek, Poland
MAR13	18	Jerzy Marcinek, Poland
MAT08		Michael Mattiazzo, S. Australia
MEY	28	Maik Meyer, Germany
*MIL06		Matt Mills, Madison, WI, USA
MIT	06	Shigeo Mitsuma, Saitama, Japan
MIY01	16	Osamu Miyazaki, Ibaraki, Japan
MOM	06	Masahiko Momose, Nagano, Japan
MOR04	37	Vladimir G. Mormyl, Ukraine
*MOZ	18	Dawid Mozdzierski, Poland
MUR02	16	S. Murakami, Niigata, Japan
NAG08	16	Yoshimi Nagai, Yamanashi, Japan
NAK01	16	A. Nakamura, Kuma, Ehime, Japan
NAV01		Ramon Naves, Barcelona, Spain
NED	23	Martin Nedved, Praha, Czech Rep.
NEK		A. N. Nekrasov, Baran, Belarus
NEV	42	V. S. Nevski, Vitebsk, Belarus
OHS	16	Yuuji Ohshima, Nagano, Japan
OOT	16	Isao Ootsuki, Miyagi, Japan
OSS	18	Piotr Ossowski, Poland
PAR03	18	Mieczyslaw L. Paradowski, Poland
*PEP		M. Barlow Pepin, TX, USA
POW01	18	Jacek Powichrowski, Poland
RIE	11	Hermanus Rietveld, Netherlands
SAJ	32	András Sajtz, Satu-Nou, Romania
SAN04	38	Juan M. San Juan, Madrid, Spain
SCH04	11	A. H. Scholten, The Netherlands
SCI		Tomasz Sciezor, Poland
SEA	14	David A. J. Seargent, Australia
*SEM02	42	Andrey S. Semenyuta, Kazakstan
SER02		Jẽrome Serant, Chevillon, France
SHA02	07	Jonathan D. Shanklin, England
SHU	42	S. E. Shurpakov, Baran, Belarus
SIE01	18	M. Siekierko, Michalowo, Poland
SIK01	18	M. Sikora, Lublin, Poland
SIW	18	Ryszard Siwiec, Poland
SKI	24	Oddleiv Skilbrei, Norway
SLO01	18	W. Slotwinski, Lancut, Poland
*SLU02	37	Volodymyr Slusarenko, Ukraine
SMY	18	J. Smyslo, Busko Zdroj, Poland
SOU01	35	Willian C. de Souza, Brazil
SPE01	18	Jerzy Speil, Poland
SVE01	48	Denis A. Svechkarev, Ukraine
SWI	18	Mariusz Swietnicki, Poland
*SZW	18	Grzegorz Szwed, Torun, Poland
TAY	01	Melvyn D. Taylor, England
TIT	48	R. E. Titarenko, Ukraine
TOB	18	Dariusz Tober, Lublin, Poland
TRE03	18	Aleksander Trebacz, Poland
TSU02	16	M. Tsumura, Wakayama, Japan
TUR01	18	Pawel Turek, Krakow, Poland
VEL03	37	Peter Velestschuk, Ukraine
*VOV01	37	Yevgen Vovk, Kyiv, Ukraine
WAR01		Johan Warell, Sweden
YOS02	16	K. Yoshimoto, Yamaguchi, Japan
YOS04	16	Seiichi Yoshida, Ibaraki, Japan
*ZAK	43	Jure Zakrajsek, Slovenia
ZNO	23	Vladimír Znojil, Czech Republic

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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

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^o, east = 90^o). "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 old-style CCD tabulated data begin on page 97 of this issue; the new-style CCD tabulated data also begin on page 97.*

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Visual Data

Comet 10P/Tempel

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1999 10 31.44		S	11.8	GA	20.3	L	7	61	1	2			CAM03
1999 11 02.45		S	11.9	GA	20.3	L	7	61	1	2			CAM03

Comet 21P/Giacobini-Zinner

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 10 24.43		S	8.9	MM	8.0	B		20	3	2			CAM03

Comet 29P/Schwassmann-Wachmann

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 08 07.92	x	S	11.8	TT	20	L	5	110	2.2	3			POW01
2002 10 10.80	x	S	12.8	HS	30	L	4	191	1.2	3			GRA09
2002 11 01.85		B	12.4	TI	20	T	10	80	1.5	3			LAB02
2002 11 02.46		S	13.5:	HS	28	T	10	133	1	4			MAT08
2002 11 04.51		S	13.3	HS	28	T	6	84	1	7			MAT08

Comet 30P/Reinmuth

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.58		S	13.6:	HS	28	T	10	133	1	4			MAT08
2003 02 13.81	x	S	12.9	TJ	31.7	L	6	152	0.6	3			MIY01

Comet 30P/Reinmuth [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 25.98		S	12.8	AC	31.0	J	6	109	1.6	0/			DIJ
2003 02 25.98		S	13.1	AC	31.0	J	6	109	1.5	3			BOU
2003 02 26.68	x	S	13.5	HS	31.7	L	6	152	1.1	2			MIY01
2003 02 26.88		B	13.6	HS	42	L	5	81	1.4	5			LEH
2003 02 27.62	x	S	13.3	HS	31.7	L	6	152	0.7	2			MIY01
2003 02 28.62	x	S	13.3	HS	31.7	L	6	152	0.8	2			MIY01
2003 03 04.78	x	S	12.6	HS	31.7	L	6	152	1.6	2/			MIY01
2003 03 07.79		S[	12.5	HS	32.0	L	5	87	! 1.5				NAG08
2003 03 09.78	x	S	12.8	HS	31.7	L	6	152	0.8	2			MIY01
2003 03 10.75	x	S	12.9	HS	31.7	L	6	152	1.3	2			MIY01
2003 03 12.74	x	S	13.6	HS	31.7	L	6	152	0.9	2			MIY01
2003 03 21.90		S	13.3	NP	21	L	6	100	0.75	2			MAR02
2003 03 22.93		S	13.3	SK	31.0	J	6	109	1.2	3			DIJ
2003 03 22.93		S	13.5	SK	31.0	J	6	109	1.2	2/			BOU
2003 03 23.82		S	14.0	HS	44.0	L	5	156	0.3	4			HAS02
2003 03 24.87		B	13.6	HS	42	L	5	162	1.4	4/			LEH
2003 03 26.86		S	13.6	TT	36	L	6	70	1.3	2			BAR06
2003 03 30.88		S	13.4	SK	31.0	J	6	109	1.1	3/			BOU
2003 03 30.88		S	13.5	SK	31.0	J	6	109	1.5	2			DIJ
2003 03 31.54		S	13.4	GA	25.4	L	4	114					SEA
2003 04 04.88		S	14.0:	HS	44.5	L	4	200	0.8	2			KAR02
2003 04 08.91		S	14.1	HS	35	L	5	237	0.8	2/			HOR02
2003 04 23.92		S	13.9	SK	31.0	J	6	109	1.0	2/			BOU
2003 04 23.93		S	13.6	SK	31.0	J	6	109	1.0	1/			DIJ
2003 04 29.92		S	13.9	SK	31.0	J	6	143	1.0	3			BOU
2003 04 29.93		S	13.7	SK	31.0	J	6	143	0.8	0/			DIJ

Comet 46P/Wirtanen

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 09 13.05	x	S	10.8	TT	20	L	5	50	2.3	4			POW01
2002 09 28.18		B	9.3	TI	20	T	10	50	2	3			LAB02
2002 10 10.09	x	S	11.2	TT	20	L	5	50	2.6	2			BUR04
2002 10 10.09	x	S	11.2	TT	20	L	5	50	3.8	2/			POW01

Comet 67P/Churyumov-Gerasimenko

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 10 10.08	x	S	12.8	HS	20	L	5	110	1.9	2/			POW01
2002 10 10.08	x	S	12.9	HS	20	L	5	110	2	3			BUR04

Comet 81P/Wild

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 01 12.51		S	11.4	GA	20.3	L	7	61	1	5			CAM03
1997 01 13.53		S	11.3	GA	20.3	L	7	61	1	6			CAM03
1997 02 03.45		S	10.2	GA	20.3	L	7	61	3	6			CAM03
2003 03 21.88		S[	12.7	NP	21	L	6	100	1				MAR02
2003 03 22.86	a	S	13.8	AC	31.0	J	6	143	0.4	1/			DIJ
2003 03 22.86	a	S	13.8	AC	31.0	J	6	143	0.6	4			BOU
2003 03 23.81		S	13.2	HS	44.0	L	5	156	0.5	4			HAS02
2003 03 24.81		B	13.7	HS	42	L	5	162	1.2	4/			LEH

Comet 88P/Howell

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 10 24.46		M	10.6	TJ	20.3	L	7	61	2	2			CAM03

Comet 92P/Sanguin

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 08 16.99	x	S[	13.0	HS	30	L	4	191	! 0.7				GRA09
2002 09 02.92	x	S	12.7	TT	20	L	5	110	2.2	4			POW01
2002 09 02.93	x	S	12.9	HS	20	L	5	110	2.1	2/			BUR04
2002 11 02.48		S	14.0:	HS	28	T	10	133	1	4			MAT08

Comet 106P/Schuster

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1999 11 12.47		M	13.0	GA	20.3	L	7	61	0.5	2			CAM03

Comet 116P/Wild

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.71		S	12.5:	HS	28	T	10	133	1	4			MAT08
2003 03 05.57		S	13.3	GA	25.4	L	4	114	0.7				SEA
2003 03 06.57		S	13.3	GA	25.4	L	4	114	0.7				SEA
2003 03 10.78	x	S	14.4	HS	31.7	L	6	152	0.9	3			MIY01
2003 04 05.68	x	S	13.5	HS	25.4	L	4	116	1.6	4			YOS02
2003 04 06.04		S	11.5	NP	31.8	L	5	75	2	3			SAN04
2003 04 06.04		S	12.0	NP	31.8	L	5	75	2	2/			MAR02
2003 04 06.14		S	12.3	HS	20.3	T	10	77	1.5	2			GON05

Comet 118P/Shoemaker-Levy

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 01 12.50		S	12.5	GA	20.3	L	7	56	1.5	2			CAM03
1997 01 13.52		S	12.5	GA	20.3	L	7	56	1.5	3			CAM03
1997 01 28.50		S	12.6	GA	20.3	L	7	56	1	3			CAM03
1997 02 03.42		S	12.8	GA	20.3	L	7	56	1	3			CAM03

Comet 141P/Machholz

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1999 11 12.44		M	11.5:	GA	20.3	L	7	61	2	2			CAM03

Comet 153P/Ikeya-Zhang

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 02 10.42		S	7.5	TJ	8.0	B		20	3	4			CAM03
2002 02 10.42		S	8.0:	TJ	6.0	R	10	24	2	6			CAM03
2002 06 02.91		B	8.8	TI	20	T	10	50	8	3			LAB02
2002 06 11.89		B	7.9	TI	20	T	10	50	7	3			LAB02
2002 06 14.93		M	7.5	TI	6	R		10	10	4			BAR06
2002 06 27.83		B	8.4	VF	6.0	B		20	12	3			MOR04
2002 06 28.85		B	8.5	VF	6.0	B		20	11	3			MOR04
2002 06 28.89		B	10.5:	TI	20	T	10	50	5	2			LAB02
2002 06 29.80		B	8.6	VF	6.0	B		20	11	3			MOR04
2002 06 30.83		B	8.7	VF	6.0	B		20	11	3			MOR04
2002 06 31.83		B	8.8	VF	6.0	B		20	11	3			MOR04
2002 07 01.87		B	9.0	VF	6.0	B		20	10	3			MOR04
2002 07 02.83		B	9.3	VF	6.0	B		20	10	3			MOR04
2002 07 03.83		B	9.5	VF	6.0	B		20	9	3			MOR04
2002 07 04.85		B	9.7	VF	6.0	B		20	9	3			MOR04
2002 07 05.85		B	9.7:	VF	6.0	B		20	8	3			MOR04
2002 07 06.83		B	9.8:	VF	6.0	B		20	7	3			MOR04
2002 07 07.83		B	9.9:	VF	6.0	B		20	7	3			MOR04
2002 07 08.83		B	10.0:	VF	6.0	B		20	6	2			MOR04
2002 07 09.03		B	10.2:	VF	6.0	B		20	6	2			MOR04
2002 07 10.83		B	10.2:	VF	6.0	B		20	6	2			MOR04
2002 07 13.96		B	9.6	TI	20	T	10	50	3	1	8	m	LAB02
2002 07 28.89	x	S	10.7	TI	30	L	4	132	1.5	1			GRA09
2002 07 30.87		B	10.7	TI	20	T	10	50	3	1	5	m	LAB02
2002 07 30.88	x	S	10.8	TI	30	L	4	96	2	0/			GRA09

Comet 154P/Brewington

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 11 02.47		S[	14.0	HS	28	T	10	133					MAT08
2002 11 04.50		S[	13.5	HS	28	T	6	84					MAT08
2003 02 20.78		S	11.7	TK	25.4	J	6	72	1.7	2			BOU
2003 02 21.78		S	11.6	TK	25.4	J	6	72	1.9	1/			BOU
2003 02 21.78		S	11.8	TK	25.4	J	6	72	1.8	1/			DIJ
2003 02 22.72		S	12.8	TK	30	L	5	180	1	2			NEV

Comet 154P/Brewington [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 22.75		M	12.8	HS	35	L	5	158	1.3	3			HOR02
2003 02 22.78		S	11.6	TK	25.4	J	6	72	2.0	1/			BOU
2003 02 22.78		S	11.8	TK	25.4	J	6	72	1.6	2			DIJ
2003 02 23.74		M	12.6	HS	35	L	5	158	1.4	3			HOR02
2003 02 23.79		S	11.7	TK	31.0	J	6	89	1.6	1/			DIJ
2003 02 23.79		S	11.7	TK	31.0	J	6	89	1.7	1/			BOU
2003 02 25.78		S	11.6	TK	25.4	J	6	72	1.9	2			BOU
2003 02 25.79		S	11.6	TK	25.4	J	6	72	1.5	1			DIJ
2003 02 26.78		S	11.6	TK	25.4	J	6	88	1.7	2			BOU
2003 03 22.82		S	12.2	TK	31.0	J	6	89	1.8	2			BOU
2003 03 22.82		S	12.3	TK	31.0	J	6	89	1	1			DIJ

Comet 155P/Shoemaker

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.56		S	14.0:	HS	28	T	10	133	1	3			MAT08
2003 02 02.00		M	12.0	TT	42	L	5	81	1.5	4			LEH
2003 02 25.97		S	13.1	AC	31.0	J	6	109	1.4	2			DIJ
2003 02 25.97		S	13.2	AC	31.0	J	6	109	1.3	2/			BOU
2003 02 26.83		B	13.8	HS	42	L	5	81	1.2	4			LEH
2003 03 22.92		S	14.0	AC	31.0	J	6	143	0.9	1/			DIJ
2003 03 22.92		S	14.1	AC	31.0	J	6	143	0.9	2			BOU

Comet C/1995 O1 (Hale-Bopp)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 11 09.45		S	4.8	SC	8.0	B		20	8	6			CAM03
1997 04 25.34		S	-0.3	SC	8.0	B		20	10	s9			CAM03
1997 04 26.34		S	-0.3	SC	8.0	B		20	10	s9			CAM03
1997 05 05.35		I	0.0	SC	0.7	E		1			2	180	CAM03
1997 05 05.35		S	0.2	SC	8.0	B		20	10	s9	3	180	CAM03
1997 05 07.35		S	0.3	SC	8.0	B		20	10	s9	3	180	CAM03
1997 05 09.35		I	0.2	SC	0.7	E		1			1	180	CAM03
1997 05 09.35		S	0.5	SC	8.0	B		20	10	s9	3	180	CAM03
1997 05 10.36		I	0.3	SC	0.7	E		1			1	180	CAM03
1997 05 10.36		S	0.5	SC	8.0	B		20	10	s9	4	180	CAM03
1997 05 11.36		I	0.5	SC	0.7	E		1			1	180	CAM03
1997 05 11.36		S	0.6	SC	8.0	B		20	10	s9	3	180	CAM03
1997 05 12.36		I	0.5	SC	0.7	E		1			1	180	CAM03
1997 05 12.36		S	0.6	SC	8.0	B		20	10	s9	2	180	CAM03
1997 05 13.35		I	0.5	SC	0.7	E		1			1	180	CAM03
1997 05 13.35		S	0.6	SC	8.0	B		20	10	s9	2	180	CAM03
1997 05 14.35		S	0.7	SC	8.0	B		20	10	s9	2	150	CAM03
1997 05 18.36		S	1.0	SC	8.0	B		20	10	s9	1	150	CAM03
1997 05 19.36		S	1.1	SC	8.0	B		20	10	s8	2	150	CAM03
1997 05 25.35		S	1.8	SC	8.0	B		20	8	s8	2	110	CAM03
1997 05 26.36		S	1.9	SC	8.0	B		20	8	s9	2	100	CAM03
1997 05 27.35		I	2.0	SC	0.7	E		1					CAM03
1997 05 27.35		S	2.0	SC	8.0	B		20	8	s9	2	100	CAM03
1997 05 30.36		S	2.0	SC	8.0	B		20	8	s9	3	110	CAM03
1997 06 18.36		S	2.8	SC	8.0	B		20	4	7	0.5	220	CAM03
1997 07 18.81		I	4.0	SC	0.7	E		1					CAM03
1997 07 18.81		S	3.9	SC	8.0	B		20	2	5	0.5	190	CAM03
1997 10 18.70		S	5.8	SC	8.0	B		20	3	5			CAM03
1998 10 15.56		S	10.5	GA	20.3	L	7	61	2	3			CAM03
1998 10 24.72		M	10.5	GA	20.3	L	7	61	3	3	0.1		CAM03
1999 02 16.42		M	11.0	GA	20.3	L	7	61	2	2			CAM03
1999 03 07.45		M	11.5	GA	20.3	L	7	61	2	3			CAM03
1999 03 07.46		M	11.0	MM	8.0	B		20	3	2			CAM03
1999 03 09.46		M	11.1	MM	8.0	B		20	3	2			CAM03
1999 06 04.36		M	12.0	GA	20.3	L	7	61	1	2			CAM03
1999 06 06.41		M	12.0	GA	20.3	L	7	61	1	2			CAM03
1999 06 07.41		M	12.0	GA	20.3	L	7	61	1	3			CAM03
1999 11 07.44		M	13.0	GA	20.3	L	7	61	1	2			CAM03

Comet C/1997 J2 (Meunier-Dupouy)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 10 20.55		S	12.2	GA	20.3	L	7	61	2	3			CAM03
1998 10 24.47		S	12.3	GA	20.3	L	7	61	2	3			CAM03

Comet C/1997 N1 (Tabur)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 07 18.81		S	10.0	MM	8.0	B		20	2	2			CAM03

Comet C/1999 F1 (Catalina)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.50			[14.5	HS	28	T	10	133					MAT08

Comet C/1999 H1 (Lee)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1999 06 03.39		M	7.2	SA	20.3	L	7	61	3	7	0.35	60	CAM03
1999 06 04.35		M	7.2	SA	20.3	L	7	61	3	7	0.35	60	CAM03
1999 06 06.40		M	6.8	SA	8.0	B		20	6	5	0.5	60	CAM03
1999 06 07.36		M	6.6	SA	8.0	B		20	6	6	0.5	60	CAM03
1999 06 07.39		M	6.8	SA	20.3	L	7	61	4	7	0.35	60	CAM03
1999 10 14.84		S	9.6	AA	11	L	7	32	5	3			VEL03
1999 11 12.50		M	12.0	GA	20.3	L	7	61	1	2			CAM03

Comet C/1999 J3 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1999 10 31.45		M	8.3	TJ	20.3	L	7	61	3	4			CAM03
1999 11 02.48		M	8.4	TJ	20.3	L	7	61	4	3			CAM03
1999 11 03.54		M	8.5	TJ	8.0	B		20	6	3			CAM03
1999 11 09.45		M	8.7	TJ	6.0	R	10	25	3	2			CAM03
1999 11 09.45		M	8.7	TJ	8.0	B		20	5	2			CAM03
1999 11 10.46		M	8.7	TJ	8.0	B		20	4	2			CAM03
1999 11 11.47		M	8.8	TJ	8.0	B		20	5	3			CAM03
1999 11 12.48		M	8.9	TJ	8.0	B		20	6	2			CAM03
1999 11 12.49		M	8.9	TJ	20.3	L	7	61	4	3			CAM03

Comet C/1999 S4 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2000 07 02.93		S	8.7	AA	11	L	7	32	2.3	5	5	280	VEL03
2000 07 21.86		S	5.8	AA	5.0	B		7	9	5	2	18	VEL03
2000 07 23.86		S	5.9	AA	5.0	B		7	10	4	1	42	VEL03
2000 07 25.86		S	5.9	AA	5.0	B		7	10	4	1	58	VEL03

Comet C/2000 SV_74 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 26.00		S	13.6	AC	31.0	J	6	124	0.9	2			DIJ
2003 02 26.00		S	13.8	AC	31.0	J	6	124	0.9	3/			BOU
2003 03 22.96		S	13.7	AC	31.0	J	6	109	0.7	3/			BOU
2003 03 22.96		S	13.9:	AC	31.0	J	6	109	0.5	2			DIJ
2003 03 24.93		B	13.6	HS	42	L	5	162	1	3			LEH
2003 03 30.92		S	13.9	AC	31.0	J	6	143	0.6	3			BOU
2003 03 30.93		S	14.2	AC	31.0	J	6	143	0.7	1/			DIJ

Comet C/2000 W1 (Utsunomiya-Jones)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2000 12 01.41		S	6.2	TJ	8.0	B		20	5	3			CAM03

Comet C/2000 WM_1 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2001 11 16.81		S	7.0	AA	5.0	B		7	20	3			VEL03

Comet C/2000 WM_1 (LINEAR) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2001 11 17.09		S	7.0	AA	5.0	B		7	17	4			VEL03
2001 11 20.80		S	6.3	AA	5.0	B		7	18	4			VEL03
2001 12 10.52		S	5.8	TJ	8.0	B		20	10	4	1	30	CAM03
2001 12 18.42		S	5.8	TJ	8.0	B		20	10	5	1	40	CAM03
2001 12 19.50		M	5.5	TJ	8.0	B		20	10	6	1	50	CAM03
2002 01 04.46		M	6.0	TJ	8.0	B		20	5	6	2	80	CAM03
2002 01 05.44		M	6.0	TJ	8.0	B		20	5	6	2	80	CAM03
2002 01 07.46		M	6.1	TJ	8.0	B		20	6	7	1	90	CAM03
2002 01 13.46		M	5.8	TJ	8.0	B		20	3	7			CAM03
2002 02 07.73		M	4.0	TJ	8.0	B		20	3	6	1	230	CAM03
2002 02 08.73		M	4.0	TJ	6.0	R		24	1	7	2	220	CAM03
2002 02 08.73		M	4.0	TJ	8.0	B		20	2	7	3	220	CAM03

Comet C/2001 A2 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2001 04 12.47		S	8.3	TJ	8.0	B		20	3	3			CAM03
2001 04 13.41		S	7.6	TJ	8.0	B		20	3	3			CAM03
2001 04 14.40		S	7.7	TJ	8.0	B		20	4	4			CAM03
2001 04 16.46		S	8.0	TJ	8.0	B		20	3	3			CAM03
2001 04 17.45		S	7.7	TJ	8.0	B		20	5	4	0.1	110	CAM03
2001 05 10.38		S	5.9	TJ	8.0	B		20	5	6	0.2	130	CAM03
2001 05 13.45		S	5.7	TJ	8.0	B		20	5	6	2	140	CAM03
2001 05 17.36		S	5.5	TJ	8.0	B		20	4	6	3	140	CAM03
2001 05 19.37		S	5.5	TJ	8.0	B		20	4	6	7	145	CAM03
2001 05 20.37		S	5.5	TJ	8.0	B		20	5	5	4	145	CAM03
2001 05 23.37		S	5.4	TJ	8.0	B		20	6	5	7	145	CAM03
2001 06 14.80		S	3.6	TJ	8.0	B		20	15	7	3	215	CAM03
2001 06 15.82		S	3.4	TJ	8.0	B		20	15	7	7	215	CAM03
2001 06 16.78		S	3.2	TJ	8.0	B		20	15	7	7	210	CAM03
2001 06 17.78		S	3.5	TJ	8.0	B		20	15	7	3	210	CAM03
2001 06 18.78		S	3.8	TJ	8.0	B		20	12	6	2	210	CAM03
2001 06 19.77		S	4.0	TJ	8.0	B		20	10	6	2	210	CAM03
2001 06 21.78		S	4.4	TJ	8.0	B		20	10	6	1.5	230	CAM03
2001 06 24.78		S	4.5	TJ	8.0	B		20	15	6	1	240	CAM03
2001 06 25.79		S	4.4	TJ	8.0	B		20	15	6	1	240	CAM03
2001 06 28.78		S	4.2	TJ	8.0	B		20	15	5	1	240	CAM03
2001 06 29.77		S	4.3	TJ	8.0	B		20	15	5	1	240	CAM03
2001 07 13.89		S	5.0	AA	5.0	B		7	30	4			VEL03
2001 07 15.89		S	5.8	AA	5.0	B		7	12	2			VEL03
2001 07 16.89		S	6.0	AA	5.0	B		7	12	2			VEL03
2001 07 18.89		S	6.1	AA	5.0	B		7	10	2			VEL03

Comet C/2001 HT_50 (LINEAR-NEAT)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 12 03.62		S	13.5:	HS	28	T	6	196	0.8	5			MAT08
2003 01 01.62		S	12.5	GA	28	T	10	133	1	6			MAT08
2003 01 03.58		S	12.1	TK	30	L	6	83	1	6			MAT08
2003 01 05.58		S	12.0	TK	20	L	7	67	1.2	5			MAT08
2003 01 21.88		B	11.2	TI	20	T	10	160	1	2			LAB02
2003 01 23.86		B	11.5	TI	20	T	10	160	1	2			LAB02
2003 01 24.88		S	12.1	HS	25.6	L	5	84	1.3	5			BIV
2003 01 27.88		S	11.9	TK	25.6	L	5	84	1.4	3			BIV
2003 01 28.96		M	11.7	HS	13	L	8	69	1.6	6/			HOR02
2003 01 31.95		M	11.7	HS	13	L	8	69	1.4	5/			HOR02
2003 02 01.80		M	10.4	TT	42	L	5	81	2	5			LEH
2003 02 01.92		B	11.5	TI	20	T	10	80	2	2			LAB02
2003 02 01.93		M	11.4	TK	13	L	8	69	1.3	6			HOR02
2003 02 01.99		S	11.8	TK	30	R	20	185	0.6	3			SHA02
2003 02 02.97		S	12.0	HS	25.4	T	10	158	1	1			AMO01
2003 02 03.05		S	11.8	TK	30	R	20	185	0.6	3			SHA02
2003 02 03.72	x	S	12.7	HS	31.7	L	6	152	0.5	3/			MIY01
2003 02 03.73		S[	12.0	HS	31.7	L	6	152	! 0.8				YOS04
2003 02 04.98		S	11.6	TK	33	L	5	100	0.8	3			SHA02

Comet C/2001 HT_50 (LINEAR-NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 05.86		S	12.0	TK	25.6	L	5	84	1.3	5			BIV
2003 02 06.65	x	S	12.6	HS	32.0	L	5	87	1.3	5/			NAG08
2003 02 07.43	x	S	12.6	HS	31.7	L	6	152	1.0	3			MIY01
2003 02 07.79		M	10.4	TT	42	L	5	81	2.2	5			LEH
2003 02 07.91		M	10.9	TK	13	L	8	69	1.4	5/			HOR02
2003 02 10.85		M	11.0	TK	30	L	5	60	1	s5			NEV
2003 02 20.80		S	12.0	TK	25.4	J	6	88	1.4	4			BOU
2003 02 20.87		S	12.0	TJ	20.3	T	10	77	1	5			GON05
2003 02 21.48	x	S	11.6:	HS	31.7	L	6	152	1.2	3			MIY01
2003 02 21.82		S	11.7	TK	25.4	J	6	88	1.5	2			DIJ
2003 02 21.82		S	11.9	TK	25.4	J	6	88	1.2	4			BOU
2003 02 21.86		S	12.5	HS	25.6	L	5	84	1.0	5			BIV
2003 02 22.75		M	12.2	TK	30	L	5	60	1.3	3			NEV
2003 02 22.79		M	11.0	TT	42	L	5	81	1.8	4/			LEH
2003 02 22.81		S	11.6	TK	25.4	J	6	88	1.4	3/			BOU
2003 02 22.82		S	11.7	TK	25.4	J	6	88	1.4	1			DIJ
2003 02 22.88		M	11.1	TK	13	L	8	69	1.2	5/			HOR02
2003 02 23.77		M	11.0	TT	42	L	5	81	1.8	4			LEH
2003 02 23.80		S	11.5	TK	31.0	J	6	109	1.2	3			DIJ
2003 02 23.80		S	11.8	TK	31.0	J	6	109	1.2	4			BOU
2003 02 23.93		M	11.0	TK	13	L	8	69	1.4	5/			HOR02
2003 02 24.77		M	11.2	TT	42	L	5	81	1.8	4/			LEH
2003 02 24.82		S	12.2	HS	44.0	L	5	156	0.7	4			HAS02
2003 02 24.89		M	11.3	TI	11.4	L	8	76	2	6			CER01
2003 02 24.90		S	12.0	HS	30.5	T	10	161	0.7	5			KAM01
2003 02 25.46	x	S	11.8:	HS	25.4	L	4	113	0.9	5			YOS02
2003 02 25.79		S	11.9	TK	25.4	J	6	88	1.2	s4			BOU
2003 02 25.80		S	11.9	TK	25.4	J	6	88	1.7	1/			DIJ
2003 02 25.83		M	12.9	HS	30	L	5	60	0.8	2			NEV
2003 02 25.87		S	11.5	TK	25.4	L	5	104	1.0	3/			MEY
2003 02 25.89		S	11.9	TK	30.5	T	10	161	0.7	5			KAM01
2003 02 25.90		M	11.1	TK	13	L	8	69	1.3	6			HOR02
2003 02 26.77		M	11.5	TI	42	L	5	81	1.6	4			LEH
2003 02 26.79		S	11.8	TK	25.4	J	6	88	1.3	3/			BOU
2003 02 26.84		M	11.8	HS	11.4	L	8	76	2	7			CER01
2003 02 26.90		M	11.2	TK	13	L	8	69	1.3	4/			HOR02
2003 02 26.91		M	12.0	HS	11.4	L	8	76	2	7			NED
2003 02 27.45	x	S	12.0:	HS	32.0	L	5	87	1.0	5			NAG08
2003 02 27.60	x	S	11.2	HS	31.7	L	6	152	0.8	2			MIY01
2003 02 28.53	x	S	11.9	HS	45.7	L	4	170	1.0	6			MUR02
2003 02 28.56	x	S	11.4	HS	31.7	L	6	152	1.1	2			MIY01
2003 03 04.81		B	11.9	TI	20	T	10	80	1	2			LAB02
2003 03 04.85		M	11.0	TK	13	L	8	69	1.3	5/			HOR02
2003 03 04.90		S	11.6	NP	21	L	6	55	1.5	2			MAR02
2003 03 06.85		M	12.8	HS	30	L	5	60	1	1			NEV
2003 03 06.95		S	12.4	HS	25.6	L	5	84	1.3	5			BIV
2003 03 07.87		S	13.0	HS	30	L	5	60	0.8	1			NEV
2003 03 21.78		S	12.7	HS	30	L	5	180	0.7	1			NEV
2003 03 22.84		S	12.0:	TK	31.0	J	6	143	1.1	4			BOU
2003 03 22.84		S	12.4:	TK	31.0	J	6	143	1.2	2/			DIJ
2003 03 22.88		S	11.8	TK	30.5	T	10	117	0.7	4			KAM01
2003 03 23.78		S	12.7	HS	30	L	5	100	0.7	2			NEV
2003 03 23.80		M	11.5	TK	13	L	8	69	1.3	4			HOR02
2003 03 23.81		S	11.3	HS	44.0	L	5	156	0.5	4			HAS02
2003 03 23.83		S	12.2	TK	25.4	J	6	115	1.0	3			BOU
2003 03 23.87		S	11.7	TK	30.5	T	10	117	0.6	3			KAM01
2003 03 24.83		M	11.8	HS	42	L	5	81	1.5	4			LEH
2003 03 25.82		S	12.5	TK	30	L	5	60	0.9	2			NEV
2003 03 26.76		S	12.0	HS	36	L	6	70	0.6	3			BAR06
2003 03 30.83		S	12.2	TK	31.0	J	6	109	1.4	3			BOU
2003 03 30.84		S	12.1	TK	31.0	J	6	109	1.4	1/			DIJ
2003 03 30.88		S	12.9:	VB	30	R	20	230	0.5	3			SHA02
2003 03 31.84		S	12.1:	HS	30.5	T	10	115	0.6	3			KAM01
2003 03 31.87		S	13.5:	HS	30	R	20	300	0.5	3			SHA02
2003 04 03.83		B	11.6	TI	23.5	T	10	94	1.5	2			LAB02

Comet C/2001 HT_50 (LINEAR-NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 04 04.82		S	11.7	TK	13	L	8	69	1.1	3			HOR02
2003 04 04.84		S	12.3	TK	30.5	T	10	167	0.6	3			KAM01
2003 04 05.83		B	11.3	TI	23.5	T	10	67	2	2			LAB02
2003 04 05.92		S	12.0	NP	31.8	L	5	75	1.5	3			SAN04
2003 04 05.92		S	12.2	NP	31.8	L	5	75	1.25	3			MAR02
2003 04 08.80		M	11.7	TK	35	L	5	68	1.0	4			HOR02

Comet C/2001 K5 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 05 02.97	x	S	13.5	HS	20	L	5	110	1.1	3			POW01
2002 05 02.98	x	S	13.6	TT	20	L	5	110	0.8	3/			SIE01
2002 05 05.97	x	S	13.4	HS	20	L	5	110	0.8	2/			POW01
2002 05 11.97	x	S	13.5	HS	20	L	5	110	0.9	2/			POW01
2002 05 11.98	x	S	13.4	TT	20	L	5	110	0.7	3			SIE01
2002 08 07.93	x	S	12.9	HS	20	L	5	110	1.5	2/			POW01
2003 03 22.99		S	13.7	SK	31.0	J	6	143	0.7	4			BOU
2003 03 23.00		S	13.5	SK	31.0	J	6	143	0.7	2/			DIJ
2003 03 25.10		M	12.8	HS	42	L	5	81	0.8	6			LEH
2003 04 09.00		M	14.3	HS	35	L	5	237	0.4	7	0.6m	220	HOR02
2003 04 23.97		S	13.7	SK	31.0	J	6	143	0.8	4			BOU
2003 04 23.98		S	13.6	SK	31.0	J	6	143	1.1	1/			DIJ

Comet C/2001 N2 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 05 06.01	x	S	13.4	HS	20	L	5	110	0.6	3			POW01
2002 05 11.95	x	S	13.3	HS	20	L	5	110	0.7	3/			POW01
2002 05 11.96	x	S	13.3	TT	20	L	5	110	0.5	2			SIE01
2002 08 07.90	x	S	13.0	HS	20	L	5	110	0.9	3			POW01

Comet C/2001 Q4 (NEAT)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 12 03.56		S	14.5:	NO	28	T	6	196	0.3	6			MAT08
2003 02 01.52		S	15.0:	HS	28	T	10	133	0.5	5			MAT08

Comet C/2001 RX_14 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 11 02.09		B	12.2	TI	25	L	5	96	2	2			LAB02
2002 12 08.89		S	11.5	HS	36	L	6	70	1.2	3	0.05	321	BAR06
2003 01 15.03		B	11.3	TI	20	T	10	80	2	6			LAB02
2003 01 23.93		B	11.6	TI	20	T	10	160	2	3			LAB02
2003 01 23.94		M	11.6	TK	15.0	R	8	60	2.0	6			ATA
2003 01 24.90		S	10.7	TK	25.6	L	5	42	2.5	5			BIV
2003 02 01.05		M	10.4	TK	13	L	8	69	2.5	3/			HOR02
2003 02 01.80	x	S	11.6	HS	31.7	L	6	63	1.5	5	11 m	300	MIY01
2003 02 01.92		M	10.0	TT	42	L	5	81	3	3/			LEH
2003 02 01.93		B	10.4	TI	20	T	10	50	4	2			LAB02
2003 02 01.98		M	10.4	TK	13	L	8	69	2.3	3			HOR02
2003 02 03.00		M	10.9	TK	25.4	J	6	58	2.7	4			BOU
2003 02 03.06		S	11.7	TK	30	R	20	185	0.7	5			SHA02
2003 02 03.77		S	10.4	TJ	31.7	L	6	63	1.7	6/			YOS04
2003 02 03.78	x	S	11.3	HS	31.7	L	6	63	1.3	5	5.7m	265	MIY01
2003 02 03.91		S	11.2	TT	30.0	L	5	60	& 3	6			SCH04
2003 02 04.12		S	10.7	TK	25.6	L	5	42	2.2	5			BIV
2003 02 04.23		S	11.2	TK	20	R	14	140	0.7	4			SHA02
2003 02 04.79	x	M	10.9	TK	25.4	L	4	46	1.8	6	7 m	290	YOS02
2003 02 04.99		S	11.5	TK	33	L	5	75	0.7	5			SHA02
2003 02 05.13		S	10.9	TK	25.6	L	5	42	2.5	4	0.10	310	BIV
2003 02 06.16		M	10.8	TK	25.4	J	6	58	2.5	4			BOU
2003 02 06.66	x	S	10.8	TJ	32.0	L	5	58	1.9	6	3 m	305	NAG08
2003 02 06.80	x	S	11.3	HS	31.7	L	6	63	1.6	5	6 m	275	MIY01
2003 02 07.79	x	S	11.5	HS	31.7	L	6	63	1.2	5	5 m	285	MIY01

Comet C/2001 RX_14 (LINEAR) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 07.94		M	10.2	TT	13	L	8	69	2.7	3/			HOR02
2003 02 11.07		M	11.2	TK	30	L	5	60	1.3	4			NEV
2003 02 13.83	x	S	11.5	HS	31.7	L	6	63	1.7	5	3 m	265	MIY01
2003 02 14.21		S	10.7	TK	25.4	J	6	72	2.5	4/			DIJ
2003 02 14.21		S	10.8	TJ	15.0	R	15	140	2	2			DIE02
2003 02 14.21		S	10.8	TK	25.4	J	6	72	2.3	3/			BOU
2003 02 20.81		S	10.8	TK	25.4	J	6	72	2.4	3/			BOU
2003 02 20.87		S	11.0	TK	25.6	L	5	42	2.5	4			BIV
2003 02 20.91		S	10.9	TJ	20.3	T	10	77	2	6	0.1	280	GON05
2003 02 21.83		S	10.8	TK	25.4	J	6	72	2.5	4/			DIJ
2003 02 21.83		S	10.9	TK	25.4	J	6	72	2.2	3/			BOU
2003 02 21.94		S	11.0	TK	25.6	L	5	42	2.5	4			BIV
2003 02 22.12		S	11.1	TJ	15.0	R	15	140	1	3			DIE02
2003 02 22.79		M	10.7	TK	30	L	5	60	1.5	4	0.1	270	NEV
2003 02 22.81		M	10.8	TJ	15	L	5	42	2.5	4			SHU
2003 02 22.82		S	10.7	TK	25.4	J	6	72	2.8	4			BOU
2003 02 22.83		S	10.8	TK	25.4	J	6	72	2.3	4			DIJ
2003 02 22.85		M	10.2	TT	10	B	4	25	3	3			LEH
2003 02 22.91		M	10.2	TT	13	L	8	69	3.2	3			HOR02
2003 02 23.07		M	10.9	TI	7.6	L	9	35	2	6			CER01
2003 02 23.81		M	10.2	TT	10	B	4	25	3	3			LEH
2003 02 23.82		M	10.8	TK	31.0	J	6	72	2.5	4/			BOU
2003 02 23.83		S	10.9	TK	31.0	J	6	72	2.8	4/			DIJ
2003 02 23.90		M	10.3	TT	13	L	8	69	3.0	4			HOR02
2003 02 24.81		M	10.3	TT	10	B	4	25	2.7	3			LEH
2003 02 24.83		M	10.6	TI	11.4	L	8	76	1.5	5			CER01
2003 02 24.83		S	12.2	HS	44.0	L	5	156	1.3	4			HAS02
2003 02 24.86		S	10.8	TK	25.6	L	5	42	2.0	4			BIV
2003 02 24.95		M	10.8	TK	25.4	J	6	58	2.5	4/	0.1	275	BOU
2003 02 24.95		S	10.7	TK	25.4	J	6	58	2.7	4/			DIJ
2003 02 25.14		S	11.0	TJ	15.0	R	8	75	1	6			DIE02
2003 02 25.18		S	11.2	TK	30.5	T	10	56	& 2	2			COM
2003 02 25.49	x	S	11.4:	HS	25.4	L	4	46	1.4	5			YOS02
2003 02 25.80		M	10.7	TJ	15	L	5	42	2	3/			SHU
2003 02 25.85		M	10.6	TK	30	L	5	60	1.5	s6	0.1	270	NEV
2003 02 25.87		M	10.3	TT	13	L	8	69	3.1	3/			HOR02
2003 02 25.88		M	10.8	TI	7.6	L	9	35	2	6			CER01
2003 02 25.94		M	10.8	TK	31.0	J	6	72	2.3	4/	0.13	275	BOU
2003 02 25.94		S	10.7	TK	31.0	J	6	72	2.5	4			DIJ
2003 02 26.14		S	11.0	TJ	15.0	R	8	75	1	6			DIE02
2003 02 26.70	x	S	11.5	HS	31.7	L	6	63	1.2	4/	2 m	250	MIY01
2003 02 26.85		M	10.9	TI	11.4	L	8	76	2	5			CER01
2003 02 26.99		S	11.3:	TK	30.5	T	10	56	& 2	1			COM
2003 02 27.02		M	10.3	TT	10	B	4	25	2.8	3			LEH
2003 02 27.05		M	10.2	TT	13	L	8	69	3.3	3			HOR02
2003 02 27.47	x	S	10.8	TJ	32.0	L	5	58	1.6	5			NAG08
2003 02 27.51	x	S	11.1	TJ	15.0	B		25	2.5	5			MIT
2003 02 27.61	x	S	11.1	TJ	31.7	L	6	63	2.2	5			MIY01
2003 02 27.92		M	10.3	TT	10	B	4	25	2.7	3			LEH
2003 02 28.54	x	S	11.4	HS	45.7	L	4	68	1.7	4	2.6m	280	MUR02
2003 02 28.58	x	S	10.4	TJ	31.7	L	6	63	2.8	5			MIY01
2003 03 02.87		S	11.0	TK	25.6	L	5	42	2.5	5			BIV
2003 03 04.01		S	11.0	TI	21	L	6	55	2	2			MAR02
2003 03 04.80	x	S	11.3	HS	31.7	L	6	63	1.7	5			MIY01
2003 03 04.82		B	10.8	TI	20	T	10	80	3	3			LAB02
2003 03 04.88		M	10.2	TT	13	L	8	69	2.9	3/			HOR02
2003 03 04.97		S	11.0	TI	21	L	6	55	3	3			MAR02
2003 03 06.86		M	11.3	TK	30	L	5	60	1.3	5	3 m	265	NEV
2003 03 06.89		S	11.2	TK	25.6	L	5	42	2.0	5			BIV
2003 03 07.78	x	S	11.3	HS	31.7	L	6	63	1.8	4/			MIY01
2003 03 07.80	x	S	10.7	TJ	32.0	L	5	58	1.5	5			NAG08
2003 03 07.81	x	S	11.3	TJ	15.0	B		25	2.5	4			MIT
2003 03 07.88		M	11.1	TK	30	L	5	60	1.5	6			NEV
2003 03 09.01		S	10.8	TJ	20.3	T	10	77	4	5			GON05
2003 03 09.79	x	S	11.7	HS	31.7	L	6	63	1.5	4/			MIY01

Comet C/2001 RX_14 (LINEAR) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 10.76	x	S	11.0	HS	31.7	L	6	63	2.3	5			MIY01
2003 03 12.20		S	11.2	TK	20.3	T	10	67	2.5	5			BIV
2003 03 12.74	x	S	11.7	HS	31.7	L	6	63	1.9	5			MIY01
2003 03 13.17		S	10.8	TK	25.4	J	6	72	2.8	3/			BOU
2003 03 13.17		S	11.1	TJ	15.0	R	15	140	1	6			DIE02
2003 03 14.18		S	11.3	TK	20.3	T	10	67	2.5	5			BIV
2003 03 20.89		S	10.9	TJ	20.3	T	10	77	4	5			GON05
2003 03 21.79		M	11.3	TK	30	L	5	60	1.5	5			NEV
2003 03 21.84		M	11.1	TK	25.4	J	6	72	2.0	3/			BOU
2003 03 21.84		S	11.3	TK	25.4	J	6	72	1.9	3/			DIJ
2003 03 21.86		M	10.9	TK	13	L	8	69	2.8	4			HOR02
2003 03 21.93		M	10.9	TI	21	L	6	55	3.5	D6			MAR02
2003 03 22.17		B	11.1	HS	40.6	L	5	68	2	4			CHE03
2003 03 22.49	x	M	10.9	TK	25.4	L	4	46	1.8	5			YOS02
2003 03 22.55	x	S	11.4	HS	40.0	L	6	44	1.9	4/			NAG08
2003 03 22.84		S	10.9	TT	20.0	L	4	80	& 3	1			SCH04
2003 03 22.86		M	10.9	TK	13	L	8	69	2.8	3			HOR02
2003 03 22.86		S	10.8	TJ	15.0	R	15	140	1	7			DIE02
2003 03 22.93		S	11.0	TK	7.0	R	7	28	1.5				GRA04
2003 03 22.94		M	11.0	TK	31.0	J	6	72	2.6	4			BOU
2003 03 22.94		S	11.2	TK	31.0	J	6	72	2.7	4			DIJ
2003 03 22.95		S	10.8	TK	30.5	T	10	75	1.7	5			KAM01
2003 03 23.82		S	12.0	HS	44.0	L	5	63	0.7	4			HAS02
2003 03 23.85		S	11.1	TK	25.4	J	6	72	2.5	4			BOU
2003 03 23.90		M	11.0	TK	13	L	8	69	2.7	3			HOR02
2003 03 23.93		S	11.0	TK	30.5	T	10	75	1.7	5			KAM01
2003 03 24.05		S	11.0	TK	15.2	L	5	44	2	3/			GRA04
2003 03 24.76		M	11.2	TJ	7	R	4	12	3	3/			SHU
2003 03 24.89		M	10.9	TT	42	L	5	81	2	3			LEH
2003 03 25.88		M	11.5	TK	30	L	5	60	1.5	5			NEV
2003 03 25.98		S	11.1	HS	36	L	6	70	3	5			BAR06
2003 03 26.85		S	11.1	HS	36	L	6	70	2.7	3			BAR06
2003 03 26.95		M	10.9	TK	35	L	5	68	2.4	4			HOR02
2003 03 27.05		S	11.0	TK	25.4	L	6	109	2.5	4			GRA04
2003 03 27.75		M	11.4	TJ	15	L	5	42	3	3			SHU
2003 03 28.87		B	11.5	HS	15.0	R	10	48	2	2			CHE03
2003 03 29.52	w	S	11.5	TJ	40.0	L	6	96	3.4	4/	&0.25	240	END
2003 03 29.96		M	10.9	TK	35	L	5	68	2.7	3			HOR02
2003 03 30.05		S	10.3:	TK	14.3	L		80					AMO01
2003 03 30.46		S	12.6:	GA	25.4	L	4	71					SEA
2003 03 30.50		S	11.4	GA	25.4	L	4	71					SEA
2003 03 30.89		M	11.2	TK	31.0	J	6	72	2.7	4/			BOU
2003 03 30.89		S	11.2	TK	31.0	J	6	72	2	4			DIJ
2003 03 30.89		S	12.5	VB	30	R	20	230	0.7	4			SHA02
2003 03 31.47		S	10.9	GA	25.4	L	4	71					SEA
2003 03 31.89		S	12.3	TK	30	R	20	150	1.0	4			SHA02
2003 03 31.91		S	11.3	TK	30.5	T	10	75	1.6	5			KAM01
2003 04 01.11		S	11.3	TK	25.4	J	6	72	2.4	3/			BOU
2003 04 01.91		M	10.7	TK	13	L	8	69	2.8	4			HOR02
2003 04 02.84		M	10.8	TK	13	L	8	69	2.6	3/			HOR02
2003 04 03.88		B	10.8	TI	23.5	T	10	67	2	2			LAB02
2003 04 04.93		S	11.6	TK	30.5	T	10	75	1.7	4/			KAM01
2003 04 05.59	x	M	11.7	TK	25.4	L	4	46	1.8	5			YOS02
2003 04 06.00		B	10.8	TI	23.5	T	10	67	3	3			LAB02
2003 04 06.00		S	11.1	TI	31.8	L	5	75	5	6			MAR02
2003 04 06.00		S	11.6	NP	31.8	L	5	75	3	4			SAN04
2003 04 06.11		S	10.9	TJ	20.3	T	10	77	2	4			GON05
2003 04 06.12		S	11.4	TK	25.4	T	10	158	1	1			AMO01
2003 04 07.10		M	11.4	TK	25.4	J	6	72	2.0	4			BOU
2003 04 07.99		S	11.8	TK	30.5	T	10	75	1.4	4/			KAM01
2003 04 08.10		M	11.4	TK	25.4	J	6	72	2.3	4			BOU
2003 04 08.87		M	11.0	TK	35	L	5	68	2.5	4			HOR02
2003 04 18.87		S	11.6	TK	25.4	J	6	72	1.9	2			DIJ
2003 04 18.87		S	11.8	TK	25.4	J	6	72	2.2	3			BOU
2003 04 20.89		S	11.7	TK	25.4	J	6	72	2.3	3/			BOU

Comet C/2001 RX_14 (LINEAR) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 04 20.89		S	11.7	TK	25.4	J	6	72	2.5	3			DIJ
2003 04 21.92		M	11.1	TI	42	L	5	81	2.2	3			LEH
2003 04 22.90		M	11.1	TI	42	L	5	81	2	3			LEH
2003 04 23.85		S	12.3	TK	30	L	5	60	1.2	2			NEV
2003 04 23.91		S	11.8	TK	31.0	J	6	72	1.8	2			DIJ
2003 04 23.91		S	11.9	TK	31.0	J	6	72	1.9	2/			BOU
2003 04 24.88		M	11.0	TT	42	L	5	81	1.9	3			LEH
2003 04 25.84		S	12.5	TK	30	L	5	100	1.2	2			NEV
2003 04 26.90		S	12.7	HS	30	L	5	100	1	1			NEV
2003 04 26.98		S	12.2	TJ	27	L	5	55	1	2/			DES01
2003 04 26.99		S	12.1	TJ	27	L		55	1	1			SOU01
2003 04 29.90	a	S	11.8	AC	31.0	J	6	89	1.6	1/			DIJ
2003 04 29.90	a	S	12.1	AC	31.0	J	6	89	1.7	1/			BOU
2003 04 30.84		S	12.8	HS	30	L	5	100	1	2			NEV

Comet C/2002 E2 (Snyder-Murakami)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 03 16.03		S	9.9	HS	36	L	6	90	3	3			BAR06
2002 03 17.09		S	10.1	HS	36	L	6	90	2.7	3			BAR06
2002 03 18.10		S	10.0	HS	20	L	5	60	3	3			BAR06
2002 04 11.98		S	10.5	HS	36	L	6	80	3	3/			BAR06
2002 04 13.06		S	10.6	HS	36	L	6	80	3	2/			BAR06

Comet C/2002 O4 (Hoenig)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 07 28.87	x	S	11.6	TT	20	L	5	50	1.3	3/			POW01
2002 07 30.87	x	S	9.6	TJ	25	L	6	54	3.5	3			SWI
2002 07 30.91	x	S	10.5	TT	32	L	6	72	& 3	2/			FIL04
2002 07 30.94		B	10.9	TI	20	T	10	50	2	2			LAB02
2002 07 30.99	x	S	9.6	TT	30	L	4	47	5	3			GRA09
2002 08 03.92	x	B	9.7:	TJ	15	L	6	150	2.8	2/			KEZ
2002 08 03.94	x	S	9.2	TT	32	L	6	72	& 7	2/			FIL04
2002 08 04.84	x	S	9.3	TJ	25	L	6	54	3	2			SWI
2002 08 04.91	x	S	9.0	TT	20	L	5	50	3	3/			POW01
2002 08 04.91	x	S	9.5	TT	32	L	6	72	& 4	3/			FIL04
2002 08 05.88	x	S	9.1:	TT	7.0	B		13	& 6	2			SCI
2002 08 06.85	x	S	8.5:	TJ	6.0	B		20	6	3			MAR12
2002 08 07.95	x	S	8.1	TT	20	L	5	30	5	3			POW01
2002 08 08.83		B	8.7	TI	36	L	6	70	5	3/			KOZ03
2002 08 08.88	x	S	8.6	TT	7.0	B		13	& 7	3			SCI
2002 08 08.90	x	S	8.5	TJ	6.0	B		20	5	2/			MAR12
2002 08 08.92		B	8.3	TI	20	L	5	50	10	3			BAR06
2002 08 09.89		B	9.8:	HS	36	L	6	68	13	3			DUL
2002 08 09.90	x	S	8.5	TT	20	L	5	50	3	3			POW01
2002 08 09.92		B	8.0	TI	6	R		9	14	3			BAR06
2002 08 09.93		S	9.1	TI	36	L	6	68	5	3			DID01
2002 08 10.83		S	7.8	TI	8.0	B		12	15	2			BAR06
2002 08 10.92		B	8.0	TI	20	L	5	50	11	3			BAR06
2002 08 10.95	x	B	9.6:	TT	17	L	5	45	3	d1			JAN06
2002 08 11.88	x	S	8.2:	TJ	6.0	B		20	7	2/			MAR12
2002 08 11.89		B	8.1	TI	20	L	5	50	10	3			BAR06
2002 08 11.92		S	7.7	TI	8.0	B		12	14	2			BAR06
2002 08 11.94		S	8.7	TI	36	L	6	68	4	3			DID01
2002 08 11.94		S	9.2:	TI	36	L	6	68	6	3			SLU02
2002 08 12.84	x	S	8.2	TJ	6.0	B		20	8	2/			MAR12
2002 08 12.87		B	7.9	TI	6	R		9	14	3			BAR06
2002 08 12.90		S	7.6	TI	8.0	B		12	10	2			BAR06
2002 08 12.92	x	S	8.2	TJ	6.0	B		20	8	2/			MAR13
2002 08 12.96	x	M	8.8:	TT	17	L	5	45	4	s3			JAN06
2002 08 16.89	x	S	8.6	TT	5.0	B		12	6	2/			SMY
2002 08 16.98	x	B	9.0	TT	6.6	R	6	16	6	3			DUS
2002 08 17.90	x	S	8.2:	TJ	5.0	B		10	5	2/			MAR12
2002 08 17.92	x	S	8.3	TT	20	L	5	50	4.5	3			POW01

Comet C/2002 04 (Hoenig) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 08 17.93	x	S	9.8	HS	50	L	5	90	5	s3			TUR01
2002 08 17.95	x	B	9.3	TT	32	L	6	72	& 6	4			FIL04
2002 08 18.04	x	B	8.5:	TT	7	R	6	16	6	3			DUS
2002 08 18.90	x	S	8.3	TJ	6.0	B		20	5	2			MAR12
2002 08 19.06	x	B	8.8	TT	7	R	6	16	6	3			DUS
2002 08 19.89	x	S	8.5:	TT	6.0	B		20	& 4	2			SCI
2002 08 19.91	x	S	8.6:	TT	20	L	5	50	4.1	3			POW01
2002 08 20.02	x	B	8.9	TT	7	R	6	16	5	3			DUS
2002 08 20.03	x	B	9.0	TT	7	R	6	40	5	2/			DUS
2002 08 21.07	x	S	7.6	TT	5	R	6	20	8	4			GRA09
2002 08 21.16		B	9.6	TK	10	M	10	32	4	2	0.07	35	VOV01
2002 08 24.86	x	S	8.5	TT	5.0	B		12	4	3			SMY
2002 08 26.87	x	S	9.0:	TT	20	L	5	50	& 3	3			POW01
2002 08 26.89	x	S	9.3	TT	32	L	6	105	& 2	1/			FIL04
2002 08 27.87	x	S	8.7:	TJ	15	L	6	100	3.2	2/			KEZ
2002 08 27.93	x	S	8.3	TT	6.6	B		20	& 6	1/			FIL04
2002 08 28.81	x	S	9.3	TJ	6.0	B		20	5	2/			MAR12
2002 08 28.92		B	8.0	TI	36	L	6	70	16	3			BAR06
2002 08 30.01	x	S	8.5	TT	6.6	B		20	& 5	1/			FIL04
2002 08 30.84	x	S	8.5:	TJ	6.0	B		20	5	1/			MAR13
2002 08 30.84	x	S	8.7	TJ	6.0	B		20	4	2			MAR12
2002 08 30.87	x	S	9.5:	TJ	15	L	6	150	& 3	3			KEZ
2002 08 31.83		M	8.1	TI	36	L	6	68	7	3			BAR06
2002 08 31.83		S	7.7	TI	8.0	B		12	10	2			BAR06
2002 08 31.84	x	S	9.0	TJ	20	L	4	45	4	3			MAR12
2002 08 31.86	x	S	8.5:	TJ	5.0	B		10	4	3	0.1	70	MAR13
2002 08 31.87	x	S	8.6	TT	5.0	B		12	4	2			SMY
2002 08 31.88	x	S	8.7	TT	13.0	L	5	22	4	2			SMY
2002 08 31.90	x	S	8.8:	TT	6.0	B		20	& 2	1			SCI
2002 09 01.83		B	8.1	HS	36	L	6	70	16	3			BAR06
2002 09 01.85	x	S	8.9:	TJ	6.0	B		20	& 5	2			KID01
2002 09 01.87	x	B	9.2	TJ	25	L	5	66	4	2/			KID01
2002 09 02.79	x	S	7.8	TT	5	R	6	20	&10	5/			GRA09
2002 09 02.83	x	S	8.8	TJ	15	L	6	45	4.1	3/			KEZ
2002 09 02.85	x	S	8.8:	TT	15	L	6	45	4.7	3/			SIE01
2002 09 02.88	x	B	8.1	TT	6.0	B		30	5	3/			POW01
2002 09 02.90	x	B	8.4	TT	20	L	5	30	3.6	4	0.18	41	POW01
2002 09 02.90	x	B	8.8	TT	20	L	5	30	5.2	4	0.2	39	BUR04
2002 09 02.91	x	B	8.2	TT	6.0	B		30	8	4			BUR04
2002 09 03.81	x	S	8.9:	TT	15	L	6	45	4.9	3			SIE01
2002 09 03.84		B	8.9	TI	20	T	10	50	4	2			LAB02
2002 09 04.83	x	S	8.9	TJ	25	L	5	66	3	1/			KID01
2002 09 04.93	x	S	8.4	TT	16.5	L	8	48	& 3	1/			FIL04
2002 09 05.85	x	S	8.9	TJ	25	L	6	54	2	3			SWI
2002 09 05.91	x	S	8.9:	S	8	R	5	20	9	1			SIK01
2002 09 05.91	x	S	9.1:	TJ	8	R	4	20	6	1/			MAR13
2002 09 06.83		B	8.3	TI	8.0	B		11	5	3	8 m	25	LAB02
2002 09 06.90	x	S	8.8:	TT	15	L	6	45	2.5	3/			SIE01
2002 09 07.80	x	S	9.3	TT	32	L	6	72	& 2	2			FIL04
2002 09 07.83		B	8.2	TI	8.0	B		11	5	3	8 m	25	LAB02
2002 09 07.86	x	S	8.9:	TT	15	L	6	45	2.9	3/			SIE01
2002 09 08.83	x	S	8.9	TT	32	L	6	72	& 4	2			FIL04
2002 09 09.83		B	8.3	TI	8.0	B		11	5	3	5 m	25	LAB02
2002 09 11.78	x	B	8.2	TT	6.0	B		30	8	3			POW01
2002 09 11.82	x	S	8.8	S	25	L	6	54	2	3			SWI
2002 09 11.90	x	S	9.5	TT	32	L	6	72	& 4	2			FIL04
2002 09 12.83	x	S	9.1	TJ	15	L	6	150	& 4	2/			KEZ
2002 09 13.03	x	S	9.0	TT	20	L	5	50	6	2			POW01
2002 09 13.83	x	S	8.7	TT	5.0	B		12	4	2			SMY
2002 09 13.86	x&	S	8.9	TT	15	L	6	48	& 4	2			FIL04
2002 09 28.18		B	9.3	TI	20	T	10	50	2	1	2 m		LAB02

Comet C/2002 O6 (SWAN)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 08 08.03	x	S	7.3	TT	20	L	5	30	6.2	4			POW01
2002 08 12.04		M	6.0:	HS	8.0	B		12	15	2			KIT02
2002 08 17.02	x&	B	6.1	TT	5.0	B		7	10	5/			DUS
2002 08 18.03	x&	B	6.2	TT	7	R	6	16	10	6			DUS
2002 08 18.04	x	B	6.2	TT	6.0	B		30	16	4			POW01
2002 08 18.05	x&	S	6.2	TJ	5.0	B		10	3	3			MAR12
2002 08 20.07	x&	B	7.1	TT	7	R	6	16	8	5			DUS
2002 08 20.07	x&	B	7.2	TT	7.0	B		20	8	5			DUS
2002 08 21.07	x	B	6.0	TJ	6.0	B		20	& 7	3			ADA02
2002 08 27.08	x&	S	7.5:	TT	32	L	6	72	& 3	2			FIL04
2002 08 31.83	x	S	7.0:	TT	13.0	L	5	22	& 6	2			SMY
2002 09 02.79	x	S	8.5:	TT	5	R	6	20	& 2	s3/			GRA09
2002 09 02.85	x	B	7.4	TT	20	L	5	30	2.5	4/	0.08	355	POW01
2002 09 02.86	x	B	8.0	TT	20	L	5	30	3.1	3/	0.07	350	BUR04
2002 09 13.08	x	S	9.7:	TT	20	L	5	50	2.5	2/			POW01
2002 09 28.20		B	9.3	TI	20	T	10	50	3	2	3 m		LAB02

Comet C/2002 O7 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 26.02	a	S	14.1	AC	31.0	J	6	143	0.7	3			BOU
2003 02 26.03	a	S	14.3	AC	31.0	J	6	143	0.7	1			DIJ
2003 03 22.98		S	13.4	AC	31.0	J	6	109	1.2	3/			BOU
2003 03 22.98		S	13.5	AC	31.0	J	6	109	0.6	2			DIJ
2003 03 25.04		M	13.1	HS	42	L	5	81	1.4	4			LEH
2003 03 30.95		S	12.9	AC	31.0	J	6	89	1.7	2/			DIJ
2003 03 30.95		S	13.0	AC	31.0	J	6	89	1.6	2/			BOU
2003 04 01.12		S	12.8	AC	25.4	J	6	88	1.5	2			BOU
2003 04 05.97		B	11.9	TI	23.5	T	10	94	1	2			LAB02
2003 04 07.11		S	12.7	AC	25.4	J	6	100	1.5	2/			BOU
2003 04 08.11		S	12.8	AC	25.4	J	6	88	1.5	3			BOU
2003 04 08.94		M	13.6	HS	35	L	5	158	1.0	3			HOR02
2003 04 18.88		S	12.1	GA	25.4	J	6	72	1.7	0/			DIJ
2003 04 18.88		S	12.4	GA	25.4	J	6	72	2.0	2/			BOU
2003 04 20.90		S	12.3	TK	25.4	J	6	72	2.0	2/			BOU
2003 04 20.91		S	12.2	TK	25.4	J	6	72	2.5	2			DIJ
2003 04 23.94		S	12.3	TK	31.0	J	6	72	2.0	1			DIJ
2003 04 23.94		S	12.3	TK	31.0	J	6	72	2.3	2			BOU
2003 04 24.92		M	11.3	TT	42	L	5	81	2	4			LEH
2003 04 29.93		S	12.2	TK	31.0	J	6	89	2.4	1/			BOU
2003 04 29.94		S	12.4	TK	31.0	J	6	89	1.8	2			DIJ

Comet C/2002 Q5 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.69		S	12.5	HS	28	T	10	133	2	2			MAT08
2003 02 10.65		S	12.5:	HS	20	L	7	67	1.5	1			MAT08
2003 02 25.62		S	13.1	HS	20	L	7	160	2	2			MAT08
2003 03 05.54		S	13.5	HS	28	T	10	133	1.5	2			MAT08
2003 04 05.96		S[	14.0	NP	31.8	L	5	75	1				MAR02

Comet C/2002 T7 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 22.89	a	S	14.1	AC	31.0	J	6	143	0.6	3			BOU
2003 03 22.89	a	S	14.4	AC	31.0	J	6	143	0.9	1			DIJ
2003 03 23.81		S	13.7	HS	44.0	L	5	226	0.2	4			HAS02

Comet C/2002 V1 (NEAT)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 12 03.54		S	12.0	TK	28	T	6	84	3.0	3			MAT08
2002 12 07.85	x	S	11.2	TT	32	L	6	60	& 4	1/			FIL04
2002 12 07.90	x	S	10.8	TJ	25	L	6	54	3	2			SWI
2002 12 07.95	x	S	11.2:	TT	14	L	6	47	& 3	2			ADA02

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 12 08.80	x	S	11.9	TJ	20	L	5	50	2.5	3			POW01
2002 12 08.81	x	S	11.7	TJ	11	L	8	32	1.7	4			BUR04
2002 12 09.86	x	S	10.9	TJ	20	L	5	56	3	2			SWI
2002 12 09.91	x	S	11.3	TT	32	L	6	60	& 4	1/			FIL04
2002 12 10.99	x	S	10.4	TT	32	L	6	60	& 3	1			FIL04
2002 12 12.93	x	S	10.3	TT	32	L	6	60	& 4	1			FIL04
2002 12 13.01	x	S	10.5	TJ	25	L	6	108	3.5	2			SWI
2002 12 22.71	x	S	9.8	TT	20	L	7	50	& 4	2/			MAK02
2002 12 22.72	x	S	10.0	TT	20	L	5	50	3.5	2/			POW01
2002 12 23.53		M	9.4	TK	10	B		25	8.0	3			MAT08
2002 12 23.71	x	S	9.8	TT	15	L	6	30	& 4	3			MAK02
2002 12 23.73	x	S	9.9	TT	32	L	6	60	& 4	2/			FIL04
2002 12 24.70	x	S	9.6	TT	15	L	6	30	& 5	3			MAK02
2002 12 24.71	x	S	8.8	TJ	20	L	5	58	6	2			SWI
2002 12 24.94	x	S	9.3	TT	32	L	6	60	& 4	2/			FIL04
2002 12 25.70	x	S	8.4	TJ	7.0	B		15	10	2			SWI
2002 12 25.71	x	S	10.0	TT	32	L	6	60	& 5	3			FIL04
2002 12 26.69	x	S	8.3	TJ	6.0	B		20	7	1			MAR12
2002 12 26.70	x	S	9.0:	TJ	6.0	B		20	6	1			MAR13
2002 12 26.71	x	S	9.3	TT	15	L	6	30	& 5	d2/			MAK02
2002 12 26.72	x	S	9.2	TT	32	L	6	60	& 7	3			FIL04
2002 12 26.89	x	S	8.4	TJ	20	L	5	58	4.5	2/			SWI
2002 12 29.92	x	S	8.6	TT	32	L	6	60	& 5	2/			FIL04
2002 12 30.75		B	11.2	TI	20	T	10	50	2	1			LAB02
2002 12 31.70	x	S	8.0:	TJ	6.0	B		20	& 8	2			ADA02
2002 12 31.70	x	S	8.3	TJ	20	L	5	58	6	2/			SWI
2002 12 31.71	x	S	8.1	TJ	6.0	B		20	10	2/			MAR12
2002 12 31.71	x	S	8.4	TT	20	L	5	50	3.5	2			POW01
2002 12 31.71	x	S	8.5:	TJ	20	L	6	37	6	1/			MAR13
2002 12 31.74	x	S	9.0:	TT	20	L	6	37	4.5	s1/			KIS03
2002 12 31.76		B	10.1	TI	20	T	10	50	5	2			LAB02
2002 12 31.81	x	S	8.3	TT	30	L	4	47	9	s2/			GRA09
2002 12 31.89	x	S	7.6	TT	5	R	6	20	13	2			GRA09
2003 01 01.51		M	8.4	TK	10	B		25	7.0	4			MAT08
2003 01 01.70	x	S	8.0:	TJ	6.0	B		20	& 8	2			ADA02
2003 01 01.70	x	S	8.2	TJ	20	L	5	58	5	2/			SWI
2003 01 01.72	x	S	8.0	TT	32	L	5	60	& 7	3/			FIL04
2003 01 01.75		S	8.0	TT	6.0	B		20	6	d3			BAR06
2003 01 01.80		S	7.7:	TJ	5.0	B		7	10	3			KAC02
2003 01 02.50		M	8.3	TK	10	B		25	7.0	4			MAT08
2003 01 02.69		S	7.6	AA	5.0	B		7					KOS
2003 01 03.50		M	8.1	TK	10	B		25	7.0	4			MAT08
2003 01 03.75		S	7.2	AA	5.0	B		7					KOS
2003 01 03.76		M	7.6:	TK	5.0	B		10	12	4			ATA
2003 01 03.79		S	8.0	TJ	5.0	B		7	12	4			KAC02
2003 01 04.72		S	7.0	AA	5.0	B		7					KOS
2003 01 04.75	x&	S	8.3:	TI	6.3	B		9	& 8				SZW
2003 01 05.49		M	7.9	TK	10	B		25	8.0	4			MAT08
2003 01 05.70	x	B	7.9	TJ	25	L	6	54	6	3			SWI
2003 01 05.73		S	7.4	TK	10.0	B		20	11	3/			MEY
2003 01 05.74	x	M	7.8	TJ	14	L	6	47	& 8	3			SIW
2003 01 05.81		S	7.1	TT	6.0	B		20	9	3			BAR06
2003 01 06.49		M	7.8	TK	10	B		25	7.0	4			MAT08
2003 01 06.70		S	6.7	AA	5.0	B		7					KOS
2003 01 07.70	x	S	7.9:	TT	6.0	B		30	8	2/			POW01
2003 01 07.89		B	7.5	TI	10.2	R	5	20	6	2			LAB02
2003 01 08.50		M	7.9	TK	10	B		25	5.0	5			MAT08
2003 01 08.69	x	S	7.7	TT	20	L	5	30	9	2			POW01
2003 01 11.69	x	S	7.6	TT	20	L	5	30	8	2/			POW01
2003 01 11.69	x	S	7.6:	TT	20	L	5	30	8	2/			POW01
2003 01 11.70		S	6.6	AA	8.0	R	6	19	15	2			KOS
2003 01 11.71	x	B	6.8	AC	5.0	B		20	12	4			DOR02
2003 01 11.71	x	S	7.0	TJ	6.0	B		20	5	2			MAR12
2003 01 11.71	x	S	8.3	TT	5.0	B		12	10	3			SMY
2003 01 11.72	x	S	6.7	TT	32	L	5	60	& 5	4			FIL04

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 01 11.74	x	S	7.6	TT	6.0	B		20	& 7	3			SCI
2003 01 11.78		S	6.6:	TJ	5.0	B		7	8	3			KAC02
2003 01 12.69		S	6.7	AA	8.0	R	6	19		2			KOS
2003 01 12.73		M	6.8	TJ	5.0	B		10	9	3			ATA
2003 01 13.49		M	7.3	TK	10	B		25	3.0	5			MAT08
2003 01 15.76		S	7.4	TK	5.0	B		10	10	3			HAS02
2003 01 17.67	x	B	6.7	TJ	5.0	B		20	10	D5			DOR02
2003 01 17.67	x	B	6.9	TJ	5.0	B		20	10	5			DOR02
2003 01 17.70	x	S	7.1	TT	6.0	B		20	& 6	3/			SCI
2003 01 17.71	x	S	6.5	TJ	6.0	B		20	5	s4			MAR12
2003 01 17.72		M	6.6	TT	6.0	B		20	8	d4			BAR06
2003 01 17.76		S	6.7:	TJ	5.0	B		7	4.5	6			KAC02
2003 01 17.76	x	S	7.8	TT	32	L	6	105	& 4	5			FIL04
2003 01 18.69		M	6.6	TT	6.0	B		20	8	4			BAR06
2003 01 18.69	x	S	7.2:	TT	6.0	B		30	& 7	3			POW01
2003 01 18.72		S	6.4	TJ	5.0	B		10	6	5			ATA
2003 01 18.73		M	7.0	TJ	15.0	R	8	60	4	5			ATA
2003 01 18.76		M	7.4	TI	5.0	B		10	8	3			CER01
2003 01 18.82	x&	S	7.0	TT	32	L	6	60	& 5	3			FIL04
2003 01 19.70	x	B	6.7	TJ	20	L	5	58	4	6			SWI
2003 01 19.70		S	7.1:	TT	3.0	B		8		8			MAN02
2003 01 19.71	x	S	6.8	TJ	6.0	B		20	5	4			MAR12
2003 01 19.71	x	S	6.9	TT	6.0	B		20	& 4	5			SCI
2003 01 19.72		S	6.5	TJ	5.0	B		10	6	5			ATA
2003 01 19.73		S	6.7	TJ	15.0	R	8	60	5	5			ATA
2003 01 19.74	x	S	7.7	TJ	50	L	5	100	5	s4/			TUR01
2003 01 19.75		M	6.5	TT	6.0	B		20	7	4			BAR06
2003 01 19.75	x	S	7.2	TT	13.0	L	5	22	6	s3/			SMY
2003 01 19.75	x	S	7.3	TT	5.0	B		12	5	3/			SMY
2003 01 19.79	x&	B	7.3	TT	5.0	B		30	& 5	4			MAK02
2003 01 19.80	x&	S	7.1	TT	32	L	6	60	& 5	4			FIL04
2003 01 20.68	x	B	6.6	TJ	35	L	6	105	& 6	3			CHR
2003 01 20.68	x	B	6.6	TJ	35	L	6	105	& 6	3			CHR
2003 01 20.69	x	B	6.5	TJ	5.0	B		20	7	D6			DOR02
2003 01 20.71	x	B	6.9	TJ	6.0	B		20	5	4			MAR12
2003 01 20.73	x	B	6.9	TJ	10	R	10	10	5	4/			SIW
2003 01 20.73	x	S	7.0:	TJ	5.0	B		10	& 5	2			OSS
2003 01 20.75		B	6.5:	TJ	5.0	B		7					CHE03
2003 01 20.75		M	6.5	TJ	5.0	B		7	7	6	20 m	70	KAC02
2003 01 20.75		M	6.6	TI	5.0	B		10	11	4			CER01
2003 01 20.75		M	7.0:	TJ	5.0	B		7	8	7	20 m		ZAK
2003 01 20.77		M	6.6	TI	5.0	B		10	10	3			NED
2003 01 21.39		B	6.6	S	12.0	B		20	5	3			HIS
2003 01 21.47		M	6.2:	TK	10	B		25	4.0	6			MAT08
2003 01 21.69	x	B	6.4	TJ	5.0	B		20	6	D7			DOR02
2003 01 21.70	x	B	6.7	TJ	6.0	B		20	6	4			MAR12
2003 01 21.70	x	B	7.1	TT	5.0	B		10	& 6	s5/			MAK02
2003 01 21.70	x	M	6.8	TJ	5.0	B		10	4	S4/			MAR13
2003 01 21.71	x	B	6.9	TT	6.0	B		20	& 6	5			SCI
2003 01 21.73	x	B	6.9	TJ	5.0	B		10	6	3			TOB
2003 01 21.74	x	B	7.1	TJ	20	L	4	32	4	4/			TOB
2003 01 21.78		B	6.2	TI	8.0	B		11	6	5	6 m	118	LAB02
2003 01 21.85		S	6.4	TK	5.0	B		7	6	4			BIV
2003 01 21.85		S	6.5	TK	25.6	L	5	42	5	5			BIV
2003 01 22.82		S	6.5	TK	25.6	L	5	42	5	6			BIV
2003 01 23.72		M	5.8	TJ	5.0	B		10	11	6	25 m		ATA
2003 01 23.78		B	4.7	TI	10.2	B	5	20	6	7	13 m		LAB02
2003 01 24.38		S	6.4	S	12.0	B		20	5	4/			HIS
2003 01 24.74		M	6.3	TK	10.0	B		20	5.5	6	0.4	65	MEY
2003 01 24.76		B	6.5	TI	7.0	B		11	5	6			CRE02
2003 01 24.80		S	6.3	TK	5.0	B		7	6	6			BIV
2003 01 24.81		S	6.4	TK	25.6	L	5	42	5	6	0.5	55	BIV
2003 01 24.82		B	5.1	TI	8.0	B		11	6	7	0.06	110	LAB02
2003 01 25.38		S	6.4	S	12.0	B		20	5	5			HIS
2003 01 25.60		S	6.2	TJ	6	R	10	30	6.1	6			SEM02

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 01 25.71		B	6.0	TT	11	L	8	36	8.5	7			MAN02
2003 01 25.71		S	6.5	TT	11	L	8	36					MAN02
2003 01 25.72		M	5.7	TJ	5.0	B		10	7	6			ATA
2003 01 25.75		M	6.2	TK	5.0	B		10		6			MEY
2003 01 26.57		S	5.9	TJ	6	R	10	66	6.1	6			SEM02
2003 01 26.78		S	5.9	TT	7.0	B		16	4.5	6			TAY
2003 01 27.57		S	5.8	TJ	6	R	10	30	5.4	6	5 m		SEM02
2003 01 27.76		B	6.4	TI	7.0	B		11	7	6			CRE02
2003 01 27.78		M	5.7	TJ	5.0	B		10	8	7	0.2		ATA
2003 01 27.78		M	5.7	TJ	5.0	B		10	8	7	0.2		ATA
2003 01 27.79		B	6.0	TK	5.0	B		7	6	7	0.6	50	BIV
2003 01 27.79		S	5.9	TK	25.6	L	5	42	6	7	0.6	60	BIV
2003 01 28.55		S	5.8	TJ	6	R	10	30	5.4	6	5 m		SEM02
2003 01 28.69	x	B	5.8	TJ	5.0	B		20	7	S8			DOR02
2003 01 28.72	x	B	5.4	TJ	6.0	B		20	5	D4	0.25	58	TRE03
2003 01 28.73		B	5.6	TJ	5.0	B		10	9	7	1.1	60	ATA
2003 01 28.74	x	B	6.0:	TJ	6.0	B		20	3	s6	0.05	45	MAR12
2003 01 28.74		I	5.1	TT	0.8	E		1					MAN02
2003 01 28.74		S	5.3	TT	3.0	B		8	12	6	0.27	40	MAN02
2003 01 28.77		M	6.1	TK	5.0	B		10	& 7	7	>0.8		COM
2003 01 28.81		B	5.8	TI	8.0	B		11	6	7	6 m	100	LAB02
2003 01 29.70		S	5.7	AA	5.0	B		7	3	D7			KOS
2003 01 29.71		S	5.5	AA	8.0	R	6	19	4	D7	20 m	38	KOS
2003 01 29.72	x	B	5.4	TJ	35	L	6	105	& 6	D5	10 m		CHR
2003 01 29.72	x	B	5.4	TT	6.0	B		20	& 6	6			SCI
2003 01 29.72		M	5.5	TT	6.0	B		20	8	6	0.5	60	BAR06
2003 01 29.73		B	5.8	TJ	5.0	B		10	9	7	0.5	50	ATA
2003 01 29.74		S	5.4:	TJ	5.0	B		7	4	8			KAC02
2003 01 30.38		S	5.9	S	12.0	B		20	4	5			HIS
2003 01 30.70		B	6.1:	TT	6.0	B		20	7	3			DUB01
2003 01 30.72	x	B	5.4	TT	6.0	B		20	& 6	6/	0.18	47	SCI
2003 01 30.74		M	5.4:	TT	3.0	B		6	7	5			BAR06
2003 01 30.75	xw	S	5.2:	TJ	5.0	B		20	& 4	s5/			MOZ
2003 01 30.78	&	S	5.8	TT	4.0	B		8	& 6	7	&0.8	55	SCH04
2003 01 30.81	&	S	5.6	TT	5.0	B		10	5	7	1.5	60	RIE
2003 01 30.92		S	5.9	TK	5.0	B		10	5	0			ARA
2003 01 31.71	x	B	5.6	TJ	5.0	B		20	4	S8	15 m		DOR02
2003 01 31.72	x	B	5.3	TT	6.0	B		30	5	7	0.58	49	POW01
2003 01 31.72		M	5.4	TT	6.0	B		20	6	6			BAR06
2003 01 31.73		B	5.3	TJ	5.0	B		10	10	7	0.8	45	ATA
2003 01 31.73	x	M	5.6:	TJ	5.0	B		10	5	5			MAR13
2003 01 31.74	x	B	5.5:	TJ	6.0	B		20	4	5			MAR12
2003 01 31.74		S	5.6	S	7.8	R	4	12	6	7/	&1.5	50	BUS01
2003 01 31.75		B	5.7	TK	5.0	B		10	& 6	7			JOH01
2003 01 31.76		B	5.3	HV	5.0	B		7	5	7	1.0	50	BIV
2003 01 31.77		S	5.6	HV	25.6	L	5	42	4	7	1.1	50	BIV
2003 02 01.38		S	5.8	S	12.0	B		20	4	7			HIS
2003 02 01.39	x	B	5.9	TJ	8.0	B		11	2.5	7	2.0	55	MIY01
2003 02 01.40	xw	M	5.4	HV	8.0	B		11	5	7/	1.2	55	MIT
2003 02 01.41	x	B	5.6	HS	7.0	B		10	5	7	0.8	55	OOT
2003 02 01.70	x	B	5.2	TT	6.0	B		30	5	6			POW01
2003 02 01.71	x	M	5.5:	TJ	5.0	B		10	& 4	S5	0.41	46	MAR13
2003 02 01.72	x	B	5.6	TT	6.6	B		20	& 4	S7	&0.33	45	FIL04
2003 02 01.72		M	5.0	TT	0.8	E		1	10	7			LEH
2003 02 01.72		M	5.1	TT	6	R		15	4	5			JAN03
2003 02 01.72		M	5.3	TT	5.0	B		10	6	4	2		LEH
2003 02 01.72		M	5.3	TT	8.0	B		10	6	8	2.5	35	HOR02
2003 02 01.73		B	5.4	TJ	5.0	B		7	5	6			CHE03
2003 02 01.73		B	5.5	TJ	5.0	B		10	8	7	2.0	35	ATA
2003 02 01.73		M	5.2	TT	5.0	B		7	7	5/	0.7		ZNO
2003 02 01.74		B	5.1	TT	0.8	E		1	10	7			HOR02
2003 02 01.74		B	5.4	TJ	5.0	B		7	6	8	30 m		KAC02
2003 02 01.74		B	5.4	TK	5.0	B		10	4.0	6	1.0	50	HAS02
2003 02 01.74	x	B	5.6	TT	5.0	B		10	5	4	&0.4	50	MAK02
2003 02 01.74		M	5.0	HD	7	R	4	25	3	8	60 m	52	SHU

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 01.74	x	M	5.8	TJ	18.5	L	5	53	4	6	0.45	45	KWI
2003 02 01.74	xw	B	5.3	TJ	5.0	B		20	6	s6	0.43	48	MOZ
2003 02 01.74	xw	B	5.6	TT	5	R	6	20	4	6/	0.8	57	GRA09
2003 02 01.75	x	B	5.5	TJ	5.0	B		10	5	5	0.25	48	MAR12
2003 02 01.75	x	B	5.9	TI	6.3	B		9	3	3	&0.12	45	SZW
2003 02 01.76		S	5.7	HI	8.0	B		20	3.1	6	1.1	55	SHA02
2003 02 01.77		S	5.7	HI	5.0	B		7	3	7			SHA02
2003 02 01.79		B	5.1	TI	8.0	B		11	8	8	1.5	104	LAB02
2003 02 01.79	x	B	5.8	TJ	5.0	B		10	5	6	0.25	43	TOB
2003 02 01.84		B	5.7	S	7.0	B		10	4	7	35 m	45	MAR02
2003 02 02.66	w	S	5.7	S	3.5	B		7	3	2	0.4		TIT
2003 02 02.70	x	B	5.0	TT	6.0	B		30	5	6			POW01
2003 02 02.71	x	B	5.2	TJ	6.0	B		20	& 5	D8	1.0	45	PAR03
2003 02 02.71		M	5.4	TT	6.0	B		20	5	d6	1	59	BAR06
2003 02 02.72	x	B	5.2	TJ	5.0	B		7	6	D7	1.0	45	PAR03
2003 02 02.72	x	B	5.2	TJ	35	L	6	105	& 6	D5	15 m		CHR
2003 02 02.72	x	B	5.3	TJ	5.0	B		20	4	S7	0.5		DOR02
2003 02 02.72		B	5.7	TJ	7.5	B		40	5	6			CHE03
2003 02 02.72	x	M	5.4	TJ	5.0	B		10	4	S5	0.55	45	MAR13
2003 02 02.73		B	5.3	TJ	5.0	B		10	6	7	0.4	35	ATA
2003 02 02.73	x	B	5.3	TT	5.0	B		10	& 3	7	&0.42	51	MAK02
2003 02 02.73		S	5.4	AA	8.0	B		20	8	6	0.33	40	FOG
2003 02 02.73	xw	B	5.1	TT	6.0	B		20	& 3	7	&0.42	55	SCI
2003 02 02.74	x	B	5.1	TJ	6.0	B		10	& 5	5/	&0.5	50	KIS03
2003 02 02.74		B	5.2	TJ	5.0	B		7	5.5	8	40 m		KAC02
2003 02 02.74	x	B	5.5	TJ	5.0	B		10	5	5/	0.4	47	MAR12
2003 02 02.74	x&	B	5.5	TT	6.6	B		20	& 4	S7	&0.25	55	FIL04
2003 02 02.76	x	B	5.4	TJ	5.0	B		10	4	6	0.25	35	TOB
2003 02 02.76		S	5.6	TT	7.0	B		16	3.0	7	0.25	45	TAY
2003 02 02.77	x	B	5.5	TJ	20	L	4	32	5	6	0.45	35	TOB
2003 02 02.78		S	5.2	HV	5.0	B		7	5	7			BIV
2003 02 02.80		B	5.1	TJ	5.0	B		7	6	8	1.5	50	GON05
2003 02 02.81		I	5.0	TJ	0.0	E		1		9			GON05
2003 02 02.81		S	5.6	HI	5.0	B		7	8	7			SHA02
2003 02 02.82		S	5.6	HI	8.0	B		20	6.9	7	1.1	55	SHA02
2003 02 02.85		B	5.7	S	7.0	B		10	4	7	0.5	45	MAR02
2003 02 03.39		S	5.6	S	12.0	B		20	4	7			HIS
2003 02 03.41	xw	M	5.1	TJ	8.0	B		11	5	7/	0.8	55	NAG08
2003 02 03.41	x	B	5.2	TJ	7.0	B		10	5	8	1.6	51	OOT
2003 02 03.42		S	5.1	HS	4.0	B		8		8			MOM
2003 02 03.67	w	S	5.6	S	7	R	6	18	4	3/	0.3		TIT
2003 02 03.68	w	S	5.6	S	11	L	7	32	3	2/	0.4		SVE01
2003 02 03.69		M	5.1	TT	5.0	B		7	4	S8			BAR06
2003 02 03.71		M	5.1	HD	7	R	4	10	3	8	66 m	53	SHU
2003 02 03.71		M	5.3	HD	7	R	4	10	3.5	8	60 m	53	NEK
2003 02 03.74		S	5.3	TT	8.0	B		15	& 5	7/	&1.3	60	SCH04
2003 02 03.76		B	5.1	HV	5.0	B		7	4	7			BIV
2003 02 03.76		S	5.3	HI	5.0	B		7	4	8			SHA02
2003 02 03.76	&	S	5.0	TT	0.0	E		1	5	8	2.0	60	RIE
2003 02 03.77		I	4.8	HI	0.7	E		1		8			SHA02
2003 02 03.77		S	5.1	HI	8.0	B		20	4.2	7	1.5	55	SHA02
2003 02 04.73		B	5.3	TK	5.0	B		10		7/			MEY
2003 02 04.75		B	5.0	HV	5.0	B		7	4	7	0.5	45	BIV
2003 02 04.76		S	5.4	TT	7.0	B		16	3.0	7	0.28	48	TAY
2003 02 04.77		B	5.3	HV	6.3	B		9		8			KAM01
2003 02 04.79	!	S	5.0	TK	5.0	B		7	5	8			SHA02
2003 02 04.79	!	S	5.0	TK	8.0	B		10	2	8	3.0	50	SHA02
2003 02 04.80	!	S	5.2	TK	3.0	B		8	4	8			SHA02
2003 02 05.73		B	4.3	TJ	5.0	B		10	5	8	0.4	35	ATA
2003 02 05.74		S	4.6	AA	8.0	B		20	7	8	1.0	45	BAR
2003 02 05.74	!	B	4.8	TJ	5.0	B		7	6	8	1.0	55	KAC02
2003 02 05.75		B	5.0	TK	5.0	B		10	& 5	8	1.0		MEY
2003 02 05.75		S	5.1	AA	5.0	B		20	6	7	30 m	52	DIE02
2003 02 05.76		B	4.9	HV	5.0	B		7	3	8	2	45	BIV
2003 02 05.76		S	5.3	TT	7.0	B		16	3	5	0.1	39	TAY

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 05.76	!	S	5.2	TK	8.0	B		10	2.5	8			SHA02
2003 02 05.77		B	4.7	HV	0.0	E		1	3	8			BIV
2003 02 05.77	!	I	4.7:	TK	0.7	E		1		9			SHA02
2003 02 05.77	!	I	5.0	TK	4.0	B		2		9			SHA02
2003 02 05.77	!	M	5.3	TK	8.0	B		20	3.3	7	1.8	45	SHA02
2003 02 05.78		B	4.8	HV	5.0	B		7	3	8	2.9	45	BIV
2003 02 06.01	w	I	4.8	HV	0.0	E		1		9			CRE01
2003 02 06.38		S	5.1	HS	12.0	B		20	5	7	0.5		HIS
2003 02 06.39	xw	M	4.5	HV	8.0	B		11	3	8	0.6	50	MIT
2003 02 06.39	x	B	5.2	TJ	8.0	B		11	1.8	7/	2.8	40	MIY01
2003 02 06.40		S	5.0	HS	4.0	B		8		7			MOM
2003 02 06.40	xw	M	4.8	TJ	3.5	B		7	4	8	2.5	45	NAG08
2003 02 06.43	xw	M	4.7	TK	3.5	B		7		8	1.2	40	YOS02
2003 02 06.73	!	B	4.7	TJ	5.0	B		7	5	8	1.5		ZAK
2003 02 06.73	!	B	4.8:	TJ	5.0	B		7	3	8	0.5		KAC02
2003 02 06.75	a	B	4.7	HV	6.3	B		9		9	0.9	43	KAM01
2003 02 07.39	w	B	4.7	TJ	8.0	B		11	1.8	7/	2.5	45	MIY01
2003 02 07.54		S	3.8	TJ	3	R	10	30	3.7	8	25 m		SEM02
2003 02 07.72	w	M	4.3	TT	8.0	B		10	6	8/	4.5	45	HOR02
2003 02 07.73		M	4.1	TT	0.8	E		1	10	8			LEH
2003 02 07.73		M	4.4	TT	5.0	B		10	6	6	3.5	45	LEH
2003 02 07.73	!	B	4.5	TJ	5.0	B		7	5	8	3.0	50	KAC02
2003 02 07.73	w	B	4.1	TT	0.8	E		1	12	8			HOR02
2003 02 07.74		M	4.4	TT	6	R		15	20	7	1.25	40	JAN03
2003 02 07.74		S	4.5	AA	8.0	B		20	5	8	1.0	50	BAR
2003 02 07.74	!	B	4.2	TJ	5.0	B		7	5	7	2.0		ZAK
2003 02 07.80		B	4.6	TJ	5.0	B		7	5	8	3	45	GON05
2003 02 08.01	w	B	4.4	HV	8.0	B		16	3	8	1.0	45	CRE01
2003 02 08.54		S	3.6	TJ	6	R	10	30	3.4	8	30 m		SEM02
2003 02 08.72	w	M	4.0	TT	8.0	B		10	6	8/	3.5	45	HOR02
2003 02 08.73	x	B	4.0	TJ	6.0	B		20	5	S7	0.75	50	SIW
2003 02 08.73	w	B	3.7	TT	0.8	E		1	15	7/			HOR02
2003 02 08.80		I	4.2	TJ	0.0	E		1		9			GON05
2003 02 08.93		B	4.2	TT	5.0	B		12		8/	&0.6		GRE
2003 02 09.00	w	B	3.9	HV	8.0	B		16	2	8	1.5	45	CRE01
2003 02 09.38	xa	M	4.1:	HV	15.0	B		25	2	8	0.7	40	MIT
2003 02 09.39	$	B	5.2	TJ	8.0	B		11	2	8	1.2	60	MIY01
2003 02 09.39	x$	M	4.4	TJ	10.0	B		20	& 4	8	&1	40	NAG08
2003 02 09.39	x	B	4.2	TJ	7.0	B		10					OOT
2003 02 09.42	xw	M	4.0	TK	3.5	B		7		8	1.0	40	YOS02
2003 02 09.54		S	3.5	TJ	6	R	10	30	3.4	8	40 m		SEM02
2003 02 09.69		S	3.8	TT	8.0	B		20	6	7	1.0	45	AND01
2003 02 09.73		B	3.4	TT	5.0	B		7		8	1.0	40	KAR02
2003 02 09.73	x	B	3.8	TJ	6.0	B		20	5	S7	0.8	40	SIW
2003 02 09.73		M	3.7	TT	0.8	E		1	10	8			LEH
2003 02 09.75	w	B	3.7	HV	6.3	B		9		8/	1.8	40	KAM01
2003 02 09.76		S	4.6	TT	7.0	B		16	3	6	0.55	45	TAY
2003 02 10.73	$	B	3.5	TK	5.0	B		7	6	8	1.5		ZAK
2003 02 10.73	$	B	3.6:	TJ	5.0	B		7	4	8	1.5	45	KAC02
2003 02 10.74	$	S	3.6	TT	8.0	B		15	& 5	8	&1.5	45	SCH04
2003 02 10.75	s	M	3.5	TK	8.0	B		15		8	2	33	BOU
2003 02 10.75	s	S	3.4	TK	5.0	B		7		8	5	33	DIJ
2003 02 11.05		S	3.4:	YG	7.0	B		16	5		&1.5	40	PEP
2003 02 11.68		M	3.6	TT	6.0	B		20	4	S8	2	30	BAR06
2003 02 11.70	x	B	3.2:	TJ	5.0	B		7	2	S9	3	45	DOR02
2003 02 11.70	x&	B	3.8:	TJ	5.0	B		10	3	S7	0.5	37	MAR12
2003 02 11.71	$	B	3.3:	TJ	5.0	B		7	2	8	0.5		KAC02
2003 02 11.73	x$	B	2.3:	TJ	5.0	B		20	& 4	S7/	0.51	50	MOZ
2003 02 11.73	$	B	3.2	TJ	5.0	B		10	3	8	1.5		ATA
2003 02 11.73	x&	B	3.7	TJ	6.0	B		20	5	S7/	0.9	35	SIW
2003 02 11.76	!	S	3.0	TT	5.0	B		10	3.3	8	0.8	25	SHA02
2003 02 11.80	w	B	3.6	TI	8.0	B		11	6	8	33 m		LAB02
2003 02 12.68		M	3.4	TT	6.0	B		20	4	S8	3	33	BAR06
2003 02 12.68	x!	M	2.1:	TJ	5.0	B		10	& 6	D4/	&0.8	28	BOH02
2003 02 12.70	x	B	3.0:	TJ	5.0	B		7	2	S9	1	45	DOR02

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 12.70	x	M	1.5:	TJ	5.0	B		10	& 5	S7	&1.00	40	PAR03
2003 02 12.70	x&	B	3.6	TJ	5.0	B		10	3	S7	0.6	28	MAR12
2003 02 12.70	x&	S	2.8	TJ	7.0	B		15	3	7			SWI
2003 02 12.71	xw	B	3.2	TT	5.0	B		7	& 5	7	&0.5	30	FIL04
2003 02 12.71	w	M	2.3	TT	5.0	B		10	10	7/	0.5	60	HOR02
2003 02 12.72	$	B	2.7:	TJ	5.0	B		10	2	8	0.8		ATA
2003 02 12.72	$	B	2.8:	TJ	5.0	B		7	2	8	20 m		KAC02
2003 02 12.72	$	B	2.8:	TJ	5.0	B		7	3	8	0.5		ZAK
2003 02 13.00	w	B	2.5:	HV	8.0	B		16	1	9	0.6	30	CRE01
2003 02 13.69	xw	B	1.8:	TT	6.0	B		20	& 3	7/	&0.42	17	SCI
2003 02 13.69	xw	B	2.0:	TT	5.0	B		12	& 5	7	0.3	20	SMY
2003 02 13.70	xw	B	2.2:	TT	6.6	B		20	& 4	7	&0.4	18	FIL04
2003 02 13.71	w	O	1.5:	TT	0.0	E		1	8	5	1.0		ZNO
2003 02 13.73		B	2.0	TK	5.0	B		7	2	8	0.9	23	GRA04
2003 02 13.73	a	M	1.9	TK	8.0	B		15		8/	0.4	20	BOU
2003 02 13.74		M	2.5:	TK	5.0	B		7		9		21	DIJ
2003 02 13.99	w	B	2.1:	HV	8.0	B		16	1	9	0.4	20	CRE01
2003 02 14.70		B	1.0:	TT	5.0	B		7	< 1	9	0.3	15	KAR02
2003 02 14.70	w	M	1.0:	TT	8.0	B		10	10	7	0.3	30	HOR02
2003 02 14.72	!	B	1.5	TK	5.0	B		12	1.5	8	0.2	15	GRA04
2003 02 14.72	w	I	1.3:	TK	5.0	B		7	& 3	8	0.8	15	SKI
2003 02 16.29	$	B	-0.5:	AE	8.0	B		11	2	9	0.2	350	GON05
2003 02 18.42		O	[-3.5:		20	R	17	140					LEH
2003 02 18.43			[-3.5:		15	R	15	90					HOR02
2003 02 24.43		B	2 :	TK	10	B		25	1	9			MAT08
2003 02 25.10	!	S	2.9:	TT	5.0	B		10	2	8	>0.7	165	SHA02
2003 02 25.43	!	B	2.8	TK	10	B		25	2	8	0.25	170	MAT08
2003 02 26.39		B	3.3	AA	10.0	B		25		9			SEA
2003 02 26.44	!	B	3.0	TK	5.0	B		7	2	8	>1.5	160	MAT08
2003 02 26.98	&	B	4.3	TI	5.0	B		10	3	8	0.6	153	MAN04
2003 02 27.39		B	3.8	AA	10.0	B		25		9			SEA
2003 02 28.12	!	S	4.4	TT	5.0	B		10	2	8	>1	160	SHA02
2003 02 28.41		B	3.9	AA	10.0	B		25		9			SEA
2003 02 28.44	!	B	3.7:	TK	5.0	B		7	2	8	>2.0	165	MAT08
2003 03 01.41		B	3.9	AA	10.0	B		25		8	2.0	135	SEA
2003 03 01.90		S	4.0	TJ	8.0	B		11	3	7	0.1	147	SOU01
2003 03 02.41		B	4.4	AA	10.0	B		25		8	1.8	155	SEA
2003 03 02.91		S	4.2	TJ	8.0	B		11	3	6			SOU01
2003 03 03.00		B	4.2	TI	5.2	B		7	4	8	1.2	155	MAN04
2003 03 03.41		B	4.5	AA	10.0	B		25	1	8	3.5	150	SEA
2003 03 04.00		B	4.1	TI	5.2	B		7	3	8	1.5	146	MAN04
2003 03 04.44		I	4.3	TK	0.0	E		1		7	>2.0	160	MAT08
2003 03 04.44	!	B	4.5	TK	5.0	B		7	3	7	>3.0	160	MAT08
2003 03 04.94	f	B	5.5	HJ	5.0	B		16	& 3	7	&2.5	145	HIC02
2003 03 05.46		B	4.8	TK	5.0	B		7	3	7	>3.0	152	MAT08
2003 03 05.96		S	5.2	S	5.0	B		10					AGU
2003 03 06.41		B	4.9	AA	0.0	E		1			4.3		SEA
2003 03 06.41		B	5.0	AA	10.0	B		25			4.3	153	SEA
2003 03 06.91		S	4.9	TK	8.0	B		11	5	7	0.5	145	ARA
2003 03 07.41		B	5.1	AA	10.0	B		25	3	7	2.4	155	SEA
2003 03 08.40		B	5.1	AA	5.0	B		10					SEA
2003 03 08.43		B	5.3	TK	5.0	B		7	3	6	>1.0		MAT08
2003 03 10.46		B	5.6	TK	5.0	B		7	3	5	>1.0		MAT08
2003 03 12.44		B	6.0	TK	5.0	B		7	3	5	>1.0		MAT08
2003 03 13.40		B	5.7	AA	5.0	B		10					SEA
2003 03 14.40		B	6.1	AA	5.0	B		10					SEA
2003 03 16.45		B	6.5:	TK	5.0	B		7	2	5			MAT08
2003 03 17.45		B	6.7	TK	10	B		25	3	5			MAT08
2003 03 17.96		S	6.7:	YG	6	R	13	40		1			AM001
2003 03 18.06		S	6.7	TT	8.0	B		20	3.1	5	3 m	160	SHA02
2003 03 18.94		S	6.8	TK	8.0	B		20	8	6/			AM001
2003 03 19.94		S	6.8	TK	8.0	B		20	5	6	0.1	95	AM001
2003 03 20.06		S	6.9	TT	8.0	B		20	3.4	4			SHA02
2003 03 20.07		S	6.7	TT	5.0	B		10	3	5			SHA02
2003 03 20.43		B	7.0	TK	10	B		25	4	5	1.0	143	MAT08

Comet C/2002 V1 (NEAT) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 22.92		S	6.8	TK	8.0	B		20	5	6			AMO01
2003 03 24.95		S	6.9:	TK	8.0	B		20	4	5			AMO01
2003 03 27.94		S	7.0	TK	8.0	B		20	4	5			AMO01
2003 03 27.95		S	7.1	TK	5.0	B		7	5	2			AMO01
2003 03 28.95		S	7.2	TK	8.0	B		20	5	5			AMO01
2003 03 29.02		S	7.7	TT	5.0	B		10	8	4			SHA02
2003 03 29.92		S	7.2	TK	8.0	B		20	4	5			AMO01
2003 03 30.39		B	7.6	AA	10.0	B		25	6	5			SEA
2003 03 30.93		S	7.5	TK	8.0	B		20	4	5			AMO01
2003 03 31.41		B	7.8	AA	10.0	B		25	3	5	48	m 145	SEA
2003 04 05.92		S	7.8	TK	8.0	B		20	4	4			AMO01
2003 04 06.92		S	8.0	TK	8.0	B		20	3	2			AMO01
2003 04 06.92		S	8.0	TK	8.0	B		20	3	2			AMO01
2003 04 07.40		S	7.8	AA	10.0	B		25	6				SEA

Comet C/2002 X1 (LINEAR)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 25.96		S	13.6	AC	31.0	J	6	124	1.2	0/			DIJ
2003 02 25.96		S	13.7	AC	31.0	J	6	124	0.8	2			BOU
2003 02 26.79		B	13.7	HS	42	L	5	81	1.2	4			LEH
2003 03 21.89		S[	13.4	NP	21	L	6	100	1				MAR02
2003 03 22.90	a	S	13.5	AC	31.0	J	6	143	0.8	2/			BOU
2003 03 22.91	a	S	13.4	AC	31.0	J	6	143	0.8	2			DIJ
2003 03 26.83		S	13.6	HS	36	L	6	70	0.6	2			BAR06
2003 03 30.86	a	S	13.7:	AC	31.0	J	6	143	0.6	3			BOU
2003 03 30.86	a	S	13.8:	AC	31.0	J	6	143	0.7	2			DIJ
2003 04 05.95		S	13.8	NP	31.8	L	5	125	0.5	4			SAN04
2003 04 05.95		S	14.0	NP	31.8	L	5	125	0.5	2			MAR02

Comet C/2002 X5 (Kudo-Fujikawa)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 02 27.01		S	7.5	TJ	13.5	L		52	5	5			SOU01
2002 12 15.75	xw	S	8.0:	TJ	20	L	5	50	2.4	3			BUR04
2002 12 15.76	xw	S	7.7:	TJ	20	L	5	50	2.4	4			POW01
2002 12 20.68	x	S	7.9	TJ	20	L	5	58	& 2	4			SWI
2002 12 22.69	x	B	7.3	TT	20	L	5	50	5.5	5			POW01
2002 12 22.70	x	B	7.1	TJ	20	L	7	30	6	4/			MAK02
2002 12 22.71	x	S	7.3	TJ	15	L	6	45	3.5	4			SIE01
2002 12 22.76	x	S	7.2	TT	15	L	6	45	3.7	4			SIE01
2002 12 23.07		S	7.3:	TT	6.0	B		20	4	3			BAR06
2002 12 23.18		M	6.9	TK	5.0	B		10	6	5			ATA
2002 12 23.68	x	B	8.2	TT	6.6	B		20	& 6	4			FIL04
2002 12 23.68	x	S	7.2	TJ	15	L	6	50	4	4/			MAK02
2002 12 23.68	x	S	7.3	TT	5.0	B		12	4	4	0.05		SMY
2002 12 23.68	x	S	7.4	TJ	20	L	5	58	3.5	4			SWI
2002 12 23.69	x	B	7.3	TT	6.0	B		20	3.5	4			POW01
2002 12 23.69	x	S	7.2	TT	5	R	6	20	5	3/			GRA09
2002 12 23.70	x	S	7.9	TT	30	L	4	47	3	4/			GRA09
2002 12 23.71	x	S	7.2	TJ	6.0	B		20	& 3	4			ADA02
2002 12 23.73	x	S	7.6:	TJ	6.0	B		20	& 5	4			ADA02
2002 12 23.74	x&	S	8.0	TI	6.3	B		9	& 3	3			SZW
2002 12 24.69	x	S	7.0	TJ	20	L	5	58	& 2.5	5			SWI
2002 12 24.70	x	B	7.7	TT	6.6	B		20	& 6	4/			FIL04
2002 12 24.70	x	S	7.1	TJ	5.0	B		10	& 4.5	5			MAK02
2002 12 25.67	x	S	7.0	TJ	6.0	B		20	4	s3			PAR03
2002 12 25.68	x	S	7.2	TJ	7.0	B		15	6	5			SWI
2002 12 25.71	x	S	7.2	TT	6.6	B		20	& 5	4			FIL04
2002 12 25.71	x	S	7.5	TT	5	R	6	20	4.5	4			GRA09
2002 12 26.04		S	7.2	TT	6.0	B		20	5	3	0.1	300	BAR06
2002 12 26.67	x	S	7.0	TJ	10.0	M	10	20	5	d4			PAR03
2002 12 26.68	x	S	7.8	TJ	6.0	B		20	2	s3/			MAR12
2002 12 26.68	x&	B	6.9	TT	5.0	B		10	4	5			KIE
2002 12 26.68	x&	B	7.1	TT	5.0	B		10	5	4			SL001

Comet C/2002 X5 (Kudo-Fujikawa) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 12 26.69	x	S	7.3	TJ	5.0	B		10	& 4	5			MAK02
2002 12 26.69	x&	M	8.3	TJ	6.0	B		20	& 4	s4/			MAR13
2002 12 26.70	x	B	7.8	TT	20	L	5	50	3.5	4/			POW01
2002 12 26.71	x	S	6.9	TT	6.6	B		20	& 5	4/			FIL04
2002 12 30.14	x	B	7.4	TT	6.6	B		20	5	5	0.11	356	DUS
2002 12 31.18	x	B	7.2	TT	6.6	B		20	5	5			DUS
2002 12 31.20	x	B	6.9	TT	6.0	B		30	4	4/			POW01
2002 12 31.67	x	B	7.0	TT	20	L	5	30	4.5	4			POW01
2002 12 31.68	x	B	6.4	TJ	20	L	5	58	5	5			SWI
2002 12 31.68	x	B	6.8	TT	6.0	B		30	4.5	4/			POW01
2002 12 31.68	x&	S	6.6	TJ	6.0	B		20	5	3/			SIW
2002 12 31.69	x	M	7.2	TT	5	R	6	20	3	4/			GRA09
2002 12 31.69	x	S	7.4	TJ	6.0	B		20	& 3	s3/			MAR13
2002 12 31.70	x&	B	7.2	TJ	6.0	B		20	3	3/			MAR12
2002 12 31.71	x&	M	7.4	TT	6.0	B		20	3	s3/			KIS03
2002 12 31.72	xw	S	6.4	TT	6	R	15	26	& 6	d3			MOZ
2002 12 31.74	xw	S	6.3	TT	6.6	B		20	& 5	4			FIL04
2002 12 31.75	x&	S	7.1	TI	6.3	B		9	& 3	4			SZW
2002 12 31.76	x&	S	7.0	TJ	5.0	B		10	& 4	4			TOB
2003 01 01 69	x	B	6.9	TT	5.0	B		10	5	5			SLO01
2003 01 01.13	x	B	6.8	TT	20	L	5	30	5.5	5			POW01
2003 01 01.18		S	6.4	AA	8.0	R	6	19	7	6	4 m	7	KOS
2003 01 01.19		M	5.9	TT	6.0	B		20	8	3/			BAR06
2003 01 01.19		S	6.5	AA	5.0	B		7	7	7			KOS
2003 01 01.19	x&	B	7.1	TJ	25	L	5	47	4	d3/			BOH02
2003 01 01.20	x	B	7.3	SC	8.0	B		20	5	S5			SPE01
2003 01 01.22	x	S	7.1	TJ	18.5	L	5	53	3	3			KWI
2003 01 01.52		S	7.5	HD	6	R	10	30	4.8	5			SEM02
2003 01 01.68	x	B	6.7	TJ	20	L	5	58	4	5			SWI
2003 01 01.68	x	S	6.5	TJ	6.0	B		20	6	d5			PAR03
2003 01 01.68	x	S	6.8	TJ	6.0	B		20	& 3	4			SCI
2003 01 01.69	x	S	6.7:	TJ	6.0	B		20	& 3	4			ADA02
2003 01 01.70	x	B	6.8	TT	6.0	B		30	5.2	5			POW01
2003 01 01.70	xw	S	6.3	TT	6.6	B		20	& 6	4/			FIL04
2003 01 01.71		M	5.9	TT	6.0	B		20	9	s4			BAR06
2003 01 01.71		S	6.6:	TJ	5.0	B		7	2.5	4			KAC02
2003 01 01.71	x&	M	7.2	TT	6.0	B		10	3	s3/			KIS03
2003 01 01.77	x&	M	7.5	TJ	20	L	4	32	4	5	0.13	26	TOB
2003 01 02.19		S	6.2	AA	8.0	R	6	19	7	6	4 m	5	KOS
2003 01 02.19		S	6.3	AA	5.0	B		7	7	7			KOS
2003 01 02.67		S	7.3:	AA	5.0	B		10	5	2			SAJ
2003 01 03.19	x	B	7.2	TT	6.6	B		20	5	5			DUS
2003 01 03.19	!	S	6.4	TJ	5.0	B		7	5	5			KAC02
2003 01 03.20		M	6.3	TK	5.0	B		10	8	5			ATA
2003 01 03.52		S	7.4	HD	6	R	10	30	5	5			SEM02
2003 01 03.71	!	S	6.6	TJ	5.0	B		7	4.5	6			KAC02
2003 01 04.52		S	7.5	HD	6	R	10	30	4.1	5			SEM02
2003 01 04.75	x&	S	6.8	TI	6.3	B		9	& 2	6			SZW
2003 01 05.20	xw	S	5.5	TT	6	R	15	26	& 4	s5			MOZ
2003 01 05.52		S	7.5	HD	6	R	10	30	4.1	5			SEM02
2003 01 05.69		M	6.4	TT	6.0	B		20	8	s4			BAR06
2003 01 06.21	x	S	5.5	TT	5.0	B		7	&10	5			FIL04
2003 01 06.51		S	7.5	HD	6	R	10	30	4.8	5			SEM02
2003 01 07.21	x	B	6.3	TT	6.0	B		30	5.5	5			POW01
2003 01 07.67	x	B	6.2	TT	6.0	B		30	6	5			POW01
2003 01 07.69	x	B	6.0	TJ	6.0	B		20	5	5			SIW
2003 01 08.67	x	B	6.3	TT	15	L	6	45	4.8	4/			SIE01
2003 01 08.67	x	B	6.4	TT	20	L	5	30	6	5			POW01
2003 01 08.68	x	B	6.1	TT	6.0	B		30	7	5			POW01
2003 01 09.28	x&	B	7.4	TJ	5.0	B		10	6	3			TOB
2003 01 09.67	x	B	6.0	TT	6.0	B		30	8	5			POW01
2003 01 10.29	x&	M	6.3:	TJ	5.0	B		10		3			TOB
2003 01 11.19	x	B	5.5	AC	5.0	B		20	4	9	&10 m		DOR02
2003 01 11.64	x	B	5.9	AC	5.0	B		20	4	S8			DOR02
2003 01 11.66	x	B	6.1	TT	15	L	6	45	4.8	4/			SIE01

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DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 01 11.67	x	B	6.0	TT	6.0	B		30	6	5			POW01
2003 01 11.67	x	B	6.0	TT	6.0	B		30	6	5			POW01
2003 01 11.67	x&	S	6.5:	TJ	6.0	B		20	2	s4			MAR12
2003 01 11.68	x	S	5.6	TJ	7.0	B		15	& 7	5			SWI
2003 01 11.70	!	S	5.8:	TJ	5.0	B		7	2	7			KAC02
2003 01 11.70	x$	S	5.5	TT	6.6	B		20	& 6	3			FIL04
2003 01 11.70	xw	S	5.7	TT	5.0	B		12	6	4/			SMY
2003 01 11.76	x&	B	6.2:	TJ	20	L	4	32		3			TOB
2003 01 12.22	!	M	5.6	TJ	5.0	B		10	9	6	0.2		ATA
2003 01 12.22	xw	S	5.2	TT	5.0	B		20	& 3	S7	0.07		MOZ
2003 01 12.22	xw	S	5.2:	TT	5.0	B		20	& 3	S7	&0.07		MOZ
2003 01 12.70	!	M	5.7	TJ	5.0	B		10	4	6			ATA
2003 01 12.71		B	6.3:	TK	5.0	B		10					HAS02
2003 01 13.20	xw	B	5.6	TT	6.6	B		20	&12	6	&0.6	1	FIL04
2003 01 15.07		S	7.5	HD	6	R	10	30	4.8	5			SEM02
2003 01 16.20	xw	S	5.8	TT	6.6	B		20	&10	7	0.4	5	FIL04
2003 01 17.67		M	5.5:	TT	6.0	B		20	7	3			BAR06
2003 01 18.21	xw	S	5.7	TT	6.6	B		20	& 4	7	&0.28	1	FIL04
2003 01 18.66		M	5.3:	TT	6.0	B		20	7	3			BAR06
2003 01 19.23	!	M	4.2:	TJ	5.0	B		10	3	7			ATA
2003 02 07.47		B	5.7	TK	10	B		25	2	8	>0.5	158	MAT08
2003 02 10.46		B	6.7	TK	5.0	B		7	2	7			MAT08
2003 02 12.01		M	6.1	TI	5.2	B		7	2	8			MAN04
2003 02 14.01		M	6.2	TI	5.2	B		7	2	8			MAN04
2003 02 16.04		S	5.3	TT	5.0	B		10	3.3	7	15 m	135	SHA02
2003 02 17.43		B	6.4	AA	10.0	B		25	4	7			SEA
2003 02 18.37		S	6.8:	TK	7.8	R	8	30	2	2			JON
2003 02 18.42		B	6.4	AA	10.0	B		25	4	7	0.3	135	SEA
2003 02 18.95		S	7.0	TK	5.0	B		7	3	7			AMO01
2003 02 19.02		M	7.3	TI	12.5	L	7	35	3	6	0.5	125	MAN04
2003 02 19.38		S	7.2	TK	7.8	R	8	30	3	2			JON
2003 02 19.43		B	6.6	AA	10.0	B		25		6			SEA
2003 02 19.97		S	7.2	TJ	8.0	B		11	5	7			SOU01
2003 02 20.01		B	7.1	TJ	10	B		14		8			ARQ
2003 02 20.51		M	7.6:	TK	10	B		25	3	5			MAT08
2003 02 22.91		S	7.6	TK	27.0	L	5	55	6	6/			DES01
2003 02 22.92		S	7.7	TK	8.0	B		11	4	5			DES01
2003 02 23.93		S	7.5	TK	8.0	B		11	4	5/			DES01
2003 02 23.97		S	7.2	TK	5.0	B		7	10	5			AMO01
2003 02 24.38		S	7.3	TK	7.8	R	8	30	3	3			JON
2003 02 24.42		B	7.2	AA	10.0	B		25	5				SEA
2003 02 24.93		S	7.4	TK	8.0	B		11	5	5			DES01
2003 02 25.17		S	7.2	TT	5.0	B		10	7	4			SHA02
2003 02 25.36		S	7.4	TK	7.8	R	8	30	3	2			JON
2003 02 25.46		M	6.8	TK	5.0	B		7	5	5			MAT08
2003 02 25.92		S	7.5	TK	8.0	B		11	6	5/			DES01
2003 02 26.44		B	7.4	AA	10.0	B		25	6	5			SEA
2003 02 26.50		M	7.2	TK	5.0	B		7	5	5			MAT08
2003 02 26.92		S	7.5	TK	8.0	B		11	6	5/			DES01
2003 02 27.01		S	7.6	TJ	8.0	B		11	3	4			SOU01
2003 02 27.43		B	7.6	AA	10.0	B		25					SEA
2003 02 27.46		M	7.5	TK	5.0	B		7	5	5			MAT08
2003 02 27.92		S	7.7	TK	8.0	B		11	5	0			ARA
2003 02 27.93		S	7.5	TK	8.0	B		11	6	5/			DES01
2003 03 01.48		B	7.6	AA	10.0	B		25					SEA
2003 03 01.96		S	7.7	TJ	8.0	B		11	5	6			SOU01
2003 03 02.44		B	7.8	AA	10.0	B		25	6	4			SEA
2003 03 03.41		B	7.9	AA	10.0	B		25					SEA
2003 03 04.42	x	S	8.5:	TJ	10.0	B		20		5			NAG08
2003 03 04.48		M	8.0	TK	5.0	B		7	6	4			MAT08
2003 03 04.49		M	8.2	TK	10	B		25	6	4	0.17	140	MAT08
2003 03 06.46		B	8.1	AA	10.0	B		25					SEA
2003 03 06.73		S	11.2	HS	36	L	6	70	2	1			BAR06
2003 03 08.43	x	S	9.2	TK	10.0	B		20	5	4			YOS02
2003 03 09.42	x	S	8.8	TJ	32.0	L	5	58	3.3	5			NAG08

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DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 09.42	x	S	9.5:	TJ	15.0	B		25	3	3			MIT
2003 03 09.80		S	8.2:	TK	25.6	L	5	42	4	4			BIV
2003 03 11.85		S	9.1	TK	20.3	T	10	67	4.5	3			BIV
2003 03 12.43		S	9.3	AA	10.0	B		25					SEA
2003 03 12.82		S	9.2:	TK	5.0	B		7	5	2			BIV
2003 03 12.82		S	9.4	TK	20.3	T	10	67	5	2			BIV
2003 03 13.85		S	9.5:	TK	20.3	T	10	77	4	2			BIV
2003 03 18.09		S	8.0:	TT	9	R	6	40	6	2			SHA02
2003 03 19.80		B	10.5	TI	20	T	10	57	2	2			LAB02
2003 03 20.44		S	10.4	TK	10	B		25	2	4			MAT08
2003 03 20.75	x	S	9.3	TT	20	L	5	50	& 4	2/			POW01
2003 03 20.88		S	10.3	TJ	20.3	T	10	77	3	2			GON05
2003 03 21.41		S	9.4	AA	10.0	B		25					SEA
2003 03 21.75	x	S	9.5	TT	20	L	5	50	3.5	2			POW01
2003 03 21.75		S	10.7	TK	30	L	5	60	2	1			NEV
2003 03 21.76		S	9.8	TT	13	L	8	69	2.3	1/			HOR02
2003 03 21.86		M	9.7	TI	21	L	6	55	6	3			MAR02
2003 03 22.13			[10.1	HS	40.6	L	5	68					CHE03
2003 03 22.45	x	S	11.5	HS	25.4	L	4	46	2.0	1/			YOS02
2003 03 22.77		S	10.0	TT	13	L	8	69	2.1	2			HOR02
2003 03 22.83		S	10.2	TK	31.0	J	6	72	2.5	2			BOU
2003 03 22.83		S	10.4	TK	31.0	J	6	72	2.5	2/			DIJ
2003 03 23.79		S	10.6	TK	35	L	5	68	2.3	2			HOR02
2003 03 23.80		S	11.3	HS	44.0	L	5	156	1.5	2			HAS02
2003 03 23.82		S	10.1	TK	25.4	J	6	58	3	2			BOU
2003 03 24.78	x	S	9.5:	TT	30	L	4	96	& 3	2/			GRA09
2003 03 24.79		M	10.1	TT	42	L	5	81	2.5	2/			LEH
2003 03 26.79	x	S[	10.2	TT	30	L	4	96	! 2				GRA09
2003 03 29.02		S	11.5:	HS	25.4	T	10	158					AMO01
2003 03 30.85		S[	9.0	TK	20	R	14	70					SHA02
2003 03 31.79	x	S[	10.8	TT	30	L	4	96	! 3				GRA09
2003 03 31.85		S	11.4:	TK	33	L	5	150	1.4	2			SHA02
2003 04 05.89		S	11.4	NP	31.8	L	5	75	1	5			MAR02
2003 04 05.89		S	12.0	NP	31.8	L	5	75	0.5	6			SAN04

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DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 01 28.00		B	11.5	TI	20	T	10	80	2	3			LAB02
2003 01 28.95		S	10.3	TT	11	L	8	36	2.0	5			MAN02
2003 01 29.00		S	9.2	TT	13	L	8	69	6	1/			HOR02
2003 01 29.03		S	8.5	TT	8.0	B		10	13	2/			HOR02
2003 01 29.20		S	10.2	TJ	15.0	R	8	60	5	3			ATA
2003 01 30.25		S	10.9:	TK	25.6	L	5	84	2.5	3			BIV
2003 01 30.95		M	9.4	TK	25.4	L	6	50	6	3/			GRA04
2003 01 30.95		S	9.3	TK	5.0	B		12	6	3			GRA04
2003 01 31.00		S	8.6	TT	8.0	B		10	12	2			HOR02
2003 01 31.99		S	8.4	TT	8.0	B		10	14	2			HOR02
2003 02 01.02		S	8.7	TT	13	L	8	69	6.5	1/			HOR02
2003 02 01.21		B	10.0	TI	20	T	10	50	6	3			LAB02
2003 02 01.81	x	S	10.3	TJ	31.7	L	6	63	5.0	4			MIY01
2003 02 02.01		B	9.8	TI	20	T	10	50	6	3			LAB02
2003 02 02.06		M	9.0	TT	10	B	4	25	5	3			LEH
2003 02 02.10		S	8.5:	TT	8.0	B		10	12	2			HOR02
2003 02 02.11		S	9.0	TT	6.0	B		20	4	3			BAR06
2003 02 03.01		M	9.0	TK	25.4	J	6	47	5	4			BOU
2003 02 03.08		S	9.7	TK	30	R	20	105	4.1	3			SHA02
2003 02 03.09		S	8.7	TK	8.0	B		20	8.3	2			SHA02
2003 02 03.09		S	8.9	TT	6.0	B		20	5	4			BAR06
2003 02 03.10		S	8.2	VB	10	B		25	8.3	3			SHA02
2003 02 03.74	x	S	10.1	TJ	31.7	L	6	63	4.4	3/			MIY01
2003 02 03.75		S	8.7	TJ	31.7	L	6	38	6	3/			YOS04
2003 02 03.92		S	9.2:	TT	30.0	L	5	60	& 3	2			SCH04
2003 02 04.11		S	9.0	TT	6.0	B		20	4	3			BAR06
2003 02 04.17		S	9.6	TK	25.6	L	5	42	5	4			BIV

Comet C/2002 Y1 (Juels-Holvorcem) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 04.22		S	8.6	TK	8.0	B		20	8.3	3			SHA02
2003 02 04.81	x	S	9.4	TK	10.0	B		20	7	4			YOS02
2003 02 05.00		S	9.1	TK	33	L	5	45	5.6	3			SHA02
2003 02 05.02		S	8.5	TK	8.0	B		20	7.5	2			SHA02
2003 02 05.12		S	8.9	TK	25.6	L	5	42	6	4			BIV
2003 02 05.18		S	8.7	TK	5.0	B		7	7	5			BIV
2003 02 05.86	x	M	9.0	TK	10.0	B		20	7	3/			YOS02
2003 02 05.99		S	8.6	TK	8.0	B		20	5.1	3			SHA02
2003 02 06.00		S	8.6	TK	10	B		25	5.6	3			SHA02
2003 02 06.12		S	8.4	TK	15.2	L	5	38	6	3			GRA04
2003 02 06.17		M	9.0	TK	25.4	J	6	47	5.5	4/			BOU
2003 02 06.23		S	9.1	TK	8.0	B		15	& 6	4			COM
2003 02 06.67	x	S	8.9	TJ	32.0	L	5	58	5.8	5			NAG08
2003 02 06.68	x	S	8.4	TJ	8.0	B		11	6	4			NAG08
2003 02 06.82	x	S	9.4	TJ	31.7	L	6	63	7.5	4			MIY01
2003 02 07.82	x	S	9.9	TJ	31.7	L	6	63	4.9	4			MIY01
2003 02 07.97		M	8.2	TT	13	L	8	69	6	2/			HOR02
2003 02 07.99		S	7.7	TT	8.0	B		10	16	2/			HOR02
2003 02 08.00		M	8.8	TT	10	B	4	25	5	3			LEH
2003 02 08.05		S	8.5	TJ	5.0	B		7	6	4			GON05
2003 02 11.09		S	7.4	HD	11	B		20	8	3			NEV
2003 02 11.11		S	8.1	TT	6.0	B		20	12	2			BAR06
2003 02 11.86	x	M	8.7	TK	10.0	B		20	7	3			YOS02
2003 02 12.12		S	7.9	TJ	15.0	R	8	75	3	3			DIE02
2003 02 12.18		M	7.6	TT	8.0	B		10	12	3			HOR02
2003 02 12.19		S	7.9	TT	6.0	B		20	14	2			BAR06
2003 02 12.93		S	7.5	TT	8.0	B		10	13	2/			HOR02
2003 02 13.00		M	8.1	TT	10	B	4	25	6	3/			LEH
2003 02 13.20		S	8.0	TT	6.0	B		20	12	2			BAR06
2003 02 13.84	x	S	8.9	TJ	31.7	L	6	63	5.1	4/			MIY01
2003 02 14.00		M	8.0	TT	10	B	4	25	6	3/			LEH
2003 02 14.00		S	7.5	TT	8.0	B		10	11	2/			HOR02
2003 02 14.19		S	7.7	TK	5.0	B		12	8	3/			GRA04
2003 02 14.19		S	7.8	TK	15.2	L	5	44	7	4			GRA04
2003 02 14.20		S	8.0	TJ	15.0	R	8	75	4	4			DIE02
2003 02 14.21		S	7.9	TK	8.0	B		15	8	3/			BOU
2003 02 14.22		M	7.8	TK	8.0	B		15	7.5	6			DIJ
2003 02 14.22		S	8.4	TT	8.0	B		15	& 7	3			SCH04
2003 02 15.00		S	7.4	TT	8.0	B		10	12	2			HOR02
2003 02 16.22		S	7.8	TJ	8.0	B		11	4	3			GON05
2003 02 16.77		S	7.9	TK	8.0	B		15	5	3/			BOU
2003 02 17.11		S	7.8	TT	6.0	B		20	7	3			BAR06
2003 02 19.76		B	7.7:	TK	5.0	B		10					HAS02
2003 02 20.05		M	7.6	TK	15.2	L	5	38	8	4/			GRA04
2003 02 20.79		M	7.6	TK	8.0	B		15	6.5	4/			BOU
2003 02 20.82		M	7.8	TK	10.0	B		20	10	D4			MEY
2003 02 20.82		S	7.8	TK	5.0	B		7	8	4			BIV
2003 02 20.85		S	7.8	TK	25.6	L	5	42	6	3			BIV
2003 02 20.93		S	7.7	TJ	8.0	B		11	6	3			GON05
2003 02 20.94		S	8.1	TJ	20.3	T	10	77	5	5			GON05
2003 02 21.04		M	7.7	TK	15.2	L	5	38	7	4/			GRA04
2003 02 21.12		S	7.5	TT	6.0	B		20	10	2			BAR06
2003 02 21.77		M	7.8	TK	10.0	B		20	8.5	D4			MEY
2003 02 21.79		M	7.5	TK	8.0	B		15	7.5	7			DIJ
2003 02 21.79		M	7.6	TK	8.0	B		15	6	5			BOU
2003 02 21.81		S	7.6	TK	5.0	B		7	10	3			BIV
2003 02 21.81		S	7.6	TK	25.6	L	5	42	6.5	4			BIV
2003 02 21.83		S	7.5	TT	5.0	B		7	8	6			KAR02
2003 02 22.11		S	7.4	TT	6.0	B		20	10	2			BAR06
2003 02 22.12		S	7.2	TJ	5.0	B		20	8	7			DIE02
2003 02 22.51		B	7.6	TJ	5.0	B		7	6	3			CHE03
2003 02 22.73		S	7.8	AA	8.0	R	6	19	4	3			KOS
2003 02 22.74		S	7.9	AA	5.0	B		7	4	4			KOS
2003 02 22.79		M	7.5	TK	8.0	B		15	6	5			BOU
2003 02 22.79		M	7.6	TK	8.0	B		15	5.5	5			DIJ

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DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 02 22.83		M	8.0	TJ	7	R	4	17	4	3/			SHU
2003 02 22.93		S	7.6	HD	11	B		20	6	4			NEV
2003 02 22.96		M	7.1	TI	5.0	B		10	14	4			CER01
2003 02 22.98		M	7.5	TT	8.0	B		10	11	4			HOR02
2003 02 22.99		S	7.5	TT	8.0	B		15	7	5			RIE
2003 02 23.00		M	7.2	TT	10	B	4	25	8	4			LEH
2003 02 23.10		S	7.4	TT	6.0	B		20	10	2			BAR06
2003 02 23.12		B	8.9	TI	15.0	M		27	3	6			SER02
2003 02 23.74		S	8.0	AA	8.0	R	6	19	4	3			KOS
2003 02 23.75		S	8.0	AA	5.0	B		7	4	3			KOS
2003 02 23.77		M	7.4	TK	10.0	B		20	8	D4			MEY
2003 02 23.81		M	7.4	TK	8.0	B		15	7	5			BOU
2003 02 23.81		M	7.5	TK	8.0	B		15	5.5	5			DIJ
2003 02 23.84		M	7.5	TT	8.0	B		10	13	3/			HOR02
2003 02 23.84		S	7.4	TT	6.0	B		20	9	2			BAR06
2003 02 23.99		S	7.4	HV	6.3	B		9	7	3			KAM01
2003 02 24.00		M	7.1	TT	10	B	4	25	8	4			LEH
2003 02 24.16		S	7.8	TT	8.0	B		15	7	6			SCH04
2003 02 24.76		B	7.7	TK	5.0	B		10					HAS02
2003 02 24.77		M	7.5	TK	10.0	B		20	9	D4			MEY
2003 02 24.79		M	7.1	TI	5.0	B		10	10	3			CER01
2003 02 24.80		M	7.8	TI	11.4	L	8	36	7	3			CER01
2003 02 24.82		S	7.7	TK	5.0	B		7	6	5			BIV
2003 02 24.82		S	8.5	TI	11.4	L	8	36	6	3			NED
2003 02 24.83		S	7.8	TK	25.6	L	5	42	5	4			BIV
2003 02 24.96		M	7.4	TK	8.0	B		15	6	5			BOU
2003 02 24.96		M	7.6	TK	8.0	B		15	5.4	5			DIJ
2003 02 24.99		S	7.5	HV	6.3	B		9	8	4			KAM01
2003 02 25.00		M	7.0	TT	10	B	4	25	10	4			LEH
2003 02 25.05		M	7.3	TT	8.0	B		10	13	4			HOR02
2003 02 25.13		S	7.4	TJ	5.0	B		20	7	8			DIE02
2003 02 25.17		S	7.6	TK	8.0	B		15	& 5	5/			COM
2003 02 25.17		S	7.8	TT	8.0	B		15	6	6/			SCH04
2003 02 25.80		M	7.3	TK	8.0	B		15	6.5	5			BOU
2003 02 25.81		M	7.1	TT	8.0	B		10	14	3/			HOR02
2003 02 25.81		M	7.5	TK	8.0	B		15	6.3	5			DIJ
2003 02 25.83		S	7.3	TT	5.0	B		10	7	5			RIE
2003 02 25.87		M	7.2	TI	5.0	B		10	12	3			CER01
2003 02 25.87		M	7.9	TI	7.6	L	9	35	8	3	0.25	320	CER01
2003 02 26.12		M	7.6	TK	15.2	L	5	38	7	5			GRA04
2003 02 26.12		S	7.5	TK	5.0	B		7	7	4			GRA04
2003 02 26.13		S	7.1	TJ	5.0	B		20	8	8			DIE02
2003 02 26.17		S	7.7	TT	8.0	B		15	7	6			SCH04
2003 02 26.73	x	S	8.5	TJ	31.7	L	6	63	4.0	4			MIY01
2003 02 26.75		M	7.2	TT	8.0	B		10	13	4			HOR02
2003 02 26.80		M	7.1	TI	5.0	B		10	12	3			CER01
2003 02 26.80		M	7.3	TK	8.0	B		15	6.5	5/	0.4	335	BOU
2003 02 26.82		M	7.7	TI	11.4	L	8	36	9	3	0.20	324	CER01
2003 02 26.82		M	7.9	TI	11.4	L	8	36	9	3			NED
2003 02 26.83	x	M	7.5	HV	8.0	B		11	9	4			MIT
2003 02 27.02		S	7.5	TK	8.0	B		15	& 6	5			COM
2003 02 27.04		M	7.1	TT	10	B	4	25	10	4			LEH
2003 02 27.14		M	7.3	TK	15.2	L	5	30	8	5			GRA04
2003 02 27.15		S	7.4	AA	6.0	B		20	13	5			CSU
2003 02 27.42	xw	S	7.2	TJ	8.0	B		11	7	4			NAG08
2003 02 27.74		S	7.5	AA	5.0	B		7	10	4			KOS
2003 02 27.78		S	7.0	TJ	5.0	B		20	8	8			DIE02
2003 02 27.79		M	7.8	TJ	25	L	4	52	8	3			NEK
2003 02 27.81	x	S	7.9	TJ	8.0	B		11	5.6	5			MIY01
2003 02 27.89		M	7.6	TJ	15	L	5	42	9	4			SHU
2003 02 28.00		M	7.0	TT	10	B	4	25	9	4			LEH
2003 02 28.13		S	7.1	AA	6.0	B		20	13	5			CSU
2003 02 28.76		S	7.4	AA	8.0	R	6	19	6	3			KOS
2003 02 28.94		M	7.1	TK	5.0	B		7	9	5			GRA04
2003 02 28.99		M	7.2	TK	8.0	B		15	5.5	5			BOU

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DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 01.97		M	7.2	TK	8.0	B		15	6	5/			BOU
2003 03 02.06		M	7.2	TK	15.5	L	6	30	5.2	4/			DIJ
2003 03 02.82		S	7.2	TK	5.0	B		7	9	5			BIV
2003 03 02.83		S	7.3	TK	25.6	L	5	42	8	4	0.2	330	BIV
2003 03 03.82		M	6.7	TT	8.0	B		10	13	4			HOR02
2003 03 03.82	x	S	6.8	TJ	8.0	B		11	9	4			NAG08
2003 03 04.01		S	6.9	TJ	5.0	B		7	10	5			GON05
2003 03 04.12		S	6.5	TJ	5.0	B		20	5	8			DIE02
2003 03 04.17		S	7.1	TI	8.0	B		11	7	6			LAB02
2003 03 04.79		M	6.7	TT	5.0	B		10	11	4/			HOR02
2003 03 04.81		M	7.1	S	7.0	B		10	4	5			MAR02
2003 03 04.82	x	S	7.2	TJ	8.0	B		11	5.2	5			MIY01
2003 03 04.94		B	7.3	TK	5.0	B		10	5.1	4			HAS02
2003 03 05.17		S	6.9	TI	8.0	B		11	7	5			LAB02
2003 03 05.52		B	7.1	TJ	8.0	R	4	19	5	4			CHE03
2003 03 05.82		M	6.6	TT	8.0	B		10	11	4/			HOR02
2003 03 06.04		M	7.7	TJ	7	R	4	17	& 7	4/			SHU
2003 03 06.50		B	7.0	TJ	8.0	R	4	19	5	4			CHE03
2003 03 06.78		S	6.7	TJ	5.0	B		20	4	6			DIE02
2003 03 06.82		M	7.3	HD	11	B		20	6	d5			NEV
2003 03 06.83		M	6.9	TK	8.0	B		15	6	5/			BOU
2003 03 06.84		S	7.2	TK	5.0	B		7	6	6			BIV
2003 03 06.85		S	7.4	TK	25.6	L	5	42	5	5	0.15	355	BIV
2003 03 06.86		M	6.7	TK	5.0	B		7	10	5			DIJ
2003 03 06.92	&	S	7.1	TT	8.0	B		15	6	5			RIE
2003 03 07.05		M	6.7	TT	5.0	B		10	10	5/			HOR02
2003 03 07.15		S	7.0	TI	10.2	R	5	25	7	5			LAB02
2003 03 07.50		B	6.6	TJ	8.0	R	4	19	5	6			CHE03
2003 03 07.77		S	6.7	TJ	5.0	B		20	4	6			DIE02
2003 03 07.82	xw	M	6.5	TJ	5.0	B		12	7	7			NAG08
2003 03 07.82	x	M	7.0	HV	8.0	B		11	6	6			MIT
2003 03 07.82	x	S	7.4	TJ	8.0	B		11	5.0	5/			MIY01
2003 03 07.83		M	6.7	TK	5.0	B		7	8.5	4/			DIJ
2003 03 07.83	xw	M	6.9	TK	10.0	B		20	5	6/			YOS02
2003 03 07.99		B	7.1	TK	10.0	B		20	6	D5	&0.2		MEY
2003 03 08.02		M	7.0	HD	11	B		20	5	s5			NEV
2003 03 08.05		S	6.7	HV	6.3	B		9	6	5/			KAM01
2003 03 08.51		B	6.7	TJ	8.0	R	4	19	4	6			CHE03
2003 03 08.81	x	S	7.0	TJ	8.0	B		11	4.1	6			MIY01
2003 03 09.11		S	6.8	TJ	20.3	T	10	77	5	5			GON05
2003 03 09.15		S	6.7	TJ	5.0	B		7	8	5			GON05
2003 03 09.22		S	7.0	TK	5.0	B		7	5	6			BIV
2003 03 09.22		S	7.1	TK	25.6	L	5	42	4	5			BIV
2003 03 09.43	xw	M	6.6	TJ	8.0	B		11	5	7			NAG08
2003 03 09.51		B	6.7	TJ	8.0	R	4	19	4	6			CHE03
2003 03 09.82		S	7.0	TK	5.0	B		7	5	5			BIV
2003 03 09.82	x	S	7.2	TJ	8.0	B		11	5.4	5			MIY01
2003 03 09.83		S	7.0	TK	25.6	L	5	42	3.5	6			BIV
2003 03 09.90		M	6.9	TK	8.0	B		15	5	6			BOU
2003 03 09.92		M	6.7	TK	15.5	L	6	30	6	4			DIJ
2003 03 10.01		S	6.7	TJ	5.0	B		20	4	6			DIE02
2003 03 10.14		S	6.8	HV	6.3	B		9	6	5/			KAM01
2003 03 10.51		B	6.8	TJ	8.0	R	4	19	5	6			CHE03
2003 03 10.81	x	S	7.6	TJ	8.0	B		11	5.1	5			MIY01
2003 03 10.82	xw	M	6.8	TJ	8.0	B		11	5	7			NAG08
2003 03 11.10		M	6.7	TK	5.0	B		12	7	5			GRA04
2003 03 11.11		M	6.4	TT	6.0	B		20	7	3	0.4	352	BAR06
2003 03 11.51		B	6.8	TJ	8.0	R	4	19	4	6			CHE03
2003 03 11.81		S	6.6	TT	8.0	B		20	6	6			AND01
2003 03 11.82	x&	S	7.3	TJ	8.0	B		11	4.5	5			MIY01
2003 03 12.21		S	7.1	TK	5.0	B		7	4	6			BIV
2003 03 12.21		S	7.1	TK	20.3	T	10	67	5	5	0.4	350	BIV
2003 03 12.51		B	6.9	TJ	8.0	R	4	19	4	5			CHE03
2003 03 12.79	x&	S	7.9:	TJ	8.0	B		11	3.5	5/			MIY01
2003 03 12.80		M	6.7	TK	15.5	L	6	30	5	6			DIJ

Comet C/2002 Y1 (Juels-Holvorcem) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 12.96		S	6.7	TT	8.0	B		11	5	6			WAR01
2003 03 13.14		S	7.0	TT	8.0	B		15	7	6/			SCH04
2003 03 13.16		S	6.4	TJ	5.0	B		20	4	7			DIE02
2003 03 13.17		M	6.8	TK	5.0	B		12	6	5			GRA04
2003 03 13.17		M	6.8	TK	8.0	B		15	5.5	6/	0.6	348	BOU
2003 03 13.19		S	7.0	TK	5.0	B		7	4	6	0.3	350	BIV
2003 03 13.20		S	7.3	TK	20.3	T	10	67	5	5	0.3	345	BIV
2003 03 13.79		S	6.4	TJ	5.0	B		20	4	7			DIE02
2003 03 13.81	xa	S	6.7:	TJ	8.0	B		11	4.3	4			MIY01
2003 03 14.15		S	6.8	TT	8.0	B		15	7	6			SCH04
2003 03 14.17		B	7.1	HV	6.3	B		9	4.5	7/			KAM01
2003 03 14.17		M	6.7	TK	8.0	B		15	5	7	0.4	349	BOU
2003 03 14.20		S	7.0	TK	20.3	T	10	67	4	6	0.5	345	BIV
2003 03 14.21		B	6.9	TK	5.0	B		7	4	6			BIV
2003 03 14.78		S	6.4	TJ	5.0	B		20	4	7			DIE02
2003 03 14.82		M	6.8	TK	15.5	L	6	30	5	5/			DIJ
2003 03 15.17		S	6.8	TT	8.0	B		15	6	6/			SCH04
2003 03 15.81		M	6.8	TK	8.0	B		15	4.5	7			BOU
2003 03 16.08		M	6.7	TJ	7	R	4	17	& 7	4/			SHU
2003 03 16.76		S	7.0	AA	5.0	B		10	5	2	0.4	320	SAJ
2003 03 16.81		M	6.8	TK	15.5	L	6	30	4.5	4/			DIJ
2003 03 18.09		M	6.7	TK	15.2	L	5	30	6	6			GRA04
2003 03 18.81		M	6.7	TK	15.5	L	6	30	5	5/			DIJ
2003 03 19.84		S	6.5	TJ	5.0	B		7	7	5			GON05
2003 03 20.81		S	6.5	TT	8.0	B		20	6	5			AND01
2003 03 20.84		S	6.7	TJ	5.0	B		7	5	6			GON05
2003 03 21.13		M	6.7	TK	5.0	B		12	5	6			GRA04
2003 03 21.75		S	6.9	AA	5.0	B		10	4	7	0.9	287	SAJ
2003 03 21.75		S	7.4	TJ	15.0	R	8	75	3	7			DIE02
2003 03 21.76		S	6.9	AA	6.0	B		20	4	7			CSU
2003 03 21.77		M	6.8	HD	11	B		20	5	s6			NEV
2003 03 21.78	w	M	6.0	TT	8.0	B		10	8	6			HOR02
2003 03 21.82		M	6.6	TK	8.0	B		15	6.5	6			DIJ
2003 03 21.82		M	6.7	TK	8.0	B		15	4	7			BOU
2003 03 21.85	a	M	6.0	S	3.0	B		6	10	4			MAR02
2003 03 22.76		M	6.7	TT	6.0	B		20	7	4/	1	354	BAR06
2003 03 22.76		S	6.7	TJ	5.0	B		20	3	7			DIE02
2003 03 22.76		S	6.8	AA	6.0	B		20	4	7	0.75	342	CSU
2003 03 22.77		S	7.1	AA	5.0	B		10	3	7	0.75	304	SAJ
2003 03 22.79		B	6.4	TK	5.0	B		10	7.0	4			HAS02
2003 03 22.79	a	S	6.5	TK	5.0	B		10	7	4/			MEY
2003 03 22.79	w	M	5.9	TT	8.0	B		10	9	6			HOR02
2003 03 22.81		M	6.5	TK	8.0	B		15	4	7	0.8	351	BOU
2003 03 22.81		M	6.6	TK	8.0	B		15	7	6/	0.9	350	DIJ
2003 03 22.92		M	6.5	TK	5.0	B		12	6	6/			GRA04
2003 03 23.03		S	6.6	TT	20	T		100	2.2	7	0.2	350	KAR02
2003 03 23.77	!	B	6.8	TJ	5.0	B		7	3	7			KAC02
2003 03 23.77	w	M	5.9	TT	8.0	B		10	8	7			HOR02
2003 03 23.79	a	S	6.4	TK	5.0	B		10	7	5			MEY
2003 03 23.80		B	6.3	TK	5.0	B		10	5.0	4			HAS02
2003 03 23.80		S	6.3	S	7.8	R	4	12	4	6/	&0.5	350	BUS01
2003 03 23.81		B	6.4	TK	5.0	B		7	2	7			JOH01
2003 03 23.81		M	6.6	TK	8.0	B		15	4.5	7/	1.0	348	BOU
2003 03 23.82		S	6.4	TT	8.0	B		20	6	5			AND01
2003 03 23.83		S	6.7	TT	8.0	B		15	5	7			RIE
2003 03 24.14		B	6.9	TK	15.2	L	5	44	5.5	6/	0.3	350	GRA04
2003 03 24.14		M	6.6	TK	5.0	B		12	6	6			GRA04
2003 03 24.51		B	6.7	TJ	8.0	R	4	19	3	5			CHE03
2003 03 24.75		M	6.2	TJ	15	L	5	42	& 5	7	11 m	347	SHU
2003 03 24.78	!	B	6.7	TJ	5.0	B		7	5.5	7			KAC02
2003 03 25.02		M	6.5	TJ	7	R	4	12	5	7			SHU
2003 03 25.13		S	6.8	AA	6.0	B		20	4	7			CSU
2003 03 25.50		B	6.5	TJ	8.0	R	4	19	3	5			CHE03
2003 03 25.75		M	6.0	TT	6.0	B		20	7	4/			BAR06
2003 03 25.81	xa	S	6.6	TJ	8.0	B		11	5	7			NAG08

Comet C/2002 Y1 (Juels-Holvorcem) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2003 03 26.04		M	6.3	TT	5	R		10	5	5			BAR06
2003 03 26.04		M	6.5	HD	11	B		20	5	s6	0.5	345	NEV
2003 03 26.06		M	6.4	TJ	7	R	4	17	& 5	7			SHU
2003 03 26.51		B	6.7	TJ	8.0	R	4	19	3	5			CHE03
2003 03 26.75		M	5.9	TT	5	R		10	5	5			BAR06
2003 03 27.04		M	6.5	TJ	7.0	R	4	17	& 5	7			SHU
2003 03 27.68		S	7.0	HD	6	R	6	20	2	3			KOZ02
2003 03 27.76		M	6.5	TJ	15	L	5	45	5	6			SHU
2003 03 28.04		M	6.6	TJ	7	R	4	17	& 4	6			SHU
2003 03 28.10		B	6.8	TK	15.2	L	5	44	4	6	0.3	350	GRA04
2003 03 28.10		M	6.7	TK	5.0	B		12	4	6			GRA04
2003 03 29.51		B	6.5	TJ	8.0	R	4	19	2	5			CHE03
2003 03 29.71		S	7.0	HD	6	R	10	30	2	3			KOZ02
2003 03 30.10		B	6.7	TT	8.0	B		11	4	7			WAR01
2003 03 30.51		B	6.7	TJ	8.0	R	4	19	2	4			CHE03
2003 03 30.82		M	6.5	TK	8.0	B		15	4.5	6			DIJ
2003 03 30.82		M	6.5	TK	8.0	B		15	5.5	7/			BOU
2003 03 31.11		M	6.6	TK	5.0	B		7	4.5	6			GRA04
2003 03 31.15		S	6.4	TT	8.0	B		15	4	7	0.5	340	RIE
2003 03 31.50		B	6.7	TJ	8.0	R	4	19	3	4			CHE03
2003 03 31.83		S	6.1	TK	8.0	B		20	4.5	4			SHA02
2003 04 01.13	w	M	6.5	TT	8.0	B		10	8	6/			HOR02
2003 04 01.14		M	6.4	TK	8.0	B		15	4	7/	1.0	340	BOU
2003 04 01.18		S	6.2	TJ	5.0	B		7	4	6			GON05
2003 04 03.11		M	6.7	TK	5.0	B		12	4	6			GRA04
2003 04 03.11		M	6.8	TK	15.2	L	5	44	4	6/	0.8	345	GRA04
2003 04 05.10		M	6.3	TJ	7	R	4	17	& 6	6			SHU
2003 04 05.50		B	6.3	TJ	5.0	B		7	3	6			CHE03
2003 04 05.82	xa	M	6.5:	TK	10.0	B		20		6			YOS02
2003 04 06.12	w	M	6.3	TT	8.0	B		10	8	6/	0.4	335	HOR02
2003 04 06.18		B	6.1	TJ	5.0	B		7	3	7	0.5	340	GON05
2003 04 06.50		B	6.5	TJ	5.0	B		7	3	5			CHE03
2003 04 07.09		M	6.6	TK	5.0	B		7	4	6/			GRA04
2003 04 07.13		M	6.3	TK	8.0	B		15	3	8	1.3	334	BOU
2003 04 08.11		M	6.6	TK	5.0	B		7	4	6			GRA04
2003 04 08.11		M	6.8	TK	15.2	L	5	44	3.5		0.25	335	GRA04
2003 04 08.12		M	6.3	TK	8.0	B		15	3	8	1.0	332	BOU
2003 04 08.18		B	6.1	TJ	5.0	B		7	3	8	0.5	340	GON05
2003 04 09.11		M	6.7	TK	15.2	L	5	44	3	6			GRA04
2003 04 10.50		B	6.3	TJ	5.0	B		7	3	5			CHE03
2003 04 11.05		M	6.4	HD	11	B		20	4	s8			NEV
2003 04 12.13	s	M	6.3	TK	8.0	B		15		8			BOU
2003 04 14.10		M	6.7	TK	7.0	R	7	24	2.5	6			GRA04

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Non-Visual Data (old format)

Comet C/2002 O4 (Hoenig)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
2002 09 23.41		C	12.3	TJ	30.0	L	6	a 60	0.9		1.5m	35	EZA
2002 09 23.41	xa	C	12.6	HV	35.0	C	9	a 60	0.8	3	2.5m	39	TSU02

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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 pages 69-70 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 30P/Reinmuth

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 12.01		c	15.2	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 18.98		c	15.4	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 25.00		c	14.7	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.98		c	14.6	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.99		c	12.7	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.15	d	k	13.8	LA	35	L	5	a600	0.90		3.2m	285	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.15	d	k	14.2	LA	35	L	5	a600	0.90		3.2m	285	C 0.90m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.15	d	k	14.6	LA	35	L	5	a600	0.90		3.2m	285	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 06.76		C	13.8	GA	60.0	Y	6	a120	1.2		> 8.2m	291	S 1.2xm	SIA	IPL	5	U	Ap7	NAK01
2003 02 08.93		c	12.9	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 08.93		c	15.1	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 09.55	a	xC	14.1	HV	35.0	C	9	a120	0.7	5	3.5m	285	S 1.23m	KAIaSI3		5		ST2	TSU02
2003 02 23.81	d	k	13.3	LA	35	L	5	a520	0.92		4.3m	288	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.81	d	k	13.6	LA	35	L	5	a520	0.92		4.3m	288	C 0.92m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.81	d	k	13.9	LA	35	L	5	a520	0.92		4.3m	288	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.81	d	k	13.1	LA	35	L	5	a540	1.2		5.0m	280	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.81	d	k	13.3	LA	35	L	5	a540	1.2		5.0m	280	C 1.20m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.81	d	k	13.9	LA	35	L	5	a540	1.2		5.0m	280	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.80	d	k	13.1	LA	35	L	5	a600	1.1		10.5m	278	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.80	d	k	13.3	LA	35	L	5	a600	1.1		10.5m	278	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.80	d	k	13.8	LA	35	L	5	a600	1.1		10.5m	278	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 09.46	a	xC	13.5	HV	35.0	C	9	a120	1.0	5	2	m277	S 1.98m	KAIaSI3		5		ST2	TSU02
2003 03 09.66	x	C	14.2	TJ	20.0	L	4	a120	0.5				S 0.5 m	K41aSI3		5		SE7	OHS
2003 03 11.63		C	13.5	GA	60.0	Y	6	a120	1.2		2.7m	264	S 1.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 21.96	d	k	13.3	LA	35	L	5	a780	1.1		4.5m	285	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.96	d	k	13.6	LA	35	L	5	a780	1.1		4.5m	285	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.96	d	k	14.3	LA	35	L	5	a780	1.1		4.5m	285	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.98	d	k	13.4	LA	35	L	5	a720	1.1		4.0m	283	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.98	d	k	13.6	LA	35	L	5	a720	1.1		4.0m	283	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.98	d	k	14.2	LA	35	L	5	a720	1.1		4.0m	283	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.95	d	k	13.3	LA	35	L	5	a420	1.0		4.1m	284	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.95	d	k	13.8	LA	35	L	5	a420	1.0		4.1m	284	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.95	d	k	14.3	LA	35	L	5	a420	1.0		4.1m	284	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.93	d	k	13.8	LA	35	L	5	a540	1.0		3.9m	284	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.93	d	k	14.3	LA	35	L	5	a540	1.0		3.9m	284	C 0.50m	T24	GAI	5	*P	ST6	HOR02

Comet 30P/Reinmuth [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 29.63		C	14.0	GA	60.0	Y	6	a120	1.4				S 1.4 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.93	d	k	13.8	LA	35	L	5	a960	1.0		4.1m	285	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 29.93	d	k	14.4	LA	35	L	5	a960	1.0		4.1m	285	C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 04 06.54	ax	C	14.1	HV	35.0	C	9	a120	0.9	5			S 3.00m	KAIa	SI3	5		ST2	TSU02
2003 04 08.95	d	k	13.8	LA	35	L	5	a600	1.1		5.3m	271	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2003 04 08.95	d	k	14.2	LA	35	L	5	a600	1.1		5.3m	271	C 1.10m	T24	GAI	5*	P	ST6	HOR02
2003 04 08.95	d	k	14.9	LA	35	L	5	a600	1.1		5.3m	271	C 0.50m	T24	GAI	5*	P	ST6	HOR02

Comet 31P/Schwassmann-Wachmann

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 11.69		C	19.3	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.66		C	18.7	GA	60.0	Y	6	a240	0.25			300	S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet 44P/Reinmuth

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 03.55		C	19.4	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet 53P/Van Biesbroeck

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 11.78	a	C	16.1	GA	60.0	Y	6	a120	0.4		1.2m	287	S 0.4 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 12.77	x	C	16.1	TJ	20.0	L	4	a120	0.4				S 0.4 m	K41a	SI3	5		SE7	OHS
2003 03 26.75	a	C	15.8	GA	60.0	Y	6	a120	0.4		1.9m	275	S 0.4 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 27.69	a	H	14.2	LA	30.0	L	6	a240	0.5				C 0.5 m	SIA	MIm	5*	U	Ap7	EZA

Comet 65P/Gunn

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 06.81	x	C	13.9:TJ		60.0	Y	6	a120	0.7				S 0.7 m	SIA	IPL	5	U	Ap7	NAK01

Comet 66P/du Toit

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 26.66		C	19.0	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.61		C	18.6	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.57		C	18.2	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet 67P/Churyumov-Gerasimenko

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 12.02		c	15.8	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 25.02		c	15.8	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.01		c	16.0	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.02		c	13.8	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.17	d	k	14.3	LA	35	L	5	a540	1.30		> 3.4m	303	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 02.17	d	k	14.5	LA	35	L	5	a540	1.30		> 3.4m	303	C 1.30m	T24	GAI	5*	P	ST6	HOR02
2003 02 02.17	d	k	15.0	LA	35	L	5	a540	1.30		> 3.4m	303	C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 06.79		C	14.6	GA	60.0	Y	6	a120	1.0		> 6.8m	300	S 1.0 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 09.57	ax	C	14.4	HV	35.0	C	9	a120	0.7	3	4.0m	297	S 1.63m	KAIa	SI3	5		ST2	TSU02
2003 02 23.83	d	k	14.1	LA	35	L	5	a780	1.4		5.2m	296	C 1.40m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.83	d	k	14.4	LA	35	L	5	a780	1.4		5.2m	296	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.83	d	k	15.2	LA	35	L	5	a780	1.4		5.2m	296	C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.82	d	k	13.9	LA	35	L	5	a600	1.3		3.4m	298	C 2.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.82	d	k	14.2	LA	35	L	5	a600	1.3		3.4m	298	C 1.30m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.82	d	k	15.1	LA	35	L	5	a600	1.3		3.4m	298	C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 26.82	d	k	13.8	LA	35	L	5	a600	1.2		4.2m	294	C 2.00m	T24	GAI	5*		ST6	HOR02
2003 02 26.82	d	k	14.2	LA	35	L	5	a600	1.2		4.2m	294	C 1.20m	T24	GAI	5*		ST6	HOR02
2003 02 26.82	d	k	15.1	LA	35	L	5	a600	1.2		4.2m	294	C 0.50m	T24	GAI	5*		ST6	HOR02
2003 03 09.51	Ix	C	14.7	HV	35.0	C	9	a120	1.0	4			S 1.0 m	KAIa	SI3	5		ST2	TSU02
2003 03 09.68	x	C	15.8	TJ	20.0	L	4	a480	0.3				S 0.3 m	K41a	SI3	5		SE7	OHS
2003 03 11.64		C	14.7	GA	60.0	Y	6	a120	1.1		> 7.1m	293	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 23.01	d	k	14.7	LA	35	L	5	a660	1.3		6.1m	292	C 1.30m	T24	GAI	5*		ST6	HOR02
2003 03 23.01	d	k	15.6	LA	35	L	5	a660	1.3		6.1m	292	C 0.50m	T24	GAI	5*		ST6	HOR02

Comet 67P/Churyumov-Gerasimenko [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 24.01	d	k	14.6	LA	35	L	5	a600	1.4		6.3m	293	C 1.40m	T24	GAI	5*	P	ST6	HOR02
2003 03 24.01	d	k	14.9	LA	35	L	5	a600	1.4		6.3m	293	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 24.01	d	k	15.6	LA	35	L	5	a600	1.4		6.3m	293	C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 03 29.53	Ix	C	16.0	HV	35.0	C	9	a960	0.4	4	3 m	296	S 0.9 m	KAIaSI3		5		ST2	TSU02
2003 03 29.58		C	15.3:	GA	60.0	Y	6	a120	1.1		4.9m	295	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 08.97	d	k	15.0	LA	35	L	5	a600	1.0		2.5m	298	C 1.50m	T24	GAI	5*		ST6	HOR02
2003 04 08.97	d	k	15.3	LA	35	L	5	a600	1.0		2.5m	298	C 1.00m	T24	GAI	5*		ST6	HOR02
2003 04 08.97	d	k	16.0	LA	35	L	5	a600	1.0		2.5m	298	C 0.50m	T24	GAI	5*		ST6	HOR02

Comet 81P/Wild

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 10.89		c	15.6	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 12.87		c	15.6	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 17.84		c	15.6	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 24.87		c	15.6	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.86		c	15.7	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.87		c	14.0	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.80	d	k	15.0	LA	35	L	5	a660	0.63				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 01.80	d	k	15.1	LA	35	L	5	a660	0.63				C 0.63m	T24	GAI	5*	P	ST6	HOR02
2003 02 03.49		C	15.4	GA	60.0	Y	6	a120	0.6				S 0.6 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 03.52	x	C	14.9	TJ	20.0	L	4	a120	0.7				S 0.7 m	K41aSI3		5		SE7	OHS
2003 02 07.82		c	14.1	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 07.82		c	15.6	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 14.82	d	k	15.1	LA	35	L	5	a900	0.47		0.8m	61	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 14.82	d	k	15.4	LA	35	L	5	a900	0.47		0.8m	61	C 0.47m	T24	GAI	5*	P	ST6	HOR02
2003 02 22.81	d	k	14.8	LA	35	L	5	a660	0.62				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 22.81	d	k	15.0	LA	35	L	5	a660	0.62				C 0.62m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.85	d	k	14.7	LA	35	L	5	a660	0.60				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.85	d	k	15.0	LA	35	L	5	a660	0.60				C 0.60m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.79	d	k	14.9	LA	35	L	5	a660	0.60				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.79	d	k	15.1	LA	35	L	5	a660	0.60				C 0.60m	T24	GAI	5*	P	ST6	HOR02
2003 02 26.79	d	k	14.8	LA	35	L	5	a600	0.67		0.8m	76	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 02 26.79	d	k	15.0	LA	35	L	5	a600	0.67		0.8m	76	C 0.67m	T24	GAI	5*	P	ST6	HOR02
2003 02 28.47	x	C	15.5	TJ	20.0	L	4	a120	0.4				S 0.4 m	K41aSI3		5		SE7	OHS
2003 03 11.45	Ix	C	15.2	HV	35.0	C	9	a120	0.5	5			S 0.60m	KAIaSI3		5		ST2	TSU02
2003 03 20.49	ax	C	14.8	HV	35.0	C	9	a120	0.7	5			S 0.70m	KAIaSI3		5		ST2	TSU02
2003 03 21.81	d	k	14.5	LA	35	L	5	a520	0.62		1.1m	80	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 21.81	d	k	14.7	LA	35	L	5	a520	0.62		1.1m	80	C 0.62m	T24	GAI	5*	P	ST6	HOR02
2003 03 22.81	d	k	14.5	LA	35	L	5	a660	0.70		1.0m	78	C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 22.81	d	k	14.6	LA	35	L	5	a660	0.70		1.0m	78	C 0.70m	T24	GAI	5*	P	ST6	HOR02
2003 03 23.80	d	k	14.5	LA	35	L	5	a600	0.78				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 23.80	d	k	14.6	LA	35	L	5	a600	0.78				C 0.78m	T24	GAI	5*	P	ST6	HOR02
2003 03 23.80	d	k	14.9	LA	35	L	5	a600	0.78				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 03 26.78	d	k	14.5	LA	35	L	5	a660	0.72				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 26.78	d	k	14.6	LA	35	L	5	a660	0.72				C 0.72m	T24	GAI	5*	P	ST6	HOR02
2003 03 29.46	Ix	C	14.7	HV	35.0	C	9	a120	0.6	5			S 1.00m	KAIaSI3		5		ST2	TSU02
2003 03 29.80	d	k	14.5	LA	35	L	5	a720	0.70				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 29.80	d	k	14.7	LA	35	L	5	a720	0.70				C 0.70m	T24	GAI	5*	P	ST6	HOR02
2003 04 04.79	d	k	14.3	LA	35	L	5	a600	0.70				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 04 04.79	d	k	14.4	LA	35	L	5	a600	0.70				C 0.70m	T24	GAI	5*	P	ST6	HOR02
2003 04 04.79	d	k	14.7	LA	35	L	5	a600	0.70				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 04 08.80	d	k	14.2	LA	35	L	5	a600	0.83				C 0.83m	T24	GAI	5*	P	ST6	HOR02
2003 04 08.80	d	k	14.5	LA	35	L	5	a600	0.83				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 04 13.82	d	k	14.3	LA	35	L	5	a600	0.70				C 0.70m	T24	GAI	5*		ST6	HOR02
2003 04 13.82	d	k	14.6	LA	35	L	5	a600	0.70				C 0.50m	T24	GAI	5*		ST6	HOR02

Comet 90P/Gehrels

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.53		C	17.3	GA	60.0	Y	6	a240	0.45				S 0.45m	SIA	IPL	5	U	Ap7	NAK01

Comet 94P/Russell

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.55		C	18.8	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet 100P/Hartley

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.72		C	20.8:	GA	60.0	Y	6	a240	0.15				S 0.15m	SIA	IPL	5	U	Ap7	NAK01
2003 03 11.66		C	19.7	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.67		C	19.4	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet 116P/Wild

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 06.85		C	13.7	GA	60.0	Y	6	a120	0.95		> 4.9m	287	S 0.95m	SIA	IPL	5	U	Ap7	NAK01
2003 03 10.72	x	C	13.5	TJ	20.0	L	4	a120	0.6		1.6m	288	S 0.6 m	K41aSI	3	5		SE7	OHS
2003 03 26.76	a	C	13.0	GA	60.0	Y	6	a120	1.1		> 8.0m	282	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.70	x	C	13.7	TJ	20.0	L	4	a120	0.6				S 0.6 m	K41aSI	3	5		SE7	OHS
2003 04 27.69	a	H	12.8	LA	30.0	L	6	a240	0.4		2.3m	285	C 0.4 m	SIA	MIm	5*	U	Ap7	EZA

Comet 154P/Brewington

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 11.77		c	15.4	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 02 02.77		c	12.3	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.77		c	14.7	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 03.42	x	C	12.7	TJ	60.0	Y	6	a120	2.3				S 2.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 03.44	x	C	13.2	TJ	20.0	L	4	a120	1.1				S 1.1 m	K41aSI	3	5		SE7	OHS
2003 02 12.41	ax	C	13.2	HV	35.0	C	9	a 60	1.1	4			S 4.1 m	KAIaSI	3	5		ST2	TSU02
2003 02 12.41	x	C	13.5	TJ	20.0	L	4	a120	1.3				S 1.3 m	K41aSI	3	5		SE7	OHS
2003 02 14.74	d	k	13.5	LA	35	L	5	a820	0.73		2.4m	63	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 14.74	d	k	13.7	LA	35	L	5	a820	0.73		2.4m	63	C 0.77m	T24	GAI	5*P		ST6	HOR02
2003 02 14.74	d	k	14.1	LA	35	L	5	a820	0.73		2.4m	63	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 22.76	d	k	13.1	LA	35	L	5	a440	1.4				C 1.40m	T24	GAI	5*P		ST6	HOR02
2003 02 22.76	d	k	13.3	LA	35	L	5	a440	1.4				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 22.76	d	k	13.6	LA	35	L	5	a440	1.4				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 23.77	d	k	13.0	LA	35	L	5	a400	1.3		1.0m	47	C 1.30m	T24	GAI	5*P		ST6	HOR02
2003 02 23.77	d	k	13.3	LA	35	L	5	a400	1.3		1.0m	47	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 23.77	d	k	13.9	LA	35	L	5	a400	1.3		1.0m	47	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 25.78	d	k	13.2	LA	35	L	5	a400	1.3				C 1.30m	T24	GAI	5*P		ST6	HOR02
2003 02 25.78	d	k	14.0	LA	35	L	5	a400	1.3				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 28.42	x	C	13.6	TJ	20.0	L	4	a120	0.6				S 0.6 m	K41aSI	3	5		SE7	OHS
2003 03 20.42	ax	C	13.3	HV	35.0	C	9	a180	0.8	4			S 1.08m	KAIaSI	3	5		ST2	TSU02
2003 03 21.79	d	k	14.1	LA	35	L	5	a360	0.8				C 0.80m	T24	GAI	5*P		ST6	HOR02
2003 03 21.79	d	k	14.5	LA	35	L	5	a360	0.8				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 03 22.79	d	k	14.0	LA	35	L	5	a360	0.9				C 0.90m	T24	GAI	5*		ST6	HOR02

Comet 155P/Shoemaker

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.93		c	15.8	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 11.97		c	15.6	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 15.92		c	15.7	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 17.96		c	15.7	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.91		c	15.6	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.96		c	15.1	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.96		c	15.2	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.97		c	13.3	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.88	d	k	13.7	LA	35	L	5	a660	1.80		4.9m	274	C 1.80m	T24	GAI	5*P		ST6	HOR02
2003 02 01.88	d	k	14.0	LA	35	L	5	a660	1.80		4.9m	274	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 01.88	d	k	14.6	LA	35	L	5	a660	1.80		4.9m	274	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 02.65		C	14.2	GA	60.0	Y	6	a120	1.1		4.8m	285	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 08.90		c	13.3	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 08.90		c	15.3	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 09.53	ax	C	14.2	HV	35.0	C	9	a120	1.0	5	3.6m	272	S 1.37m	KAIaSI	3	5		ST2	TSU02
2003 02 10.90		c	13.8	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 10.90		c	15.5	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01

Comet 155P/Shoemaker [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 22.86	d	k	14.6	LA	35	L	5	a600	0.8				C 0.80m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.86	d	k	14.9	LA	35	L	5	a600	0.8				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.93	d	k	14.0	LA	35	L	5	a660	0.83		3.5m	272	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.93	d	k	14.5	LA	35	L	5	a660	0.83		3.5m	272	C 0.83m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.93	d	k	15.0	LA	35	L	5	a660	0.83		3.5m	272	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.88	d	k	14.6	LA	35	L	5	a600	0.8		3.9m	278	C 0.80m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.88	d	k	14.9	LA	35	L	5	a600	0.8		3.9m	278	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.87	d	k	14.5	LA	35	L	5	a600	0.83				C 0.83m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.87	d	k	14.9	LA	35	L	5	a600	0.83				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 28.54	ax	C	14.8	HV	35.0	C	9	a120	0.6	4			S 1.16m	KAIaSI3		5		ST2	TSU02
2003 02 28.57	x	C	15.3	TJ	20.0	L	4	a120	0.4				S 0.4 m	K41aSI3		5		SE7	OHS
2003 03 11.62		C	15.4	GA	60.0	Y	6	a120	0.85				S 0.85m	SIA	IPL	5	U	Ap7	NAK01
2003 03 12.71	x	C	16.0	TJ	20.0	L	4	a120	0.4				S 0.4 m	K41aSI3		5		SE7	OHS
2003 03 22.01	d	k	15.3	LA	35	L	5	a660	0.50		0.6m	123	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.01	d	k	15.9	LA	35	L	5	a660	0.50		0.6m	123	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.89	d	k	15.5	LA	35	L	5	a840	0.50		0.4m	120	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.89	d	k	16.0	LA	35	L	5	a840	0.50		0.4m	120	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.94	d	k	15.8	LA	35	L	5	a840	0.53		0.5m	120	C 0.53m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.51	ax	C	16.9	HV	35.0	C	9	a480	0.4	4			S 0.66m	KAIaSI3		5		ST2	TSU02
2003 03 29.56		C	16.2	GA	60.0	Y	6	a120	0.7				S 0.7 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 04.86	d	k	16.7	LA	35	L	5	a540	0.40				C 0.40m	T24	GAI	5	*P	ST6	HOR02

Comet C/1995 O1 (Hale-Bopp)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 03.70	x	C	16.4	HV	20.0	L	5	a300	0.8	4			S 0.88m	KAIaSI3		5		ST2	TSU02
2003 02 05.67	ax	C	16.2	HV	20.0	L	5	a300	0.8	4			S 1.15m	KAIaSI3		5		ST2	TSU02

Comet C/1999 U4 (Catalina-Skiff)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 01.03		c	17.0	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.04		c	15.6	UO	30.5	T	6	a 60					S30.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.11	d	k	16.0	LA	35	L	5	a720	0.77		1.0m	333	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.11	d	k	16.1	LA	35	L	5	a720	0.77		1.0m	333	C 0.77m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.11	d	k	16.4	LA	35	L	5	a720	0.77		1.0m	333	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 06.82		C	17.0	GA	60.0	Y	6	a240	0.5		3.8m	336	S 0.5 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 22.96	d	k	15.9	LA	35	L	5	A170	0.63		6.4m	337	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.96	d	k	16.2	LA	35	L	5	A170	0.63		6.4m	337	C 0.63m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.96	d	k	16.1	LA	35	L	5	a720	0.63		5.0m	339	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.96	d	k	16.2	LA	35	L	5	a720	0.63		5.0m	339	C 0.63m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.94	d	k	16.3	LA	35	L	5	a720	0.58		3.8m	337	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.94	d	k	16.5	LA	35	L	5	a720	0.58		3.8m	337	C 0.58m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.92	d	k	16.2	LA	35	L	5	a720	0.58		3.7m	338	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.92	d	k	16.4	LA	35	L	5	a720	0.58		3.7m	338	C 0.58m	T24	GAI	5	*P	ST6	HOR02
2003 03 09.75	x	C	16.9	TJ	20.0	L	4	a240	0.3				S 0.3 m	K41aSI3		5		SE7	OHS
2003 03 11.68		C	16.6	GA	60.0	Y	6	a240	0.65		3.5m	340	S 0.65m	SIA	IPL	5	U	Ap7	NAK01
2003 03 21.88	d	k	16.2	LA	35	L	5	a810	0.73		2.1m	346	C 1.00m	T24	GAI	5	*	ST6	HOR02
2003 03 21.88	d	k	16.3	LA	35	L	5	a810	0.73		2.1m	346	C 0.73m	T24	GAI	5	*	ST6	HOR02
2003 03 22.93	d	k	16.2	LA	35	L	5	A260	0.57		3.6m	334	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.93	d	k	16.4	LA	35	L	5	A260	0.57		3.6m	334	C 0.57m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.88	d	k	16.3	LA	35	L	5	a900	0.57		4.5m	337	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.88	d	k	16.4	LA	35	L	5	a900	0.57		4.5m	337	C 0.57m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.73		C	16.9	GA	60.0	Y	6	a240	0.5				S 0.5 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.62		C	17.0	GA	60.0	Y	6	a240	0.5				S 0.5 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2000 SV_74 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 01.30		c	13.5	UO	30.5	T	6	a 60					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.30		c	15.7	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.02	d	k	14.2	LA	35	L	5	a600	1.0				C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.02	d	k	14.6	LA	35	L	5	a600	1.0				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.02	d	k	15.2	LA	35	L	5	a600	1.0				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 06.83		C	14.9	GA	60.0	Y	6	a120	1.1		4.5m	11	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2000 SV_74 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 22.94	d	k	14.2	LA	35	L	5	a600	1.6				C 1.60m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.94	d	k	14.2	LA	35	L	5	a600	1.6				C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.94	d	k	14.5	LA	35	L	5	a600	1.6				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.94	d	k	15.1	LA	35	L	5	a600	1.6				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.98	d	k	14.4	LA	35	L	5	a600	1.4				C 1.40m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.98	d	k	14.7	LA	35	L	5	a600	1.4				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.98	d	k	15.2	LA	35	L	5	a600	1.4				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.96	d	k	14.2	LA	35	L	5	a600	1.0				C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.96	d	k	14.6	LA	35	L	5	a600	1.0				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.96	d	k	15.2	LA	35	L	5	a600	1.0				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.94	d	k	14.4	LA	35	L	5	A080	1.4				C 1.40m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.94	d	k	14.6	LA	35	L	5	A080	1.4				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.94	d	k	15.2	LA	35	L	5	A080	1.4				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 11.71		C	14.8	GA	60.0	Y	6	a120	1.1		> 4.8m	13	S 1.1 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 21.90	d	k	14.3	LA	35	L	5	a810	0.9				C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.90	d	k	14.7	LA	35	L	5	a810	0.9				C 0.90m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.90	d	k	15.2	LA	35	L	5	a810	0.9				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.91	d	k	14.3	LA	35	L	5	a720	1.5				C 1.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.91	d	k	14.6	LA	35	L	5	a720	1.5				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.91	d	k	15.2	LA	35	L	5	a720	1.5				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.90	d	k	14.3	LA	35	L	5	a660	1.5				C 1.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.90	d	k	14.6	LA	35	L	5	a660	1.5				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.90	d	k	15.2	LA	35	L	5	a660	1.5				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.89	d	k	14.4	LA	35	L	5	a900	1.4				C 1.40m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.89	d	k	14.6	LA	35	L	5	a900	1.4				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.89	d	k	15.3	LA	35	L	5	a900	1.4				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.63	ax	C	15.2	HV	35.0	C	9	a120	0.4	5			S 0.88m	KAIa	SI3	5		ST2	TSU02
2003 03 29.88	d	k	14.4	LA	35	L	5	a900	1.4				C 1.40m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.88	d	k	14.7	LA	35	L	5	a900	1.4				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.88	d	k	15.3	LA	35	L	5	a900	1.4				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.91	d	k	14.4	LA	35	L	5	a900	1.2				C 1.20m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.91	d	k	14.5	LA	35	L	5	a900	1.2				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.91	d	k	15.1	LA	35	L	5	a900	1.2				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 06.66	x	C	15.6	TJ	20.0	L	4	a120	0.5				S 0.5 m	K41a	SI3	5		SE7	OHS
2003 04 06.68		C	14.8	GA	60.0	Y	6	a120	0.7		> 5.8m	5	S 0.7 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 08.88	d	k	14.2	LA	35	L	5	a900	1.9				C 1.90m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.88	d	k	14.6	LA	35	L	5	a900	1.9				C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.88	d	k	15.3	LA	35	L	5	a900	1.9				C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 21.67		C	15.0	GA	60.0	Y	6	a120	1.0		> 6.2m	7	S 1.0 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 27.64	a	H	14.6	LA	30.0	L	6	a240	0.5				C 0.5 m	SIA	MIm	5	*U	Ap7	EZA

Comet C/2001 B2 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.88		c	16.3	UO	30.5	T	6	a120					S30.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.88		c	17.5	UO	30.5	T	6	a120					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 06.70		C	17.9	GA	60.0	Y	6	a240	0.3		0.9m	128	S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2001 G1 (LONEOS)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 06.86		C	19.2	GA	60.0	Y	6	a240	0.2		1.1m	243	S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.69	a	C	18.7	GA	60.0	Y	6	a240	0.25			235	S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.65		C	18.5	GA	60.0	Y	6	a240	0.3		1.0m	234	S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2001 HT_50 (LINEAR-NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.94		c	14.5	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 11.91		c	14.4	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 12.88		c	14.0	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 15.91		c	13.8	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 17.96		c	14.3	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.88		c	14.4	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.94		c	13.4	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01

Comet C/2001 HT_50 (LINEAR-NEAT) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 31.90		c	12.0	UO	30.5	T	6	a 10					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.90		c	13.7	UO	30.5	T	6	a 10					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.04	d	k	12.2	LA	35	L	5	A360	1.1		1.4m	70	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.04	d	k	12.7	LA	35	L	5	A360	1.1		1.4m	70	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.59		C	12.4	GA	60.0	Y	6	a120	1.5		5.4m		S 1.5 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 02.83		c	12.1	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.83		c	13.8	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 07.86		c	11.8	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 07.86		c	13.8	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 09.51	axC		11.7	HV	35.0	C	9	a120	0.9	6	4.0m	87	S 0.97m	KAIaSI3		5		ST2	TSU02
2003 02 10.89		c	12.1	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 10.89		c	13.8	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 21.04		C	12.7	TK	30.5	T	3	a120	0.48	D5/	1.2m	60	S 1.98m	K4EaMIm		5	U	SE7	MIL06
2003 02 22.92	d	k	12.3	LA	35	L	5	a160	1.0		3.9m	88	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.92	d	k	12.8	LA	35	L	5	a160	1.0		3.9m	88	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.91	d	k	12.5	LA	35	L	5	a540	1.0		3.1m	86	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.91	d	k	12.9	LA	35	L	5	a540	1.0		3.1m	86	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.92	d	k	12.2	LA	35	L	5	a520	1.1		4.0m	90	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.92	d	k	12.4	LA	35	L	5	a520	1.1		4.0m	90	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.92	d	k	12.9	LA	35	L	5	a520	1.1		4.0m	90	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.90	d	k	12.6	LA	35	L	5	a600	1.1		3.1m	90	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.90	d	k	13.1	LA	35	L	5	a600	1.1		3.1m	90	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 28.48	axC		12.9	HV	35.0	C	9	a120	0.7	5	3.0m	83	S 1.11m	KAIaSI3		5		ST2	TSU02
2003 02 28.54	x	C	12.9	TJ	20.0	L	4	a120	0.7				S 0.7 m	K41aSI3		5		SE7	OHS
2003 03 09.61	x	C	13.1	TJ	20.0	L	4	a120	0.5				S 0.5 m	K41aSI3		5		SE7	OHS
2003 03 16.87	d	k	12.8	LA	35	L	5	a600	1.1		3.7m	87	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 03 16.87	d	k	13.2	LA	35	L	5	a600	1.1		3.7m	87	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 20.52	axC		13.1	HV	35.0	C	9	a120	0.7	6	3.7m	86	S 1.25m	KAIaSI3		5		ST2	TSU02
2003 03 21.85	d	k	13.2	LA	35	L	5	a600	1.0		2.2m	93	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.85	d	k	13.5	LA	35	L	5	a600	1.0		2.2m	93	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.85	d	k	13.1	LA	35	L	5	a560	1.0		2.1m	91	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.85	d	k	13.4	LA	35	L	5	a560	1.0		2.1m	91	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.83	d	k	12.6	LA	35	L	5	a560	1.0		2.8m	88	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.83	d	k	12.8	LA	35	L	5	a560	1.0		2.8m	88	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.83	d	k	13.3	LA	35	L	5	a560	1.0		2.8m	88	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.49	a	C	13.3	GA	60.0	Y	6	a120	1.0		> 5.5m	92	S 1.0 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.82	d	k	12.9	LA	35	L	5	a560	1.0		2.5m	88	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.82	d	k	13.3	LA	35	L	5	a560	1.0		2.5m	88	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.47	axC		13.2	HV	35.0	C	9	a120	0.8	8	3.4m	95	S 1.19m	KAIaSI3		5		ST2	TSU02
2003 03 29.84	d	k	12.9	LA	35	L	5	a560	1.1		2.7m	90	C 1.10m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.84	d	k	13.3	LA	35	L	5	a560	1.1		2.7m	90	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.82	d	k	12.7	LA	35	L	5	a520	0.83		3.5m	93	C 1.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.82	d	k	13.0	LA	35	L	5	a520	0.83		3.5m	93	C 0.83m	T24	GAI	5	*P	ST6	HOR02
2003 04 04.82	d	k	13.3	LA	35	L	5	a520	0.83		3.5m	93	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 06.46	axC		13.3	HV	35.0	C	9	a120	0.7	5	2.6m	90	S 1.10m	KAIaSI3		5		ST2	TSU02
2003 04 08.83	d	k	13.0	LA	35	L	5	a480	0.83		3.0m	91	C 0.83m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.83	d	k	13.3	LA	35	L	5	a480	0.83		3.0m	91	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.84	d	k	13.1	LA	35	L	5	a600	0.8		2.9m	93	C 0.80m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.84	d	k	13.4	LA	35	L	5	a600	0.8		2.9m	93	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 21.47	x	C	13.3	TJ	60.0	Y	6	a120	0.9		4.4m	94	S 0.9 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2001 K5 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 12.75	x	C	15.1	TJ	20.0	L	4	a120	0.3		0.6m	230	S 0.3 m	K41aSI3		5		SE7	OHS
2003 03 17.13	d	k	14.6	LA	35	L	5	a960	0.42		4.2m	237	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 17.13	d	k	14.9	LA	35	L	5	a960	0.42		4.2m	237	C 0.42m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.03	d	k	14.4	LA	35	L	5	a780	0.47		4.9m	233	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.03	d	k	14.8	LA	35	L	5	a780	0.47		4.9m	233	C 0.47m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.03	d	k	14.3	LA	35	L	5	a600	0.42		4.8m	232	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.03	d	k	14.8	LA	35	L	5	a600	0.42		4.8m	232	C 0.42m	T24	GAI	5	*P	ST6	HOR02
2003 03 24.04	d	k	14.4	LA	35	L	5	a660	0.42		5.4m	232	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 24.04	d	k	14.8	LA	35	L	5	a660	0.42		5.4m	232	C 0.42m	T24	GAI	5	*P	ST6	HOR02
2003 03 30.00	d	k	14.8	LA	35	L	5	a180	0.45		3.0m	232	C 0.45m	T24	GAI	5	*P	ST6	HOR02
2003 04 05.77		C	15.0	GA	60.0	Y	6	a120	0.5		3.3m	231	S 0.5 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2001 K5 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 09.02	d	k	14.8	LA	35	L	5	a840	0.40		4.8m	234	C 0.40m	T24	GAI	5*P		ST6	HORO2
2003 04 27.76	a	H	14.4	LA	30.0	L	6	a240	0.4		0.4m	225	C 0.4 m	SIA	MIm	5*U		Ap7	EZA

Comet C/2001 N2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 11.77	x	C	16.3	TJ	60.0	Y	6	a240	0.5				S 0.5 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.65	ax	C	16.1	HV	35.0	C	9	a720	0.5	2			S 0.87m	KAIa	SI3	5		ST2	TSU02
2003 03 29.68	x	C	16.9	TJ	60.0	Y	6	a240	0.35				S 0.35m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2001 RX_14 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.94		c	13.7	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 11.93		c	13.7	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 15.93		c	13.6	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 17.94		c	14.0	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 18.94		c	13.7	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.93		c	13.3	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.97		c	13.1	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.94		c	11.1	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.94		c	13.1	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.71	x	C	11.2	TJ	20.0	L	4	a120	2.3		14	m305	S 2.3 m	K41a	SI3	5		SE7	OHS
2003 02 01.90	d	k	11.1	LA	35	L	5	A080	3.1		>13.2m	303	C 3.10m	T24	GAI	5*P		ST6	HORO2
2003 02 01.90	d	k	11.5	LA	35	L	5	A080	3.1		>13.2m	303	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 01.90	d	k	12.0	LA	35	L	5	A080	3.1		>13.2m	303	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 01.90	d	k	12.5	LA	35	L	5	A080	3.1		>13.2m	303	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 02.71		C	11.5	GA	60.0	Y	6	a120	2.2		>11.9m	303	S 2.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 08.92		c	11.6	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 08.92		c	13.4	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 09.60	ax	C	11.7	HV	35.0	C	9	a120	2.7	6	9.0m	293	S 3.0 m	KAIa	SI3	5		ST2	TSU02
2003 02 10.93		c	11.5	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 10.93		c	13.2	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 11.93	d	k	11.0	LA	35	L	5	a760	3.1		>12.9m	305	C 4.00m	T24	GAI	5*P		ST6	HORO2
2003 02 11.93	d	k	11.1	LA	35	L	5	a760	3.1		>12.9m	305	C 3.10m	T24	GAI	5*P		ST6	HORO2
2003 02 11.93	d	k	11.4	LA	35	L	5	a760	3.1		>12.9m	305	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 11.93	d	k	11.9	LA	35	L	5	a760	3.1		>12.9m	305	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 11.93	d	k	12.5	LA	35	L	5	a760	3.1		>12.9m	305	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 14.86	d	k	11.2	LA	35	L	5	a800	3.0		>12.8m	304	C 4.00m	T24	GAI	5*P		ST6	HORO2
2003 02 14.86	d	k	11.3	LA	35	L	5	a800	3.0		>12.8m	304	C 3.00m	T24	GAI	5*P		ST6	HORO2
2003 02 14.86	d	k	11.5	LA	35	L	5	a800	3.0		>12.8m	304	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 14.86	d	k	12.0	LA	35	L	5	a800	3.0		>12.8m	304	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 14.86	d	k	12.5	LA	35	L	5	a800	3.0		>12.8m	304	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 22.88	d	k	10.9	LA	35	L	5	a720	3.4		>15.2m	306	C 3.40m	T24	GAI	5*P		ST6	HORO2
2003 02 22.88	d	k	11.3	LA	35	L	5	a720	3.4		>15.2m	306	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 22.88	d	k	11.8	LA	35	L	5	a720	3.4		>15.2m	306	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 22.88	d	k	12.4	LA	35	L	5	a720	3.4		>15.2m	306	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 23.94	d	k	10.9	LA	35	L	5	a600	3.0		> 8.3m	306	C 4.00m	T24	GAI	5*P		ST6	HORO2
2003 02 23.94	d	k	11.1	LA	35	L	5	a600	3.0		> 8.3m	306	C 3.00m	T24	GAI	5*P		ST6	HORO2
2003 02 23.94	d	k	11.4	LA	35	L	5	a600	3.0		> 8.3m	306	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 23.94	d	k	11.9	LA	35	L	5	a600	3.0		> 8.3m	306	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 25.90	d	k	10.9	LA	35	L	5	a400	2.9		>14.2m	305	C 4.00m	T24	GAI	5*P		ST6	HORO2
2003 02 25.90	d	k	11.1	LA	35	L	5	a400	2.9		>14.2m	305	C 2.90m	T24	GAI	5*P		ST6	HORO2
2003 02 25.90	d	k	11.4	LA	35	L	5	a400	2.9		>14.2m	305	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 25.90	d	k	11.8	LA	35	L	5	a400	2.9		>14.2m	305	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 25.90	d	k	12.4	LA	35	L	5	a400	2.9		>14.2m	305	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 26.97	d	k	11.2	LA	35	L	5	a560	2.9		>10.1m	306	C 2.90m	T24	GAI	5*P		ST6	HORO2
2003 02 26.97	d	k	11.5	LA	35	L	5	a560	2.9		>10.1m	306	C 2.00m	T24	GAI	5*P		ST6	HORO2
2003 02 26.97	d	k	12.0	LA	35	L	5	a560	2.9		>10.1m	306	C 1.00m	T24	GAI	5*P		ST6	HORO2
2003 02 26.97	d	k	12.6	LA	35	L	5	a560	2.9		>10.1m	306	C 0.50m	T24	GAI	5*P		ST6	HORO2
2003 02 28.57	ax	C	11.6	HV	35.0	C	9	a120	1.7	6	6.5m	290	S 2.54m	KAIa	SI3	5		ST2	TSU02
2003 03 09.73	x	C	12.4	TJ	20.0	L	4	a120	0.9		0.6m	236	S 0.9 m	K41a	SI3	5		SE7	OHS
2003 03 11.65		C	11.5	GA	60.0	Y	6	a120	2.3		> 9.7m		S 2.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 21.94	d	k	10.9	LA	35	L	5	a560	3.4		>11.4m	310	C 4.00m	T24	GAI	5*P		ST6	HORO2
2003 03 21.94	d	k	11.1	LA	35	L	5	a560	3.4		>11.4m	310	C 3.40m	T24	GAI	5*P		ST6	HORO2

Comet C/2001 RX_14 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 21.94	d	k	11.4	LA	35	L	5	a560	3.4		>11.4m	310	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.94	d	k	12.0	LA	35	L	5	a560	3.4		>11.4m	310	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.00	d	k	11.0	LA	35	L	5	a480	3.2		> 8.6m	312	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.00	d	k	11.2	LA	35	L	5	a480	3.2		> 8.6m	312	C 3.20m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.00	d	k	11.4	LA	35	L	5	a480	3.2		> 8.6m	312	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.00	d	k	12.0	LA	35	L	5	a480	3.2		> 8.6m	312	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.98	d	k	11.0	LA	35	L	5	a480	3.4		>11.0m	309	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.98	d	k	11.1	LA	35	L	5	a480	3.4		>11.0m	309	C 3.40m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.98	d	k	11.4	LA	35	L	5	a480	3.4		>11.0m	309	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.98	d	k	12.0	LA	35	L	5	a480	3.4		>11.0m	309	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.98	d	k	12.6	LA	35	L	5	a480	3.4		>11.0m	309	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.87	d	k	11.2	LA	35	L	5	a480	3.3		>10.6m	310	C 3.30m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.87	d	k	11.5	LA	35	L	5	a480	3.3		>10.6m	310	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.87	d	k	12.1	LA	35	L	5	a480	3.3		>10.6m	310	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.55	ax	C	11.3	HV	35.0	C	9	a120	3.3	5	4 m	315	S 3.7 m	KAIa	SI3	5		ST2	TSU02
2003 03 29.61		C	11.6	GA	60.0	Y	6	a120	2.7		>10.2m	314	S 2.7 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.86	d	k	11.2	LA	35	L	5	a600	3.4		>12.2m	310	C 3.40m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.86	d	k	11.4	LA	35	L	5	a600	3.4		>12.2m	310	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 29.86	d	k	12.1	LA	35	L	5	a600	3.4		>12.2m	310	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 06.58	x	C	12.8	TJ	20.0	L	4	a120	0.8				S 0.8 m	K41a	SI3	5		SE7	OHS
2003 04 08.85	d	k	11.4	LA	35	L	5	a600	3.1		>10.2m	315	C 3.10m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.85	d	k	11.7	LA	35	L	5	a600	3.1		>10.2m	315	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.85	d	k	12.3	LA	35	L	5	a600	3.1		>10.2m	315	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 08.85	d	k	13.0	LA	35	L	5	a600	3.1		>10.2m	315	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.86	d	k	11.6	LA	35	L	5	a680	2.7		> 8 m	316	C 2.70m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.86	d	k	11.8	LA	35	L	5	a680	2.7		> 8 m	316	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.86	d	k	12.3	LA	35	L	5	a680	2.7		> 8 m	316	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 04 13.86	d	k	13.0	LA	35	L	5	a680	2.7		> 8 m	316	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 04 21.52		C	12.2	GA	60.0	Y	6	a120	2.6		> 6.9m	328	S 2.6 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 27.60	a	H	12.6	LA	30.0	L	6	a240	0.9				C 0.9 m	SIA	MIm	5	*U	Ap7	EZA

Comet P/2001 YX_127 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 06.73		C	18.9	GA	60.0	Y	6	a240	0.2		1.0m	292	S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.57		C	18.9	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 A3 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2002 02 07.78		*c	16.9	UO	25.4	T	5	a180					S10.0 s	ICXa	AfP	5	U	MX9	NAV01
2002 03 03.83		*c	17.4	UO	25.4	T	5	a180					S10.0 s	ICXa	AfP	5	U	MX9	NAV01
2003 02 06.69		C	17.1	GA	60.0	Y	6	a240	0.45		2.9m	242	S 0.45m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.52		C	18.0:	GA	60.0	Y	6	a240	0.25		0.9m	228	S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 C2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 11.84		c	17.0	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01

Comet C/2002 J4 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 05.82	x	C	16.1:	TJ	60.0	Y	6	a120	0.35				S 0.35m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.81	x	C	16.4	TJ	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 J5 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 05.80		C	17.4	GA	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.79		C	17.4	GA	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 K2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 06.77		C	19.7	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 O7 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 25.07		c	17.5	UO	30.5	T	6	a120					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.08	d	k	16.3	LA	35	L	5	a780	0.33		0.4m	356	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 02.08	d	k	16.4	LA	35	L	5	a780	0.33		0.4m	356	C 0.33m	T24	GAI	5*P		ST6	HOR02
2003 02 22.99	d	k	15.7	LA	35	L	5	a900	0.45		0.4m	315	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 22.99	d	k	15.8	LA	35	L	5	a900	0.45		0.4m	315	C 0.45m	T24	GAI	5*P		ST6	HOR02
2003 02 24.00	d	k	15.7	LA	35	L	5	a660	0.52				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 24.00	d	k	15.8	LA	35	L	5	a660	0.52				C 0.52m	T24	GAI	5*P		ST6	HOR02
2003 02 26.00	d	k	15.7	LA	35	L	5	a600	0.50				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 26.00	d	k	15.9	LA	35	L	5	a600	0.50				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 27.00	d	k	15.9	LA	35	L	5	a480	0.50				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 27.00	d	k	15.9	LA	35	L	5	a480	0.50				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 10.70	x	C	15.7	TJ	20.0	L	4	a480	0.3				S 0.3 m	K41a	SI3	5		SE7	OHS
2003 03 11.73		C	15.6	GA	60.0	Y	6	a240	0.7				S 0.7 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 21.98	d	k	14.8	LA	35	L	5	a720	0.77				C 0.77m	T24	GAI	5*P		ST6	HOR02
2003 03 21.98	d	k	14.8	LA	35	L	5	a720	0.77				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 21.98	d	k	15.0	LA	35	L	5	a720	0.77				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 03 22.96	d	k	14.9	LA	35	L	5	a780	0.65				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 22.96	d	k	15.0	LA	35	L	5	a780	0.65				C 0.65m	T24	GAI	5*P		ST6	HOR02
2003 03 23.92	d	k	14.8	LA	35	L	5	a660	0.68				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 23.92	d	k	15.0	LA	35	L	5	a660	0.68				C 0.68m	T24	GAI	5*P		ST6	HOR02
2003 03 23.92	d	k	15.1	LA	35	L	5	a660	0.68				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 03 26.72		C	15.0	GA	60.0	Y	6	a120	0.85				S 0.85m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.91	d	k	14.8	LA	35	L	5	a720	0.78				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 26.91	d	k	14.9	LA	35	L	5	a720	0.78				C 0.78m	T24	GAI	5*P		ST6	HOR02
2003 03 29.63	ax	C	15.1	HV	35.0	C	9	a120	0.4	5			S 0.75m	KAIa	SI3	5		ST2	TSU02
2003 03 29.91	d	k	14.7	LA	35	L	5	a780	0.75				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 03 29.91	d	k	14.8	LA	35	L	5	a780	0.75				C 0.75m	T24	GAI	5*P		ST6	HOR02
2003 04 04.89	d	k	14.3	LA	35	L	5	a720	0.80				C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 04 04.89	d	k	14.4	LA	35	L	5	a720	0.80				C 0.80m	T24	GAI	5*P		ST6	HOR02
2003 04 04.89	d	k	14.6	LA	35	L	5	a720	0.80				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 04 05.73		C	14.6	GA	60.0	Y	6	a120	1.0				S 1.0 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.67	x	C	15.3	TJ	20.0	L	4	a120	0.3				S 0.3 m	K41a	SI3	5		SE7	OHS
2003 04 08.89	d	k	14.2	LA	35	L	5	a660	0.90				C 1.50m	T24	GAI	5*P		ST6	HOR02
2003 04 08.89	d	k	14.4	LA	35	L	5	a660	0.90				C 0.90m	T24	GAI	5*P		ST6	HOR02
2003 04 08.89	d	k	14.6	LA	35	L	5	a660	0.90				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 04 13.88	d	k	14.2	LA	35	L	5	a900	0.83				C 1.50m	T24	GAI	5*P		ST6	HOR02
2003 04 13.88	d	k	14.3	LA	35	L	5	a900	0.83				C 0.83m	T24	GAI	5*P		ST6	HOR02
2003 04 13.88	d	k	14.6	LA	35	L	5	a900	0.83				C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 04 21.61		C	14.4	GA	60.0	Y	6	a120	1.0				S 1.0 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 27.62	a	H	13.8	LA	30.0	L	6	a240	0.5				C 0.5 m	SIA	MIm	5*U		Ap7	EZA

Comet C/2002 Q5 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 06.87	a	C	12.5	GA	60.0	Y	6	a120	2.6				S 2.6 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 09.70	x	C	14.6	TJ	20.0	L	4	a120	0.3				S 0.3 m	K41a	SI3	5		SE7	OHS
2003 03 29.52	ax	C	15.7	HV	35.0	C	9	a120	0.4	4			S 0.50m	KAIa	SI3	5		ST2	TSU02
2003 03 29.57	x	C	14.7	TJ	60.0	Y	6	a120	0.8		2.2m	71	S 0.8 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 R3 (LONEOS)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 13.84		c	16.9	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.83		c	16.8	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.84		c	17.0	UO	30.5	T	6	a120					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 03.43		C	16.8:	GA	60.0	Y	6	a120	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 02 03.46	x	C	16.4	TJ	20.0	L	4	a480	0.5				S 0.5 m	K41a	SI3	5		SE7	OHS
2003 02 22.79	d	k	16.4	LA	35	L	5	a720	0.40				C 0.40m	T24	GAI	5*P		ST6	HOR02
2003 02 23.79	d	k	16.5	LA	35	L	5	a540	0.37				C 0.37m	T24	GAI	5*P		ST6	HOR02

Comet P/2002 S1 (Skiff)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.56		C	19.2	GA	60.0	Y	6	a240	0.2			210	S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet P/2002 T5 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 10.91		c	16.8	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 25.91		c	16.5	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.85		c	16.0	UO	30.5	T	6	a 60					S30.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.85		c	17.0	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 03.48		C	16.8	:GA	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 03.50	x	C	16.8	TJ	20.0	L	4	a480	0.5				S 0.5 m	K41aSI3		5		SE7	OHS
2003 02 25.48	x	C	17.3	TJ	20.0	L	4	a720	0.3				S 0.3 m	K41aSI3		5		SE7	OHS
2003 02 28.48	x	C	16.9	TJ	20.0	L	4	a720	0.4				S 0.4 m	K41aSI3		5		SE7	OHS
2003 03 26.48		C	17.1	HV	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 T7 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.91		c	15.7	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 10.86		c	15.6	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 12.04		c	15.8	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 12.85		c	15.8	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 13.87		c	15.8	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 17.79		c	15.7	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 18.91		c	15.8	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.86		c	15.5	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.91		c	15.2	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.82		c	15.5	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.84		c	14.6	UO	30.5	T	6	a 30					S30.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.82	d	k	15.5	LA	35	L	5	a660	0.37				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 01.82	d	k	15.5	LA	35	L	5	a660	0.37				C 0.37m	T24	GAI	5*	P	ST6	HOR02
2003 02 02.50		C	16.1	GA	60.0	Y	6	a120	0.3	8			S 0.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 03.45	wx	C	16.3	TJ	20.0	L	4	a720	0.5				S 0.5 m	K41aSI3		5		SE7	OHS
2003 02 07.85		c	14.2	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 07.85		c	15.5	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 14.80	d	k	15.5	LA	35	L	5	a840	0.40				C 0.40m	T24	GAI	5*	P	ST6	HOR02
2003 02 22.83	d	k	15.5	LA	35	L	5	a720	0.33				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 22.83	d	k	15.5	LA	35	L	5	a720	0.33				C 0.33m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.87	d	k	15.6	LA	35	L	5	a720	0.38				C 0.38m	T24	GAI	5*	P	ST6	HOR02
2003 02 23.87	d	k	15.6	LA	35	L	5	a720	0.38				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.85	d	k	15.5	LA	35	L	5	a600	0.32				C 0.32m	T24	GAI	5*	P	ST6	HOR02
2003 02 25.85	d	k	15.5	LA	35	L	5	a600	0.32				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 26.84	d	k	15.6	LA	35	L	5	a600	0.33				C 0.33m	T24	GAI	5*	P	ST6	HOR02
2003 02 26.84	d	k	15.6	LA	35	L	5	a600	0.33				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 02 28.44	ax	C	16.1	HV	35.0	C	9	a 60	0.2	7			S 0.60m	KAIaSI3		5		ST2	TSU02
2003 03 11.52	ax	C	15.6	HV	35.0	C	9	a 60	0.2	7			S 0.56m	KAIaSI3		5		ST2	TSU02
2003 03 16.82	d	k	15.5	LA	35	L	5	A200	0.33				C 0.33m	T24	GAI	5*	P	ST6	HOR02
2003 03 16.82	d	k	15.5	LA	35	L	5	A200	0.33				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 20.51	ax	C	16.0	HV	35.0	C	9	a 60	0.3	7			S 0.63m	KAIaSI3		5		ST2	TSU02
2003 03 21.83	d	k	15.5	LA	35	L	5	a660	0.40				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 21.83	d	k	15.5	LA	35	L	5	a660	0.40				C 0.40m	T24	GAI	5*	P	ST6	HOR02
2003 03 22.83	d	k	15.3	LA	35	L	5	a720	0.38				C 1.00m	T24	GAI	5*	P	ST6	HOR02
2003 03 22.83	d	k	15.3	LA	35	L	5	a720	0.38				C 0.38m	T24	GAI	5*	P	ST6	HOR02
2003 03 23.81	d	k	15.3	LA	35	L	5	a600	0.40				C 0.40m	T24	GAI	5*	P	ST6	HOR02
2003 03 26.47	a	C	15.7	GA	60.0	Y	6	a120	0.35	8			S 0.35m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.80	d	k	15.3	LA	35	L	5	a600	0.35				C 0.35m	T24	GAI	5*	P	ST6	HOR02
2003 03 29.82	d	k	15.3	LA	35	L	5	a600	0.42				C 0.42m	T24	GAI	5*	P	ST6	HOR02
2003 04 04.81	d	k	15.1	LA	35	L	5	a660	0.35				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 04 04.81	d	k	15.2	LA	35	L	5	a660	0.35				C 0.35m	T24	GAI	5*	P	ST6	HOR02
2003 04 06.45	ax	C	15.4	HV	35.0	C	9	a 60	0.3	6			S 0.50m	KAIaSI3		5		ST2	TSU02
2003 04 08.82	d	k	15.2	LA	35	L	5	a600	0.33				C 0.33m	T24	GAI	5*	P	ST6	HOR02
2003 04 08.82	d	k	15.2	LA	35	L	5	a600	0.33				C 0.50m	T24	GAI	5*	P	ST6	HOR02
2003 04 13.80	d	k	15.1	LA	35	L	5	a600	0.35				C 0.35m	T24	GAI	5*		ST6	HOR02
2003 04 13.80	d	k	15.1	LA	35	L	5	a600	0.35				C 0.50m	T24	GAI	5*		ST6	HOR02
2003 04 21.46	x	C	15.5	TJ	60.0	Y	6	a120	0.4				S 0.4 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 T7 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 22.45	x	C	15.2	HV	60.0	Y	6	a120	0.35				S 0.35m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 U2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.13	d	k	15.7	LA	35	L	5	a240	0.33		1.0m	315	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.13	d	k	16.1	LA	35	L	5	a240	0.33		1.0m	315	C 0.33m	T24	GAI	5	*P	ST6	HOR02
2003 03 11.75		C	16.9	GA	60.0	Y	6	a120	0.45		2.1m	300	S 0.45m	SIA	IPL	5	U	Ap7	NAK01
2003 04 05.75		C	17.0	GA	60.0	Y	6	a240	0.5		2.0m	298	S 0.5 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.64		C	16.9	GA	60.0	Y	6	a240	0.45		2.0m	328	S 0.45m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 V1 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.88		c	13.1	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 10.83		c	12.9	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 11.77		c	12.3	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 12.74		c	12.0	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 13.83		c	11.9	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 16.82		c	11.1	UO	30.5	T	6	a 20					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 17.77		c	12.0	UO	30.5	T	6	a 30					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 21.74		c	10.5	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 24.75		c	9.6	UO	30.5	T	6	a 20					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 25.75		c	9.6	UO	30.5	T	6	a 20					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 29.77		c	6.7	UO	30.5	T	6	a 10					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 29.77		c	9.2	UO	30.5	T	6	a 10					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.72	d	k	6.2	LA	35	L	5	A230	6.4		>17.6m	53	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 01.72	d	k	6.5	LA	35	L	5	A230	6.4		>17.6m	53	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 01.72	d	k	7.0	LA	35	L	5	A230	6.4		>17.6m	53	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 01.72	d	k	7.6	LA	35	L	5	A230	6.4		>17.6m	53	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.75		c	8.4	UO	30.5	T	6	a 10					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 02.76		c	6.3	UO	30.5	T	6	a 10					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 03.41	x	C	5.8	TJ	20.0	L	4	a 60	5.8			52	S 5.8 m	K41a	SI3	5		SE7	OHS
2003 02 08.75		c	4.6	UO	30.5	T	6	a 10					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 08.75		c	7.4	UO	30.5	T	6	a 10					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 12.38	ax	C	3.0	HV	7.5	R	4	a 1	2.0	7	36	m 28	S 2.4 m	KAIa	SI3	5		ST2	TSU02

Comet C/2002 V2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.52		C	18.6	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 X1 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 06.92		c	16.4	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 11.90		c	16.4	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 15.94		c	16.2	UO	30.5	T	6	a 60					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 01 25.93		c	15.8	UO	30.5	T	6	a 60					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.89		c	15.7	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 01 31.90		c	14.6	UO	30.5	T	6	a 30					S30.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.86	d	k	15.0	LA	35	L	5	a600	0.60		2.6m	96	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 01.86	d	k	15.2	LA	35	L	5	a600	0.60		2.6m	96	C 0.60m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.60		C	15.0	GA	60.0	Y	6	a120	0.75		> 2.5m	95	S 0.75m	SIA	IPL	5	U	Ap7	NAK01
2003 02 06.68		C	15.2	GA	60.0	Y	6	a120	0.55		5.9m	95	S 0.55m	SIA	IPL	5	U	Ap7	NAK01
2003 02 07.88		c	16.5	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 09.50	ax	C	15.6	HV	35.0	C	9	a120	0.3	5	0.6m	107	S 0.76m	KAIa	SI3	5		ST2	TSU02
2003 02 11.97	d	k	14.9	LA	35	L	5	a600	0.57		2.4m	95	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 11.97	d	k	15.1	LA	35	L	5	a600	0.57		2.4m	95	C 0.57m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.84	d	k	15.2	LA	35	L	5	a600	0.50		1.3m	91	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 22.84	d	k	15.5	LA	35	L	5	a600	0.50		1.3m	91	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.89	d	k	15.2	LA	35	L	5	a780	0.53		1.2m	90	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.89	d	k	15.5	LA	35	L	5	a780	0.53		1.2m	90	C 0.53m	T24	GAI	5	*P	ST6	HOR02
2003 02 25.87	d	k	15.6	LA	35	L	5	a420	0.52		2.3m	88	C 0.52m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.86	d	k	15.2	LA	35	L	5	a600	0.50		2.7m	86	C 1.00m	T24	GAI	5	*P	ST6	HOR02

Comet C/2002 X1 (LINEAR) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 26.86	d	k	15.6	LA	35	L	5	a600	0.50		2.7m	86	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 28.52	axC		16.1	HV	35.0	C	9	a120	0.3	4			S 0.78m	KAIaSI3		5		ST2	TSU02
2003 03 16.89	d	k	16.0	LA	35	L	5	a840	0.37		1.1m	82	C 0.37m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.87	d	k	16.2	LA	35	L	5	a600	0.33				C 0.33m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.87	d	k	16.2	LA	35	L	5	a900	0.33				C 0.33m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.87	d	k	15.8	LA	35	L	5	a600	0.50		1.2m	82	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.87	d	k	16.0	LA	35	L	5	a600	0.37				C 0.37m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.50		C	16.3	GA	60.0	Y	6	a120	0.35		2.2m	82	S 0.35m	SIA	IPL	5	U	Ap7	NAK01
2003 04 04.84	d	k	16.0	LA	35	L	5	a660	0.42		0.9m	86	C 0.42m	T24	GAI	5	*P	ST6	HOR02

Comet P/2002 X2 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 03.47		C	18.5:	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2002 X5 (Kudo-Fujikawa)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 11.42	axC		10.8	HV	35.0	C	9	a 60	2.0	4	3	m120	S 2.00m	KAIaSI3		5		ST2	TSU02
2003 03 20.47	axC		11.3	HV	35.0	C	9	a 60	2.5	3	2	m117	S 3.17m	KAIaSI3		5		ST2	TSU02
2003 03 21.78	d	k	12.5	LA	35	L	5	a560	2.0		2.7m	116	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.78	d	k	13.1	LA	35	L	5	a560	2.0		2.7m	116	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 21.78	d	k	14.0	LA	35	L	5	a560	2.0		2.7m	116	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.78	d	k	12.8	LA	35	L	5	a600	1.3		2.9m	112	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.78	d	k	13.2	LA	35	L	5	a600	1.3		2.9m	112	C 1.30m	T24	GAI	5	*P	ST6	HOR02
2003 03 22.78	d	k	14.1	LA	35	L	5	a600	1.3		2.9m	112	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.78	d	k	13.0	LA	35	L	5	a600	1.4		2.5m	115	C 1.40m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.78	d	k	13.2	LA	35	L	5	a600	1.4		2.5m	115	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 03 23.78	d	k	14.0	LA	35	L	5	a600	1.4		2.5m	115	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 03 26.44		C	12.1	HV	60.0	Y	6	a120	2.4		> 7.6m	188	S 2.4 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.42	axC		12.9	HV	35.0	C	9	a 90	1.8	3	2	m117	S 1.8 m	KAIaSI3		5		ST2	TSU02
2003 04 04.77	d	k	14.6	LA	35	L	5	a440	0.7		1.4m	104	C 1.00m	T24	GAI	5	*	ST6	HOR02
2003 04 04.77	d	k	15.1	LA	35	L	5	a440	0.7		1.4m	104	C 0.70m	T24	GAI	5	*	ST6	HOR02
2003 04 06.46	x	C	14.5	TJ	60.0	Y	6	a240	0.9	1	4.8m	182	S 0.9 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 08.79	d	k	14.5	LA	35	L	5	a480	1.1				C 2.00m	T24	GAI	5	*	ST6	HOR02
2003 04 08.79	d	k	14.8	LA	35	L	5	a480	1.1				C 1.10m	T24	GAI	5	*	ST6	HOR02
2003 04 08.79	d	k	15.7	LA	35	L	5	a480	1.1				C 0.50m	T24	GAI	5	*	ST6	HOR02

Comet C/2002 Y1 (Juels-Holvorcem)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 25.04		c	14.2	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.04		c	13.7	UO	30.5	T	6	a 30					S10.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.05		c	11.1	UO	30.5	T	6	a 30					S60.0 s	K26	AfP	5	P	ST9	NAV01
2003 02 01.73	x	C	10.1	TJ	20.0	L	4	a 60	5.0				S 5.0 m	K41aSI3		5		SE7	OHS
2003 02 02.00	d	k	10.8	LA	35	L	5	a600	5.4		6.4m	282	C 5.60m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.00	d	k	11.0	LA	35	L	5	a600	5.4		6.4m	282	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.00	d	k	11.5	LA	35	L	5	a600	5.4		6.4m	282	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.00	d	k	12.2	LA	35	L	5	a600	5.4		6.4m	282	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 02.75	a	C	9.9	GA	60.0	Y	6	a 60	7.7				S 7.7 m	SIA	IPL	5	U	Ap7	NAK01
2003 02 11.95	d	k	10.3	LA	35	L	5	a400	>13.0		8.3m	290	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 11.95	d	k	10.8	LA	35	L	5	a400	>13.0		8.3m	290	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 11.95	d	k	11.5	LA	35	L	5	a400	>13.0		8.3m	290	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 15.02	d	k	9.9	LA	35	L	5	a390	> 7.8		>12.0m	294	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 15.02	d	k	10.7	LA	35	L	5	a390	> 7.8		>12.0m	294	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 15.02	d	k	11.8	LA	35	L	5	a390	> 7.8		>12.0m	294	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.01	d	k	9.4	LA	35	L	5	a900	>10.5		> 8.0m	320	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.01	d	k	9.9	LA	35	L	5	a900	>10.5		> 8.0m	320	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.01	d	k	10.5	LA	35	L	5	a900	>10.5		> 8.0m	320	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 23.01	d	k	11.2	LA	35	L	5	a900	>10.5		> 8.0m	320	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 24.02	d	k	9.5	LA	35	L	5	a630	> 9.3		> 9.9m	326	C 4.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 24.02	d	k	10.0	LA	35	L	5	a630	> 9.3		> 9.9m	326	C 2.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 24.02	d	k	10.6	LA	35	L	5	a630	> 9.3		> 9.9m	326	C 1.00m	T24	GAI	5	*P	ST6	HOR02
2003 02 24.02	d	k	11.5	LA	35	L	5	a630	> 9.3		> 9.9m	326	C 0.50m	T24	GAI	5	*P	ST6	HOR02
2003 02 26.02	d	k	9.4	LA	35	L	5	a800	12.7		> 9.9m	328	C 4.00m	T24	GAI	5	*P	ST6	HOR02

Comet C/2002 Y1 (Juels-Holvorcem) [cont.]

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 26.02	d	k	9.9	LA	35	L	5	a800	12.7		> 9.9m	328	C 2.00m	T24	GAI	5*P		ST6	HOR02
2003 02 26.02	d	k	10.5	LA	35	L	5	a800	12.7		> 9.9m	328	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 26.02	d	k	11.2	LA	35	L	5	a800	12.7		> 9.9m	328	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 02 27.01	d	k	9.4	LA	35	L	5	a600	>10		> 9.7m	338	C 4.00m	T24	GAI	5*P		ST6	HOR02
2003 02 27.01	d	k	9.9	LA	35	L	5	a600	>10		> 9.7m	338	C 2.00m	T24	GAI	5*P		ST6	HOR02
2003 02 27.01	d	k	10.5	LA	35	L	5	a600	>10		> 9.7m	338	C 1.00m	T24	GAI	5*P		ST6	HOR02
2003 02 27.83	a	H	9.9	LA	30.0	L	6	a180	2.3			320	S 3.7 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	H	15.2	LA	30.0	L	6	a180	2.3			320	C 0.4 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	L	9.3	LA	30.0	L	6	a180	3.7			320	S 3.7 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	L	14.6	LA	30.0	L	6	a180	3.7			320	C 0.4 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	V	9.2	LA	30.0	L	6	a180	3.2			320	S 3.7 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	V	14.5	LA	30.0	L	6	a180	3.2			320	C 0.4 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	k	9.8	LA	30.0	L	6	a180	2.3			320	S 3.7 m	SIA	MIm	5*U		Ap7	EZA
2003 02 27.83	a	k	15.0	LA	30.0	L	6	a180	2.3			320	C 0.4 m	SIA	MIm	5*U		Ap7	EZA
2003 02 28.41	x	C	9.4	TJ	20.0	L	4	a120	2.3				S 2.3 m	K41a	SI3	5		SE7	OHS
2003 03 12.82	x	C	8.2	TJ	20.0	L	4	a120	3.9		>12	m350	S 3.9 m	K41a	SI3	5		SE7	OHS
2003 03 18.84	ax	C	7.5	HV	35.0	C	9	a 60	4.5	5	>11.0m	77	S 5.3 m	KAIa	SI3	5		ST2	TSU02

Comet P/2003 A1

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 01 11.81		c	17.4	UO	30.5	T	6	a120					C25.0 s	K26	A32	5	P	ST9	NAV01
2003 02 03.45		C	17.2:	GA	60.0	Y	6	a240	0.35			100	S 0.35m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.45		C	17.0	HV	60.0	Y	6	a120	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.44	x	C	16.7	TJ	60.0	Y	6	a120	0.3				S 0.3 m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2003 A2 (Gleason)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 02 02.61		C	18.9	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 02 06.72		C	18.8	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 26.55		C	19.1:	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01

Comet P/2003 CP_7 (LINEAR-NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 26.60		C	18.6:	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.59		C	18.5	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.51		C	18.5	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2003 E1 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 26.62		C	19.0:	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 03 29.65		C	19.2	GA	60.0	Y	6	a240	0.2			230	S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 06.60		C	19.0	GA	60.0	Y	6	a240	0.2				S 0.2 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 21.59		C	18.4	GA	60.0	Y	6	a240	0.25				S 0.25m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2003 F1 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 03 26.73		C	17.6	GA	60.0	Y	6	a240	0.25		0.5m	305	S 0.25m	SIA	IPL	5	U	Ap7	NAK01
2003 04 04.93	d	k	16.9	LA	35	L	5	A350	0.28		0.6m	302	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 04 04.93	d	k	17.3	LA	35	L	5	A350	0.28		0.6m	302	C 0.28m	T24	GAI	5*P		ST6	HOR02
2003 04 06.74		C	17.4	GA	60.0	Y	6	a240	0.3		1.0m	307	S 0.3 m	SIA	IPL	5	U	Ap7	NAK01
2003 04 08.92	d	k	16.9	LA	35	L	5	A350	0.25		19	s300	C 0.50m	T24	GAI	5*P		ST6	HOR02
2003 04 08.92	d	k	17.2	LA	35	L	5	A350	0.25		19	s300	C 0.25m	T24	GAI	5*P		ST6	HOR02

Comet P/2003 F2 (NEAT)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 06.58		C	20.2	GA	60.0	Y	6	a240	0.15				S 0.15m	SIA	IPL	5	U	Ap7	NAK01

Comet C/2003 G1 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 27.70	a	H	14.8	LA	30.0L		6	a240	0.4				C 0.4 m	SIA	MIm	5*U		Ap7	EZA

Comet C/2003 G2 (LINEAR)

DATE (UT)	n	M	MAG.	RF	AP.	T	f/	EXP.	COMA	DC	TAIL	PA	APERTUR	Chp	Sfw	C	P	Cam	OBS.
2003 04 21.55	a	C	17.4	GA	60.0Y		6	a120	0.35				S 0.35m	SIA	IPL	5	U	Ap7	NAK01

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DESIGNATIONS OF RECENT COMETS

Listed below, for handy reference, are the last 30 comets to have been given designations in the new system. 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 given 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.

Not included below are numerous recently-discovered comets observed only with the SOHO spacecraft — and seen only close to the sun with the SOHO instruments — most of which are presumed to be no longer in existence. Earlier lists and references to such comets appeared in the July 2002 issue (p. 219) and references therein.

[This list updates that in the January 2003 issue, p. 54.]

	New-Style Designation	*P*	*T*	*q*	*IAUC*
⋆	C/2002 U2 (LINEAR)		12/31/02	1.21	8000
⋆	P/2002 T6 (NEAT-LINEAR)	21.1	6/26/03	3.39	8002
⋆	C/2002 T7 (LINEAR)		4/23/04	0.61	8003
⋆	C/2002 V1 (NEAT)		2/18/03	0.10	8010
⋆	C/2002 V2 (LINEAR)		5/13/03	6.81	8013
⋆	C/2002 X1 (LINEAR)		7/12/03	2.49	8028
⋆	P/2002 X2 (NEAT)	8.1	3/29/03	2.53	8029
⋆	C/2002 X5 (Kudo-Fujikawa)		1/29/03	0.19	8032
⋆	C/2002 Y1 (Juels-Holvorcem)		4/13/03	0.71	8039
⋆	P/2003 A1	7.09	2/1/03	1.92	8044
⋆	C/2003 A2 (Gleason)		11/6/03	11.4	8049
⋆	P/2003 CP_7 (LINEAR-NEAT)	8.05	4/29/03	3.02	8092
⋆	C/2003 E1 (NEAT)	50.8	2/13/04	3.25	8092
⋆	C/2003 F1 (LINEAR)	93.9	6/28/03	4.0	8098
⋆	P/2003 F2 (NEAT)	16.6	4/12/03	2.98	8104
⋆	C/2003 G1 (LINEAR)		2/3/03	4.92	8115
⋆	C/2003 G2 (LINEAR)		4/29/03	1.55	8116
⋆	156P/2000 QD_{181} (Russell-LINEAR)	6.8	8/17/00	1.60	8118
⋆	C/2003 H1 (LINEAR)		2/22/04	2.24	8122
⋆	C/2003 H2 (LINEAR)		5/17/03	2.18	8122
⋆	C/2003 H3 (NEAT)		4/24/03	2.90	8126
⋆	P/2003 H4 (LINEAR)	6.1	5/14/03	1.70	8127
⋆	C/2003 J1 (NEAT)		10/16/03	5.12	8133
⋆	C/2003 K1 (Spacewatch)		12/21/02	2.09	8135
⋆	P/2003 K2 (Christensen)	5.8	4/7/03	0.55	8136
⋆	C/2003 K4 (LINEAR)		10/13/04	1.02	8139
⋆	C/2003 KV_2 (LINEAR)	4.9	7/10/03	1.06	8139
⋆	P/2003 L1 (Scotti)	17.3	3/7/03	5.01	8145
⋆	C/2003 L2 (LINEAR)		1/19/04	2.86	8151
⋆	P/2003 HT_{15} (LINEAR)	9.9	4/17/03	2.67	8156