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

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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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Corrigendum

In the January 1998 issue, page 39, the observation of comet 55P by observer ROQ on 1998 Jan. 31.07 is to be deleted. Paul Roques notes that smoke in the sky from nearby forest fires made the coma dia. measurement too small and, therefore, its integrated contribution to the comet's total magnitude also was too small.

Hendrik (Henk) Feijth (1944-1997)

Since his teenage years, Henk Feijth had two passions in his life: chemistry and astronomy. After studying chemistry at Groningen University, it became his profession; he had taught chemistry at Leeuwarden since 1971. Astronomy became his principal hobby. There are few fields in visual amateur astronomy that Henk did not touch at some stage of his career. He became an avid observer of double stars, the Moon and planets, meteors, (planetary) nebulae, stellar occultations, and lunar eclipses; and he travelled to four solar eclipses. But his main interest were variable stars; between 1964 and 1997 he made over 90000 estimates of variable stars, a remarkable achievement in our poor climate. Comets came in a good second among his many interests in astronomy.

During the sixties and early seventies, visual comet observing was virtually non-existent in The Netherlands. Henk was one of the very few that occasionally made a brightness estimate and realized the importance of it. In 1975, interest in comets increased considerably when, first, comet C/1975 N1 (Kobayashi-Berger-Milon) made a sudden appearance, and a few months later the discovery of comet C/1975 V1 (West) was announced. This resulted, early in 1976, in the foundation of the Dutch Comet Section, of which Henk was one of the principal founding members; in subsequent years, he served as member of the board, first as recorder (1976-1986) and then chairman (1987-1995). He contributed greatly to several publications and, particularly in the early years of the DCS, played an important role in the discussions about methods, data reduction, and selection of comparison stars. Here his experience as a variable-star observer was of paramount importance. He was also among the first to realize that computers were a great asset for the amateur astronomer, both as a computing and bookkeeping device. He wrote several programs that are still in use by variable-star and comet observers today.

Henk observed his first comet, C/1956 R1 (Arend-Roland), at the age of 12 in April 1957. In total, he observed about 70 comets. He provided data on 58 comets to the *ICQ*, reaching a total of 379 estimates. His last observed comet was C/1995 O1 (Hale-Bopp); he had a final view of it with a small group of friends from a hospital room on 1997 Mar. 2, when it was low in the evening sky. He had been greatly looking forward to recording this comet in all its splendour, but that was not to be.

After the summer of 1996, Henk developed problems with his health. Symptoms that were initially attributed to 'midlife crisis' or stress at work gradually worsened, until early in 1997 the diagnosis was established that he had a malignant brain tumor. Over the following months, his condition further deteriorated, and it was particularly sad to see an observer, known for his very keen eyesight, to go virtually blind at the end of his life. He spent his last two months in a nursing home in Kampen, the city where he was born, and where he passed away on May 11, 1997.

Shortly before his death, asteroid (7147) was named Feijth, a fitting tribute to a great amateur astronomer and a loyal friend.

— Reinder J. Bouma (Groningen, 1998 April 4)

Φ Φ Φ

Archives of the Ukrainian Comet Section

Alexandr R. Baransky

ICQ Observation Coordinator for Ukraine

To my mind, the most important achievements of the *ICQ* are the following: creation and development of the worldwide archives of comet data; supporting the development of Comet Sections in many countries of the world; encouragement of many amateur astronomers toward active observation; and working out general methodology of visual observations of comets and a standard form of observational accounts.

While acquainting myself with the archives of numerous observatories of Ukraine and other countries of the former U.S.S.R. — including the personal records of some outstanding professional astronomers (S. K. Vsekhsvyatskij, A. M. Bakharev) and talented amateurs (V. Chernov), the astronomical bulletins, circulars, and other literature — I have come to the realization that — besides astrometric, spectrophotometric, and polarimetric comet observations — professional astronomers of the former U.S.S.R. have actively carried out visual comet observations in the past century. And some astronomers (such as S. K. Vsekhsvyatskij, A. M. Bakharev, D. J. Martynov, D. A. Roshkovskiy and others) — like Max Beyer and G. van Biesbroeck — regularly observed comets brighter than mag 11 visually and photographed comets brighter than mag 17 over two or three decades, attaining long strings of observations. It is a pity that these observations are not readily known to the worldwide community because they were published in different Russian publications in different forms, and only some early observations were published in the journal *Astronomische Nachrichten.*

Four years ago, I decided to create the archives of the Ukrainian Comet Section (UCS), in which I would collect and process all comet observations made during the last 100 years in Ukraine and other countries of former USSR, and I decided to submit the archives of the UCS to the *ICQ* for ready access by astronomers. There is a lot to be done to finish the work, as some archival materials created during the first 40 years of this century are little studied. Comet

observations received during the last 50 years are being processed in detail. At the present time, I have collected and processed 3653 observations of 151 comets, which were made by 258 observers during the period 1940-1990; 2450 of them are observations of 85 long-period comets, while there are 1117 observations of 64 short-period comets. The observations of long-period comets are divided by years as follows:

Years	Number of comets	Number of observations
1940-49	15	758
1950-59	18	623
1960-69	26	363
1970-79	5	210
1980-90	23	582
Total	87	2536

A large number of older observations were made by experienced professional astronomers who had the possibility to observe comets with the aid of telescopes with a wide range of apertures, from the 6-m reflector of the Special Astrophysical Observatory (the first Soviet observations of the recent return of comet 1P/Halley) down to opera glasses. The great portion of such observations were carried out in high-mountain southern observatories of central Asia and the Caucasus (Crimea), explaining why many estimates of magnitude, tail dimensions, and other physical parameters are distinguished by high preciseness.

The total magnitude was estimated visually mostly via two methods, the VBM (*ICQ* code B) and the VSS (*ICQ* code S), and sometimes via the Extrafocal Extinction method (*ICQ* code E) was used. Experienced Soviet observers such as Vsekhsvyatskij, Bakharev, and Volokhov made great contributions to working out and attaining practical usage of these methods (see D. W. E. Green 1996, "On the History of Total-Visual-Magnitude Estimation Methods", *ICQ* **18**, 186). Some observations were made with the help of electrophotometers in the standard *UVBR* system.

The great majority of observations of faint comets were made photographically, and here the magnitude of the central condensation m_2 or inner coma was often estimated; for such observations I usually put the letter 'N' in the magnitude-method column.

For comparison stars, Soviet observers used mostly three catalogues that were in wide usage in those years at observatories (BD, HD, and S). It is unfortunate that some observers did not estimate the diameter of the coma. I therefore defined the degree of condensation (DC) on the basis of verbal records of some observers about the condensetion of the inner coma according to the following scale: 0-1, comet is very diffuse; 1-2, comet is considerably diffuse; 3-5, comet is slightly or moderately condensed; 6, comet is considerably condensed; 7-8, very sharp condensation. Sometimes observers mention the type of condensation (star-like, disk-like, etc.). Many visual and photographic observations are accompanied by detailed descriptions of the structure of coma and tails, and translations of such material is provided accordingly as descriptive text. Comet designations were taken from Brian Marsden's 1996 *Catalogue of Cometary Orbits.*

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Tabulation of Comet Observations

Included in this issue are the first batch of observations made in the former Soviet Union during the 1940s and 1950s, as submitted by A. R. Baransky (see his article on pages 53 and 54 of this issue).

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

◇ *Comet C/1940 R2 (Cunningham)* ⟹ 1940 Nov. 22.87: comet appears as a diffuse nebulosity w/o nucleus [GRA08]. Nov. 25.66 and 28.63: coma is a round, bluish nebulosity [CHE05]. Nov. 27.82: coma has an oblong bright patch, w/ nucleus [GRA08]. Dec. 2.82: nucleus clearly visible [GRA08]. Dec. 16.58 and 1941 Jan. 3.58: moonlight [CHE05]. Dec. 18.70: two tails, one sharp and narrow (1° long in p.a. 35°), another faint and diffuse (~ 0°.5 long in p.a. 60°) [MER03]. Dec. 20.69: one tail is like that on Dec. 18.70; another tail in p.a. 55° [MER03]. Dec. 24.51: twilight [CHE05].

◇ *Comet C/1941 B2 (de Kock-Paraskevopoulos)* ⟹ 1941 Feb. 12.70: the tail has form of gradually widening fork w/ space between branches [NEU02]. Feb. 23.61: slight haze; comet seen against background of zodiacal light [CHE05]. Feb. 27.68: comet at low alt. [CHE05]. Mar. 1.59: moonlight; tail not seen [CHE05].

◇ *Comet C/1941 K1 (van Gent)* ⟹ 1941 June 25.71: diffuse head; faint tail [BAK02]. June 30.77: tail is slightly visible [BAK02]. July 12.74 and Aug. 26.64: moonlight [BAK02]. July 13.73: strong nucleus [BAK02]. July 21.68: faint tail visible [BAK02].

◇ *Comet C/1942 X1 (Whipple-Fedtke-Tevzadze)* ⟹ 1943 Jan. 26.75: nucleus and coma have grown in size [BAK02]. Feb. 7.75: w/ 6×30 B, $m_2 = 4.8$ [AST]. Feb. 27.75: w/ 6×30 B, head of comet 1° [NAB]. Mar. 4.10: w/ 6×30 B, nucleus is brighter and shifted to the front part of the head [NAB]. Mar. 5.80: w/ 6×30 B, faint nucleus [NAB]. Mar. 7.74: w/ 6×30 B, nucleus is slightly visible; the head has grown in size; two rays are directed from the head into the tail [NAB]. Mar. 9.74 and 13.76: w/ 6×30 B, faint nucleus [NAB]. Mar. 26.74: tail not seen; "the cover of the nucleus is elongated" [NAB]. Apr. 26.73: estimate on the limit of naked-eye visibility [AST].

◇ *Comet C/1946 C1 (Timmers)* ⟹ 1946 Feb. 23.99: w/ 12-cm R (40×), coma has harder outlines in p.a. 300°; from time to time, a slight nucleus can be seen ($m_2 \sim 12$) [VSE]. Feb. 27.76: w/ 15.2-cm R (90×), central cond. of dia. 1′44″ [BAK02]. Mar. 2.75: w/ 25.3-cm *f*/21 R (60×), coma is round; central cond. w/ starlike nucleus, $m_2 = 11$ [VSE]. Mar. 5.74: w/ 25.3-cm *f*/21 R (60×), "the cover" [coma?] is elongated towards p.a. 300°-330° [VSE]. Mar. 5.79: w/ 12-cm R (40×), central cond. of mag 9.3 [VSE]. Mar. 10.80: w/ 25.3-cm *f*/21 R (90×), faint, star-like nucleus of mag 11-12: [VSE]. Mar. 13.77: 10-day Moon [VSE]. Mar. 18.81: strong moonlight [VSE]. Mar. 23.65: w/ 15.2-cm R (90×), central cond. of dia. 3′12″ [BAK02]. Mar. 23.87: w/ 25.3-cm *f*/21 R (60×), central cond. of dia. 2′ w/o nucleus [VSE]. Mar. 30.74: w/ 25.3-cm *f*/21 R (60×), central cond. of mag 10.5: [VSE]. Apr. 2.79: through clouds [VSE]. Apr. 14.76: 10-day Moon [VSE]. Apr. 18.81: slight haze [VSE]. Apr. 21.70: anomalous outburst [BAK02]. Apr. 25.67: slight tail 3′ long is oriented to the E [VSE]. Apr. 25.67: slight tail is oriented to the N [BAK02]. Apr. 27.84: w/ 25.3-cm *f*/21 R (60×), strong central cond. w/ nucleus of mag 11.5 [VSE]. Apr. 29.84: w/ 25.3-cm *f*/21 R (60×), central cond. w/ star-like nucleus of mag 10.5 [VSE]. May 3.81: w/ 25-cm *f*/21 R (60×), central cond. w/ star-like nucleus of mag 11.5 [VSE]. May 4.81: through slight haze [VSE]. May 12.80: moonlight [VSE]. May 19.90, 25.93, and 29.90: w/ 20-cm *f*/21 R (60×), diffuse coma w/o central cond. [VSE]. Sept. 2.77: coma is elongated in anti-solar direction [MAR23].

◇ *Comet C/1946 K1 (Pajdušáková-Rotbart-Weber)* ⟹ 1946 June 2.93: w/ 20-cm R (80×), $m_2 = 8.7$ [NOV]. June 4.96: w/ 25.3-cm *f*/21 R (60×), "covers" [hoods?] are well seen; central cond. is elongated towards tail, $m_2 = 7.8$ [VSE]. June 7.87: w/ 25.3-cm *f*/21 R (60×), the central cond. is considerably elongated towards p.a. 300° [VSE]. June 19.77: tail noticed [BAK02]. June 19.77: nucleus has become more sharp [BAK02]. June 22.77: comet at low alt. [BAK02].

◇ *Comet C/1946 P1 (Jones)* ⟹ 1947 May 20.87: w/ 38-cm D (*f*/2), the plates show condensed inner coma of dia. 0′.4 surrounded by weaker outer coma of dia. 1′.5 [MAR23]. May 21.89: plates show condensed inner coma of dia. 0′.3 surrounded by weaker outer coma of dia. 1′.0 [MAR23].

◇ *Comet C/1947 S1 (Bester)* ⟹ 1948 Mar. 12.99: the head of comet is parabolic; tail is straight, broad, heterogenous; one ray is noticed in the tail toward the N side, and 2-3 other rays are suspected [AST]. Mar. 14.02: asymmetrical nucleus, slightly elongated towards tail [AST]. Mar. 18.03: asymmetrical central cond. is not round; S edge is harder than N one, possibly an appendix from the E edge [AST]. Mar. 19.02: head has increased in size; coma is like that on Mar. 18 [AST]. Apr. 1.99: central cond. of dia. 1′.7; in gas tail at distance 45′ from the head is noticed a slight break; further, the tail broadens and strengthens in intensity; fan-shaped dust tail 21′ long, open in p.a. 205°-255°; intensive ray in p.a. 255° [VSE]. Apr. 2-11: the plates show two tails spreading from the head of the comet (the first one is dust and quite short, and has the form of a broad parabola 1° in length; the second one is gas, straight-lined, sometimes thin, like a thread, w/ some slight breaks, 4° long) [MAR23]. Apr. 2.97: w/ 12-cm *f*/5 A, central cond. of dia. 1′.7; gas tail is more intense but shorter than before; dust tail 20′ long has become brighter, quite noticeable from p.a. 195° to 255° [KON08]. Apr. 4.98: central cond. of dia. 1′.7; gas tail is thin and bright, at ~ 1° distance from the head, it broadens and becomes weak; dust tail 17′ long, w/ section in p.a. 50° noticeably fainter than on Apr. 2 [KON08]. Apr. 9.86: w/ 12 -cm *f*/5 A, central cond. of dia. 0′.9; dust tail 17′ long, open in p.a. 190°-230° [VSE]. Apr. 9.86: central cond. of dia. 0′.9; dust tail 17′ long, open in p.a. 190°-230° [VSE]. Apr. 12.88: central cond. of dia. 1′.7; dust tail 14′ long, more intense in p.a.

195°-215°, noticable to p.a. 230° [BOR06]. Apr. 13.96: central cond. of dia. 1'.9; dust tail 15' long w/ hard streamers at its edges in p.a. 175° and 225° [VSE]. Apr. 15.03: central cond. of dia. 1'.7; gas tail is straight and very thin [VSE]. Apr. 15.96: central cond. of dia. 1'.6; dust tail 8' long, quite 'slight', open in p.a. 145°-205° [VSE]. Apr. 18.05: w/ 12-cm $f/5$ A, central cond. of dia. 1'.2; dust tail 17' long, open in p.a. 130°-180° [BOR06]. May 8.89: w/ 38-cm $f/2$ D, the plates show that the straight-lined gas tail is considerably reduced — to 25' long in p.a. 90°; dust tail is shorter — 10' long in p.a. 110° [MAR23].

◇ *Comet C/1947 X1 (Southern comet) [component A]* ⟹ 1947 Dec. 30.59: central cond. of dia. 2'.8; broad, straight tail, possibly longer than 1° [AST]. 1948 Jan. 2.59: not far from the comet is M30, which appears very similar to the head of the comet [AST]. Jan. 10.60: the head of the comet is moderately elongated to the SE (10' × 6') [AST]. Jan. 11.61: central cond. of dia. 2'.5; the head of the comet is elongated towards the tail (10' × 6') [AST].

◇ *Comet C/1948 E1 (Pajdušáková-Mrkos)* ⟹ 1948 Apr. 29.82: coma elongated toward the sun [AST]. May 8.85: w/ 38-cm $f/2$ D, plate shows a tail, slightly bent, in p.a. 220°; coma is elongated N-S [MAR23]. May 16.80: m_2 = 12m; broad (possibly dust) tail [VSE]. Nov. 8.93: w/ 38-cm $f/2$ D, plate shows another tail 5' long in p.a. 355° [MAR23].

◇ *Comet C/1948 L1 (Honda-Bernasconi)* ⟹ 1948 June 9.84: the comet is blue, w/ round coma; straight, streaming tail (3° long) is 'harder' on the S side [AST]. June 9.83: weak, broad dust tail [AST]. June 9.90: nucleus of dia. 2'; tail is 1°.5, opening 5° [BAK02]. June 10.98: gas tail 3° long; dust tail 1°.5 long [PRO]. June 11.98: gas tail 3° long, dust tail 10' long [VSE]. June 15.89: w/ 38-cm $f/2$ D, plates show central cond. of dia. 1' [MAR23].

◇ *Comet C/1948 V1 (Eclipse comet)* ⟹ 1948 Nov. 12.07: comet's head is below the horizon (only tail is visible) [KAD]. Nov. 21.06, 22.06 and 23.01: w/ 12×80 B, disk-like inner coma of dia. 8'; max. width of tail 1° [KAD]. Nov. 25.01: inner coma of dia. 6'; max. width of tail 0°.8 [KAD]. Nov. 26.01: inner coma of dia. 9'; max. width of tail 0°.5 [KAD]. Nov. 27.02: inner coma of dia. 10'; max. width of tail 0°.4 [KAD]. Nov. 28.04: inner coma of dia. 11'; max. width of tail 0°.5 [KAD]. Dec. 2.02: inner coma of dia. 8'; max. width of tail 0°.3 [KAD]. Dec. 7.06: inner coma of dia. 5'; max. width of tail 0°.2 [KAD]. 1948 Jan. 6.71: inner coma of dia. 3'; 9-day Moon [KAD]. Feb. 20.72 and Mar. 4.76: symmetrical, round coma w/ slightly central cond. [MAR23]. Mar. 27.72: very faint, asymmetrical coma [MAR23].

◇ *Comet C/1951 C1 (Pajdušáková)* ⟹ 1951 Mar. 3.68: w/ 38-cm $f/2$ D, plates show very asymmetrical coma [KOL06]. Mar. 10.80: w/ 38-cm $f/2$ D, plates show fainter second tail adjacent to the first on the W side [MAR23]. Mar. 28.75: w/ 50-cm $f/2$ M, plate yields m_2 = 12.6; two tails can be seen, one of which is curved oppositely to the movement of comet (13' long in p.a. 355°) [ROS03]. Apr. 25.85 and 26.85: w/ 50-cm $f/2$ M, plate shows short tail 0°.6 long and a very weak nucleus, w/ m_2 = 17 [ROS03].

◇ *C/1953 G1 (Mrkos-Honda)* ⟹ 1953 May 22.90: coma asymmetrical; S edge is 'harder' [KON08].

◇ *Comet C/1955 L1 (Mrkos)* ⟹ 1955 June 16.19: w/ 12-cm $f/5$ A, plate shows dust tail 1° long curved to the E, opening 25°; also a thin gas streamer > 1° long [VSE]. July 23.93: bright tail 1° long [BAK02].

◇ *Comet C/1955 N1 (Bakharev-Macfarlane-Krienke)* ⟹ 1955 July 15.99: faint, eccentrically-placed nucleus [VSE]. July 16.95: w/ 25-cm $f/21$ R, m_2 = 12 [VSE]. Aug. 18.93: w/ 25-cm $f/21$ R, cond. is not central, shifted to the SE [VSE].

◇ *Comet C/1955 O1 (Honda)* ⟹ 1955 Aug. 23.84: w/ 25-cm $f/21$ R, 35-min exp. shows only the central cond. of heterogenous structure [VSE]. Aug. 24.77: bright cond. in center; broad tail, especially bright near the nucleus [BAK02]. Aug. 25.19: tail well visible [BAK02]. Aug. 26.81: very bright cond. in center [BAK02]. Aug. 28.86: w/ 25-cm $f/21$ R, 140-min exp. shows noticeable central cond. (dia. 0'.7) and heterogenous structure w/ effusion into the N part of coma [VSE]. Aug. 29.87: w/ 12-cm $f/5$ astrograph, dia. of central cond. is 0'.5 [VSE]. Sept. 5.76: coma elongated in p.a. 75° [VSE]. Sept. 9.75: w/ 25-cm $f/21$ R (160×), asymmetric coma; w/ 12-cm $f/5$ A, plate shows the comet very bright, like ϕ Her; two faint rays of the gaseous tail extend exactly W [VSE]. Sept. 11.77: w/ 12-cm $f/5$ A, the central cond. of dia. 20″ is elongated in p.a. 60°-240° [VSE].

◇ *Comet C/1956 R1 (Arend-Roland)* ⟹ 1957 Apr. 21.80: w/ 6×30 B, m_2 = 2.7 [KUK03]. Apr. 22.71: w/ 7-cm R (15×), m_2 = 3.2 [LAZ]. Apr. 22.80: w/ 7×50 B, m_2 = 3.3 [VSE]. Apr. 23.62: existence of two pseudo-anomalous tails is noticeable [ROS03]. Apr. 23.80: w/ 7×50 B, m_2 = 3.3 [VSE]. Apr. 24.67: pseudo-anomalous tail 2° long [AST]. Apr. 25.66: the head is star-like w/ two 'covers' [hoods?]; gaseous tail of 'fluid' structure; bright pseudo-anomalous tail 4° long [BAK02]. Apr. 25.67: two 'covers' [haloes?] around the head; bright gas tail 10° long; considerably distorted dust tail 4° long [BAK02]. Apr. 25.68: w/ 6×30 B, m_2 = 3.5 [KUK03]. Apr. 25.75: halo w/ dia. 1°; pseudo-anomalous tail 6° long [AST]. Apr. 25.80: w/ 6×30 B, m_2 = 4.5 [YAN01]. Apr. 26.65: w/ 6×30 B, m_2 = 4.0 [KUK03]. Apr. 26.70: pseudo-anomalous tail 4° long [SCH15]. Apr. 27.68: m_2 = 4.3 [YAN01]. Apr. 28.65: cone-shaped effusion from the nucleus into the middle of the tail [BAK02]. Apr. 28.66: w/ 6×30 B, m_2 = 4.2 [KUK03]. Apr. 28.69: w/ 6×30 B, m_2 = 4.1 [KUK03]. Apr. 28.82: m_2 = 4.0 [YAN01]. Apr. 29.65: w/ 6×30 B, m_2 = 4.3 [KUK03]. Apr. 29.84: m_2 = 4.8 [YAN01].

May 1.71: greater exposure of the tail; sharp effusion from the nucleus into the tail [BAK02]. May 2.69: w/ 17-cm $f/4.7$ A, the nucleus is surrounded by a broad parabolic 'cover' [hood?]; solid, nearly-straight ray diverges from the nucleus; faint illumination in the shape of fan is observed in the 'left' part of the inner coma; 'covers' are observed in outer coma; straight, narrow gas tail; dust tail diverges to the W, and is separated from the gaseous tail by a transparent space [TEI]. May 2.83: m_2 = 4.6 [YAN01]. May 3.68 and 4.68: division into 'covers' [hoods?] is feebly marked; the nucleus is surrounded by round halo; two tails are noticeable, each of which has greater cond. on rims [TEI]. May 4.68 and 5.68: division into 'covers' [hoods?] is not observed; outer contour of the head is parabolic; bright, broad, but short

ray diverges from the head into the "conus-like" tail, creating the impression that the inner part of the head and the tail are surrounded on the outside by the parabolic 'cover' [TEI].

◇ *Comet C/1957 P1 (Mrkos)* ⟹ 1957 Aug. 7.02: w/ 15-cm R (40×), the nucleus is bright yellow, lengthened in 'horizontal' direction; the tail bends to the E; the head and the tail have reddish tint [VSE]. Aug. 8.86: bent tail 1°.5 long [STR02]. Aug. 9.82: w/ 15-cm R (100×), the nucleus is lengthened ⊥ to the axis of the tail; distinct parabolic contours of the head; the tail has reddish tint [VSE]. Aug. 11.84: the division of the comet's tail is noticeable on the plates, being divided into one bright, straight tail 1° long, and a faint, bent tail 5° long [TEI]. Aug. 12.81: the comet has tails of two types (bright, short tail, which stretches along the prolonged radius vector, and a long bent one of 3°.5) [TEI]. Aug. 13.83: gas tail 4°.5 long and a bent dust tail 6° long; gas tail stretches along the tangent to the dust tail, the full synchrones are seen, adjacent to the dust tail [TEI]. Aug. 13.83: head and the middle of the tail are bright [STR02]. Aug. 14.75: w/ 25-cm *f*/19 R (120×), the nucleus is bright, and has yellow tint w/ slight effusions towards the sun; the head is parabolic, and there is a dark space along the axis of the tail [VSE]. Aug. 23.83: straight tail 4° long, bent tail 3°.5 long [STR02]. Aug. 25.83: both tails are observed visually and on the photo; the length of the straight tail is 5°, while that of the bent one is 3°.5 [STR02]. Aug. 27.83: the length of the straight tail is 3°, while that of the bent tail one is 2° [STR02]. Aug. 28.79: dia. of inner coma is 40″ [VSE]. Sept. 8.74: w/ 15-cm R (160×), bright nucleus m_2 = 8.5; possible tail [VSE].

◇ *Comet C/1957 U1 (Latyshev-Wild-Burnham)* ⟹ 1957 Oct. 20.86: central cond. of dia. 15″ [LAT].

◇ *Comet C/1959 Q1 (Alcock)* ⟹ 1959 Sept. 1.67: w/ 25-cm R (100×), asymmetric coma [SHA08].

◇ *Comet C/1959 Q2 (Alcock)* ⟹ 1959 Sept. 3.02: w/ 20×80 B, central cond. of dia. 1′.3 [SAV04].

◇ *Comet C/1995 O1 (Hale-Bopp)* ⟹ 1997 July 19.80: viewed through cloud [SEA01]. July 21.80, and 1998 Mar. 6.42, 10.40, and 11.39: moonlight [SEA01]. July 31.78: fan 25′ long in p.a. 240° [SEA01]. Oct. 1.43: two comp. stars at nearly the same alt. as comet [SCH12]. 1998 Jan. 27.56: GUIDE ver. 6 used for comparison stars; observed from West Australia [TSU02]. Feb. 12.56: strong moonlight [SEA01]. Feb. 14.27: w/ 25.6-cm *f*/5 L (169×), rather bright central cond. of mag 12.1 (ref. HS and Tycho); main jets seen in p.a. 345°, 35°, 100° [BIV]. Feb. 15.27: w/ 25.6-cm *f*/5 L (169×), central cond. of mag 12.4 [BIV]. Feb. 16.50 and 17.50: tail becoming broader and fainter [MAT08]. Feb. 19.42: close to star of mag 8 [SEA01]. Feb. 27.03: obs. from San Rafael del Mojan, Zulia, Venezuela [BOU]. Mar. 2.26: w/ 25.6-cm *f*/5 L (169×), central cond. of mag 13.1 [BIV]. Mar. 2.50: tail fan spans ∼ 50°, in p.a. ≈ 40°-90° [MAT08]. Mar. 3.01: obs. from Observatorio de los Andes (CIDA) near San Rafael, Merida, Venezuela (elevation 3600 m); some moonlight [BOU]. Mar. 16.46 and 19.46: tail fan spans ≈ 40° [MAT08]. Mar. 20.25: w/ 25.6-cm *f*/5 L (169×), brighter central cond. of mag 12.5 (mag 13.2 on Mar. 18.25); main jet in p.a. 20° [BIV]. Mar. 26.58: obs. done through holes in fast-moving cloud; no tail seen on either night, but coma seemed slightly elongated in E-W direction [FAR01].

◇ *Comet C/1996 P2 (Russell-Watson)* ⟹ 1998 Feb. 2.16: another measure (from another CCD frame) m_1 = 20.8 [SCO01].

◇ *Comet C/1997 D1 (Mueller)* ⟹ 1998 Feb. 28.11: central cond. of mag 16.5 and dia. ≈ 2″; tail faint and diffuse w/o apparent substructure [ROQ].

◇ *Comet C/1997 T1 (Utsunomiya)* ⟹ 1998 Mar. 27.16: photometry obtained w/ 36-cm *f*/6.7 T + *V* filter + CCD [MIK].

◇ *Comet 21P/Giacobini-Zinner* ⟹ 1998 Feb. 28.53: very slightly diffuse; nearly stellar; other CCD frames yielded m_1 = 20.6 and 20.8 [SCO01].

◇ *Comet 29P/Schwassmann-Wachmann 1* ⟹ 1998 Jan. 28.82: small, condensed coma easily visible [PEA]. Jan. 29.82: small, condensed coma easily visible — slightly larger than last night [PEA]. Feb. 4.199: w/ 57-cm *f*/5.2 reflector + CCD, m_1 = 13.6, coma dia. 1′.2 [Milos Tichý and Zdenek Moravec, Kleť Observatory, Czech Republic]. Feb. 22.60: suspected obs., but at limit of instrument [MAT08]. Feb. 28.51: other CCD frames yielded m_2 = 20.3 and 19.9 [SCO01]. Mar. 15.58: w/ 25-cm *f*/6.0 reflector + CCD, m_1 = 13.7 (another outburst); comet is quite stellar but slightly diffuse [T. Kojima, YGCO Chiyoda Station, Japan]. Mar. 16.63: w/ 25-cm *f*/6.0 reflector + CCD, m_1 = 13.8; very strong central cond. and somewhat diffuse; visual m_1 = 12 [T. Kojima, YGCO Chiyoda Station, Japan].

◇ *Comet 43P/Wolf-Harrington* ⟹ 1998 Feb. 17.53: still quite easy to see [MAT08]. Mar. 19.18: central cond. of dia. ≈ 2″ and mag 16.1; coma asymmetrical toward p.a. 64°, merging into a short, diffuse tail [ROQ].

◇ *Comet 55P/Tempel-Tuttle* ⟹ 1997 Dec. 31.66, 1998 Jan. 6.85, 16.48, and Feb. 17.45: GUIDE ver. 6 software used for comparison stars [TSU02]. 1998 Jan. 21.77: comet only marginally visible due to presence of altostratus clouds; a bright flash from an Iridium satellite seen at Jan. 21.747 (max. mag ∼ −6) [GRA04]. Jan. 23.84: comet was a low-surface-brightness object w/ almost no cond.; at Jan. 23.83, it was located w/in a ring of stars of mag 8-10 [GRA04]. Jan. 24.42 and Mar. 1.44: GUIDE ver. 6 software used for comparison stars [YOS02]. Jan. 24.77-24.78: comet large and ill-defined, appearing somewhat larger and brighter than NGC 205 (M110); partly cloudy but good conditions in direction of 55P; also made a negative attempt to observe 103P [GRA04]. Jan. 25.78: comet's surface brightness comparable to M33, although the latter object was much larger; favorable conditions [GRA04]. Jan. 30.79: surface brightness of comet was slightly weaker (∼ 0.3 mag) than the central part of M33; w/ 10×50 B, the comet and M33 were visible in same field [GRA04]. Feb. 1.13: comet much more condensed than it was two weeks ago [CRE01]. Feb. 3.107: coma badly saturated

in CCD image [SCO01]. Feb. 3.77: comet only seen w/ difficulty due to the presence of the first-quarter Moon; M33 only slightly better visible; a bright reflection (max. mag ~ -5) from an Iridium satellite was accidently seen at Feb. 3.785 [GRA04]. Feb. 4.76: comet easily seen despite strong moonlight [OKS]. Feb. 5.80: photometry obtained w/ 20-cm $f/2$ Baker-Schmidt camera + V filter + ST-6 CCD [MIK]. Feb. 6.13: central cond. of dia. $\approx 3''$ and mag 13.3; R, V, and B imaging showed the coma to be somewhat asymmetrical toward p.a. 70°, but w/o any substructure or indication of initial tail formation [ROQ]. Feb. 6.83: comet easily visible in spite of moonlight [PER01]. Feb. 11.77: photometry obtained w/ 36-cm $f/6.7$ T + V filter + CCD; moonlight [MIK]. Feb. 12.77: obs. after end of twilight and w/ the Moon (1.38 days past full) still low in the E sky; comet only seen w/ difficulty, but obs. location agreed w/ ephemeris position; alt. of comet 33° [GRA04]. Feb. 16.77: comet considerably smaller and more condensed than 2-4 weeks ago; its coma was ill-defined and w/ a surface brightness comparable to M33; alt. of comet 28°; attempt to observe 103P was unsuccessful despite a quite dark sky in that direction [GRA04]. Feb. 17.76: strong, cold wind; comet well condensed [OKS]. Feb. 18.80: well-condensed, well-defined object w/ bright inner coma; at 161×, false nucleus of mag $\sim$ 13.5 glimpsed [KAM01]. Feb. 18.83: photometry obtained with 19-cm $f/4$ T + V filter + CCD shows trace of tail $\sim 15'$ long in p.a. 65° [MIK]. Feb. 20.76: bigger w/ Lumicon SB-Filter [MEY]. Feb. 21.41: referred to compressed data at Kyoto Univ. [TOS04]. Feb. 21.85: zodiacal light; comet strongly condensed; similar m_1 w/ VSS method [PER01]. Feb. 22.42: `HOC2.exe` software used for comparison stars (see Jan. 20.43 note for 55P in *ICQ* **20**, 12) [NAG08]. Feb. 22.84: zodiacal light [VIT01]. Feb. 22.84: comet more condensed, but clearly fainter than on previous evening (perhaps due to average sky conditions tonight, as compared to excellent transparency 24 hr ago) [PER01]. Feb. 23.42: very difficult at low alt. [SEA]. Feb. 23.82: comet only barely visible due to high clouds and low alt. (14°) [GRA04]. Feb. 24.42: enhanced using Swan Band filter; very low alt. [SEA]. Feb. 24.84: zodiacal light; similar m_1 w/ method M [PER01]. Feb. 25.78: coma appeared more compact than before and moderately condensed; it was apparently somewhat smaller and paler than M1; sky somewhat illuminated by zodiacal light and lights from Oslo; alt. 20° [GRA04]. Feb. 25.85: zodiacal light [PER01]. Feb. 26.79: quite low (alt. 17°); comet faint but clearly seen; also attempted to observe 103P (possibly glimpsed) [GRA04]. Feb. 26.84: zodiacal light; similar m_1 w/ method M [PER01]. Feb. 27.83: brightness enhanced and dia. double ($8'$) using Swan-band filter [MAR02]. Feb. 28.78: comet was faint but clearly visible; alt. 16° [GRA04]. Feb. 28.83: moonlight; $m_1 = 9.1 \pm 0.2$ w/ VSS method; $m_1 = 9.5$ w/ method E [PER01]. Feb. 28.83: moonlight; w/ VSS method, $m_1 = 9.2$ [VIT01]. Mar. 1.79: "this moderately condensed comet was faint but seen w/ certainty; nearby 3-day-old Moon did not interfere much; alt. 15° [GRA04]. Mar. 16.24 and 18.24: comet rather low (5° alt.) and difficult to see [BIV].

◇ *Comet 62P/Tsuchinshan 1* $\Longrightarrow$ 1998 Feb. 19.11: central cond. of mag 17.8; coma was generally symmetrical, but very faint and irregularly defined [ROQ].

◇ *Comet 69P/Taylor* $\Longrightarrow$ 1998 Feb. 14.83: surprisingly easy object in 20-cm T, even at 50×; strongly-condensed coma w/ a very pronounced central cond. and a weak outer coma [KAM01]. Feb. 18.85: comet less condensed than four nights before — central cond. not as conspicuous, but outer coma much easier and larger [KAM01]. Feb. 20.81: comet close to 11th-mag star [MEY]. Feb. 21.79: no enhancement w/ a Lumicon Swan Band Filter [MEY]. Feb. 22.10: comet obviously much brighter than on Jan. 22; comparison star labled 'S' in ref. CA was discarded in reduction, as it yielded an inconsistent result against all other estimates using a wide range in the sequence (this probably was due to 'S' being closer to some of the bright stars in the cluster, than it was to the other comp. stars used; reduction using 'S' would yield $m_1 = 11.1$ w/ a large ± 0.4 uncertainity) [PER01]. Feb. 22.58: considerably fainter than last estimate on Feb. 17 [MAT08]. Feb. 23.99: coma could be as large as $3'$ [PER01]. Mar. 1.51: GUIDE ver. 6 software used for comparison stars [YOS02]. Mar. 1.99: quite diffuse but with lighter center, round; very thin cirrostratus at comet's location [WAR01].

◇ *Comet 78P/Gehrels 2* $\Longrightarrow$ 1998 Feb. 2.15: central cond. of dia. $\approx 2''$ and mag 15.7; coma appeared asymmetrical toward p.a. 68° [ROQ]. Feb. 17.51: suspected obs., but at limit of instrument [MAT08]. Mar. 1.12: central cond. of mag 16.1 and dia. $\approx 2''$; coma was asymmetrical toward p.a. 66°, but w/ no precursor to an associated tail [ROQ]. Mar. 20.15: central cond. of mag 17.9 and dia. $\approx 2''$; coma very faint and irregularly formed; also, there may be a hint of a short, faint, fan-shaped tail centered at p.a. 64° [ROQ].

◇ *Comet 103P/Hartley 2* $\Longrightarrow$ 1997 Dec. 18.41, 24.41, and 1998 Jan. 27.55: GUIDE ver. 6 software used for comparison stars [TSU02]. 1998 Feb. 2.42: moonlight interfering [SEA01]. Feb. 4.74: strong moonlight, difficult obs. [OKS]. Feb. 17.75: strong, cold wind; diffuse coma [OKS]. Feb. 18.82: diffuse object, condensed towards center; at 161×, no false nucleus brighter than mag 13.5 [KAM01]. Feb. 20.77: slight enhancement w/ Lumicon SB-Filter [MEY]. Feb. 21.44: referred to compressed comparison-star data at Kyoto Univ. [YOS04]. Feb. 22.46: excellent observing conditions; comet considerably fainter than last month [MAT08]. Feb. 24.83 and 25.85: coma edges ill-defined [PER01]. Feb. 26.85: coma edges extremely ill-defined [PER01]. Feb. 27.85: brightness enhanced using Swan-Band filter [MAR02]. Feb. 28.79: comet only barely visible and not seen at 24×; mag uncertain, as the comparison star was 1 mag brighter than comet; favorable conditions; alt. 31° [GRA04]. Mar. 1.47: GUIDE ver. 6 software used for comparison stars [YOS02]. Mar. 1.78: very faint, but seen at the correct position; coma appeared extended w/ little cond.; alt. 30° [GRA04]. Mar. 1.85: diffuse, round; low alt. [WAR01]. Mar. 3.11: central cond. of mag 14.1 and dia. $\approx 2''$; coma asymmetrical toward p.a. 25° (the point that indicated the origin of a short tail as recorded in the R image) [ROQ]. Mar. 10.11: central cond. of mag 15.3 and dia. $\approx 3''$; coma somewhat asymmetrical toward a very faint, diffuse, and poorly-defined tail visible in the R image [ROQ]. Mar. 19.11: central cond. of mag 15.8 and dia. $\approx 3''$; coma asymmetrical toward p.a. 93°; the tail appeared very faint and diffuse [ROQ].

◇ *Comet 111P/Helin-Roman-Crockett* $\Longrightarrow$ 1998 Feb. 28.49: appearance essentially stellar [SCO01].

◇ *Comet 118P/Shoemaker-Levy 4* $\Longrightarrow$ 1998 Feb. 2.55: another measure (from another CCD frame) $m_1 = 20.3$ [SCO01]. Feb. 26.54: other CCD frames yielded $m_1 = 20.4$ and 20.6 [SCO01].

◇ *Comet 129P/Shoemaker-Levy 3* ⟹ 1998 Jan. 31.68: comet very faint, but observed at mag 14.6 visually, using nine USNO A1.0 stars for comparison (*not* recommended for comet photometry by the *ICQ*!); B and R magnitudes from the catalogue were converted to V magnitudes from the formula $V = R + 0.375(B–R)$ [YOS04].

◇ *Comet 134P/Kowal-Vávrová* ⟹ 1998 Feb. 24.33: another CCD frame yielded $m_1 = 19.3$ [SCO01].

◇ *Comet P/1997 BA$_6$ (Spacewatch)* ⟹ 1998 Feb. 3.938: w/ 57-cm f/5.2 reflector + CCD, $m_1 = 17.0$, coma dia. 11″; no tail [Milos Tichý and Zdenek Moravec, Kleť Observatory, Czech Republic].

◇ *Comet P/1997 C1 (Gehrels)* ⟹ 1998 Feb. 2.54: another measure (from another CCD frame) $m_1 = 22.6$ [SCO01].

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TABULATED DATA

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].

"MM" = the method employed for estimating the total (visual) magnitude; see article on page 186 of the Oct. 1996 issue [B = VBM method, M = Morris method, S = VSS or In-Out method, I = in-focus, C = unfiltered CCD, c = same as 'C', but for 'nuclear' magnitudes, V = electronic observations — usually CCD — with Johnson V filter, *etc.*]. "MAG." = total (visual) magnitude estimate; a colon indicates that the observation is only approximate, due to bad weather conditions, *etc.*; a left bracket ([) indicates that the comet was not seen, with an estimated limiting magnitude given (if the comet IS seen, and it is simply estimated to be fainter than a certain magnitude, a "greater-than" sign (>) must be used, not a bracket). "RF" = reference for total magnitude estimates (see pages 98-100 of the October 1992 issue, and Appendix C of the *ICQ Guide to Observing Comets*, for all of the 1- and 2-letter codes). "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).

"COMA" = estimated coma diameter in minutes of arc; an ampersand (&) indicates an approximate estimate; an exclamation mark (!) precedes a coma diameter when the comet was not seen (*i.e.*, was too faint) and where a limiting magnitude estimate is provided based on an "assumed" coma diameter (a default size of 1′ or 30″ is recommended; cf. *ICQ* **9**, 100); a plus mark (+) precedes a coma diameter when a diaphragm was used electronically, thereby specifying the diaphragm size (i.e., the coma is almost always larger than such a specified diaphragm size). "DC" = degree of condensation on a scale where 9 = stellar and 0 = diffuse (preceded by lower- and upper-case letters S and D to indicate the presence of stellar and disklike central condensations; cf. July 1995 issue, p. 90); a slash (/) indicates a value midway between the given number and the next-higher integer. "TAIL" = estimated tail length in degrees, to 0.01 degree if appropriate; again, an ampersand indicates a rough estimate. Lower-case letters between the tail length and the p.a. indicate that the tail was measured in arcmin ("m") or arcsec ("s"), *in which cases the decimal point is shifted one column to the right.* "PA" = estimated measured position angle of the tail to nearest whole integer in degrees (north = 0°, east = 90°). "OBS" = the observer who made the observation (given as a 3-letter, 2-digit code).

A complete list of the Keys to abbrevations used in the *ICQ* is available from the Editor for $4.00 postpaid (available free of charge via e-mail); these Keys are also now available in the new *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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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 Assn.; 16 = Japanese observers (c/o Akimasa Nakamura, Kuma, Japan); 23 = Czech group (c/o P. Pravec and V. Znojil); 32 = Hungarian group (c/o K. Sarneczky); 37 = Ukrainian Comet Section (c/o A. R. Baransky and K. I. Churyumov); 42 = Belarus observers, c/o V. S. Nevski, Vitebsk; 47 = Archives of Ukrainian Comet Section (c/o A. R. Baransky); etc.]. Those with asterisks (*) preceding the 5-character code are new additions to the Observer Key:*

* **ABR** (47) M. N. Abramova, Crimea-Simeis, Ukraine
* **AST** (47) I. S. Astapovich, Ashhabat Obs., Turkmen
* **BAK02** (47) A. M. Bakcharev, Dushanbe Obs., Tadzhik
* **BAR09** (47) M. P. Barabashov, Astronomical Obs., Kharkov/Kharkiv Univ., Ukraine
BEA (07) Sally Beaumont, Cumbria, England
* **BEL06** (47) I. V. Belkovitch, Engelhardt Observatory, Kasan, Russia
* **BIL01** (47) A. Bilyi, Astronomical Obs., Kyiv/Kiev University, Ukraine
BIV Nicolas Biver, France
* **BOH01** (47) O. F. Bohorodsky, Astronomical Obs., Kyiv/Kyiv/Kiev University, Ukraine
* **BOR06** (47) O. M. Borbat, Astronomical Obs., Kyiv/Kiev University, Ukraine
BOU Reinder J. Bouma, The Netherlands
* **BRA04** (47) M. V. Bratiichuk, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **BRO07** (47) N. M. Bronikova, Pulkovo Obs., Russia
BUS01 (11) E. P. Bus, The Netherlands
* **CHE05** (47) V. Chernov, Zaporizhia, Ukraine
* **CHE06** (47) N. S. Chernych, Crimean-Nauchnij, Ukraine
* **CHU05** (47) N. I. Chudovitchev Engelhardt Observatory, Kasan, Russia
CRE01 Phillip J. Creed, OH, U.S.A.
CSU (32) Mátyás Csukás, Salonta, Romania
* **DAN02** (47) L. I. Danylenko, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **DEI** (47) A. N. Deich, Pulkovo Obs., Russia
DES01 Jose Guilherme de Souza Aguiar, Brazil
* **DRO** (47) S. V. Drozdov, Astronomical Obs., Kharkov/Kharkiv University, Ukraine
* **DUB** (47) A. D. Dubiago, Engelhardt Observatory, Kasan, Russia
* **DYB** (47) E. Dybai, Engelhardt Observatory, Kasan, Russia
* **ERA** (47) L. K. Erastova, Byurakan Obs., Armenia
FAR01 Fraser Farrell, Christies Beach, South Australia
* **FEL01** (47) F. N. Felitsyn, Astronomical Obs., Kyiv/Kiev University, Ukraine
GON05 Juan Jose Gonzalez, Asturias, Spain
GRA04 (24) Bjoern Haakon Granslo, Norway
* **GRA08** (47) L. Grabovski, Astronomical Obs., Lvov/Lviv Politechnik Inst., Ukraine
* **GUL02** (47) Y. K. Gulak, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **GUR01** (47) E. A. Gurtovenko, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **GUS** (47) I. I. Gusev, Russia
HAS02 Werner Hasubick, Germany
* **HAV01** (47) A. A. Havlovska, Astronomical Obs., Kyiv/Kyiv/Kiev University, Ukraine
HOR02 (23) Kamil Hornoch, Czechoslovakia
* **KAD** (47) B. N. Kadomskyi, Engelhardt Observatory, Kasan, Russia
* **KAD01** (47) M. Kh. Kadyrov, Ashhabad Astrophisical Laboratory, Turkmen
KAM01 Andreas Kammerer, Ettlingen, Germany
* **KAV** (47) A. A. Kaverin, Astronomical Obs., Irkutsk University, Russia
* **KHA02** (47) Khavtasi, Abastuman Astrophysial Obs., Georgia
* **KHA03** (47) E. K. Kharadze, Abastuman Astrophysial Obs., Georgia
* **KHA04** (47) Sh. T. Khabibulin, Engelhardt Observatory, Kasan, Russia
* **KLE02** (47) V. Klevetskyi, Riga, Latvia
* **KOC04** (47) T. A. Kochlashvili, Abastuman Astrophysial Obs., Georgia
* **KOL06** (47) Kolychev, Engelhardt Observatory, Kasan, Russia
* **KON08** (47) V. P. Konopl'ova, Astronomical Obs., Kyiv/Kiev University, Ukraine
KOS Attila Kósa-Kiss, Salonta, Romania
* **KOZ01** (47) S. M. Kozik, Tashkent Astronomical Institute, Uzbek
KUJ (23) Josef Kujal, Hradec Kralove, Czech Republic
* **KUK02** (47) B. V. Kukarkin, Moskow Obs., Russia
* **KUK03** (47) G. Kuklin, Astronomical Obs., Irkutsk University, Russia
* **KUL** (47) P. G. Kulikovkii, Sverdlovsk, Sternberg Institute, Russia
* **KUP** (47) I. D. Kupo, Astronomical Obs., Irkutsk University, Russia
KYS (23) J. Kysely, Czech Republic
* **LAB01** (47) I. S. Laba, Astronomical Obs., Lvov/Lviv University, Ukraine
* **LAN04** (47) G. A. Lange, Astronomical Obs., Odesa University, Ukraine
* **LAS01** (47) N. A. Lass-Tchudovitcheva, Engelhardt Observatory, Kasan, Russia
* **LAT** (47) I. N. Latyshev, Ashhabat, Turkmen
* **LAV01** (47) V. Lavdowsky, Tashkent Obs., Uzbek
* **LAZ** (47) V. S. Lazarevskii, Russia
MAR02 (13) Jose Carvajal Martinez, Spain
* **MAR23** (47) D. J. Martynoff, Engelhardt Observatory, Kasan, Russia

MAT08 Michael Mattiazzo, Wallaroo, S. Australia
* **MAT09** (47) V. S. Matyagin, Alma-Ata Astrophysical Institute, Kazach
* **MER03** (47) J. Mergentaler, Astronomical Obs., Lvov/Lviv University, Ukraine
MEY (28) Maik Meyer, Germany
MIK Herman Mikuz, Slovenia
MOE Michael Moeller, Germany
* **MOS04** (42) Yan Moskalevich, Vitebsk, Belarus
NAB (47) M. E. Nabokov, Shatsk, Riazan, Russia
NAG02 (16) Takashi Nagata, Akashi, Hyogo, Japan
NAG08 (16) Yoshimi Nagai, Matsumoto, Nagano, Japan
NAK01 (16) Akimasa Nakamura, Kuma, Ehime, Japan
* **NAZ** (47) G. K. Nazarchuk, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **NEU02** (47) G. N. Neujmin, Crimea-Simeis, Ukraine
NEV (42) Vitali S. Nevski, Vitebsk, Belarus
* **NIK01** (47) G. M. Nikol'skyi, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **NIK02** (47) A. Nikitin, Dushanbe Obs., Tadzhik
* **NOV** (47) B. V. Novopashenyi, Astronomical Obs., Odesa University, Ukraine
OKS (07) Gabriel Oksa, Trnava, Slovak Republic
* **ONO01** (47) M. M. Onoprienko, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **PAR05** (47) S. N. Parshin, Russia
PEA Andrew R. Pearce, Australia
PER01 Alfredo Jose Serra Pereira, Portugal
PLS (23) Martin Plšek, Czech Republic
* **POG** (47) Pogorilyi, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **POK** (47) K. D. Pokrowsky, Odesa Astronomical Obs., Ukraine
* **PRO** (47) E. M. Proskurina, Ashhabad Astrophisical Laboratory, Turkmen
* **RAZ** (47) N. Razmadze, Abastumani Astrophysial Obs., Georgia
RES (18) Maciej Reszelski, Szamotuly, Poland
* **RIJ** (47) V. G. Rijves, Tartu Astronomical Obs., Estonia
ROM (42) Aleksandr M. Romancev, Pinsk, Belarus
ROQ Paul Roques, AZ, U.S.A.
* **ROS03** (47) D. A. Roshkovskiy, Alma-Ata Astrophysical Institute Obs., Kazach
* **RUD02** (47) M. O. Rudskyi, Astronomical Obs., Kyiv/Kiev Pedagogical Institute, Ukraine
SAN04 (38) Juan Manuel San Juan, Madrid, Spain
* **SAN10** (47) Ye. V. Sandakova, Astronomical Obs., Kyiv/Kiev University, Ukraine
SAR02 (32) Krisztián Sárneczky, Budapest, Hungary
* **SAV04** (47) P. P. Savrukhin, Ashhabat Obs., Turkmen
SCH04 (11) Alex H. Scholten, The Netherlands
SCH12 Richard W. Schmude, Jr., TX, U.S.A.
* **SCH15** (47) D. Schegoliev, Irkutsk, Russia
SCO01 James V. Scotti, AZ, U.S.A.
SEA David A. J. Seargent, Australia
SEA01 John Seach, Australia
* **SER01** (47) A. N. Sergeeva, Astronomical Obs., Kyiv/Kiev University, Ukraine
SHA02 (07) Jonathan D. Shanklin, Cambridge, England
* **SHA08** (47) A. S. Sharov, Crimea-Nauchnij, Ukraine
SHI04 (37) Sergiy Shilov, Ukraine
SHU (42) Sergey E. Shurpakov, Baran, Belarus
* **SKL** (47) Skliarov, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **SOL01** (47) A. V. Soloviev, Dushanbe Obs., Tadzhik
SPR Christopher E. Spratt, BC, Canada
* **STE13** (47) N. V. Steshenko, Astronomical Obs., Kyiv/Kiev University, Ukraine
* **STR02** (47) V. Straizhys Vilnius, Lithuania
SVE (23) Milan Švehla, Stary Hroznatov, Czech Republic
* **TEI** (47) V. G. Teifel, Alma-Ata, Kazach
* **TEV** (47) G. A. Tevzadze, Abastumani Astrophysial Obs., Georgia
* **TIK** (47) G. A. Tikhov, Pulkovo Obs., Russia
* **TOR01** (47) A. F. Toronadze, Abastumani Astrophysial Obs., Georgia
* **TSE** (47) V. P. Tsesevych, Astronomical Obs., Odessa University, Ukraine
TSU02 (16) Mitsunori Tsumura, Wakayama, Japan
* **USM** (47) F. K. Usmanova, Engelhardt Observatory, Kasan, Russia
* **VAS04** (47) Vasiljev, Russia
* **VEP** (47) I. M. Veprynska, Astronomical Obs., Kyiv/Kiev University, Ukraine
VIT01 (40) Catarina Vitorino, Portugal
* **VOD** (47) T. V. Vodopyanova, Astronomical Obs., Kyiv/Kiev University, Ukraine

* **VOR01** (47) K. A. Voroshiloff, Moskow Obs., Russia
* **VOR02** (47) B. A. Vorontsov-Velyaminov, Moskow Obs., Russia
* **VSE** (47) S. K. Vsekhsvyatskij, Astronomical Obs., Kiev University, Ukraine
WAR01 Johan Warell, Sweden
* **YAK** (47) A. A. Yakovkin, Astronomical Obs., Kiev University, Ukraine
* **YAK01** (47) M. A. Yakovkin, Astronomical Obs., Kiev University, Ukraine
* **YAN01** (47) S. I. Yanuchovich, Russia
* **YEL** (47) L. G. Yeliseeva, Russia
YOS02 (16) Katsumi Yoshimoto, Hirao, Yamaguchi, Japan
YOS04 (16) Seiichi Yoshida, Ibaraki, Japan
* **ZAI01** (47) L. Zaidler, Astronomical Obs., Lvov/Lviv University, Ukraine
* **ZAT** (47) G. O. Zateinikov, Moskow Obs., Russia
* **ZEM** (47) Ye. M. Zemanek, Astronomical Obs., Kiev University, Ukraine
* **ZHD** (47) I. G. Zhdanova, Abastumani Astrophysial Obs., Georgia
ZNO (23) Vladimír Znojil, Czech Republic

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Comet C/1940 R2 (Cunningham)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1940 09 29.7		P	10.4:	BD	12	A							VOR01
1940 10 31.7		P	10.0:	BD	12	A							KUL
1940 11 01.7		P	10.2:	BD	12	A							ZAT
1940 11 19.70		P	7.5	BD	20	A							NEU02
1940 11 20.71		P	7.6	BD	20	A							ABR
1940 11 22.73		B	7.4	BD	8	R		20					VSE
1940 11 22.8		B	7.9	BD	15	R		40					RUD02
1940 11 22.87		P	8.0	BD	14	A	2		5	2			GRA08
1940 11 25.66		B	7.1	HD	4.0	B		6					CHE05
1940 11 27.75		B	7.4	BD	8	R		20					VSE
1940 11 27.82		P	7.5	BD	14	A	2		7	4			GRA08
1940 11 28.63		B	6.9	HD	4.0	B		6					CHE05
1940 11 28.63		P	7.5:		25	R							POK
1940 11 28.66		B	6.8	HD	4.0	B		6					CHE05
1940 12 02.69		P	8.0:	BD	14	A	2		8		0.2	60	ZAI01
1940 12 02.82		P	7.0	BD	14	A	2			6			GRA08
1940 12 07.75		B	6.3	BD	8	R		20					VSE
1940 12 07.76		B	6.2	BD	4.0	B	6	6					FEL01
1940 12 09.72		B	6.1	BD	4.0	B	6	6		5			VSE
1940 12 11.77		P	6.5:	BD	14	A	2						GRA08
1940 12 16.58		B	4.9	HD	4.0	B		6					CHE05
1940 12 16.65		B	5.6	BD	4.0	B		6		5			VSE
1940 12 16.70		P	6.0:	BD	14	A	2		12			40	ZAI01
1940 12 17.65		B	5.5	BD	4.0	B		6					VSE
1940 12 18.70		P	5.0:	BD	14	A	2				1	35	MER03
1940 12 20.56		B	5.0	HD	4.0	B		6		6	0.25		CHE05
1940 12 20.69		P	5.0:	BD	14	A	2				1.2	35	MER03
1940 12 21.51		B	5.0	HD	4.0	B		6			0.25		CHE05
1940 12 24.51		B	4.6	HD	4.0	B		6					CHE05
1940 12 24.72		B	4.4	BD	4.0	B		6					VSE
1940 12 25.57		B	4.6	HD	4.0	B		6		6			CHE05
1940 12 26.57		B	4.5	HD	4.0	B		6	13		0.5		CHE05
1940 12 29.51		B	4.5	HD	4.0	B		6					CHE05
1940 12 29.67		B	3.5	BD	4.0	B		6					VSE
1941 01 03.58					4.0	B		6			0.5		CHE05
1941 01 03.58		B	3.8	HD	0.0	E		1					CHE05

Comet C/1941 B2 (de Kock-Paraskevopoulos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1941 02 12.70		P	4.0:	BD	16	A				6	1		NEU02
1941 02 16.70		P	4.3:	BD	16	A				6	1		NEU02
1941 02 20.60		B	5.7	BD	3.5	B		6		4	2		CHE05
1941 02 20.63		B	5.9	BD	3.5	B		6		5	2		CHE05
1941 02 23.61		B	6.1:	BD	3.5	B		6		4	1.5		CHE05
1941 02 25.64		B	6.3	BD	3.5	B		6		5	1		CHE05
1941 02 27.68	&	B	6.1	BD	3.5	B		6		6	&1		CHE05
1941 02 28.64	&	B	6.5	BD	3.5	B		6		5			CHE05

Comet C/1941 B2 (de Kock-Paraskevopoulos) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1941 03 01.59		B	6.5	BD	3.5	B		6		4			CHE05
1941 03 01.59		S[	7.3:	BD	3.5	B		6		4			CHE05
1941 03 16.63		B	7.5	BD	7	R		30		3			CHE05

Comet C/1941 K1 (van Gent)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1941 06 24.75		B	8.7	BD	16.2	R		45					BAK02
1941 06 25.71		B	8.4	BD	15	R		62		4	2		BAK02
1941 06 25.75					8	R		20	5				NEU02
1941 06 26.70		B	8.4	BD	16.2	R		45		4	2.1		BAK02
1941 06 27.70		B	9.0	BD	15	R		62		4	2.7		BAK02
1941 06 28.72		B	8.9	BD	16.2	R		45		4	2.5		BAK02
1941 06 30.77		B	8.5	BD	16.2	R		45		4	&2		BAK02
1941 07 12.74		B	7.9	BD	16.2	R		45		5			BAK02
1941 07 13.73		B	7.3	BD	16.2	R		45		S6			BAK02
1941 07 14.71		B	7.2	BD	16.2	R		45		5			BAK02
1941 07 16.77		B	7.0	BD	16.2	R		45		5			BAK02
1941 07 17.75		B	7.3	HD	8	R		20	5				NEU02
1941 07 18.70		B	6.6	BD	16.2	R		45		4			BAK02
1941 07 19.69		B	6.9	BD	16.2	R		45		4			BAK02
1941 07 20.68		B	6.9	BD	16.2	R		45		3			BAK02
1941 07 21.68		B	6.9	BD	16.2	R		45		4	&0.5		BAK02
1941 07 22.68		B	6.8	BD	16.2	R		45		3	&0.5		BAK02
1941 07 23.68		B	6.3	BD	16.2	R		45		4			BAK02
1941 07 24.70		B	6.3	BD	16.2	R		45		3			BAK02
1941 08 15.67		B	7.0	BD	16.2	R		45		4			BAK02
1941 08 26.64		B	6.9	BD	16.2	R		45		3			BAK02
1941 08 29.70		B	6.8	HD	8	R		20					NEU02

Comet C/1942 X1 (Whipple-Fedtke-Tevzadze)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1942 12 15.8		P	8.0	HD	20.3	A	5						TEV
1942 12 28.80		B	7.0	BD	16.2	R		56					KHA04
1943 01 07.80		S	5.8	HD	0.0	E		1					KUK02
1943 01 07.80		S	5.8	HD	3.0	B		6					KUK02
1943 01 08.67		S	5.8	HD	0.0	E		1					KUK02
1943 01 09.67		S	5.7	HD	0.0	E		1					KUK02
1943 01 09.67		S	5.8	HD	3.0	B		6					KUK02
1943 01 12.67		B	6.0:	BD	16.2	R		56					BAK02
1943 01 12.72		S	5.5	HD	0.0	E		1	7				KUK02
1943 01 14.98		B	5.5	BD	16.2	R		56					BAK02
1943 01 15.00		S	5.2	HD	0.0	E		1					KUK02
1943 01 19.04		B	5.0	BD	16.2	R		56			1.5		BAK02
1943 01 25.67		S	3.9	HD	3.0	B		7	12				LAN04
1943 01 25.81		S	4.4	HD	0.0	E		1					KUK02
1943 01 26.65		B	4.2	BD	16.2	R		56					BAK02
1943 01 26.69		B	4.5	HD	0.0	E		1					SOL01
1943 01 27.63		B	4.3	BD	16.2	R		56		7	3.4		BAK02
1943 01 27.66		S	4.1	HD	0.0	E		1					KUK02
1943 01 27.66		S	4.2	HD	3.0	B		6					KUK02
1943 01 27.67		S	3.9	HD	5.0	B		7					LAN04
1943 01 27.75		B	4.5	HD	0.0	E		1					SOL01
1943 01 28.54		B	4.2	HD	0.0	E		1					AST
1943 01 28.54		B	6.0	HD	0.0	E		1					AST
1943 01 28.73		B	4.2	HD	0.0	E		1					VSE
1943 01 28.73		B	4.5	HD	4.0	B		6	9				VSE
1943 01 29.67		B	4.8	HD	0.0	E		1					SOL01
1943 01 29.68		S	4.2	HD	5.0	B		7					LAN04
1943 01 29.77		B	4.5	BD	16.2	R		56	10	6	3.5		BAK02
1943 01 29.97		S	4.2	HD	0.0	E		1					KUK02
1943 01 30.60		S	4.2	HD	0.0	E		1					KUK02
1943 01 30.65		B	4.7	HD	0.0	E		1					SOL01
1943 01 30.67		B	4.8	BD	16.2	R		56					BAK02

Comet C/1942 X1 (Whipple-Fedtke-Tevzadze) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1943 01 30.68		B	5.1	HD	3.0	B		6					VSE
1943 01 30.70		B	4.0		0.0	E		1					AST
1943 01 30.71		S	4.0	HD	5.0	B		7					LAN04
1943 01 30.75		B	4.3	HD	0.0	E		1					AST
1943 01 31.62		B	4.5	BD	16.2	R		56		6	3.5		BAK02
1943 01 31.63		S	4.2	HD	5.0	B		7					LAN04
1943 01 31.67		B	5.0	HD	0.0	E		1					SOL01
1943 01 31.69		S	4.6	HD	3.0	B		6					VSE
1943 02 01.71		B	4.6	HD	3.0	B		6					VSE
1943 02 01.71		S	4.4	HD	0.0	E		1	13				VSE
1943 02 03.10		B	4.5	BD	16.2	R		56					BAK02
1943 02 03.69		S	4.5	HD	5.0	B		7					LAN04
1943 02 03.72		S	4.5	HD	0.0	E		1					KUK02
1943 02 03.73		B	5.3	HD	0.0	E		1					SOL01
1943 02 03.79		B	5.0:	HD	0.0	E		1	20	6			MAR23
1943 02 03.82		B	5.1	HD	0.0	E		1	20	6			MAR23
1943 02 04.63		B	4.5	BD	16.2	R		56			3.5		BAK02
1943 02 04.66		S	4.6	HD	3.0	B		6					LAN04
1943 02 04.67		B	5.3	HD	0.0	E		1					SOL01
1943 02 04.68		S	4.7	HD	0.0	E		1					KUK02
1943 02 04.69		S	4.8	HD	0.0	E		1					VSE
1943 02 04.69		S	5.0	HD	3.0	B		6					VSE
1943 02 04.75		B	5.0	HD	0.0	E		1		6			BIL01
1943 02 04.75	P				12	A	5				5		CHU05
1943 02 04.82		B	5.1	HD	16.2	R		56			5		MAR23
1943 02 04.83		B	5.0	HD	0.0	E		1		6			BIL01
1943 02 04.84	P				12	A	5				5		CHU05
1943 02 05.70		S	5.0	HD	3.0	B		6	10				VSE
1943 02 06.71		S	4.5	HD	0.0	E		1					VSE
1943 02 06.72		S	4.6	HD	0.0	E		1					KUK02
1943 02 06.83		S	5.1	HD	0.0	E		1	20	5	6		MAR23
1943 02 07.69		B	4.5	BD	16.2	R		56					BAK02
1943 02 07.69		S	5.1	HD	3.0	B		6					VSE
1943 02 07.75		B	4.2	HD	0.0	E		1		S6			AST
1943 02 07.84		B	5.7	BD	3.0	B		6					LAV01
1943 02 07.85	P				12	A	5				6		CHU05
1943 02 08.17		B	5.1	HD	3.0	B		6					VOR02
1943 02 08.67		S	4.7	HD	3.0	B		6					LAN04
1943 02 08.70		S	4.9	HD	0.0	E		1					KUK02
1943 02 08.71		B	4.4	BD	16.2	R		56		3	3		BAK02
1943 02 08.71		B	4.8	HD	0.0	E		1		5			SOL01
1943 02 08.74		S	5.3	HD	0.0	E		1					VSE
1943 02 08.74		S	5.3	HD	3.0	B		6					VSE
1943 02 08.75		S	5.1	BD	0.0	E		1		5			BIL01
1943 02 08.76		B	5.1	HD	0.0	E		1					MAR23
1943 02 09.65					3.0	B		6	20		&0.5		NAB
1943 02 09.65		S	4.4	HD	0.0	E		1					NAB
1943 02 10.75		S	4.4	HD	0.0	E		1					NAB
1943 02 11.00					3.0	B		6	25	6	&0.5		NAB
1943 02 11.00		S	4.2	HD	0.0	E		1					NAB
1943 02 11.01		B	4.8	BD	16.2	R		56					BAK02
1943 02 12.70		S	5.4	HD	3.0	B		6					VSE
1943 02 13.12		S	4.0	HD	0.0	E		1					NAB
1943 02 18.68		S	3.9	HD	0.0	E		1					KUK02
1943 02 18.79		B	3.7	HD	3.0	B		6		6			VOR02
1943 02 19.83		B	4.0	HD	3.0	B		6					VOR02
1943 02 20.71		B	4.1	HD	0.0	E		1					VOR02
1943 02 20.75		S	4.3	HD	0.0	E		1					KUK02
1943 02 21.63		B	3.8	HD	0.0	E		1	20				VOR02
1943 02 22.63		B	3.6	HD	0.0	E		1		5			AST
1943 02 22.63		S	3.8	HD	0.0	E		1					LAN04
1943 02 23.17		S	4.4	HD	0.0	E		1					NAB
1943 02 23.67		B	3.7	HD	0.0	E		1					LAN04
1943 02 24.67		B	3.9	HD	0.0	E		1					VOR02
1943 02 24.71		S	3.5	HD	3.0	B		6			6		NAB

Comet C/1942 X1 (Whipple-Fedtke-Tevzadze) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1943 02 25.63		B	3.8	HD	0.0	E		1					VOR02
1943 02 25.68		S	3.8	HD	0.0	E		1		6			VSE
1943 02 25.69		B	4.0	HD	0.0	E		1		5			AST
1943 02 25.69		S	3.8	HD	3.0	B		6					VSE
1943 02 26.71		S	3.9	HD	0.0	E		1					LAN04
1943 02 27.67		B	4.0	HD	0.0	E		1					VOR02
1943 02 27.75		S	3.7:	HD	0.0	E		1					NAB
1943 02 28.79		S	4.2	HD	0.0	E		1					KUK02
1943 02 28.91		B	4.6	HD	0.0	E		1	22				MAR23
1943 03 01.65		B	4.2	HD	0.0	E		1					VOR02
1943 03 02.04					3.0	B		6			9		NAB
1943 03 02.81		B	4.3	HD	0.0	E		1					VOR02
1943 03 02.82		B	4.0	HD	0.0	E		1		5			AST
1943 03 03.59		B	4.7	HD	0.0	E		1					LAN04
1943 03 03.62		S	4.5	HD	0.0	E		1					KUK02
1943 03 03.66		B	5.0	HD	0.0	E		1					SOL01
1943 03 04.10		S	4.3	HD	0.0	E		1					NAB
1943 03 04.62		S	4.6	HD	0.0	E		1		S7			KUK02
1943 03 04.65		S	4.6	HD	0.0	E		1					LAN04
1943 03 04.67		B	4.3	HD	0.0	E		1					VOR02
1943 03 04.75		B	5.0	HD	0.0	E		1					SOL01
1943 03 04.86		B	4.2	HD	0.0	E		1					AST
1943 03 05.63		B	5.0	HD	0.0	E		1					SOL01
1943 03 05.67		B	4.9	HD	0.0	E		1					VOR02
1943 03 05.80		S	4.1	HD	0.0	E		1					NAB
1943 03 06.02		S	4.5	HD	0.0	E		1	15				LAN04
1943 03 06.71		S	4.8	HD	0.0	E		1					KUK02
1943 03 06.72		B	4.7	HD	0.0	E		1		6			VOR02
1943 03 06.74		B	4.7	HD	0.0	E		1					MAR23
1943 03 06.81		B	6.1	HD	0.0	E		1					MAR23
1943 03 06.87		S	4.9	HD	0.0	E		1					MAR23
1943 03 07.74		S	4.2	HD	0.0	E		1					NAB
1943 03 07.80		S	4.8	HD	0.0	E		1		5			MAR23
1943 03 08.67		S	5.0	HD	0.0	E		1					KUK02
1943 03 08.75		S	4.4	HD	0.0	E		1					NAB
1943 03 09.72		B	4.9	HD	0.0	E		1					MAR23
1943 03 09.74		S	4.5	HD	3.0	B		6		4			NAB
1943 03 09.81		B	4.8	HD	0.0	E		1					MAR23
1943 03 09.91		B	4.8	HD	0.0	E		1					MAR23
1943 03 10.69		B	4.7	HD	3.0	B		6	10				VSE
1943 03 10.69		S	4.5	HD	0.0	E		1					LAN04
1943 03 10.71		B	5.0	HD	0.0	E		1					SOL01
1943 03 10.73		S	5.1	HD	0.0	E		1					KUK02
1943 03 10.81		B	4.8	HD	0.0	E		1					VOR02
1943 03 10.88					16.2	A	5				4.5	298	KUL
1943 03 11.76		B	4.6	HD	3.0	B		6		4			NAB
1943 03 11.81		B	4.9	HD	0.0	E		1					VOR02
1943 03 11.84		B	4.5	HD	0.0	E		1					MAR23
1943 03 12.68		S	4.9	HD	0.0	E		1					KUK02
1943 03 12.75		S	4.6	HD	3.0	B		6		4			NAB
1943 03 12.79		B	4.4	HD	0.0	E		1					MAR23
1943 03 12.80		B	4.6	HD	0.0	E		1					VOR02
1943 03 13.75		S	4.4	HD	0.0	E		1					AST
1943 03 13.75		S	4.5	HD	3.0	B		6		5			NAB
1943 03 14.72		B	4.9:	HD	0.0	E		1	12				MAR23
1943 03 14.76		B	4.5	HD	3.0	B		6		4			NAB
1943 03 14.79		S	4.5	HD	0.0	E		1					LAN04
1943 03 14.88		B	4.8:	HD	0.0	E		1					MAR23
1943 03 15.76		B	4.5	HD	3.0	B		6		5			NAB
1943 03 15.82		B	4.8	HD	0.0	E		1					VOR02
1943 03 16.78		S	4.6	HD	3.0	B		6	12	4			NAB
1943 03 17.78		S	4.6	HD	3.0	B		6					NAB
1943 03 18.81		B	4.7	HD	3.0	B		6					NAB
1943 03 19.80		S	4.8	HD	3.0	B		6					NAB
1943 03 20.89		B	6.0	HD	3.0	B		6					MAR23

Comet C/1942 X1 (Whipple-Fedtke-Tevzadze) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1943 03 24.73		B	5.2	HD	0.0	E		1					MAR23
1943 03 24.77		B	5.3	HD	0.0	E		1					MAR23
1943 03 25.66		B	5.4	HD	3.0	B		6		5			VOR02
1943 03 25.67		S	5.8	HD	0.0	E		1					KUK02
1943 03 25.75		B	4.9	HD	3.0	B		6	14				NAB
1943 03 25.79			5.3	HD	0.0	E		1					AST
1943 03 26.74		S	5.0	HD	3.0	B		6	15				NAB
1943 03 26.78		B	5.4	HD	0.0	E		1					MAR23
1943 03 26.82		B	5.4	HD	0.0	E		1					MAR23
1943 03 26.87		S	6.1	HD	3.0	B		6					MAR23
1943 03 26.88	P				16.2	A	5			6	4.5	281	KUL
1943 03 27.73		S	5.9	HD	0.0	E		1					KUK02
1943 03 29.75		B	5.3	HD	0.0	E		1					AST
1943 03 30.70		B	6.0	HD	0.0	E		1		5			KUK02
1943 03 30.78		S	5.3	HD	0.0	E		1					LAN04
1943 03 31.61		S	5.3	HD	0.0	E		1					LAN04
1943 03 31.64		S	6.0	HD	0.0	E		1					KUK02
1943 03 31.67		B	5.8	HD	0.0	E		1					SOL01
1943 03 31.78		B	5.2	HD	0.0	E		1					AST
1943 04 01.67		S	6.1	HD	0.0	E		1		6			KUK02
1943 04 01.69		S	5.9	HD	0.0	E		1					SOL01
1943 04 01.83		B	5.0	HD	0.0	E		1					AST
1943 04 02.69		B	6.2	HD	0.0	E		1					SOL01
1943 04 02.81		B	4.5	HD	0.0	E		1					AST
1943 04 03.66		S	5.6	HD	0.0	E		1					LAN04
1943 04 04.81		B	5.1	HD	0.0	E		1					AST
1943 04 05.76		S	6.2	HD	0.0	E		1		5			KUK02
1943 04 05.79		B	6.1	HD	0.0	E		1					MAR23
1943 04 05.79		B	6.1	HD	3.0	B		6	15				BEL06
1943 04 05.79		S	6.8	HD	3.0	B		6					MAR23
1943 04 05.84		S	6.7	HD	3.0	B		6					MAR23
1943 04 06.73		B	6.3	HD	0.0	E		1					SOL01
1943 04 06.74		B	6.2	HD	0.0	E		1					KUK02
1943 04 06.76		B	6.3	HD	3.0	B		6					MAR23
1943 04 06.76		S	6.8	HD	3.0	B		6					MAR23
1943 04 06.81		B	6.3	HD	3.0	B		6					MAR23
1943 04 06.81		S	6.7	HD	3.0	B		6		6			MAR23
1943 04 08.84		B	6.1	HD	3.0	B		6					MAR23
1943 04 08.84		S	6.9	HD	3.0	B		6					MAR23
1943 04 09.84		S	6.7	HD	3.0	B		6					BEL06
1943 04 09.84		S	6.8	HD	3.0	B		6		5			MAR23
1943 04 12.94		B	6.0	HD	0.0	E		1					LAN04
1943 04 14.83		B	7.6	HD	16.2	R		56	10				MAR23
1943 04 15.81		B	8.0	HD	16.2	R		56					MAR23
1943 04 19.78		B	8.2	HD	16.2	R		56					BEL06
1943 04 22.79		B	7.6	HD	3.0	B		6					MAR23
1943 04 22.85		B	8.0	HD	16.2	R		56					LAS01
1943 04 23.81		B	7.5	HD	3.0	B		6		4			MAR23
1943 04 25.65		S	6.0	HD	0.0	E		1		5			AST
1943 04 25.79		B	7.6	HD	3.0	B		6	12				MAR23
1943 04 25.83		B	7.9	HD	16.2	R		56					MAR23
1943 04 25.89		B	7.6	HD	3.0	B		6					MAR23
1943 04 25.92		B	7.7	HD	3.0	B		6					MAR23
1943 04 26.73		B	6.2	HD	0.0	E		1					AST
1943 04 26.74		S	7.1	HD	3.0	B		6					VSE
1943 04 26.85		B	7.3	HD	3.0	B		6					MAR23
1943 04 26.92		B	7.3	HD	3.0	B		6		5			MAR23
1943 04 26.92		B	7.6	HD	16.2	R		56					MAR23
1943 04 27.85		B	6.5	HD	4.0	B		8					AST
1943 04 28.65		B	7.5	HD	3.0	B		6					VSE
1943 04 29.79		B	7.0	HD	4.0	B		8					AST
1943 04 29.81		B	7.3	HD	3.0	B		6					MAR23
1943 04 29.85		B	7.3	HD	16.2	R		56		4			MAR23
1943 05 02.75		B	7.1	HD	4.0	B		8	14				AST
1943 05 03.87		B	7.4	HD	3.0	B		6	14	4			MAR23

Comet C/1942 X1 (Whipple-Fedtke-Tevzadze) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1943 05 03.87		B	7.7	HD	16.2	R		56					MAR23
1943 05 05.85		B	8.0	HD	16.2	R		56					MAR23
1943 05 05.88		B	7.5	HD	3.0	B		6		4			MAR23
1943 05 05.88		B	7.5	HD	4.0	B		8	12				AST
1943 05 09.89		B	8.0	HD	16.2	R		56					MAR23
1943 05 10.87		B	8.3	HD	16.2	R		56		4			MAR23
1943 05 10.91		B	8.3	HD	16.2	R		56	9				MAR23
1943 05 11.85		B	8.4	HD	16.2	R		56		3			MAR23
1943 05 12.85		B	8.3	HD	16.2	R		56		2			MAR23
1943 05 28.75		B	9.0:	HD	16.2	R		56		1			MAR23

Comet C/1946 C1 (Timmers)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1946 02 23.99		S	9.1	HD	12	R		40	2	s4			VSE
1946 02 24.74		B	9.2	BD	16.2	R		62					BAK02
1946 02 25.61		B	9.4	BD	16.2	R		62					BAK02
1946 02 25.87		S	9.1	HD	25.3	R	21	90	2				VSE
1946 02 26.77		S	9.3	HD	12	R		40	2.5	5			VSE
1946 02 27.76		B	9.4	BD	16.2	R		62	3.1	S6			BAK02
1946 02 28.74		B	9.5	BD	16.2	R		62	3.6	6			BAK02
1946 03 01.66		B	9.3	BD	16.2	R		62	4.6	6			BAK02
1946 03 02.63		B	8.9	BD	16.2	R		62	4	6			BAK02
1946 03 02.75		S	8.7	HD	25.3	R	21		4	S6			VSE
1946 03 03.63		B	8.9	BD	16.2	R		62	5	5			BAK02
1946 03 04.78		B	8.9	BD	16.2	R		62	5	4			BAK02
1946 03 05.74		S	8.5	HD	25.3	R	21		4	S5			VSE
1946 03 05.79		S	8.6	HD	12	R		40	4	S5			VSE
1946 03 06.64		B	9.0	BD	16.2	R		62	5	4			BAK02
1946 03 06.74		S	8.6	HD	12	R		40		5			VSE
1946 03 07.73		B	9.0	BD	16.2	R		62	5.5	4			BAK02
1946 03 10.80		S	9.0	HD	25.3	R	21		4	s4			VSE
1946 03 10.97		B	9.0	BD	16.2	R		62	5.5	5			BAK02
1946 03 13.77		S	8.8:	HD	25.3	R	21		4				VSE
1946 03 18.81		S	8.5:	HD	25.3	R	21		3				VSE
1946 03 19.78		S	9.1	HD	12	R		40					VSE
1946 03 23.65		B	9.0	BD	16.2	R		62	6.1	S6			BAK02
1946 03 23.87		S	8 :	HD	25.3	R	21		2	4			VSE
1946 03 27.64		B	8.8	BD	16.2	R		62	6	5			BAK02
1946 03 27.76		S	7.8	HD	12	R		40					VSE
1946 03 28.77		B	8.8	BD	16.2	R		62	5	4			BAK02
1946 03 30.74		S	8.5	HD	25.3	R	21		3	s4			VSE
1946 04 01.66		B	9.4:	BD	16.2	R		62	5	4			BAK02
1946 04 02.79		S	9.8:	HD	12	R		40					VSE
1946 04 03.70		B	9.5:	BD	16.2	R		62	6	4			BAK02
1946 04 04.77		S	9 :	HD	25.3	R	21						VSE
1946 04 05.81		S	8.5	HD	25.3	R	21		3				VSE
1946 04 08.98		B	9.5	BD	16.2	R		62	5	3			BAK02
1946 04 11.98		B	10.5:	BD	16.2	R		62	6.4	3			BAK02
1946 04 14.76		S	9.8	HD	25.3	R	21	90	2.5				VSE
1946 04 16.78		S	10.7	HD	25.3	R	21	90	1.5				VSE
1946 04 17.65		B	10.9	BD	16.2	R		62	5	3			BAK02
1946 04 17.80		S	10.3	HD	25.3	R	21	90					VSE
1946 04 18.81		S	10.4:	HD	25.3	R	21	90					VSE
1946 04 19.83		S	10.5	HD	25.3	R	21	90			0.05	90	VSE
1946 04 21.70		B	9.4	BD	16.2	R		62	5	4			BAK02
1946 04 21.81		P	10.5	HD	12	A	5						VSE
1946 04 22.78		S	10.3	HD	25.3	R	21	90					VSE
1946 04 25.67		B	9.2	BD	16.2	R		62	5	5		0	BAK02
1946 04 27.67		B	9.3	BD	16.2	R		62	5	5		0	BAK02
1946 04 27.84		S	9.7	HD	25.3	R	21	90	2.5	s6			VSE
1946 04 29.84		S	9.0	HD	25.3	R	21	90	2.5	s5			VSE
1946 05 01.85		S	10.2	HD	25.3	R	21	90	2.5	s5			VSE
1946 05 03.67		B	10.2	BD	16.2	R		62	4	4			BAK02
1946 05 03.81		S	10.1	HD	25.3	R	21	90	2.5	s5			VSE

Comet C/1946 C1 (Timmers) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1946 05 04.76		B	10.5	BD	16.2	R		62	3	6			BAK02
1946 05 04.81		S	10.0:	HD	25.3	R	21	90	2.5	s5			VSE
1946 05 06.81		S	10.1	HD	25.3	R	21	90	3	s5			VSE
1946 05 12.80		S	9.7:	HD	25.3	R	21	90	3	s4			VSE
1946 05 18.84		S	10.2	HD	25.3	R	21	90	3	3			VSE
1946 05 19.69		B	11.5	BD	16.2	R		62	2	3			BAK02
1946 05 19.90		S	9.7	HD	25.3	R	21	90	3	2			YAK01
1946 05 24.77		B	11.9	BD	16.2	R		62	3	3			BAK02
1946 05 25.93		S	9.9	HD	25.3	R	21	90	3	2			VSE
1946 05 26.84		S	10.1	HD	25.3	R	21	90	2	2			VSE
1946 05 27.85		S	10.1	HD	25.3	R	21	90	2	2			YAK01
1946 05 29.74		B	11.6	BD	25.3	R	21	62	3	2			BAK02
1946 05 29.90		S	10.1	HD	25.3	R	21	90	1	1			VSE
1946 05 31.85		S	9.7	HD	25.3	R	21	90	1.5	2			VSE
1946 06 02.94		S	10.5	HD	25.3	R	21	90	1.5	2			VSE
1946 06 08.92		B	12.8	BD	16.2	R		62	2	3			BAK02
1946 09 02.77		P	13.5		38	D	2						MAR23
1946 09 04.77		P	14.0:		38	D	2						MAR23
1946 10 20.67		P	15.5		38	D	2						MAR23

Comet C/1946 K1 (Pajdušáková-Rotbart-Weber)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1946 05 30.02		B	8.0:	BD	3.0	B		6			<1		KUK02
1946 05 31.94		B	7.0:	BD	3.0	B		6			<1		KUK02
1946 06 02.93		B	6.7	BD	3.0	B		6			0.5		NOV
1946 06 04.95		B	7.0	BD	3.0	B		6			<1		YAK
1946 06 04.96		B	6.2	HD	3.0	B		6		5	1	300	VSE
1946 06 05.97		B	6.8	HD	7	R	9	30					YAK01
1946 06 06.92		B	7.9:	HD	7	R	9	30		5			VSE
1946 06 07.87		B	6.9	HD	7	R	9	30		5			YAK01
1946 06 08.93		B	7.3	HD	25.3	R	21	60					VSE
1946 06 10.95		B	7.5:	HD	25.3	R	21	60					VSE
1946 06 19.77	&	B	9.3	BD	16.2	R		62			0.3		BAK02
1946 06 19.90		B	7.6:	HD	25.3	R	21	60					VSE
1946 06 20.77	&	B	9.2	BD	16.2	R		62		4	0.3		BAK02
1946 06 21.69	&	B	9.5	BD	16.2	R		62		5	0.3		BAK02
1946 06 22.77	&	B	9.5	BD	16.2	R		62		5	0.3		BAK02
1946 06 23.69	&	B	9.6	BD	16.2	R		62		4	0.3		BAK02
1946 06 24.69	&	B	9.8	BD	16.2	R		62		4	0.3		BAK02

Comet C/1946 P1 (Jones)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1947 05 14.90		P	14.5		38	D	2		0.5				KAD01
1947 05 17.91		P	14.0:		38	D	2		0.5				MAR23
1947 05 20.87		P	14.0:		38	D	2		1.5	4			MAR23
1947 05 21.89		P	15.0:		38	D	2		1.0	4			MAR23
1947 05 23.38		P	14.5:		38	D	2		0.4	4			MAR23

Comet C/1946 U1 (Bester)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1947 10 12.02		P	14.0:		38	D	2		1	1/			MAR23

Comet C/1947 S1 (Bester) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1947 10 12.02		B	11.0:		38	D	2						MAR23
1948 02 28.00		B	6.0	BD	8.0	B		12					BAK02
1948 03 09.00		B	6.0:	BD	8.0	B		12					SOL01
1948 03 12.99		B	6.0	BD	0.0	E		1		5			AST
1948 03 12.99		B	6.0	BD	3.0	B		6	4.5	5	0.5		AST
1948 03 13.00		B	6.0:	BD	8.0	B		12	5	5	0.5		AST
1948 03 13.08		B	6.1	BD	3.0	B		6					CHE05

Comet C/1947 S1 (Bester) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 03 14.03		B	6.2	BD	8.0	B		12	5.3	6	&0.4		AST
1948 03 14.04		B	7.0:	BD	8.0	B		12	6.2	6			PRO
1948 03 14.07		B	6.1	BD	3.0	B		6					CHE05
1948 03 15.02		B	6.2	BD	8.0	B		12	4.5	6	0.4		AST
1948 03 16.02		B	5.8:	BD	0.0	E		1	5				KAD
1948 03 16.03		B	6.3	BD	8.0	B		12	4.5	6	0.5		AST
1948 03 17.06		B	6.5:	BD	3.0	B		6					CHE05
1948 03 18.02		B	5.5	BD	0.0	E		1	6.5	5	0.2		AST
1948 03 18.03		B	5.6	BD	0.0	E		1	5				KAD
1948 03 19.01		B	6.0	BD	8.0	R		25	4	6	0.2		PRO
1948 03 19.02		B	5.5	BD	0.0	E		1	7	5	0.2		AST
1948 03 19.02		B	5.6	BD	0.0	E		1	5				KAD
1948 03 19.02		B	6.0	BD	8.0	B		12	7.2	6	0.2		AST
1948 03 21.00		B	5.5	BD	0.0	E		1	4	4			AST
1948 03 21.10		B	5.6:	BD	3.0	B		6					CHE05
1948 03 24.00		B	6.0	BD	8.0	B		12	3.7	4			AST
1948 03 24.07		B	6.4	BD	3.0	B		6					CHE05
1948 03 29.99		P	6.0	BD	12.0	A							KON08
1948 03 29.99		P	6.5	BD	25.0	R	21						SAN10
1948 03 30.03		B	6.4	BD	3.0	B		6					CHE05
1948 03 30.95		S	6.1	BC	8.0	B		12					DRO
1948 03 30.95		S	6.4	BD	8.0	B		12					DRO
1948 03 30.95		S	6.4	HD	8.0	B		12					DRO
1948 03 30.98		B	6.5	BD	3.0	B		6					CHE05
1948 03 31.95		S	5.8	BC	8.0	B		12					DRO
1948 03 31.95		S	5.8	BD	8.0	B		12					DRO
1948 03 31.95		S	5.9	HD	8.0	B		12					DRO
1948 03 31.98		P	7.0:	BD	20.0	R		60					TSE
1948 04 01.01		B	6.5	BD	3.0	B		6					CHE05
1948 04 01.90		S	6.9	BD	16.2	R		30					MAR23
1948 04 01.95		P	7.0:	BD	20.0	R		60					TSE
1948 04 01.95		S	6.0	HD	8.0	B		12					DRO
1948 04 01.95		S	6.7	BC	8.0	B		12					DRO
1948 04 01.95		S	6.7	BD	8.0	B		12					DRO
1948 04 01.96		B	6.1	HD	3.0	B		6	4.0				VSE
1948 04 01.97		B	6.5	BC	8.0	B		12					DRO
1948 04 01.97		B	6.5	BD	8.0	B		12					DRO
1948 04 01.97		B	6.7	HD	8.0	B		12					DRO
1948 04 01.99	P				12	A	5		4.0		5.0	268	VSE
1948 04 02.01		B	6.0	BD	3.0	B		6					CHE05
1948 04 02.03		B	6.4	HD	7.0	R		12					VSE
1948 04 02.03		B	6.5	BD	5.0	B		10					KON08
1948 04 02.07		B	6.4	HD	3.0	B		6					VSE
1948 04 02.60		B	6.0	BD	3.0	B		6					CHE05
1948 04 02.92	P				38	D	2			4			MAR23
1948 04 02.95		S	7.2	BD	8.0	B		12					DRO
1948 04 02.95		S	7.2	BD	16.2	R		30					MAR23
1948 04 02.95		S	7.2	HD	8.0	B		12					DRO
1948 04 02.96		B	6.2	HD	3.0	B		6	4.4		1		VSE
1948 04 02.97		B	6.7	BC	8.0	B		12					DRO
1948 04 02.97		B	7.0	BD	8.0	B		12					DRO
1948 04 02.97		B	7.0	HD	8.0	B		12					DRO
1948 04 02.97	P				12	A	5		4.0		1.3	269	KON08
1948 04 03.08		B	5.6	BD	3.0	B		6					CHE05
1948 04 04.81		B	6.5	BD	5.0	B		7	6.5	5	0.25		AST
1948 04 04.92		B	5.9	BD	3.0	B		6					CHE05
1948 04 04.94		S	7.5	BD	8.0	B		12					DRO
1948 04 04.94		S	7.6	HD	8.0	B		12					DRO
1948 04 04.97		B	6.8	BC	8.0	B		12					DRO
1948 04 04.97		B	7.4	BD	8.0	B		12					DRO
1948 04 04.97		B	7.4	HD	8.0	B		12					DRO
1948 04 04.98	P				12.0	A	5		4.0		3.3	264	KON08
1948 04 06.00		S	7.1	BC	8.0	B		12					DRO
1948 04 06.00		S	7.1	BD	8.0	B		12					DRO
1948 04 06.00		S	7.4	HD	8.0	B		12					DRO

Comet C/1947 S1 (Bester) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 04 06.01		S	7.0	BD	3.0	B		6					DRO
1948 04 06.01		S	7.3	BC	3.0	B		6					DRO
1948 04 06.01		S	7.3	HD	3.0	B		6					DRO
1948 04 06.75		B	6.5	BD	5.0	B		7	6.5	4	0.25		AST
1948 04 06.76		B	6.2	BD	3.0	B		6					CHE05
1948 04 06.76		B	6.4	BD	3.0	B		6			0.1		CHE05
1948 04 06.94		S	6.1	BC	8.0	B		12					DRO
1948 04 06.94		S	6.1	BD	8.0	B		12					DRO
1948 04 06.94		S	6.1	HD	8.0	B		12					DRO
1948 04 06.96		B	7.0	HD	8.0	B		12					DRO
1948 04 06.96		B	7.3	BD	8.0	B		12					DRO
1948 04 09.80		B	6.3	BD	3.0	B		6					CHE05
1948 04 09.83		B	7.1	BD	5.0	B		10					BOR06
1948 04 09.86	P				12	A	5		2.8		0.5	254	VSE
1948 04 09.87		B	6.9	BD	3.0	B		6					CHE05
1948 04 09.92		B	6.7	HD	3.0	B		6					VSE
1948 04 09.93		S	7.2	BD	8.0	B		12					DRO
1948 04 09.93		S	7.4	HD	8.0	B		12					DRO
1948 04 10.75		S	6.6	BD	8.0	B		12					DRO
1948 04 10.75		S	6.6	HD	8.0	B		12					DRO
1948 04 10.75		S	6.7	BC	8.0	B		12					DRO
1948 04 10.77		B	6.5	BD	8.0	B		12					DRO
1948 04 10.77		B	6.5	HD	8.0	B		12					DRO
1948 04 10.77		B	6.6	BC	8.0	B		12					DRO
1948 04 11.77		B	6.8	HD	3.0	B		6					VSE
1948 04 11.78		B	6.9	HD	7	R		12					VSE
1948 04 11.92		B	6.5	BD	5.0	B		7	6.5	4	0.33		AST
1948 04 11.92		B	7.0	BD	5.0	B		10					BAR09
1948 04 11.93		S	6.9	BC	8.0	B		12					DRO
1948 04 11.93		S	6.9	BD	8.0	B		12					DRO
1948 04 11.93		S	7.2	HD	8.0	B		12					DRO
1948 04 12.82		B	7.0	HD	3.0	B		6					VSE
1948 04 12.88	P				12	A	5		4.2		1.7	243	BOR06
1948 04 12.92		B	7.0	BD	5.0	B		10					KON08
1948 04 12.92		S	7.0	HD	8.0	B		12					DRO
1948 04 12.92		S	7.1	BD	8.0	B		12					DRO
1948 04 13.79		B	6.5	BD	8.0	B		20	7.5	4	0.3		AST
1948 04 13.84		B	7.2	BD	5.0	B		10					BAR09
1948 04 13.85		B	7.1	HD	7.0	R		12					VSE
1948 04 13.86		B	7.2	HD	3.0	B		6					VSE
1948 04 13.90		S	7.4	BD	8.0	B		12					DRO
1948 04 13.90		S	7.5	HD	8.0	B		12					DRO
1948 04 13.91		B	6.4	BD	3.0	B		6					CHE05
1948 04 13.91		S	8.0:	BD	16.2	R		30					MAR23
1948 04 13.96	P				12	A	5		4.5		1.8	243	VSE
1948 04 14.78		B	8.1:	HD	3.0	B		6					VSE
1948 04 14.88		B	6.5	BD	8.0	B		20	7.3	4	0.3		AST
1948 04 14.92		B	7.1	BD	5.0	B		10					KON08
1948 04 14.95		S	7.2:	BD	8.0	B		12					DRO
1948 04 14.95		S	7.3:	HD	8.0	B		12					DRO
1948 04 14.96		B	6.5	BD	3.0	B		6					CHE05
1948 04 14.97		B	7.1	BD	8.0	B		12					DRO
1948 04 14.97		B	7.3	HD	8.0	B		12					DRO
1948 04 15.03	P				12	A	5		4.4		1.5	234	BOR06
1948 04 15.89		B	7.7	BD	5.0	B		10					BAR09
1948 04 15.89		B	8.2	BD	12.5	R		30					KON08
1948 04 15.92		B	8.1:	HD	7.0	R		40			>1		VSE
1948 04 15.95		S	8.2:	BD	8.0	B		12					DRO
1948 04 15.95		S	8.2:	HD	8.0	B		12					DRO
1948 04 15.96	P				12	A	5		3.4		0.8	227	VSE
1948 04 16.78		B	8.5:	HD	7	R		40					VSE
1948 04 16.9		P	6.8	HD	20	A	5				0.7		KHA04
1948 04 16.90		S	8.7	BD	8.0	B		12					DRO
1948 04 16.90		S	8.7	HD	8.0	B		12					DRO
1948 04 17.01		B	7.0	BD	5.0	B		8	9	3	0.3		AST

Comet C/1947 S1 (Bester) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 04 17.8		P	6.9	HD	20	A	5				0.7		KHA04
1948 04 17.82		B	7.9	HD	7	R		40					VSE
1948 04 18.03		B	7.7	BD	3.0	B		6					CHE05
1948 04 18.05	P				12	A	5				0.6	212	BOR06
1948 04 18.99		S	8.4	BD	8.0	B		12					DRO
1948 04 18.99		S	8.6	HD	8.0	B		12					DRO
1948 04 19.80		B	7.8	HD	7	R		20					VSE
1948 04 19.80		B	7.8	HD	7	R		40					VSE
1948 04 19.81		B	8.0	HD	7	R		40					VSE
1948 04 19.95		S	8.2	BD	8.0	B		12					DRO
1948 04 19.95		S	8.5	HD	8.0	B		12					DRO
1948 04 20.02	P				12	A	5		1.3		0.2	202	BOR06
1948 04 20.40		B	8.1	BD	8.0	B		20					KON08
1948 04 21.83		B	9.1:	HD	7	R		40					VSE
1948 04 21.84	P	N	9.4:		12	A	5		1.3		0.2	202	BOR06
1948 04 21.94		S	8.9:	BD	8.0	B		12					DRO
1948 04 21.94		S	8.9:	HD	8.0	B		12					DRO
1948 04 22.87		B	8.5:	HD	7	R		40					VSE
1948 04 24.79		P	9.4:		12	A	5						VSE
1948 04 24.84		B	7.6:	HD	7	R		40					VSE
1948 04 24.93		S	9.0:	BD	8.0	B		12					DRO
1948 04 24.93		S	9.1:	HD	8.0	B		12					DRO
1948 04 25.03		B[	8.2	BD	3.0	B		6					CHE05
1948 04 25.93		S	8.0	BD	8.0	B		12					DRO
1948 04 25.93		S	8.1	HD	8.0	B		12					DRO
1948 04 28.93		S	8.7	BD	8.0	B		12					DRO
1948 04 28.93		S	8.7	HD	8.0	B		12					DRO
1948 04 29.83		P	9.3		12	A	5						VSE
1948 04 29.85		B	7.9	BD	5.0	B		7	5.5	3	0.1	5	YEL
1948 04 30.84		B	9.4	HD	7	R		20					KON08
1948 04 30.84		P	9.4		12	A	5						KON08
1948 04 30.92		S	7.6	HD	8.0	B		12					DRO
1948 04 30.92		S	7.8	BD	8.0	B		12					DRO
1948 05 01.84		S	7.6	HD	8.0	B		12					DRO
1948 05 01.84		S	7.8	BD	8.0	B		12					DRO
1948 05 03.81		B	8.2	BD	8.0	B		20	6	3	0.1		YEL
1948 05 03.92		S	8.9	BD	8.0	B		12					DRO
1948 05 03.92		S	8.9	HD	8.0	B		12					DRO
1948 05 04.94		S	8.9:	HD	8.0	B		12					DRO
1948 05 04.94		S	9.0:	BD	8.0	B		12					DRO
1948 05 05.95		S	9.0	BD	8.0	B		12					DRO
1948 05 05.95		S	9.5	HD	8.0	B		12					DRO
1948 05 06.72		B	9.2	BD	8.0	B		20	6	3	0.1		PRO
1948 05 06.89		P	9.4		12	A	5		1.6		0.1	125	BOR06
1948 05 06.93		B	8.3	HD	7	R		20					VSE
1948 05 07.97		P	9.4		12	A	5						BOR06
1948 05 08.83		B	8.6	HD	7	R		40					VSE
1948 05 08.85	P				12	A	5		1.6		0.1	125	BOR06
1948 05 08.89		P	9.0:	BD	38	D	2		2.0		0.4	90	MAR23
1948 05 08.94		S	9.2	HD	8.0	B		12					DRO
1948 05 08.94		S	9.4	BD	8.0	B		12					DRO
1948 05 09.86		B	9.0	BD	8.0	B		20	2	3	0.2		PRO
1948 05 10.89		B	8.8	HD	7	R		40					VSE
1948 05 10.92	P				12	A	5		1.7		0.5	123	KON08
1948 05 11.87	P				12	A	5		1.8		0.5	123	VSE
1948 05 12.86	P				12	A	5		2.2		0.5	123	BOR06
1948 05 25.01		B	9.5	BD	8.0	B		20	2	3			PRO
1948 05 30.88		P	11.0:	BD	38	D	2						MAR23

Comet C/1947 X1 (Southern comet)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1947 12 30.57		B	7.7	BD	8.0	B		20			0.3		BAK02
1947 12 30.59		B	6.0	BD	3.0	B		6	7	D6	>1		AST
1947 12 31.57		B	8.5:	BD	8.0	B		20			0.3		BAK02

Comet C/1947 X1 (Southern comet) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 01 01.57		B	7.3	BD	8.0	B		20		6	1.0		BAK02
1948 01 01.64		P	6.0	HD	20	A	5						KHA04
1948 01 02.58		B	7.5	BD	8.0	B		20		6	1.5		BAK02
1948 01 02.59		B	6.0	BD	8.0	B		12	10	5	1		AST
1948 01 02.64		P	6.4	HD	20	A	5						TOR01
1948 01 03.58		B	7.5	BD	8.0	B		20		6	0.3		BAK02
1948 01 03.59		B	6.3:	BD	8.0	B		12	10	5	1		AST
1948 01 04.58		B	7.5	BD	8.0	B		20		6	1.1		BAK02
1948 01 04.60		B	6.5	BD	8.0	B		12	10	5	1.3		AST
1948 01 04.61		B	6.5	BD	8.0	B		12	9	5	1		KAD
1948 01 06.64		P	6.6	HD	20	A	5						TOR01
1948 01 08.60		B	7.0:	BD	8.0	B		12	10	6	&0.6		AST
1948 01 09.60		B	7.0:	BD	8.0	B		12	9	D6	>1.6		AST
1948 01 09.63		P	6.8	HD	20	A	5						KHA04
1948 01 09.63		P	6.8	HD	20 0	A	5						TOR01
1948 01 10.60		B	7.0	BD	8.0	B		12	6	6	>0.7	100	AST
1948 01 11.60		B	7.1:	BD	8.0	B		12	6	6	>1	100	KAD
1948 01 11.60		B	7.2:	BD	8.0	B		12	6	6	>0.7	100	AST
1948 01 11.61		B	7.2:	BD	8.0	B		12	5	6	>0.8	100	PRO
1948 01 12.58		B	9.0	BD	8.0	B		20		4			BAK02

Comet C/1947 Y1 (Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 01 22.70		S	11.0	BD	15	R	7	40					BAK02
1948 01 24.13		P	11.0:	BD	38	D	2						MAR23

Comet C/1948 E1 (Pajdušáková-Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 03 16.00		P	10.6	HD	12	A	5						VSE
1948 03 19.02		P	10.7	HD	12	A	5			5			KON08
1948 03 29.98		P	9.9	HD	12	A	5			6			SAN10
1948 04 13.82		P	9.5	BD	38	D	2						MAR23
1948 04 16.01		P	9.8	HD	12	A	5			6			SAN10
1948 04 17.04		P	9.8	HD	12	A	5			4			KON08
1948 04 17.04		P	9.8	HD	12	A	5			6			BOR06
1948 04 29.82		B	9.5:	BD	12	R		30	2	4			AST
1948 04 29.91		B	9.0	BD	8.0	B		20	3	5			YEL
1948 04 30.83		B	9.0	BD	8.0	B		20	3	4			YEL
1948 05 02.86		B	9.0	BD	8.0	B		20	3	5	0.1		AST
1948 05 03.95		B	8.9	BD	8.0	B		20	3	5	0.1		PRO
1948 05 06.96		B	8.9	BD	8.0	B		20	3	5	0.1		PRO
1948 05 07.87	P				12	A	5			4	0.2	220	BOR06
1948 05 08.85		P	9.0:	BD	38	D	2		1.5	4	0.2	220	MAR23
1948 05 09.76		B	8.9	BD	8.0	B		20	3	5	0.17		AST
1948 05 12.94	P				12	A	5			4	0.2	220	KON08
1948 05 14.04		B	10.5	BD	20	A	5						TOR01
1948 05 16.80	P				12	A	5			5	13 m	220	VSE
1948 05 29.84		B	10.0	BD	8.0	B		20	3	4			AST
1948 05 29.89		P	10.0:	BD	38	D	2		1.5				MAR23
1948 06 03.90		B	9.3	BD	8.0	B		20	3	4			PRO
1948 06 08.90		P	9.5:		12	A	5		1.5	3	0.1	200	VSE
1948 06 08.90		P	9.5:		12	A	5		2	3	0.17	203	VSE
1948 06 08.90		P	9.5:		12	A	5		2	3	0.17	203	VSE
1948 07 01.88		P	9.9:		12	A	5			3			VSE
1948 07 01.88		P	10.0:		12	A	5			3			SER01
1948 07 29.84		P	10.0:		12	A	5			3			SER01
1948 08 02.86		P	10.0:		12	A	5			3			SER01
1948 11 08.93		P	11.5		38	D	2				0.3	12	MAR23
1948 11 10.98		P	12.1		38	D	2				0.3	12	MAR23
1949 01 30.73		P	14.5:		38	D	2						MAR23
1949 02 03.75		P	15.0:		38	D	2						MAR23
1949 02 03.77		P	14.5		38	D	2						MAR23
1949 02 20.68		P	15.0:		38	D	2						MAR23

Comet C/1948 L1 (Honda-Bernasconi)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 06 08.99		B	5.0	BD	3.0	B		6	5	4	2		VSE
1948 06 09.02		B	5.0	BD	3.0	B		6	6	5			KON08
1948 06 09.83		B	5.0	BD	3.0	B		6	5	5	3		AST
1948 06 09.83		S	4.0	BD	0.0	E		1		7			PRO
1948 06 09.83		S	5.0	BD	0.0	E		1	6	6	3		PRO
1948 06 09.83		S	5.5:	BD	8.0	B		20	5	5	3		AST
1948 06 09.84		P	4.5	BD	8	A	3		6		3		AST
1948 06 09.90		B	7 :	BD	3.0	B		6	5	6	5		BAK02
1948 06 10.91		P	6 :		6	A				5	3		SOL01
1948 06 10.96		P	5.0:		6	A				5	3		PRO
1948 06 11.89		B	4.9	BD	3.0	B		6	7.9	6	1.5		AST
1948 06 11.89		S	4.7	BD	0.0	E		1	8	7	1.5		AST
1948 06 11.93		P	5.0:		6	A				5	3		PRO
1948 06 11.98		P	5.2:	HD	12	A	5			5	3		SAN10
1948 06 12.11		B	5.0	BD	20	A	5		5	6			TOR01
1948 06 12.94		P	5.4:			A				6	3		PRO
1948 06 12.99		B	5.0	BD	8.0	B		20	6	6	2.8		AST
1948 06 13.08		B	5.8	BD	20	A	5		5	6			ZHD
1948 06 13.10		B	6.0	BD	20	A	5		5	6	1.5		KOC04
1948 06 13.81					8.0	B		20	3	4			PRO
1948 06 14.90		P	5.5:	HD	12	A	5			5	3		SAN10
1948 06 14.91		P	6.0:			A				5	3		SOL01
1948 06 15.10		B	6.0	BD	20	A	5		5	6			ZHD
1948 06 15.87		P	6.0	BD	38	D	2		2.5	D6			MAR23
1948 06 15.89		P	6.0	BD	38	D	2		2.5	D6			MAR23
1948 06 16.91		P	6.0:		10	A				5	3		SOL01
1948 06 17.77		P	5.2		10	A				4	3		AST
1948 06 17.94		B	5.2	BD	8.0	B		20	7	4	1.5		PRO
1948 06 19.87		P	6.0	BD	38	D	2		2.5	D6			MAR23
1948 06 20.86		B	6.7	BD	3.0	B		6					CHE05
1948 06 21.83		B	6.8	BD	3.0	B		6					CHE05
1948 06 22.83		B	6.7	BD	3.0	B		6					CHE05
1948 06 23.84		B	6.6	BD	3.0	B		6					CHE05
1948 06 23.87		P	7.0	BD	38	D	2		2.5	D6			MAR23
1948 06 26.84		B	7.0	BD	3.0	B		6					CHE05
1948 06 26.87		B	7.3	BD	8.0	B		12					DRO
1948 06 26.91		S	7.1	BD	8.0	B		12					DRO
1948 06 27.93		B	7.7	BD	8.0	B		12					DRO
1948 06 27.97		S	7.6	BD	8.0	B		12					DRO
1948 06 28.84		I[	8.2	BD	3.0	B		6					CHE05
1948 06 29.95		B	7.4	BD	8.0	B		12					DRO
1948 07 01.94		B	8.3	BD	8.0	B		12					DRO
1948 07 01.96		S	8.4	BD	8.0	B		12					DRO
1948 07 04.90		S	8.7	BD	8.0	B		20			3		VSE
1948 07 11.90		S	9.0;	BD	8.0	B		20			3		SAN10
1948 07 14.90		S	10.0:	BD	8.0	B		20			3		SAN10

Comet C/1948 V1 (Eclipse comet)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 11 12.07					0.0	E		1			30		KAD
1948 11 13.07		B	-3 :	BD	0.0	E		1	30	6	30		KAD
1948 11 15.03		B	2 :	BD	3.0	B		6		7	15		BAK02
1948 11 15.05		B	2.0:	BD	3.0	B		6		7	15		NIK02
1948 11 18.07		B	1 :	BD	0.0	E		1	30	6	15		KAD
1948 11 18.07		B	2 :	BD	3.0	B		6	8	6	6		AST
1948 11 20.04		B	1 :	BD	0.0	E		1	20	6	10		KAD
1948 11 20.04		B	1 :	BD	3.0	B		6	30	D5	12		KAD
1948 11 20.15		P	2 :	BD	20.3	A					&1		RAZ
1948 11 21.06		B	2.0	BD	3.0	B		6	20	6	12		KAD
1948 11 21.06		I	2.0	BD	0.0	E		1	10		6		KAD
1948 11 22.06		B	2.1	BD	3.0	B		6	19	6	11		KAD
1948 11 22.06		I	2.0	BD	0.0	E		1	10		6		KAD
1948 11 23.01		B	2.2	BD	3.0	B		6	19	6	11		KAD
1948 11 23.01		I	2.0	BD	0.0	E		1	8		6		KAD

Comet C/1948 V1 (Eclipse comet) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1948 11 25.01		B	2.2	BD	3.0	B		6	9	6	11		KAD
1948 11 25.01		B	2.3	BD	8.5	M		30		7	3		KAD
1948 11 25.01		I	2.0	BD	0.0	E		1	8		6		KAD
1948 11 26.01		B	1.7	BD	3.0	B		6	27	D6	11		KAD
1948 11 26.01		B	1.9	BD	8.5	M		30	22	7	6		KAD
1948 11 26.01		I	1.5	BD	0.0	E		1	20	6	6		KAD
1948 11 26.01		I	2 :	BD	0.0	E		1	11	6	8		AST
1948 11 26.04		B	2.5:	BD	3.0	B		6	& 6	5	&4		KAD
1948 11 26.04		I	2.5:	BD	0.0	E		1	& 6	6	&1		AST
1948 11 26.05		S	3 :	BD	0.0	E		1	15	6	5		AST
1948 11 26.07		B	3.0	BD	3.0	B		6	30	D6	7		AST
1948 11 27.02		B	2.5	BD	3.0	B		6	25	5	11		KAD
1948 11 27.02		I	2.5	BD	0.0	E		1	20	6	6		KAD
1948 11 27.04		S	3.0	BD	0.0	E		1	& 6	6	3		AST
1948 11 28.04		B	2.7	BD	3.0	B		6	30	5	10		KAD
1948 11 28.04		I	2.5	BD	0.0	E		1	26	6	6		KAD
1948 11 28.07		B	3.0	BD	3.0	B		6	30	5	8		KAD
1948 11 28.99		B	4.0	BD	3.0	B		6		6			LAN04
1948 11 29.02		B	3.5	BD	3.0	B		6	& 5	5	4		AST
1948 11 29.02		I	3.5	BD	0.0	E		1	5	7	4		KAD
1948 12 02.02		B	4.0	BD	3.0	B		6	20	5	6		KAD
1948 12 02.02		S	4.0	BD	0.0	E		1	20	5	4		KAD
1948 12 02.03		B	4.1	BD	8.0	B		12	22	5	5		KAD
1948 12 07.06		B	5.0	BD	3.0	B		6	10	5	2.5		KAD
1948 12 07.06		S	4.0	BD	0.0	E		1	12	5	8		AST
1948 12 07.06		S	5.0	BD	0.0	E		1	12	5	1.5		KAD
1948 12 07.07		B	5.2	BD	8.0	B		12	22	5	2.2		KAD
1948 12 24.96		B	7.0	BD	8.0	B		12	7	4			KAD
1948 12 28.95		B	6.5	BD	8	M		30	7	4			KAD
1948 12 28.96		B	7.0	BD	8.0	B		12	8	4			KAD
1949 01 06.71		B	8.0	BD	8.0	B		20	6	4			KAD
1949 01 06.71		B	8.2	BD	8.0	B		40	5	4			KAD
1949 01 07.79		B	8.0	BD	8.0	B		20	5	4			KAD
1949 01 07.79		B	8.2	BD	8.0	B		40	5	4			KAD
1949 01 09.79		B	8.0	BD	8.0	B		20	5	4			KAD
1949 01 09.80		B	8.3	BD	8.0	B		20	4	4			KAD
1949 01 14.77		B	9.5	BD	8.0	B		12	3	3			SAV04
1949 01 14.78		B	9.7	BD	8.0	B		20	3	3			SAV04
1949 01 23.59		S	11.0	BD	15	R		40	2				BAK02
1949 01 24.59		S	11.0	BD	15	R		40	2				BAK02
1949 02 20.73		P	13.2	BD	38	D	2			3			KHA03
1949 03 04.76		P	13.5	BD	38	D	2			3			USM
1949 03 27.80		P	15.5		38	D	2			3			MAR23

Comet C/1949 N1 (Bappu-Bok-Newkirk)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1949 09 18.71	P	N	13.0		38	D	2				4 m	95	MAR23

Comet C/1950 K1 (Minkowski)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1951 03 26.75		P	9.0	HD	50	M	2			3			ROS03
1951 03 27.76		P	9.0	HD	50	M	2			3			ROS03

Comet C/1951 C1 (Pajdušáková)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1951 03 03.73		P	8.0:	HD	38	D	2			5	7 m	330	KOL06
1951 03 07.75		P	9.1:	HD	38	D	2						MAR23
1951 03 10.80		P	11.0:	HD	38	D	2			5	2.5m	0	MAR23
1951 03 14.07		P	12.0:	HD	38	D	2				2 m	10	MAR23
1951 03 26.75	P	N	12.6	HD	50	M	2			3			ROS03
1951 03 28.75	P	N	12.6	HD	50	M	2			3	0.2	40	ROS03
1951 04 24.83		P	13.5		38	D	2						MAR23

Comet C/1951 C1 (Pajdušáková) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1951 04 25.85	P	N	17.0		50	M	2			3	36	s	ROS03
1951 04 26.85	P	N	17.0		50	M	2			3	36	s	ROS03

Comet C/1952 H1 (Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1952 06 27.88	S		8.5	BD	8.0	B		20		1			BAK02
1952 06 28.88	S		8.9	BD	8.0	B		20		3			BAK02
1952 07 01.85	S		8.8	BD	8.0	B		20		3			BAK02
1952 07 02.88	S		9.3	BD	8.0	B		20		3			BAK02
1952 07 02.98	P		9.2	BD	12	A	5						STE13
1952 07 03.92	S		8.7	BD	8.0	B		20		3			BAK02
1952 07 03.98	P		9.5	BD	12	A	5						VEP
1952 07 03.98	P		9.7	BD	12	A	5						STE13
1952 07 05.93	S		8.9	BD	8.0	B		20		3			BAK02

Comet C/1952 M1 (Peltier)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1952 06 23.80	S	10	:	BD	8.0	B		20		1			BAK02
1952 06 23.81	S	10	:	BD	8.0	B		20		2			BAK02
1952 06 23.82	P	10	:		20	A	5			2			KOC04
1952 06 24.82	P	10	:		20	A	5			2			KOC04
1952 06 26.90	P	10.1		BD	12	A	5			2			STE13
1952 06 29.91	P	9.4		BD	12	A	5			3			HAV01
1952 07 02.91	P	9.4		BD	12	A	5			3			ON001
1952 07 04.96	P	9.8		BD	12	A	5			2			STE13
1952 08 23.75	P	11.2		BD	12	A	5			2			GUR01
1952 08 29.92	P	11.3		BD	12	A	5			2			BRA04
1952 08 29.92	P	11.3		BD	12	A	5			2			GUL02
1952 08 29.92	P	11.3		BD	12	A	5			2			ZEM

Comet C/1952 Q1 (Harrington)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1952 10 10.91	P	12.5:			38	D	2		1				MAR23
1952 10 15.91	P	12.6			38	D	2		1.5				MAR23
1952 10 16.84	P	12.1			38	D	2		1.5				MAR23
1952 10 20.80	P	11.5			38	D	2						MAR23
1952 10 29.65	P	11.5			38	D	2						MAR23
1952 11 11.65	P	11.2			38	D	2		2	3			DYB
1952 11 12.64	P	11.0			38	D	2		2	3			DYB
1952 11 13.70	P	12.0			38	D	2		2	3			USM
1952 11 14.72	P	11.1			38	D	2		2	3			USM
1952 11 16.70	P	11.0:			38	D	2		2	3			DYB
1952 11 17.76	P	11.1			38	D	2		2	3			USM
1952 12 09.73	P	10.8		HR	10	A	9						RIJ
1952 12 14.63	P	10.0			38	D	2		3	5			USM
1952 12 16.59	B	9.5		BD	8.0	B		20	2.5				SAV04
1952 12 19.59	B	10.0:		BD	8.0	B		20	3				AST
1952 12 20.59	B	10.0:		BD	8.0	B		20	3				SAV04
1953 01 05.69	P	10.0:			38	D	2		3	5			KHA03
1953 01 11.61	P	10.0:			38	D	2		3	4			USM
1953 01 12.61	P	10.0:			38	D	2		3	3			USM
1953 01 15.64	B	8.5		BD	8.0	B		20	6	4			AST
1953 01 16.62	B	8.7		BD	8.0	B		20	5	4			BAK02
1953 02 02.64	P	8.0:			38	D	2		3.5	5			USM
1953 02 02.66	B	7.0		BD	6	R	8	25		4			KHA04
1953 02 03.65	P	8.0:			38	D	2		3.5	5			USM
1953 02 04.64	P	9.0:			38	D	2		3	4			USM
1953 02 08.66	P	9.5:			38	D	2		3	5			MAR23

Comet C/1953 G1 (Mrkos-Honda)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1953 05 17.88		P	8.5	BD	38	D	2		3	3			MAR23
1953 05 21.88		P	8.5	BD	38	D	2		3	5			USM
1953 05 21.92		B	8.7	BD	8.0	B		20	4				BAK02
1953 05 22.90		P	9.0	HD	12	A	5						KON08
1953 05 22.91		B	8.4	BD	8.0	B		20	4				BAK02
1953 05 23.87		P	8.5	BD	38	D	2		3	3			MAR23
1953 05 23.88		S	8.0	BD	16	R		40	3	3			MAR23
1953 05 23.90		B	7.0:		5.0	B		10					AST
1953 05 23.91		S	8.4	BD	8.0	B		20					DRO
1953 05 24.93		S	8.6	BD	8.0	B		20					DRO
1953 05 24.95		B	8.2	BD	8.0	B		20		5			BAK02
1953 05 24.97		B	8.6		8.0	R		30					YAK
1953 05 25.93		B	8.1	BD	8.0	B		20		5	&0.1		BAK02
1953 05 25.98		S	8.8	BD	8.0	B		20					DRO
1953 05 26.89		S	8.0	BD	8.0	B		20					DRO
1953 05 28.94		B	8.8:	BD	8.0	B		20	4	4			BAK02
1953 05 30.85		S	9.1	BD	8.0	B		20					DRO
1953 05 30.95		B	8.9:	BD	8.0	B		20	3	3			BAK02
1953 05 31.92		B	8.9:	BD	8.0	B		20	3	3			BAK02
1953 06 03.84		S	9.0	BD	8.0	B		20					DRO
1953 06 03.92		B	8.5	BD	8.0	B		20	3	3			BAK02
1953 06 04.92		B	9.0	BD	8.0	B		20	3	2			BAK02
1953 06 07.92		B	8.9	BD	8.0	B		12	3	2			BAK02
1953 06 08.90		S	9.0	BD	8.0	B		20					DRO
1953 06 08.92		B	8.5	BD	8.0	B		20		2			BAK02
1953 06 09.87		P	9.0	BD	12	A	5						BOH01
1953 06 09.91		B	9.0	BD	8.0	B		20		2			BAK02
1953 06 09.91		S	9.0	BD	8.0	B		20					DRO
1953 06 10.92		B	9.1	BD	8.0	B		20	3	2			BAK02
1953 06 11.92		B	9.1	BD	8.0	B		20		2			BAK02
1953 06 11.94		S	8.6	BD	8.0	B		20					DRO
1953 06 12.90		S	9.3	BD	8.0	B		20					DRO
1953 06 12.93		B	9.2	BD	8.0	B		20		3			BAK02
1953 06 13.92		B	8.6	BD	8.0	B		20	4	3			BAK02
1953 06 14.93		B	9.4:	BD	8.0	B		20	3	2			BAK02
1953 06 15.93		B	9.3:	BD	8.0	B		20	3	2			BAK02

Comet C/1953 T1 (Abell)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1953 10 30.72		P	13 :		38	D	2			3			USM
1953 11 02.01		P	13.5:		38	D	2			3			USM
1953 11 25.68		P	13.0:		38	D	2			3			MAR23
1954 02 08.78		P	12.1	HR	10	A	9						RIJ
1954 02 09.77		P	12.1	HR	10	A	9			5			RIJ
1954 02 21.82		P	11.8	HR	10	A	9						RIJ
1954 02 22.80		P	11.8	HR	10	A	9						RIJ
1954 02 24.81		P	11.8	HR	10	A	9						RIJ
1954 03 07.79		P	12.0		38	D	2			3			MAR23
1954 03 13.79		P	11.6	HR	10	A	9						RIJ
1954 03 20.81		P	11.2	HR	10	A	9						RIJ
1954 03 21.79		P	11.2	HR	10	A	9			4			RIJ
1954 03 24.84		P	11.2	HR	10	A	9						RIJ
1954 04 08.83		P	10.8	HR	10	A	9						RIJ
1954 04 10.86		P	11.0	HR	10	A	9			4			RIJ
1954 04 22.85		P	10.7	HR	10	A	9						RIJ
1954 04 26.91		P	10.3	HR	10	A	9						RIJ
1954 04 27.88		P	10.5	HR	10	A	9						RIJ
1954 04 28.88		P	10.4	HR	10	A	9						RIJ
1954 05 05.87		P	10.0	HR	10	A	9						RIJ
1954 05 06.83		B	8.8	BD	8.0	B		40		3			SKL
1954 05 06.91		P	10.1	HR	10	A	9						RIJ
1954 05 07.83		B	8.9	BD	8.0	B		40		3			SKL
1954 05 07.90		P	10.3	HR	10	A	9						RIJ
1954 05 10.91		P	10.0	HR	10	A	9						RIJ

Comet C/1953 T1 (Abell) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1954 05 13.90		P	10.0	HR	10	A	9						RIJ
1954 05 18.90		P	9.9	HR	10	A	9						RIJ
1954 05 19.82		B	9.0	BD	8.0	B		40		3			SKL

Comet C/1954 O1 (Vozárová)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1954 07 31.84		B	9.2	BD	8.0	B		20		2			BAK02
1954 08 02.79		B	9.3	BD	8.0	B		20	4	2			BAK02
1954 08 03.76		B	9.3	BD	8.0	B		20		4			BAK02
1954 08 04.85		B	9.3	BD	8.0	B		20		3			BAK02
1954 08 05.82		B	9.5	BD	8.0	B		20		3			BAK02
1954 08 06.83		B	9.5	BD	8.0	B		20		3			BAK02
1954 08 07.87		B	9.4	BD	8.0	B		20	4	3			BAK02
1954 08 08.83		B	9.5	BD	8.0	B		20		4			BAK02
1954 08 09.90		B	9.5	BD	8.0	B		20		4			BAK02
1954 08 10.93		B	9.5	BD	8.0	B		20	4	4			BAK02
1954 08 11.96		B	9.0	BD	8.0	B		20	4	3			BAK02
1954 08 21.71		B	9.5	BD	8.0	B		20	4	3			BAK02
1954 08 23.69		B	9.4	BD	8.0	B		20	4	4			BAK02
1954 08 24.69		B	9.5	BD	8.0	B		20	4	4			BAK02
1954 08 25.70		B	9.4	BD	8.0	B		20	4	4			BAK02
1954 08 28.65		B	9.2	BD	8.0	B		20	3.5	4			BAK02
1954 08 29.69		B	9.5:	BD	8.0	B		20	4	4			BAK02
1954 08 30.65		B	9.3	BD	8.0	B		20	3.5	3			BAK02
1954 08 31.70		B	10.0:	BD	8.0	B		20	3	3			BAK02

Comet C/1955 L1 (Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1955 06 14.90		B	3.5:		5.0	B		10	5				MAR23
1955 06 14.96	&	B	3.0:	HD	5.0	B		10	6				BAK02
1955 06 15.96		B	3.0:	HD	8.0	B		20					BAK02
1955 06 16.86	!	S	5.4	HD	5.0	B		7					VSE
1955 06 16.96	&	P	6.0:		12	A	5			5	<1		VSE
1955 06 16.99		B	5.5	HD	8.0	B		20	6		1		BAK02
1955 06 16.99		P	6.0:		12	A	5			5	<1		NAZ
1955 06 16.99	!	S	5.5	HD	5.0	B		7					VSE
1955 06 17.00	!	S	5.4	HD	5.0	B		7					VSE
1955 06 17.01		P	6.0:		12	A	5			5	<1		NIK01
1955 06 17.85		B	6.0		5.0	B		10		3	<1		AST
1955 06 17.85		B	6.0		5.0	B		10	7	3	<1		SAV04
1955 06 17.96		B	4.5:		5.0	B		10			2		AST
1955 06 17.97	!	S	5.4	HD	5.0	B		7					VSE
1955 06 17.99		P	6.0:		12	A	5			5	<1		NIK01
1955 06 18.00	!	S	6.0	HD	5.0	B		7					VSE
1955 06 18.95	!	S	5.3	HD	5.0	B		7					VSE
1955 06 19.92	!	S	5.3	HD	5.0	B		7					VSE
1955 06 19.97	!	S	5.4	HD	5.0	B		7					VSE
1955 06 20.94	!	S	5.4	HD	5.0	B		7					VSE
1955 06 20.96	&	B	5.8	HD	8.0	B		20					BAK02
1955 06 21.87		B	6.5	HD	5.0	B		7	5				LAZ
1955 06 21.90		B	6.5		5.0	B		10					MAR23
1955 06 22.87		B	7.0	HD	5.0	B		7	5				LAZ
1955 06 23.87		B	7.3	HD	5.0	B		15	7				PAR05
1955 06 23.93		B	5.9	HD	8.0	B		20	9	5	1		BAK02
1955 06 24.88		B	7.5	HD	5.0	B		15	7				LAZ
1955 06 24.92		B	6.0	HD	8.0	B		20	8.5	5	1		BAK02
1955 06 25.87		S	4.5	BD	13	R		40					KAV
1955 06 25.88	!	S	5.7	HD	5.0	B		7					VSE
1955 06 27.87	!	S	6.1	HD	5.0	B		7					VSE
1955 06 27.88	P				50	A	2				1		MAT09
1955 06 27.92		B	6.3	HD	8.0	B		20	8	4			BAK02
1955 06 27.92		B	6.5	BD	8.0	B		20			1		BAK02
1955 06 28.16		B	6.3	HD	8.0	B		20	9	4			BAK02

Comet C/1955 L1 (Mrkos) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1955 06 28.87	!	S	6.4	HD	5.0	B		7					VSE
1955 06 29.92		B	6.6	HD	8.0	B		20	9		<1		BAK02
1955 06 29.92		B	6.7	BD	8.0	B		20					BAK02
1955 06 30.87	!	S	6.4	HD	5.0	B		7					VSE
1955 06 30.93	!	S	6.3	HD	5.0	B		7					VSE
1955 07 01.64		S	7.7:	BD	13	R		40					KUK03
1955 07 01.68		S	6.9	BD	13	R		40					KUP
1955 07 01.93		B	6.5	HD	8.0	B		20	10	5			BAK02
1955 07 01.93		B	6.7	BD	8.0	B		20	10				BAK02
1955 07 02.66		S	7.7:	BD	13	R		40					KUK03
1955 07 02.69		S	7.6	BD	13	R		40					KUP
1955 07 02.70		S	7.5	BD	13	R		40					KAV
1955 07 02.93		B	6.4	HD	8.0	B		20	9				BAK02
1955 07 02.93		B	6.8	BD	8.0	B		20					BAK02
1955 07 08.65		S	7.7	BD	13	R		40					KUK03
1955 07 09.65		S	7.8	BD	13	R		40		2			KUK03
1955 07 09.70		S	7.7	BD	13	R		40					KAV
1955 07 09.80		B	7.4:	HD	8.0	B		20	9	2			BAK02
1955 07 10.68		B	6.3	BD	8.0	B		20	8.5	D5	&0.8		BAK02
1955 07 10.68		B	6.5	HD	8.0	B		20	8.5	D5	&0.8		BAK02
1955 07 11.65		S	7.9:	BD	13	R		40					KUK03
1955 07 11.66		S	7.6	BD	13	R		40					KUP
1955 07 11.71		B	7.0	BD	8.0	B		20		4			BAK02
1955 07 11.84	!	S	7.0	HD	5.0	B		7					VSE
1955 07 11.96	!	S	7.3	HD	5.0	B		7					VSE
1955 07 12.69		B	7.5	BD	8.0	B		20		4			BAK02
1955 07 13.69		B	7.4	HD	8.0	B		20					BAK02
1955 07 13.89	!	S	7.5	HD	5.0	B		7					VSE
1955 07 14.69		B	7.4	HD	8.0	B		20	8	5			BAK02
1955 07 14.89	!	S	7.6	HD	5.0	B		7					VSE
1955 07 15.74		B	7.2	HD	8.0	B		20	8.5	5			BAK02
1955 07 16.70		S	7.8:	BD	13	R		40					KUP
1955 07 16.72		B	7.2	HD	8.0	B		20		5			BAK02
1955 07 17.72		B	7.2	HD	8.0	B		20		5			BAK02
1955 07 20.78	&	B	7.8:	BD	8.0	B		20		2			BAK02
1955 07 21.78		B	8.0	BD	8.0	B		20	7	3			BAK02
1955 07 21.78		B	8.3	HD	8.0	B		20		3			BAK02
1955 07 22.70		B	7.5	HD	8.0	B		20		3			BAK02
1955 07 24.74		B	7.4	BD	8.0	B		20		3			BAK02
1955 07 24.74		B	7.8	HD	8.0	B		20		3			BAK02
1955 07 25.78		B	7.8	BD	8.0	B		20	9	3			BAK02
1955 07 25.78		B	8.0	BD	8.0	B		20		3			BAK02
1955 07 27.76	&	B	8.3	BD	8.0	B		20					BAK02
1955 07 27.76	&	B	8.6	BD	8.0	B		20	8				BAK02
1955 07 29.70		B	9.3	BD	8.0	B		20		3			BAK02
1955 07 30.69		B	8.3:	BD	8.0	B		20		3			BAK02
1955 08 01.68		B	9.0	BD	8.0	B		20					BAK02
1955 08 02.69		B	9.5:	BD	8.0	B		20		2			BAK02
1955 08 05.68		B	9.4:	BD	8.0	B		20		2			BAK02
1955 08 06.67		B	9.4	BD	8.0	B		20	8	3			BAK02
1955 08 10.66		B	9.4	BD	8.0	B		20		2			BAK02
1955 08 11.67		B[	9.6	BD	8.0	B		40					BAK02
1955 08 16.67		B[	9.6	BD	8.0	B		40					BAK02

Comet C/1955 N1 (Bakharev-Macfarlane-Krienke)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1955 07 13.75		B	8.0	BD	8.0	B		20		3			BAK02
1955 07 13.85		B	8.0	BD	8.0	B		20		3			BAK02
1955 07 15.82		B	7.5		5.0	B		10					AST
1955 07 15.84		P	8.0		12	A	5						VOD
1955 07 15.93		P	8.0		12	A	5						VOD
1955 07 15.95		B	8.1	BD	5.0	B		7					VSE
1955 07 15.99		B	8.0	BD	5.0	B		7					VSE
1955 07 16.20		B	7.0:		5.0	B		10	5	4			AST

Comet C/1955 N1 (Bakharev-Macfarlane-Krienke) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1955 07 16.91		P	8.0		38	D	2						KHA03
1955 07 16.94		B	7.5		5.0	B		10	5	4			AST
1955 07 16.94		P	8.0		12	A	5						NOV
1955 07 16.95		B	7.3	BD	5.0	B		7	4	4			VSE
1955 07 16.97		P	8.0		12	A	5						TSE
1955 07 17.83		B	7.5		5.0	B		10	6				AST
1955 07 18.75		B	7.8		5.0	B		10	6	4			AST
1955 07 18.87		B	7.8	BD	5.0	B		7	6	3			VSE
1955 07 18.88		P	8.0		38	D	2						KHA03
1955 07 18.93		B	7.0	BD	8.0	B		20	6				VSE
1955 07 24.85		P	8.0		38	D	2						KHA03
1955 07 25.85		P	8.0		38	D	2						DYB
1955 07 26.84		P	8.0		38	D	2						DUB
1955 07 27.83		P	8.1		38	D	2						KHA03
1955 07 28.83		P	8.0		38	D	2						DYB
1955 07 29.83		P	8.2		38	D	2						KHA03
1955 08 16.87		B	8.6	BD	5.0	B		7	2	3			VSE
1955 08 17.81		B	9.1	BD	8.0	B		20					VSE
1955 08 18.93		B	9.1	BD	8.0	B		20					VSE
1955 09 11.85		S	11.0:	BD	25	R	21	160	2	3			VSE
1955 09 12.83		S	11.0:	BD	25	R	21	160	1.5	2			VSE

Comet C/1955 O1 (Honda)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1955 08 02.94		B	5.0	BD	8.0	B		20	20	5			BAK02
1955 08 03.96		B	4.9	BD	8.0	B		20	18	5			BAK02
1955 08 06.22		B	6.2	BD	8.0	B		20	15	5			BAK02
1955 08 16.21		B	6.5	BD	8.0	B		20	14	5			BAK02
1955 08 23.71		B	6.5	BD	8.0	B		20	14	5	0.7		BAK02
1955 08 23.84		S	6.3	HD	5.0	B		7	10	3			VSE
1955 08 24.77					8.0	B		20	15		>1.2		VSE
1955 08 24.77		B	7.2	BD	8.0	B		20	14	6	1		BAK02
1955 08 24.77		S	6.8	HD	5.0	B		7		4			VSE
1955 08 25.82		B	7.3	BD	8.0	B		20	14	6	1		BAK02
1955 08 26.79		S	6.0	HD	5.0	B		7	16	2			VSE
1955 08 26.80		B	6.9	BD	8.0	B		20	14	7	1		BAK02
1955 08 26.81		B	6.8	BD	8.0	B		20	14	7	1		BAK02
1955 08 27.80		B	6.8	HD	5.0	B		7	& 7	3			VSE
1955 08 28.86		B	6.5	HD	5.0	B		7	25	4			VSE
1955 08 29.87		B	6.7	HD	5.0	B		7					VSE
1955 08 31.79		B	6.9	HD	5.0	B		7					VSE
1955 09 05.76		B	5.6	HD	5.0	B		7	& 4		&0.5	75	VSE
1955 09 07.72		B	6.2	HD	5.0	B		7					VSE
1955 09 08.75		B	6.9	HD	5.0	B		7					VSE
1955 09 09.75		B	6.4	HD	5.0	B		7					VSE
1955 09 09.78	P				12	A	5		5		1.3	90	VSE
1955 09 09.79		B	6.5	HD	5.0	B		7					VSE
1955 09 10.76		B	6.9	HD	5.0	B		7	11				VSE
1955 09 11.75		B	7.1	HD	5.0	B		7					VSE
1955 09 11.77		B	7.1	HD	8.0	B		20	8		&1	80	VSE
1955 09 12.76		B	7.6	HD	5.0	B		7					VSE
1955 09 12.85		B	7.7	HD	8.0	B		20					VSE
1955 09 13.78		B	7.6	HD	8.0	B		20					VSE
1955 09 14.75		B	6.4	HD	6.0	R		12					VSE
1955 09 14.75		B	7.7	HD	8.0	B		20					VSE

Comet C/1956 E1 (Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1956 03 16.10		B	8.0:	HD	8.0	B		20					BAK02

Comet C/1956 R1 (Arend-Roland)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 01 16.80		P	10.5:	HD	20	A	4						DEI
1957 01 19.85		P	10.1:	HD	20	A	4						DEI
1957 01 21.84		P	10.0:	HD	20	A	4						DEI
1957 01 23.70	!	S	7.8	HD	8.0	B		20					VSE
1957 02 10.84		P	9.8:	HD	20	A	4						DEI
1957 04 21.67		S	2.0	BD	0.0	E		1		4			AST
1957 04 21.80		S	0.0:	BD	0.0	E		1		S7			KUK03
1957 04 22.63	P				14	A	5			5	8		ROS03
1957 04 22.67		S	2.2	BD	0.0	E		1		4			AST
1957 04 22.71		B	2.0	BD	5.0	B		7		S6	4		LAZ
1957 04 22.78	!	B	1.2	HD	5.0	B		7		6	&7		VSE
1957 04 23.62		P	3.1:	BD	14	A	5			5	8		ROS03
1957 04 23.74		B	2.2	BD	3.0	B		6			&5		YAN01
1957 04 23.80	!	B	1.8	HD	5.0	B		7		6	8		VSE
1957 04 24.67		S	2.0	BD	0.0	E		1		4	14		AST
1957 04 24.81		B	1.9	BD	5.0	B		7		S6	7		LAZ
1957 04 24.85	!	B	0.1:	HD	5.0	B		7		6	8		VSE
1957 04 24.85	!	S	0.1:	HD	0.0	E		1		4			VSE
1957 04 25.67					3.0	B		6		6	9		KUK03
1957 04 25.75		S	2.0	BD	0.0	E		1		4	22		AST
1957 04 25.76		B	1.9	BD	5.0	B		7		S6	10		LAZ
1957 04 25.79		P	3.0	HD	4	A	2						MAR23
1957 04 25.80		B	2.5	BD	3.0	B		6		S6			YAN01
1957 04 25.80	!	B	0.5	HD	5.0	B		7		6			VSE
1957 04 25.94		P	2.0:	HD	20	A	4						DEI
1957 04 26.00		B	2.6	BD	3.0	B		6					STR02
1957 04 26.65		B	2.8	BD	3.0	B		6	7	5	8		BAK02
1957 04 26.70		P	3.0	HD	5	A	2				18		SCH15
1957 04 26.80		B	2.0	BD	0.0	E		1		4	25		LAB01
1957 04 26.97		B	2.4	BD	3.0	B		6					STR02
1957 04 26.97		S	1.9	BD	0.0	E		1					STR02
1957 04 26.98		P	1.5:	HD	20	A	4						DEI
1957 04 27.66					5.0	B		10			6.6		TEI
1957 04 27.67		P	3.5	BD	5	A	2			5	22		ROS03
1957 04 27.69		B	4.1	BD	5.0	B		10			5		ERA
1957 04 27.77		B	2.8	BD	3.0	B		6			8		CHE05
1957 04 27.79	!	B	2.8	HD	5.0	B		7		6			VSE
1957 04 27.81		P	3.7		4	A	2						MAR23
1957 04 27.83	!	B	2.7	HD	5.0	B		7		6			VSE
1957 04 27.87		B	2.2	BD	0.0	E		1		4			LAB01
1957 04 28.64		B	3.5	BD	5.0	B		10			5.0		TEI
1957 04 28.65		B	3.0:	BD	3.0	B		6	7	5	5		BAK02
1957 04 28.67		B	2.9	BD	3.0	B		6		S8			KUK03
1957 04 28.67		B	3.5	BD	3.0	B		6		S8			KUK03
1957 04 28.69		B	3.6	BD	5.0	B		10			4.6		ERA
1957 04 28.70					0.0	E		1			5		CHE05
1957 04 28.77		B	2.8	BD	3.0	B		6			8		CHE05
1957 04 28.80	!	B	3.0	HD	5.0	B		7		6			VSE
1957 04 28.82		B	3.0	BD	3.0	B		6		S6	&5		YAN01
1957 04 28.85		B	2.5	BD	3.0	B		6					YAN01
1957 04 29.67		B	3.0	BD	3.0	B		6		S8			KUK03
1957 04 29.67		B	3.4	BD	3.0	B		6		S8			KUK03
1957 04 29.78		B	3.0:	BD	3.0	B		6			&7.5		CHE05
1957 04 29.98		P	4.6		4	A	2						MAR23
1957 04 30.68		P	4.5	BD	50	M					14		ROS03
1957 04 30.76	!	B	3.2	HD	5.0	B		7		6			VSE
1957 04 30.78		B	3.3:	BD	3.0	B		6			&4.5		CHE05
1957 04 30.85	!	B	3.2	BD	3	A	2						VSE
1957 05 01.66		B	4.4	BD	3.0	B		6	6	4			SOL01
1957 05 01.78	!	B	3.1	HD	5.0	B		7		6			VSE
1957 05 01.80		B	3.4	BD	3.0	B		6			3.5		CHE05
1957 05 01.82		B	3.5	BD	3.0	B		6		S6	&4.5		YAN01
1957 05 01.85	!	B	3.4	HD	5.0	B		7		6			VSE
1957 05 01.87		P	3.1	BD	3	A	2						DAN02
1957 05 01.90	!	B	3.2	HD	5.0	B		7		6	10		VSE

Comet C/1956 R1 (Arend-Roland) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 05 02.01		B	4.4	BD	3.0	B		6					STR02
1957 05 02.78		B	3.6	BD	3.0	B		6			4.5		CHE05
1957 05 02.80	!	B	3.9	HD	5.0	B		7		6	10		VSE
1957 05 02.99		P	5.1		4	A	2						MAR23
1957 05 03.03		B	5.0	BD	3.0	B		6					STR02
1957 05 03.04	!	B	3.5	HD	5.0	B		7		6	10		VSE
1957 05 03.07		P	3.5:	HD	20	A	4						DEI
1957 05 03.74		B	5.0	BD	5.0	B		10					TEI
1957 05 03.76	!	B	3.9	HD	5.0	B		7		6	10		VSE
1957 05 03.78		P	4.5	BD	5	A	2				14		ROS03
1957 05 03.95	!	B	4.2	HD	5.0	B		7		6	10		VSE
1957 05 04.77	!	B	4.2	HD	5.0	B		7		6			VSE
1957 05 04.80		B	4.8	BD	3.0	B		6			&3		CHE05
1957 05 05.00		B	5.0	BD	3.0	B		6					STR02
1957 05 05.74	P				5	A	2				&8		ROS03
1957 05 05.97		B	5.5	BD	3.0	B		6					STR02
1957 05 06.66		B	5.3	BD	3.0	B		6	8	7	7		BAK02
1957 05 07.91	!	B	4.7	HD	5.0	B		7		6			VSE
1957 05 08.01		B	5.8	BD	3.0	B		6					STR02
1957 05 08.98		B	5.7	BD	3.0	B		6					STR02
1957 05 08.99		B	6.2	BD	8.0	M		25					STR02
1957 05 09.68	!	B	5.3	HD	5.0	B		7		6			VSE
1957 05 09.88	!	B	5.5	HD	5.0	B		7		6			VSE
1957 05 09.98		B	6.0	BD	3.0	B		6			2		CHE05
1957 05 09.99		B	6.0	BD	3.0	B		6					STR02
1957 05 09.99		B	7.2:	BD	8.0	M		25					STR02
1957 05 10.76		B	6.1:	BD	5.0	B		7		4	&0.3		LAZ
1957 05 10.80	!	B	5.6	HD	5.0	B		7		6			VSE
1957 05 10.91	!	B	5.1	HD	5.0	B		7		6			VSE
1957 05 11.01		B	6.0	BD	5.0	B		7		4	1		LAZ
1957 05 11.05		B	6.1	BD	3.0	B		6					STR02
1957 05 11.84	!	B	5.5	HD	5.0	B		7		5			VSE
1957 05 11.95	!	B	5.5	HD	5.0	B		7		5			VSE
1957 05 12.70		B	5.5	BD	5.0	B		7		4			LAZ
1957 05 13.75		B	5.6	BD	5.0	B		7		4	1		LAZ
1957 05 13.77	!	B	5.4	HD	5.0	B		7		5			VSE
1957 05 16.80		B	6.9:	BD	3.0	B		6			&1		CHE05
1957 05 17.65		B	7.2	BD	5.0	B		10					TEI
1957 05 17.67		B	7.2	BD	3.0	B		6	5	7	8		BAK02
1957 05 18.71		B	7.0	BD	3.0	B		6	6	7	10		BAK02
1957 05 18.81	!	B	6.1	HD	5.0	B		7		6			VSE
1957 05 19.83	!	B	6.2	HD	5.0	B		7		6			VSE
1957 05 20.78		B	6.7	BD	5.0	B		7		4			LAZ
1957 05 21.01		B	7.6	BD	8	M		25					STR02
1957 05 22.80	!	B	6.7	HD	5.0	B		7		5			VSE
1957 05 22.93	!	B	6.8	HD	5.0	B		7		5			VSE
1957 05 23.83	!	B	6.9	HD	5.0	B		7		5			VSE
1957 05 24.99		B	8.6	BD	8	M		25					STR02
1957 05 31.83	!	B	7.6	HD	5.0	B		7		5			VSE
1957 05 31.90	!	B	7.8	HD	8.0	B		12		5			VSE
1957 05 31.99		B	9.0	BD	8	M		25					STR02
1957 06 03.01		B	9.0	BD	8	M		25					STR02
1957 06 03.84	!	B	7.8	HD	8.0	B		25		4			VSE
1957 06 03.90	!	B	7.8	HD	8.0	B		12		4			VSE

Comet C/1957 P1 (Mrkos)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 08 02.79	!	B	4.5	BD	5.0	B		7					MAR23
1957 08 05.03		I	1.0:	BD	0.0	E		1					LAV01
1957 08 05.80		S	0.1:	BD	0.0	E		1					TEI
1957 08 05.96		S	2.0	BD	0.0	E		1					VAS04
1957 08 06.81	!	P	1.9	BD	4	A	2						MAR23
1957 08 06.85		I	2.0	BD	0.0	E		1		6	5		PAR05
1957 08 07.02	!	B	1.8	BD	0.0	E		1		6	5		VSE

Comet C/1957 P1 (Mrkos) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 08 07.03	!	B	2.3	BD	5.0	B		7			5		VSE
1957 08 07.81		B	2.0	BD	3.0	B		6					TEI
1957 08 07.81	&	S	3.0	HD	0.0	E		1			2		LAZ
1957 08 07.82	&	B	3.1	HD	5.0	B		7			3		LAZ
1957 08 07.85		I	3.0	BD	0.0	E		1			1.5		TIK
1957 08 08.02	!	B	2.7:	BD	5.0	B		7					VSE
1957 08 08.86	P				12	A	4				1.5		STR02
1957 08 09.77	!	B	2.4	BD	5.0	B		7		6	1		VSE
1957 08 09.81	!	B	1.7	BD	5.0	B		7			1.3		MAR23
1957 08 09.81	!	P	2.4	BD	4	A	2				1.3		MAR23
1957 08 09.82	!	B	2.1	BD	5.0	B		7			4.5		VSE
1957 08 10.72					0.0	E		1			1		LAZ
1957 08 10.73	!	B	1.8	HD	5.0	B		7			2		LAZ
1957 08 10.73	&	B	2.7	HD	5.0	B		7			2		LAZ
1957 08 11.72		I	3.0:	BD	0.0	E		1					KHA02
1957 08 11.81		B	3.6:		0.0	E		1					KLE02
1957 08 11.82	!	B	2.6	BD	5.0	B		7			2.5		VSE
1957 08 11.83	!	B	2.8	BD	5.0	B		7					VSE
1957 08 11.84		B	2.4	BD	3.0	B		6			1.5		TEI
1957 08 11.84	P				12	A	4				2		STR02
1957 08 11.85	!	P	2.8	BD	4	A	2				&0.9		MAR23
1957 08 11.86	P				5	A	2				&5		TEI
1957 08 12.57		B	2.8	BD	3.0	B		6					CHE05
1957 08 12.75	&	B	3.0	HD	5.0	B		7			3		LAZ
1957 08 12.77	!	B	2.3	BD	5.0	B		7		5	2.5		VSE
1957 08 12.80	!	B	2.0	BD	5.0	B		7					MAR23
1957 08 12.81		B	2.5	BD	3.0	B		6			3.4		TEI
1957 08 12.81		P	2.3	BD	3.0	A	2						DAN02
1957 08 12.82					0.0	E		1			3.5		BAR09
1957 08 12.84		P	3.3	BD	7	A	2				1.8		BAR09
1957 08 13.75		B	3.2	HD	5.0	B		7			3		LAZ
1957 08 13.79	!	B	2.6	BD	5.0	B		7			2		VSE
1957 08 13.80	!	B	2.5	BD	5.0	B		7			2		VSE
1957 08 13.80	P				5	A	2				&6		TEI
1957 08 13.83		B	3.0	HD	5.0	B		7		6	3		STR02
1957 08 13.84	!	B	3.0	BD	5.0	B		7					MAR23
1957 08 14.57		B	2.9	BD	3.0	B		6					CHE05
1957 08 14.66		B	2.0:	BD	3.0	B		6		D6	4		GUS
1957 08 14.77		P	3.4	HD	7	A	2						BAR09
1957 08 14.81	!	B	2.6	BD	5.0	B		7		6/	1.5		VSE
1957 08 15.57		B	3.0	BD	3.0	B		6					CHE05
1957 08 15.61	P				5	A	4				5		CHE05
1957 08 16.57		B	2.9	BD	3.0	B		6					CHE05
1957 08 16.77	!	B	2.3	BD	5.0	B		7		D5	2.5		VSE
1957 08 16.78	P				25.0	R		7	1.8	S6			VSE
1957 08 16.81	!	B	2.6	BD	5.0	B		7		5	4		VSE
1957 08 16.82		P	2.4	BD	3	A	2						VSE
1957 08 16.83		B	3.5	HD	5.0	B		7		5	3		STR02
1957 08 16.84		S	3.7:		0.0	E		1					KLE02
1957 08 17.57		B	2.8	BD	3.0	B		6					CHE05
1957 08 17.67		B	2.3	BD	3.0	B		6		D6	5		BAK02
1957 08 17.76		B	3.9	HD	3.0	B		6			2.5		CHE05
1957 08 17.81	!	B	2.8	BD	5.0	B		7		5	3		VSE
1957 08 18.67		B	2.4	BD	3.0	B		6		S7	4		BAK02
1957 08 18.75		P	3.6	HD	7	A	2						BAR09
1957 08 18.75	!	B	3.4	HD	5.0	B		7			2		LAZ
1957 08 18.75	&	B	3.8	HD	5.0	B		7			2		LAZ
1957 08 18.76		B	4.1	HD	3.0	B		6					CHE05
1957 08 18.76		S	4.2	HD	0.0	E		1					CHE05
1957 08 18.77	!	B	2.8	BD	5.0	B		7		5	1.5		VSE
1957 08 19.67		B	2.4	BD	3.0	B		6		6	5		BAK02
1957 08 19.77		B	4.0	HD	3.0	B		6					CHE05
1957 08 19.77		S	4.2	HD	0.0	E		1					CHE05
1957 08 19.82		B	4.0	HD	5.0	B		7			2		STR02
1957 08 20.56		B	3.0	BD	3.0	B		6					CHE05

Comet C/1957 P1 (Mrkos) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 08 20.76		B	4.3	HD	3.0	B		6					CHE06
1957 08 20.76	!	B	3.6	HD	5.0	B		7			1.2		LAZ
1957 08 20.76	&	B	4.3	HD	5.0	B		7			1.2		LAZ
1957 08 20.86					5.0	B		7			2.5		STR02
1957 08 21.76		B	4.2	HD	3.0	B		6					CHE06
1957 08 21.76		S	4.3	HD	0.0	E		1					CHE06
1957 08 21.81		P	3.5	BD	3	A	2						DAN02
1957 08 21.81	!	B	3.7	BD	5.0	B		7			2		VSE
1957 08 22.71		B	4.3	HD	5.0	B		7			0.4		LAZ
1957 08 22.76		S	3.9:	HD	0.0	E		1					CHE06
1957 08 23.76		B	4.1	HD	5.0	B		7			0.7		LAZ
1957 08 23.83		B	4.0	HD	5.0	B		7		5	4		STR02
1957 08 24.75		B	3.8	HD	3.0	B		6					CHE06
1957 08 24.75		P	3.7	HD	7	A	2						BAR09
1957 08 24.75		S	4.0	HD	0.0	E		1					CHE06
1957 08 24.76		B	4.0	HD	5.0	B		7			0.5		LAZ
1957 08 24.76	!	B	3.2	BD	7.0	B		7			1.5		VSE
1957 08 24.77			4.0	HD	0.0	E		1			&1		LAZ
1957 08 24.78		B	4.5	HD	5.0	B		7			1.5		LAZ
1957 08 24.81		P	3.7	BD	3	A	2						VSE
1957 08 24.82	!	B	3.4	BD	5.0	B		7			1.5		VSE
1957 08 24.84	!	B	3.6	BD	5.0	B		7			1.5		VSE
1957 08 25.75			4.3	HD	0.0	E		1					CHE06
1957 08 25.75		B	4.0	HD	3.0	B		6					CHE06
1957 08 25.83		B	4.2	HD	5.0	B		7			5		STR02
1957 08 25.84			4.7:		0.0	E		1					KLE02
1957 08 26.57		B	4.5	BD	3.0	B		6					CHE05
1957 08 26.75			4.2:	HD	0.0	E		1					CHE06
1957 08 26.78	!	B	4.3	BD	5.0	B		7					MAR23
1957 08 26.78	!	B	4.4:	BD	15	R		40		3			VSE
1957 08 26.78	P!	B	4.5:	BD	4	A	4						MAR23
1957 08 27.83		S	4.7:		0.0	E		1					KLE02
1957 08 27.83	!	B	4.4	HD	5.0	B		7			3		STR02
1957 08 28.75		B	4.2	HD	0.0	E		1					CHE06
1957 08 28.75		B	4.2	HD	3.0	B		6					CHE06
1957 08 28.76		B	4.1	BD	5.0	B		7		5	0.7		VSE
1957 08 28.77	P				25.0	R		7	1.8	S6			KON08
1957 08 28.89		B	4.2	BD	5.0	B		7	2.8	5	0.7		VSE
1957 08 29.74		B	4.1	HD	3.0	B		6					CHE06
1957 08 29.74		S	4.3	HD	0.0	E		1					CHE06
1957 08 29.81		B	5.2:	HD	5.0	B		7					STR02
1957 08 30.75		B	4.2	HD	3.0	B		6					CHE06
1957 08 30.75		S	4.1:	HD	0.0	E		1					CHE06
1957 08 31.77		B	4.8	HD	5.0	B		7					STR02
1957 09 01.55		B	4.2:	BD	3.0	B		6					CHE05
1957 09 01.74		B	4.2	HD	3.0	B		6					CHE06
1957 09 01.77	!	B	4.4	BD	5.0	B		7			0.7		VSE
1957 09 02.75		B	4.4	HD	3.0	B		6					CHE06
1957 09 02.76	!	B	4.1	BD	5.0	B		7		5			VSE
1957 09 02.77	P				25.0	R		7	1.5	S6			KON08
1957 09 02.78		B	4.7	HD	5.0	B		7			0.2		STR02
1957 09 05.74		B	4.5	HD	3.0	B		6					CHE06
1957 09 05.76		B	4.5:	BD	5.0	B		7					VSE
1957 09 06.74	!	B	4.6	BD	5.0	B		7		6			VSE
1957 09 06.80	!	B	4.7	BD	5.0	B		7		6			VSE
1957 09 07.74	!	B	4.6	BD	5.0	B		7					VSE
1957 09 07.75	!	B	4.8	BD	5.0	B		7					VSE
1957 09 07.77		B	4.5	HD	5.0	B		7			0.2		STR02
1957 09 08.71		B	4.4:	HD	3.0	B		6					CHE06
1957 09 08.74	!	B	4.6	BD	5.0	B		7		6			VSE
1957 09 08.77		B	5.0	HD	5.0	B		7			0.5		STR02
1957 09 08.77	!	B	4.7	BD	5.0	B		7					VSE
1957 09 09.77		B	5.4	HD	5.0	B		7					STR02
1957 09 09.77	!	B	5.3:	BD	7.0	R		20					VSE
1957 09 10.51		B	6.1:	BD	13	R	6	36					CHE05

Comet C/1957 P1 (Mrkos) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 09 10.77	!	B	4.6:	BD	5.0	B		7					VSE
1957 09 11.52		B	5.3	BD	3.0	B		6					CHE05
1957 09 11.57	!	B	5.1	BD	5.0	B		7		4			VSE
1957 09 12.53		B	6.0:	BD	13	R	6	36					CHE05
1957 09 12.74		B	6.0:	HD	3.0	B		6					CHE06
1957 09 13.73	!	B	5.3	BD	5.0	B		7					VSE
1957 09 13.75	!	B	5.2	BD	5.0	B		7			0.5		VSE
1957 09 13.77		B	5.4	HD	5.0	B		7			0.5		STR02
1957 09 13.79		B	5.7	HD	5.0	B		7					STR02
1957 09 13.8		B	6.1:	HD	3.0	B		6					CHE06
1957 09 14.53		B	6.0:	BD	13	R		36					CHE05
1957 09 14.55	!	B	5.3	BD	5.0	B		7			&0.3		VSE
1957 09 15.53		B	6.0:	BD	13	R		36					CHE05
1957 09 15.74		B	6.3:	HD	3.0	B		6					CHE06
1957 09 16.75		B	6.1	HD	5.0	B		7					STR02
1957 09 17.51		B	6.8	BD	13	R		36					CHE05
1957 09 21.76		B	6.2	HD	5.0	B		7		4			STR02
1957 09 26.74		B	6.2	HD	5.0	B		7		5			STR02
1957 09 29.72		B	6.8:	HD	5.0	B		7					STR02

Comet C/1957 U1 (Latyshev-Wild-Burnham)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1957 10 16.82		B	8.0	HD	5.0	B		7		3			LAT
1957 10 17.75		B	7.5	HD	5.0	B		7		3			LAT
1957 10 18.00		B	7.5	HD	5.0	B		7		3			LAT
1957 10 19.73		B	7.0	HD	5.0	B		7		3			LAT
1957 10 19.79		B	7.0	HD	5.0	B		7					LAT
1957 10 19.83		B	6.7	HD	5.0	B		7		3			LAT
1957 10 20.86		B	6.7	HD	5.0	B		7	4.5	4	1.5	50	LAT
1957 10 21.86		B	7.0	HD	5.0	B		7			0.8		LAT
1957 10 22.55		B	7.0	HD	5.0	B		7		3			LAT
1957 10 22.80		B	8.0	HD	5.0	B		7					LAT
1957 10 23.68		B	9.0	HD	5.0	B		7					LAT

Comet C/1959 Q1 (Alcock)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1959 08 29.71		B	9.2	BD	8.0	B		40	2.5	3			SHA08
1959 08 30.69		B	9.2	BD	8.0	B		40	2.5	4			SAV04
1959 08 31.67		B	9.3	BD	8.0	B		40	2.0	4			SHA08
1959 09 01.67		B	9.4	BD	8.0	B		40	1.5	4			SHA08
1959 09 01.75		B	10.0	BD	5.0	B		8					SAV04
1959 09 02.73		B	9.4	BD	8.0	B		40	1.5	4			SHA08
1959 09 03.67		B	9.4	BD	8.0	B		40	1.5	3			SAV04
1959 09 03.70		P	10.0:	BD	20	A	4						BR007
1959 09 04.68		B	9.4	BD	8.0	B		40	1.5	3			SHA08
1959 09 04.71		P	10.0:	BD	20	A	4						BR007
1959 09 05.69		B	9.4	BD	8.0	B		40	1.5	3			SHA08
1959 09 06.70		P	10.0:	BD	20	A	4						BR007
1959 09 09.70		P	10.0:	BD	20	A	4						BR007

Comet C/1959 Q2 (Alcock)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1959 08 23.99		B	5.5	BD	8.0	B		20			<0.1		KOZ01
1959 09 03.02		B	5.7	BD	8.0	B		20			0.4		SAV04
1959 09 03.99		B	5.0	BD	8.0	B		20					KOZ01
1959 09 04.02		B	6.3:	BD	8.0	B		20					SAV04

Comet C/1959 Y1 (Burnham)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1960 04 20.05		P	7.2	HD	12	A	5						VSE
1960 04 20.08		P	6.6	HD	12	A	5						LAB01

Comet C/1959 Y1 (Burnham) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1960 04 21.04		P	6.4	HD	12	A	5						DAN02
1960 04 22.02		P	7.0	HD	12	A	5						VSE
1960 04 22.05		P	6.6	HD	12	A	5						POG
1960 04 23.05		P	5.3	HD	12	A	5						VSE
1960 04 25.88		P	6.7	HD	12	A	5						LAB01
1960 04 25.93		P	6.4	HD	12	A	5						VSE
1960 04 27.85		P	5.1	HD	12	A	5						LAB01
1960 04 27.96		P	4.8	HD	12	A	5						VSE
1960 04 28.82		P	5.6	HD	12	A	5						LAB01
1960 04 28.90		P	5.6	HD	12	A	5						VSE
1960 04 28.95		P	5.6	HD	12	A	5						LAB01
1960 04 28.97		P	5.7	HD	12	A	5						POG
1960 04 28.99		P	5.8	HD	12	A	5						LAB01
1960 05 04.76		B	5.0	BD	5.0	B		7					KAD
1960 05 05.68		B	5.2	BD	5.0	B		7					KAD
1960 05 05.78		B	5.3	BD	5.0	B		7					KAD
1960 05 06.78		B	5.8	BD	5.0	B		7					KAD
1960 05 07.70		B	7.0	BD	5.0	B		7					KAD
1960 05 08.72		B	7.5	BD	5.0	B		7					KAD
1960 05 18.91		P	9.8	HD	12	A	5						LAB01
1960 05 20.90		P	10.0	HD	12	A	5						DAN02
1960 05 21.84		P	10.1	HD	12	A	5						POG
1960 05 26.86		P	10.4	HD	12	A	5						VSE

Comet C/1995 O1 (Hale-Bopp)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 08 07.79		E	6.3	AA	6.5	L	8	33	3.8	5			SHI04
1996 09 12.75		E	6.0	AA	6.5	L	8	33	4.4	5			SHI04
1996 10 02.71		E	5.8	AA	6.5	L	8	33	6.1	5			SHI04
1996 10 14.70		E	5.7	AA	6.5	L	8	33	7.3	5			SHI04
1996 11 05.69		E	5.4	AA	6.5	L	8	33	10	5			SHI04
1997 01 27.13		M	2.8	AA	6.5	L	8	33	12.5	5	0.2	325	SHI04
1997 01 29.13		M	2.7	AA	6.5	L	8	33	12.9	5	0.2	324	SHI04
1997 02 04.13		M	2.5	AA	6.5	L	8	33	17.4	5	1.5	316	SHI04
1997 02 08.13		M	2.2	AA	6.5	L	8	33	19.6	6	1.8	313	SHI04
1997 02 10.12		M	2.1	AA	6.5	L	8	33	20	6	2	312	SHI04
1997 02 16.12		M	1.8	AA	6.5	L	8	33	20.7	6	2.4	310	SHI04
1997 02 20.12		M	1.5:	AA	6.5	L	8	33	21.3	6	2.5	309	SHI04
1997 03 05.08		M	0.9:	AA	6.5	L	8	33	25.5	7	4	305	SHI04
1997 03 11.12		M	0.7:	AA	6.5	L	8	33	27.2	7	5	310	SHI04
1997 07 09.81	a	S	2.8	SC	5.0	B		10	6	7	36 m	205	SEA01
1997 07 14.81	a	I	2.8	SC	0.0	E		1					SEA01
1997 07 14.81	a	S	2.4	SC	5.0	B		10	8	6	20 m	205	SEA01
1997 07 16.80	a	I	3.2	SC	0.0	E		1			30 m		SEA01
1997 07 16.80	a	S	3.2	SC	5.0	B		10	8	4	4.0	25	SEA01
1997 07 17.80	a	I	3.2	SC	0.0	E		1			20 m		SEA01
1997 07 17.80	a	S	3.4	SC	5.0	B		10	8	3	3.0	25	SEA01
1997 07 19.80	a	S	2.5:	SC	5.0	B		10		1			SEA01
1997 07 21.80	a	S	4.0	SC	5.0	B		10	8	4			SEA01
1997 07 31.78	a	I	3.6	SC	0.0	E		1			2.5	350	SEA01
1997 08 01.78	a	I	3.9	SC	0.0	E		1			3.2	350	SEA01
1997 09 30.42		S	5.1	AA	8.0	B		11	12				SCH12
1997 10 01.43		S	5.2	AA	8.0	B		11	13	3	?0.5	240	SCH12
1998 01 01.05		S	7.7	AA	23.0	L	5	68	8	5	0.25		DES01
1998 01 05.04		S	7.8	TT	23.0	L	5	68	8	5	>0.4		DES01
1998 01 06.06		S	7.8	TT	23.0	L	5	68	8	5	>0.4		DES01
1998 01 11.20		S	7.9	TT	23.0	L	5	68	8	5			DES01
1998 01 12.07		S	7.9	TT	23.0	L	5	68	9	5			DES01
1998 01 19.08		S	8.1	TT	23.0	L	5	68	7	5	>0.25		DES01
1998 01 19.38		B	7.7	TJ	8.0	B		20	5	5			BIV
1998 01 19.38		S	7.7	TJ	25.6	L	5	42	4	6			BIV
1998 01 20.01		S	8.1	TT	23.0	L	5	68	7	5	>0.25		DES01
1998 01 20.58		S	8.0	TT	8.0	B		20	6	5			PEA
1998 01 21.01		S	8.1	TT	23.0	L	5	68	6	5	>0.25		DES01

Comet C/1995 O1 (Hale-Bopp) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 21.65		S	8.0	TT	8.0	B		20	6	5	0.5	40	PEA
1998 01 22.08		S	8.1	TT	23.0	L	5	68	6	4/	>0.25		DES01
1998 01 22.36		B	7.8	TJ	25.6	L	5	42	3	6			BIV
1998 01 22.59		S	8.0	TT	8.0	B		20	6	5	0.37	40	PEA
1998 01 23.05		S	8.1	TT	23.0	L	5	68	6	5	0.25		DES01
1998 01 24.03		S	8.1	TT	23.0	L	5	68	6	4/	>0.25		DES01
1998 01 24.59		S	8.1	TT	8.0	B		20	5.5	5			PEA
1998 01 25.06		S	8.1	TT	23.0	L	5	68	6	4/	>0.3		DES01
1998 01 26.08		S	8.1	TT	23.0	L	5	68	5	4	>0.3		DES01
1998 01 26.60		S	8.1	TT	8.0	B		20	6	5/	0.27	45	PEA
1998 01 27.10		S	8.2	TT	23.0	L	5	68	5	4	>0.3		DES01
1998 01 27.56	x	M	7.4	HV	4.2	B		7					TSU02
1998 01 27.59		S	8.1	TT	8.0	B		20	6	5/	0.25	45	PEA
1998 01 28.08		S	8.2	TT	23.0	L	5	68	5	4/	>0.3		DES01
1998 01 28.65		S	8.1	TT	8.0	B		20	5.5	6	0.25	53	PEA
1998 01 29.61		S	8.2	TT	8.0	B		20	5	5	0.2	55	PEA
1998 01 30.05		S	8.2	TT	23.0	L	5	68	5	4	>0.25		DES01
1998 01 30.74		S	8.2	TT	8.0	B		20	4	5			PEA
1998 02 01.03		S	8.2	TT	23.0	L	5	68	5	4	>0.25		DES01
1998 02 01.60		S	8.2	TT	8.0	B		20	5	5	0.2	57	PEA
1998 02 04.08		S	8.2	TT	23.0	L	5	68	5	4/	0.25		DES01
1998 02 05.09		S	8.3	TT	23.0	L	5	68	5	4/	0.25		DES01
1998 02 06.64		M	7.5	AA	5.0	B		10	6	6	0.5	32	SEA01
1998 02 07.60		S	8.4	TT	8.0	B		20	4	5			PEA
1998 02 08.53		S	8.4	TT	8.0	B		20	4	5			PEA
1998 02 12.56		M	7.9	AA	8.0	B		15	3	2			SEA01
1998 02 13.51		M	7.9	AA	8.0	B		15	2.5	6			SEA01
1998 02 14.26		S	8.2	TJ	25.6	L	5	42	3	6	0.2	35	BIV
1998 02 14.47		M	7.8	AA	5.0	B		10	3.5	5			SEA01
1998 02 15.26		B	8.1	TJ	5.0	B		7	3	5			BIV
1998 02 15.27		B	8.3	TJ	25.6	L	5	42	3	6	0.3	40	BIV
1998 02 15.43		M	7.9	AA	5.0	B		10	4.5	6	1.5	65	SEA01
1998 02 16.42		S	7.3	AA	5.0	B		10					SEA
1998 02 16.50		M	8.6	HI	20	L	7	45	4	6	0.25	65	MAT08
1998 02 17.25		S	8.3	TJ	5.0	B		7	4	5			BIV
1998 02 17.50		M	8.6	HI	20	L	7	45	4	6	0.33	65	MAT08
1998 02 18.25		S	8.4	TJ	25.6	L	5	42	4	5			BIV
1998 02 18.47		M	8.1	AA	5.0	B		10	3.5	7	1.2	45	SEA01
1998 02 18.95		S	8.6	TT	23.0	L	5	68	4	4/	0.1		DES01
1998 02 19.42		S	8.2	AA	5.0	B		10	3.5	7			SEA01
1998 02 19.96		S	8.6	TT	23.0	L	5	68	4	4/	0.1		DES01
1998 02 20.43		S	8.3	AA	5.0	B		10	4	5	40 m	60	SEA01
1998 02 21.16		S	8.6	TT	23.0	L	5	68	4	4/	>0.1		DES01
1998 02 21.23		S	8.6	TJ	25.6	L	5	42	4	5	0.2	55	BIV
1998 02 21.52		S	8.1	AA	5.0	B		10	3	5			SEA01
1998 02 22.41		M	8.3	AA	5.0	B		10	3.5	4	40 m	50	SEA01
1998 02 22.47		M	8.7	HI	20	L	7	45	3	6	0.25	68	MAT08
1998 02 23.46		S	7.6	AA	5.0	B		10					SEA
1998 02 24.49		M	8.4	AA	5.0	B		10	3.5	4	1.0	40	SEA01
1998 02 25.43		M	8.4	AA	5.0	B		10	4	4	20 m	40	SEA01
1998 02 26.41		M	8.4	AA	5.0	B		10	4	4	0.5	50	SEA01
1998 02 27.03	x	S	8.4	TT	8.0	B		15	5	3/			BOU
1998 02 27.23		S	8.7	TJ	25.6	L	5	42	4	5	0.23	55	BIV
1998 02 27.40		M	8.4	AA	5.0	B		10	4.5	3	40 m	40	SEA01
1998 02 28.40		M	8.3	AA	5.0	B		10	3.5	5	1.2	50	SEA01
1998 03 01.17		S	8.7	TT	23.0	L	5	68	4	4	0.1		DES01
1998 03 01.42		S	8.3	AA	5.0	B		10	4	3			SEA01
1998 03 02.25		S	8.8	TJ	25.6	L	5	42	4	5			BIV
1998 03 02.44		M	8.3	AA	5.0	B		10	4.5	3	1.0	50	SEA01
1998 03 02.50		M	8.9	HI	20	L	7	45	3	6	7.0m	70	MAT08
1998 03 03.01	x	M	8.4	TT	8.0	B		15	7	5	0.6	46	BOU
1998 03 03.51		M	8.3	AA	5.0	B		10	4.5	7	0.5	70	SEA01
1998 03 04.60		M	8.3	AA	5.0	B		10	3.5	6	25 m	50	SEA01
1998 03 05.47		M	8.4	AA	5.0	B		10	4	4			SEA01
1998 03 06.42		M	8.3	AA	8.0	B		15	3.5	2			SEA01

Comet C/1995 O1 (Hale-Bopp) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 03 10.40		S	8.5	AA	8.0	B		15	2.5	2			SEA01
1998 03 11.39		S	8.5	AA	8.0	B		15	2.5	2			SEA01
1998 03 15.25		S	8.8	TJ	25.6	L	5	42	3	4			BIV
1998 03 16.38		S	8.4	AA	8.0	B		15	4.2	2	0.5	45	SEA01
1998 03 16.46		M	8.9	TI	20	L	7	45	3	6	8.0m	75	MAT08
1998 03 18.26		S	8.9	TJ	25.6	L	5	42	3	4			BIV
1998 03 19.42		M	8.5	AA	8.0	B		15	5	4	40 m	60	SEA01
1998 03 19.44		S	7.9	AA	5.0	B		10					SEA
1998 03 19.46		M	9.0	TI	20	L	7	45	2.5	6	10.0m	75	MAT08
1998 03 20.26		S	9.0	TJ	25.6	L	5	42	3	5			BIV
1998 03 20.43		M	8.5	AA	8.0	B		15	5	3	45 m	63	SEA01
1998 03 20.45		B	9.1	TJ	15	L	5	52	7	d3			FAR01
1998 03 21.41		M	8.6	AA	8.0	B		15	4	3	0.5	70	SEA01
1998 03 22.43		M	8.6	AA	8.0	B		15	3.5	5	45 m	70	SEA01
1998 03 23.38		M	8.6	AA	8.0	B		15	5	3	1.0	85	SEA01
1998 03 25.49		M	8.9	TI	20	L	7	45	3	6	10.0m	78	MAT08
1998 03 26.58		B	9.0:	TJ	15	L	5	52	& 5	d2			FAR01

Comet C/1996 J1 (Evans-Drinkwater) [component B]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 17.44		C	16.6:	GA	60.0	Y	6	a240	0.7				NAK01
1998 03 02.44		C	16.5	GA	60.0	Y	6	a240	0.9				NAK01
1998 03 18.43	a	C	17.7	GA	60.0	Y	6	a240	0.55				NAK01

Comet C/1996 P2 (Russell-Watson)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.16		C	20.4	FA	91.4	L	5		0.22		10.2s	353	SCO01
1998 02 02.16		c	22.8	FA	91.4	L	5						SCO01

Comet C/1997 BA6 (Spacewatch)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.63		C	17.0	GA	60.0	Y	6	a240	0.5			25	NAK01
1998 02 21.64		C	16.9	GA	60.0	Y	6	a240	0.45			35	NAK01

Comet C/1997 D1 (Mueller)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 17.77		S	13.0	AC	25.0	L	6	121	0.9	2			RES
1998 01 23.76		S	13.1	AC	25.0	L	6	121	0.9	2			RES
1998 01 29.79		S	13.2	HS	35	L	5	158	1.5	1/			HOR02
1998 01 31.74		S[	13.3	AC	25.0	L	6	121					RES
1998 02 01.73		S	13.1	AC	25.0	L	6	121	1.0	1			RES
1998 02 18.799		S	13.5	HS	44.0	L	5	226	0.7	3			HAS02
1998 02 19.73		S	13.7	HS	15	R	13	80	1	3			ZN0
1998 02 28.11	!	J	14.9	SC	25.4	T	5	a 60	0.34	s5	1.6m	73	ROQ

Comet C/1997 J1 (Mueller)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 16.83		S	10.8	AC	25.0	L	6	61	3.5	2			RES
1998 01 01.74		S	10.7	AC	25.0	L	6	61	2.5	3			RES
1998 01 02.73		S	10.6	AC	25.0	L	6	61	2.0	4			RES

Comet C/1997 J2 (Meunier-Dupouy)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 16.83		S	10.8	AC	25.0	L	6	61	3.5	2			RES
1998 01 01.74		S	10.7	AC	25.0	L	6	61	2.5	3			RES
1998 01 02.73		S	10.6	AC	25.0	L	6	61	2.0	4			RES
1998 01 23.74		S	10.4	AC	25.0	L	6	61	2.0	2			RES
1998 01 29.73		S	10.6	TI	35	L	5	92	2.0	2/			HOR02
1998 01 29.73		S	10.9	TI	35	L	5	92	1.6	2/			PLS

Comet C/1997 J2 (Meunier-Dupouy) [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 31.72		S	10.7	HI	25.0	L	6	61	1.8	2/			RES
1998 02 01.72		S	10.6	HI	25.0	L	6	61	2.3	1/			RES
1998 02 01.74		M	10.9	TI	35	L	5	92	1.8	2			HOR02
1998 02 05.18		S	11.1	TI	35	L	5	92	< 1.5	2/			HOR02
1998 02 07.177		S	10.9	TT	10.0	B		25	0.8	4			HAS02
1998 02 26.66		S	11.5:	HS	25.6	L	5	84	1.5	3			BIV
1998 03 04.64		S	11.3:	HS	25.6	L	5	84	1.5	2			BIV
1998 03 08.64		S	11.6	HS	25.6	L	5	84	1.5	3			BIV
1998 03 09.65		S	11.7	HS	25.6	L	5	84	1.5	4			BIV
1998 03 10.17	!	V	12.3	YF	36.0	T	7	a120	+ 1.3	6	& 5	m 335	MIK

Comet C/1997 N1 (Tabur)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 07 14.79	a	S	9.7	AA	25.4	L	6	37	7	3			SEA01
1997 07 16.79		S	8.6	AA	25.4	L	6	37	4	4			SEA01
1997 09 09.83		[	9.5	AC	6.0	B		20					RES
1997 09 10.83		[	9.5	AC	6.0	B		20					RES

Comet C/1997 T1 (Utsunomiya)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 16.68	$	S	10.0	AC	25.0	L	6	61	2.0	2			RES
1998 02 01.20		S	10.5:	AC	25.0	L	6	61	2.0	2			RES
1998 02 05.20		S	10.9	TI	35	L	5	92	2.3	2/			HOR02
1998 02 26.61		S	12.2	HS	25.6	L	5	84	1.5	3			BIV
1998 03 04.60		S	12.1	HS	25.6	L	5	84	1.5	2			BIV
1998 03 07.82		S	11.5	HS	46.0	L	5	150	1.3	2			YOS04
1998 03 08.61		S	12.6	HS	25.6	L	5	84	1.5	3			BIV
1998 03 09.62		S	12.5	HS	25.6	L	5	84	1.4	2			BIV
1998 03 10.18	!	V	13.4	YF	36.0	T	7	a120	+ 1.0	7	& 3	m 310	MIK
1998 03 27.16	!	V	14.8	YF	36.0	T	7	a120	+ 0.3	7			MIK
1998 03 30.67		S	[12.5	HS	20	L	7	158					MAT08

Comet 10P/Tempel 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.76		C	19.8	GA	60.0	Y	6	a240	0.2	8/			NAK01
1998 03 02.69		C	19.7	GA	60.0	Y	6	a240	0.2	8/			NAK01

Comet 21P/Giacobini-Zinner

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 28.53		C	20.2	FA	91.4	L	5						SC001

Comet 29P/Schwassmann-Wachmann 1

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 28.82		S	12.7	VN	41	L	4	200	0.6	6			PEA
1998 01 29.82		S	12.7	VN	41	L	4	200	0.8	5			PEA
1998 01 30.82		S	12.8	VN	41	L	4	200	0.7	4/			PEA
1998 02 01.19		S	12.6	AC	25.0	L	6	61	0.6	5			RES
1998 02 02.79	a	C	12.7	GA	60.0	Y	6	a120	2.2	5/			NAK01
1998 02 04.79	a	C	12.8	GA	60.0	Y	6	a120	2.2	5			NAK01
1998 02 05.17		S	12.5:	TI	35	L	5	158	0.7	2/			HOR02
1998 02 21.78	a	C	12.4	GA	60.0	Y	6	a120	3.0	s1			NAK01
1998 02 21.78	a	c	16.7	GA	60.0	Y	6	a120					NAK01
1998 02 22.60		S	[13.0	HS	20	L	7	158					MAT08
1998 02 24.48		S	12.9	HS	25.6	L	5	84	1.5	3			BIV
1998 02 26.56		S	13.2	HS	25.6	L	5	84	1	2			BIV
1998 02 28.03		S	14.3	NP	44.5	L	5	100	0.5	0			MAR02
1998 02 28.47		S	13.8	HS	25.6	L	5	169	0.5	2			BIV
1998 02 28.51		c	20.1	FA	91.4	L	5		3.13				SC001
1998 03 02.77	a	C	12.4	GA	60.0	Y	6	a120	3.6	s0/			NAK01
1998 03 02.77	a	c	16.8	GA	60.0	Y	6	a120					NAK01

Comet 29P/Schwassmann-Wachmann 1 [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 03 20.44		S	12.8	HS	25.6	L	5	42	1.2	5			BIV
1998 03 20.96		S	12.5	HS	44.5	L	4	230	0.6	5			SAR02
1998 03 21.05		S	12.8	NP	32	L	5	75	1.5	2			MAR02
1998 03 21.06		S	12.6	NP	32	L	5	75	2	2			SAN04
1998 03 23.56		S	12.6	HS	20	L	7	158	1	3			MAT08
1998 03 30.64		S[	13.0	HS	20	L	7	158					MAT08

Comet 43P/Wolf-Harrington

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 27.80		S	13.2	VN	41	L	4	200	1.1	2			PEA
1998 01 28.81		S	13.2	VN	41	L	4	200	1.0	2			PEA
1998 01 29.81		S	13.4	VN	41	L	4	200	0.8	2/			PEA
1998 01 29.96		S	12.5:	HS	35	L	5	207	1	1/			HOR02
1998 01 30.81		S	13.4	VN	41	L	4	200	0.7	2			PEA
1998 02 17.53		S	13.0:	HS	20	L	7	158	2	2			MAT08
1998 02 22.56		S	13.3:	HS	20	L	7	158	1	2			MAT08
1998 02 28.00		S	14.0	NP	44.5	L	5	100	< 1	1			MAR02
1998 02 28.40		S	13.8	HS	25.6	L	5	169	0.5	3			BIV
1998 03 01.39		S	13.6	HS	25.6	L	5	169	0.4	3			BIV
1998 03 19.18		J	13.0	SC	25.4	T	5	a 60	1.78	s3	0.9m	64	ROQ

Comet 55P/Tempel-Tuttle

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 31.66	*x	M	10.7	TT	25.0	L	6	47	4.0	1			TSU02
1998 01 05.24		S	8.7	AC	6.7	R	5	12	>10	0/			BUS01
1998 01 06.62		S	10.4	TJ	25.6	L	5	42	6	2			BIV
1998 01 06.85	*x	M	8.6	HV	12.5	L	6	23	7.0	2			TSU02
1998 01 07.10		S	10.4	AC	6.3	R	13	52	5	1			KOS
1998 01 08.62		S	9.5	TJ	25.6	L	5	42	8	3			BIV
1998 01 08.64		S	9.2	TJ	5.0	B		7	10	3			BIV
1998 01 10.23		S	8.4	S	6.7	R	5	12	>10	0/			BUS01
1998 01 10.68		S	9.7	TJ	25.6	L	5	42	10	3			BIV
1998 01 11.08		S	8.8	AC	6.0	B		20	6	1/			RES
1998 01 14.72	x	S	8.8	TT	10.0	B		20	11	1			MEY
1998 01 14.75		S	8.1	AC	6.0	B		20	12	1			RES
1998 01 15.26		S	9.1	TJ	25.6	L	5	42	10	1			BIV
1998 01 15.76		S	8.2	AC	6.0	B		20	10	2			RES
1998 01 16.48	*x	M	8.7	HV	12.5	L	6	32	10.0	3			TSU02
1998 01 16.73		S	7.3	S	6.7	R	5	12	22	1			BUS01
1998 01 17.28		S	8.0	TJ	5.0	B		7	13	2			BIV
1998 01 17.28		S	8.1	TJ	25.6	L	5	42	10	1			BIV
1998 01 17.76		S	7.5	AC	6.0	B		20	18	0/			RES
1998 01 17.77	x	S	8.2	TT	10.0	B		20	21	1/			MEY
1998 01 18.31		S	8.0	TJ	5.0	B		7	14	3			BIV
1998 01 18.33		S	8.3	TJ	25.6	L	5	42	11	2			BIV
1998 01 18.35		S	8.1	TJ	8.0	B		20	14	3			BIV
1998 01 18.77		S	7.5	AA	5.0	B		7	14	1			KOS
1998 01 21.31		S	7.9	TJ	5.0	B		7	10	2			BIV
1998 01 21.31		S	8.1	TJ	25.6	L	5	42	9	2			BIV
1998 01 21.77		S	8.0	HV	7.0	R	7	24	10	2			GRA04
1998 01 21.83		S	7.4	AA	5.0	B		7	16	1			KOS
1998 01 22.68		M	8.5	AA	30	L	5	60	9	4	0.45		NEV
1998 01 22.77		S	7.5	S	6.7	R	5	14	&15	1/			BUS01
1998 01 22.88		S	8.0	AC	8.0	B		15	&12	2			SCH04
1998 01 23.75		S	7.4	AC	6.0	B		20	12	0/			RES
1998 01 23.84		S	7.8	HV	7.0	R	7	24	11	1			GRA04
1998 01 24.42	x	S	8.7	TT	10.0	B		20	10	2			YOS02
1998 01 24.75		S	7.8	AA	5.0	B		7	13	1			KOS
1998 01 24.77		S	7.7	HV	7.0	R	7	24	12	2			GRA04
1998 01 24.78		S	7.8	HV	5.0	B		10	11	2			GRA04
1998 01 24.87		E	10.0	AA	20	L	5	60	7	0			ROM
1998 01 24.90		M	9.6	AA	30	L	5	60	5	2			NEV
1998 01 24.94		S	9.0:	AA	12.5	R	5	20	3	1			BEA

Comet 55P/Tempel-Tuttle [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 24.96		S	7.5	AC	6.0	B		20	10	1			RES
1998 01 25.73		M	8.5	TI	11	L	7	32	6.0	2			KYS
1998 01 25.75		S	7.3	HI	6.0	B		20	16	1			RES
1998 01 25.77		S	7.5	S	6.7	R	5	12	&13	1/			BUS01
1998 01 25.78		S	7.8	HV	7.0	R	7	24	12	2			GRA04
1998 01 25.81		E	10.0	AA	20	L	5	60	6	1			ROM
1998 01 25.82		S	8.7	TI	6	R	12	37	9	5			SVE
1998 01 25.85		S	8.0	AC	8.0	B		15	15	3/			SCH04
1998 01 25.90		S	9.0:	AA	12.5	R	5	20	3	0			BEA
1998 01 26.80		O	8.5:	TI	20	L	4	34	5	2			KYS
1998 01 26.83		S	8.6	AC	8.0	B		15	8	5			SCH04
1998 01 26.84		S	8.4	TI	6	R	12	37	9	4			SVE
1998 01 27.83		S	8.2	TI	6	R	12	37	6.5	5			SVE
1998 01 29.71		M	9.0	AA	30	L	5	60	6	5			NEV
1998 01 29.73		S	9.5	AA	11	L	7	40	5	4			MOS04
1998 01 29.74		S	7.9	HI	6.0	B		20	10	2			RES
1998 01 29.77		M	8.4	TT	8.0	B		10	10	2			HOR02
1998 01 30.79		S	7.8	HV	7.0	R	7	24	12	2/			GRA04
1998 01 31.51		S	8.3	S	15.0	R	5	25	6	3/			NAG02
1998 01 31.73		S	8.2	HI	6.0	B		20	11	2/			RES
1998 01 31.77		O	8.3	TI	20	L	4	34	6	3/			KYS
1998 01 31.77		S	7.6	S	6.7	R		12	&12	2/			BUS01
1998 01 31.83	x	S	8.6	TT	10.0	B		20	5.5	2/			MEY
1998 01 31.89		S	9.0	AC	30.0	L	5	60	& 6	2/			SCH04
1998 02 01.09		S	7.9	AA	10.0	R	5	49	10.5	2			SPR
1998 02 01.13		M	7.9	NP	8.0	B		16	10	4/			CRE01
1998 02 01.73		S	8.0	HI	6.0	B		20	9.5	1			RES
1998 02 01.74		S	8.4	TI	8.0	B		10	9	1/			PLS
1998 02 01.75		S	8.2	AA	6.3	R	13	52	11	1			KOS
1998 02 01.75		S	8.5	TT	8.0	B		10	10	2			HOR02
1998 02 01.76		M	8.4	TI	20	L	4	34	5	2/			KYS
1998 02 01.88		S	9.6	TT	20	R	14	70	2.0	3			SHA02
1998 02 01.92	x	S	8.2	TJ	8.0	B		15	7	2			BOU
1998 02 03.11		c	18.5	FA	91.4	L	5		8.25		>47	m 57	SCO01
1998 02 03.72		S	8.2	AA	6.3	R	13	52	13	1			KOS
1998 02 03.77		S	8.2	HV	7.0	R	7	24	9	1			GRA04
1998 02 03.77		S	9.1	TT	20	R	14	40	4.3	3			SHA02
1998 02 03.82		S	8.5	TI	6	R	12	37	11	3/			SVE
1998 02 04.48		S	8.4	S	15.0	R	5	25	6	4			NAG02
1998 02 04.76		O	8.8	TI	20	N	4	57	4	3/			KYS
1998 02 04.76		S	8.2	TI	8.0	B		20	4.5	3			OKS
1998 02 04.77		S	8.5	TT	8.0	B		10	8	2			HOR02
1998 02 05.76		M	9.1	TT	35	L	5	66	> 4.5	2/			HOR02
1998 02 05.80	!	V	9.2	YF	20.0	T	2	a120	+ 7.1	6			MIK
1998 02 06.13		J	8.6	SC	25.4	T	5	a 60	12.83	s5/			ROQ
1998 02 06.83		S	8.3	TT	10.0	B		14	& 8	3			PER01
1998 02 07.91		S[	9.1	TT	33	L	5	75					SHA02
1998 02 11.77	!	V	9.8	YF	36.0	T	7	a120	+ 4.5	6			MIK
1998 02 12.77		S	8.4	HV	7.0	R	7	24	7	3			GRA04
1998 02 13.77		S	8.9	TT	33	L	5	75	1.7	4			SHA02
1998 02 14.29		S	8.7:	TJ	25.6	L	5	42	3	5			BIV
1998 02 14.79		S	8.5	HV	20.3	T	10	50	3.1	6			KAM01
1998 02 14.80		S	9.0:	AC	20.0	L	4	42	& 3	7			SCH04
1998 02 14.84		S	9.2	S	8.0	B		11	4	2			GON05
1998 02 15.24		B	9.4	TJ	25.6	L	5	42	3	5	0.15	60	BIV
1998 02 15.25		B	9.1	TJ	5.0	B		7	3	3			BIV
1998 02 15.51		S	8.6	S	15.0	R	5	25	5	4			NAG02
1998 02 16.77		S	8.5	HV	7.0	R	7	24	6	3/			GRA04
1998 02 17.25		B	9.1	TJ	25.6	L	5	42	3	5	0.15	60	BIV
1998 02 17.26		S	8.8	TJ	5.0	B		7	4	5			BIV
1998 02 17.45	x	M	8.8	TT	16.0	W	4	25	8.8	4			TSU02
1998 02 17.46		S	8.4	TI	20	L	7	45	5	4			MAT08
1998 02 17.75		S	8.5	AA	6.3	R	13	52	8	4			KOS
1998 02 17.76		S	8.4	TI	8.0	B		20	5	3/			OKS
1998 02 17.77		S	8.4	AA	6.0	B		20	5	3			CSU

Comet 55P/Tempel-Tuttle [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 17.78		S	8.9	TT	20	R	14	40	2.9	3			SHA02
1998 02 17.80		S	8.9	AC	20.0	L	4	42	5	7			SCH04
1998 02 18.26		S	9.2	TJ	25.6	L	5	42	3	5			BIV
1998 02 18.76	x	S	8.8	TT	10.0	B		20	4	4/			MEY
1998 02 18.778		B	9.3	TT	10.0	B		25	3.7	4			HAS02
1998 02 18.78		S	9.1	AC	20.0	L	4	42	5	6/			SCH04
1998 02 18.79		M	8.4	TT	8.0	B		10	7	2/			HOR02
1998 02 18.80		S	8.6	TJ	20.3	T	10	50	3.1	6			KAM01
1998 02 18.83	!	V	9.2	YF	19.0	T	4	a180	+ 4.5	7	&15 m	65	MIK
1998 02 19.41	s	S	9.2	VN	25.4	L	6	61	3	4			SEA01
1998 02 19.73		S	8.6	AA	6.3	R	13	52	10	4			KOS
1998 02 19.76		S	8.6	TI	8.0	B		20	4	3			OKS
1998 02 19.77		M	8.5	TT	8.0	B		10	7	2/			HOR02
1998 02 20.75		S	8.5	HI	6.0	B		20	5	3			RES
1998 02 20.76	x	S	8.7	TT	25.4	L	5	65	3	4/			MEY
1998 02 21.26		S	9.1	TJ	25.6	L	5	42	2.5	5	0.07	65	BIV
1998 02 21.27		S	8.7	TJ	5.0	B		7	2	5			BIV
1998 02 21.41	x	S	8.4	TJ	25.4	T	6	32	4	5/			YOS04
1998 02 21.75		S	8.7	AA	6.3	R	13	52	7	4			KOS
1998 02 21.76	x	S	8.6	TT	25.4	L	5	65	2.5	4/			MEY
1998 02 21.85		M	8.9	TT	10.0	B		14	& 4	6			PER01
1998 02 21.85		S	9.1	TT	10.0	B		14	& 3	5			VIT01
1998 02 21.85		S	9.3	TT	33	L	5	75	2.0	4			SHA02
1998 02 22.41	s	S	9.6	VN	25.4	L	6	61	1.5	3			SEA01
1998 02 22.42	x	S	8.5	TJ	10.0	B		20	5	4/			NAG08
1998 02 22.73		S	8.7	AA	6.3	R	13	52	6	4			KOS
1998 02 22.80		S	9.3	TT	33	L	5	60	3.0	4	0.07	170	SHA02
1998 02 22.84		M	9.5	TT	10.0	B		14	& 3	6			VIT01
1998 02 22.84		M	9.5	TT	10.0	B		14	& 3	7			PER01
1998 02 23.42		S	9 :	AA	10.0	B		25					SEA
1998 02 23.78		M	8.8	TI	10	B		25	6.5	2			ZNO
1998 02 23.82		S	8.7:	HV	7.0	R	7	24	& 4.5				GRA04
1998 02 24.29		S	9.7	TJ	25.6	L	5	42	3	5	0.08	75	BIV
1998 02 24.42		S	9.3	AA	25.4	L		71					SEA
1998 02 24.84		S	9.3	TT	10.0	B		14	< 4	6/			PER01
1998 02 24.84		S	9.4	TT	10.0	B		14	& 4	4/			VIT01
1998 02 25.78		S	8.8	HV	7.0	R	7	24	4.3	4			GRA04
1998 02 25.84		S	9.3	S	8.0	B		11	4	4			GON05
1998 02 25.85		S	9.1	TT	10.0	B		14	< 4	6			PER01
1998 02 25.85		S	9.5	TT	10.0	B		14	< 4	4			VIT01
1998 02 26.74		S	8.8	AA	5.5	M		12	6	4			KOS
1998 02 26.79		S	8.8	HV	7.0	R	7	24	4.0	4			GRA04
1998 02 26.84		S	9.5	TT	10.0	B		14	& 2	7			PER01
1998 02 27.40	s	S	9.3	VN	25.4	L	6	61	1.3	4			SEA01
1998 02 27.74		S	9.0	AA	6.3	R	13	52	5	3			KOS
1998 02 27.77		M	8.9	TI	10	B		25	5	2			ZNO
1998 02 27.83		M	9.7	NP	10	R	5	20	4	3/			MAR02
1998 02 28.26		B	9.6	TJ	25.6	L	5	42	2.5	5	0.1	70	BIV
1998 02 28.74		S	9.3	AA	6.3	R	13	52	4	3			KOS
1998 02 28.79		S	9.0	HV	7.0	R	7	24	3.8	4			GRA04
1998 02 28.80		S	9.2	TT	33	L	5	75	2.3	4			SHA02
1998 02 28.83	a	M	9.0	TT	10.0	B		14	& 4	6/			VIT01
1998 02 28.83	a	M	9.0	TT	10.0	B		14	< 3	8			PER01
1998 03 01.44	x	S	9.4	TT	10.0	B		20	4	5			YOS02
1998 03 01.75		M	8.7	TI	10	B		25	5.5	2/			ZNO
1998 03 01.78		S	9.0	HV	7.0	R	7	24	3.0	4/			GRA04
1998 03 02.28		S	9.7	TJ	25.6	L	5	42	2	5			BIV
1998 03 05.76		M	9.2	TT	35	L	5	92	2.6	3			HOR02
1998 03 08.80		S	9.1	TT	33	L	5	75	1.1	3			SHA02
1998 03 09.75		S	9.5:	HI	25.0	L	6	61	2	3			RES
1998 03 11.75		S	9.3:	HI	25.0	L	6	61	2	3			RES
1998 03 16.24		S	9.7:	TJ	25.6	L	5	42	2	3			BIV
1998 03 18.24		S	9.7:	TJ	25.6	L	5	42	1.5	2			BIV

Comet 62P/Tsuchinshan 1

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 17.46		C	15.7:	GA	60.0	Y	6	a240	1.1				NAK01
1998 02 19.11		J	17.3	SC	25.4	T	5	a 60	0.34	d1			ROQ
1998 03 02.45		C	15.0	GA	60.0	Y	6	a120	1.0				NAK01
1998 03 18.45		C	14.7	GA	60.0	Y	6	a120	1.2			70	NAK01
1998 03 19.82		S	13.7	HS	35	L	5	207	0.8	2			HOR02
1998 03 20.79		S	13.6	HS	44.5	L	4	230	1	4/			SAR02

Comet 69P/Taylor

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 23.77		S	12.0	AC	25.0	L	6	61	1.6	1			RES
1998 01 24.98		S	11.8	AC	25.0	L	6	61	2.2	1/			RES
1998 01 26.78		S	11.5	TI	20	L	4	57	1.5	2			KYS
1998 01 27.62		S	12.3	VN	41	L	4	200	1.2	2/			PEA
1998 01 28.64		S	12.3	VN	41	L	4	200	1.1	2			PEA
1998 01 29.61		S	12.5	VN	41	L	4	200	1.1	4			PEA
1998 01 29.82		S	12.6	HS	35	L	5	92	1.5	1/			PLS
1998 01 29.83		S	12.3	HS	35	L	5	92	1.5	2			HOR02
1998 01 31.75		S	12.2	AC	25.0	L	6	61	1.8	1/			RES
1998 01 31.78		S	12.7	HS	20	L	4	57	1.8	1/			KYS
1998 02 01.02		S	12.3	AC	25.4	J	6	100	1.6	3			BOU
1998 02 01.75		S	12.3	AC	25.0	L	6	121	1.6	1			RES
1998 02 01.79		S	12.2	HS	35	L	5	92	1.7	2/			PLS
1998 02 01.81		M	12.0	TI	35	L	5	92	2.7	2/			HOR02
1998 02 01.90		S	13.6	VB	30	R	18	170	0.8	1			SHA02
1998 02 01.95		S	12.4	AC	25.4	J	6	100	1.6	2/			BOU
1998 02 02.59		C	12.8	GA	60.0	Y	6	a120	2.3				NAK01
1998 02 04.77		S	12.0	HS	20	N	4	57	1.5	2/			KYS
1998 02 04.771		S	13.5	HS	44.0	L	5	156	0.4	4			HAS02
1998 02 04.79		S	11.9	TI	35	L	5	158	1.9	2			HOR02
1998 02 13.81		S	12.5	VB	30	R	18	170	0.3	5			SHA02
1998 02 14.83		S	11.3	GA	20.3	T	10	77	1.0	7			KAM01
1998 02 15.32		S	11.9	HS	25.6	L	5	42	1.5	6			BIV
1998 02 16.93		S	12.7	VB	30	R	18	100	0.6	6	0.02	180	SHA02
1998 02 17.32		B	11.8	HS	25.6	L	5	42	1.5	6			BIV
1998 02 17.52		S	11.7	HS	20	L	7	45	2	4			MAT08
1998 02 17.82		S	12.7	VB	30	R	18	100	0.5	5	0.02	150	SHA02
1998 02 17.88		M	10.9	TI	35	L	5	92	2.2	4/			HOR02
1998 02 17.90		S	11.3	NP	21	L	6	60	1.5	1/			MAR02
1998 02 18.816		S	11.6	HS	44.0	L	5	156	0.6	5			HAS02
1998 02 18.85		M	11.3	TI	35	L	5	92	> 1.5	5			HOR02
1998 02 18.85		S	11.4	GA	20.3	T	10	77	1.6	6			KAM01
1998 02 19.75		M	11.3	TI	35	L	5	92	2.5	3/			PLS
1998 02 19.76		S	11.5	HS	10	B		25	1.8	6/			ZN0
1998 02 19.84		M	10.9	TI	35	L	5	92	2.3	4			HOR02
1998 02 20.81		S	11.0	AC	25.4	L	5	65	1.6	3			MEY
1998 02 21.31		S	12.2	HS	25.6	L	5	84	1	5			BIV
1998 02 21.58		C	12.2	GA	60.0	Y	6	a120	2.0				NAK01
1998 02 21.67		S	11.0	HS	46.0	L	5	150	1.5	4/			YOS04
1998 02 21.79		S	11.3	AC	25.4	L	5	65	1.7	3/			MEY
1998 02 22.10		S	11.3	CA	25.3	L	6	58	& 1.7	5			PER01
1998 02 22.58		S	12.5:	HS	20	L	7	158	2	2			MAT08
1998 02 22.82		S	12.6	VB	33	L	5	100	0.7	3			SHA02
1998 02 22.84		S	12.7	VB	30	R	18	170	0.7	4			SHA02
1998 02 22.95		S	10.7	CA	25.3	L	6	58	& 1.8	3/			VIT01
1998 02 22.95		S	11.3	CA	25.3	L	6	58	& 2.3	3/			PER01
1998 02 23.81		S	11.5	HS	10	B		25	2	5/			ZN0
1998 02 23.83		S	11.6	NP	21	L	6	60	2	1			MAR02
1998 02 23.85		S	10.8	TI	13	L	8	69	2.2	3			HOR02
1998 02 23.99		S	11.0	CA	25.3	L	6	58	& 1.9	4			VIT01
1998 02 23.99		S	11.3	CA	25.3	L	6	58	& 2.2	5			PER01
1998 02 24.38		B	11.5	HS	25.6	L	5	42	1.5	6			BIV
1998 02 24.97		S	11.2	CA	25.3	L	6	58	& 1.6	3			VIT01
1998 02 24.97		S	11.5	CA	25.3	L	6	58	& 1.7	4/			PER01
1998 02 25.85		S	12.9	VB	30	R	18	170	0.7	3			SHA02

Comet 69P/Taylor [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 25.93		S	11.3	NP	32	L	5	75	3	1			SAN04
1998 02 25.93		S	11.6	NP	32	L	5	75	1.5	2			MAR02
1998 02 26.51		S	12.2	HS	25.6	L	5	84	1.5	3			BIV
1998 02 27.28		S	12.4	HS	25.6	L	5	84	1.5	4			BIV
1998 02 27.80		S	11.7	HS	10	B		25	1.8	5/			ZNO
1998 02 27.87		M	11.2	TI	35	L	5	92	2.4	4			HOR02
1998 02 27.88		S	11.6	NP	10	R	5	27	2.5	2			MAR02
1998 02 27.93		S	11.3	NP	44.5	L	5	100	1.5	3			SAN04
1998 02 28.15		S	11.4	NP	20	L	6		1.6	2			CRE01
1998 02 28.33		S	12.1	HS	25.6	L	5	84	1.5	3			BIV
1998 02 28.96		S	11.7	NP	10	R	5	27	3	1			MAR02
1998 03 01.31		S	12.5	HS	25.6	L	5	84	1	3			BIV
1998 03 01.51	x	S	11.2:	HS	10.0	B		37	2				YOS02
1998 03 01.76		S	11.3	TI	13	L	8	69	2.1	3			HOR02
1998 03 01.78		S	11.8	HS	10	B		25	1.2	4			ZNO
1998 03 01.82		S	11.1	AC	15.2	L	5	76	1.5	4			MOE
1998 03 01.99		S	11.9	HS	38.0	L	4	55	1.6	3			WAR01
1998 03 02.56		C	12.5	GA	60.0	Y	6	a120	2.2			130	NAK01
1998 03 05.09		S	12.9	VB	30	R	18	170	0.7	2			SHA02
1998 03 07.64		S	11.8:	HS	46.0	L	5	150	1.3	1/			YOS04
1998 03 14.77		S	11.4	AC	25.0	L	6	61	1.6	3			RES
1998 03 15.77		M	11.5	TI	35	L	5	92	2	3			HOR02
1998 03 15.77		S	11.7	AC	25.0	L	6	61	1.5	2/			RES
1998 03 16.28		S	12.5:	HS	25.6	L	5	84	1.2	5			BIV
1998 03 17.98		S	13.2:	VB	30	R	18	170	0.7	s2			SHA02
1998 03 18.35		S	12.3	HS	25.6	L	5	84	1	4			BIV
1998 03 18.79		S	11.9	AC	15.2	L	5	76	1.0	3			MOE
1998 03 18.98		S	13.5	VB	30	R	18	170	0.7	2			SHA02
1998 03 19.93		S[	13.6	VB	30	R	18	170					SHA02
1998 03 20.29		S	12.4	HS	25.6	L	5	84	1.5	2			BIV
1998 03 20.95		S	11.8	HS	44.5	L	4	82	2	2/			SAR02
1998 03 20.95		S	12.6	HS	44.5	L	4	230	1.5	d5			SAR02
1998 03 20.99		S	11.9	NP	10	R	5	45	4	1			MAR02
1998 03 22.77		S	11.8	AC	25.0	L	6	61	1.3	3/			RES
1998 03 23.85		S	12.6	AC	25.4	J	6	100	1.2	1			BOU
1998 03 28.88		S	12.7	VB	30	R	18	170	0.5	3			SHA02
1998 03 29.16		S	11.9	AC	20.0	T	10	185	1.0	2			SPR

Comet 78P/Gehrels 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 17.31		S	12.5	HS	25.6	L	5	84	1.4	4			BIV
1998 01 17.78		S	11.8	AC	25.0	L	6	61	1.5	2			RES
1998 01 19.27		S	13.0	HS	25.6	L	5	84	1.0	3			BIV
1998 01 20.42		S	12.9	HS	25.6	L	5	84	1.5	3			BIV
1998 01 24.97		S	11.7	AC	25.0	L	6	61	2.0	2/			RES
1998 01 29.60		S	12.9	VN	41	L	4	200	0.9	3			PEA
1998 01 29.75		S	12.0	AC	25.0	L	6	61	1.5	2			RES
1998 01 29.84		S	12.0	TI	35	L	5	92	1.3	1/			HOR02
1998 01 30.60		S	13.0	VN	41	L	4	200	0.9	3			PEA
1998 01 31.75		S	12.3	AC	25.0	L	6	61	1.4	3			RES
1998 02 01.01		S	12.7	AC	25.4	J	6	100	1.5	2			BOU
1998 02 01.75		S	12.3	AC	25.0	L	6	61	1.6	1/			RES
1998 02 01.77		S	12.1	HS	35	L	5	158	1	1/			PLS
1998 02 01.77		S	12.4	HS	35	L	5	158	> 1.1	1/			HOR02
1998 02 01.79		S	12.6	HS	20	L	4	57	0.8	2			KYS
1998 02 01.91		S	13.9	VB	30	R	18	170	0.5	2			SHA02
1998 02 01.94		S	12.8	AC	25.4	J	6	100	1.4	1/			BOU
1998 02 02.15		J	13.2	SC	25.4	T	5	a 60	0.92	s5			ROQ
1998 02 16.96		S[	14.0	VB	30	R	18	170					SHA02
1998 02 17.34		S	13.8	HS	25.6	L	5	169	0.6	4			BIV
1998 02 17.51		S[	13.0	HS	20	L	7	158					MAT08
1998 02 18.86		S	12.8	HS	35	L	5	207	1	2			HOR02
1998 02 19.75		S	13.1	HS	15	R	13	80	1.6	2/			ZNO
1998 02 19.77		M	12.1	HS	35	L	5	207	0.8	2			PLS

Comet 78P/Gehrels 2 [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 19.79		M	12.1	TI	35	L	5	92	1.3	2			HOR02
1998 02 20.79		S	12.5	AC	25.4	L	5	104	0.8	2			MEY
1998 02 20.88		S	12.7	HS	35	L	5	207	1.0	1/			HOR02
1998 02 23.76		S	12.9	HS	15	R	13	80	1.4	3/			ZN0
1998 02 24.40		S	14.2:	HS	25.6	L	5	169	0.7	2			BIV
1998 02 27.74		M	13.1	HS	15	R	13	80	1.0	4			ZN0
1998 02 27.98		S	13.0	NP	44.5	L	5	100	0.75	1			SAN04
1998 02 27.98		S	13.6	NP	44.5	L	5	74	0.5	1			MAR02
1998 03 01.12		J	13.8	SC	25.4	T	5	a 60	0.78	s3			ROQ
1998 03 01.77		M	12.8	HS	15	R	13	80	1.2	3			ZN0
1998 03 02.53		C	13.7	GA	60.0	Y	6	a120	1.4				NAK01
1998 03 14.76		S	12.9	AC	25.0	L	6	121	0.7	3/			RES
1998 03 15.77		S	12.9	AC	25.0	L	6	121	0.9	3			RES
1998 03 18.51		C	14.6	GA	60.0	Y	6	a120	0.95				NAK01
1998 03 20.15		J	15.5	SC	25.4	T	5	a 60	0.78	s5	?		ROQ
1998 03 22.77		S	13.4	AC	25.0	L	6	220	0.7	3			RES

Comet 81P/Wild 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 01 04.92		S	11.0:	AC	25.0	L	6	50	2	2			RES
1997 01 31.92		S	10.2	AC	25.0	L	6	50	4	0/			RES
1997 02 08.84		S	10.4	AC	25.0	L	6	50	3	2			RES

Comet 88P/Howell

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.81		C	19.0	GA	60.0	Y	6	a240	0.25				NAK01
1998 02 23.52		c	20.7	FA	91.4	L	5						SC001
1998 02 23.53		C	18.8	FA	91.4	L	5		0.17		63.6s	292	SC001
1998 03 02.78		C	17.8	GA	60.0	Y	6	a240	0.4			295	NAK01

Comet 95P/Chiron

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1995 04 02.95		S	15.6	HS	44.5	L	4	230	0.0	9			SAR02
1998 03 20.99		S	16.0	HS	44.5	L	4	230	0.0	9			SAR02

Comet 103P/Hartley 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 09 27.79		S	12.5	AC	25.0	L	6	61	0.8	0/			RES
1997 12 16.72		S	8.5	AC	6.0	B		20	& 3	4			RES
1997 12 17.80		S	8.6	AC	6.0	B		20	& 4	3			RES
1997 12 18.41	*x	M	8.8	HV	25.0	L	6	47	5.0	3			TSU02
1997 12 18.72		S	8.2	AA	6.0	B		20	8	0/			CSU
1997 12 24.41	*x	M	9.4	TT	25.0	L	6	47	5.1	4	8 m	60	TSU02
1997 12 26.75		S	8.2	AC	6.0	B		20	3.5	4/			RES
1998 01 01.72		S	7.9	HI	6.0	B		20	6.0	3			RES
1998 01 02.72		S	7.9	HI	6.0	B		20	7.0	3			RES
1998 01 04.74		S	8.5	AA	6.0	B		20	5	0			CSU
1998 01 11.74		S	8.2	AC	6.0	B		20	5	2			RES
1998 01 12.75		S	8.0	HI	6.0	B		20	6	1			RES
1998 01 14.73		S	8.4	AC	6.0	B		20	5.5	3			RES
1998 01 15.23		B	8.9	TJ	25.6	L	5	42	4	5	0.1	70	BIV
1998 01 15.23		S	8.7	TJ	5.0	B		7	5	5			BIV
1998 01 15.76		S	8.6	AC	6.0	B		20	4.5	3/			RES
1998 01 17.25		S	8.9	TJ	25.6	L	5	42	4	6	0.1	70	BIV
1998 01 17.30		S	8.5:	TJ	5.0	B		7	5	5			BIV
1998 01 17.73	x	M	8.4	TT	10.0	B		20	7.5	3			MEY
1998 01 17.74		S	8.4	AC	6.0	B		20	5.5	3			RES
1998 01 18.46		M	8.4	AA	8.0	B		15	2.5	6			SEA01
1998 01 18.72		S	7.7	AA	6.3	R	13	52	10	3			KOS
1998 01 19.26		S	8.9	TJ	5.0	B		7	4	5			BIV
1998 01 19.32		B	8.8	TJ	25.6	L	5	42	3	6			BIV

Comet 103P/Hartley 2 [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 01 19.44		M	7.7	AA	8.0	B		15	3	7			SEA01
1998 01 20.37		S	8.4	TJ	5.0	B		7	5	5			BIV
1998 01 20.38		B	8.7	TJ	25.6	L	5	42	4	6			BIV
1998 01 20.54		S	9.0	TT	20.0	L	4	45	5.5	3			PEA
1998 01 21.26		S	8.5	TJ	5.0	B		7	4	5			BIV
1998 01 21.27		S	8.9	TJ	25.6	L	5	42	3	6	0.1	75	BIV
1998 01 22.28		S	8.8	TJ	5.0	B		7	4	5			BIV
1998 01 22.29		S	9.1	TJ	25.6	L	5	42	3	5	0.08	75	BIV
1998 01 22.42		S	8.2	AA	8.0	B		15	1.5	2			SEA01
1998 01 22.55		S	9.0	TT	20.0	L	4	45	5	3			PEA
1998 01 22.69		M	9.0	AA	30	L	5	60	3	3			NEV
1998 01 23.45		S	8.3	AA	8.0	B		15	4.5	6			SEA01
1998 01 23.73		S	8.6	AC	6.0	B		20	5.0	2			RES
1998 01 24.47		M	8.3	AA	8.0	B		15	4	5			SEA01
1998 01 24.71		S	9.0	AA	6.3	R	13	52	6	1			KOS
1998 01 25.75		S	8.7	HI	6.0	B		20	4.4	3			RES
1998 01 25.75		S	9.7	TI	6	R	12	37	5.6	3			SVE
1998 01 26.48		S	8.4	AA	8.0	B		15	4.2	5			SEA01
1998 01 26.75		M	9.4	TI	10	B		25	7	2			KUJ
1998 01 26.79		S	9.8	TI	6	R	12	37	5.7	3/			SVE
1998 01 26.80		S	9.1	AC	30.0	L	5	60	5	5/			SCH04
1998 01 27.55	x	M	9.7	TT	25.0	L	6	47	5.2	4			TSU02
1998 01 27.82		S	8.5	TI	6	R	12	37	6.6	3			SVE
1998 01 28.48		S	8.3	AA	8.0	B		15	4	4			SEA01
1998 01 28.79		S	8.6	AC	6.0	B		20	5.0	3			RES
1998 01 29.42		S	8.1	AA	8.0	B		15	4	3			SEA01
1998 01 29.55		S	9.2	AA	20.0	L	4	45	4.5	3			PEA
1998 01 29.69		M	8.9	AA	30	L	5	60	4	4			NEV
1998 01 29.71		S	9.4	AA	11	L	7	40	5	4			MOS04
1998 01 29.74		S	8.5	TT	8.0	B		10	8	2			HOR02
1998 01 29.76		S	8.6	HI	6.0	B		20	5.5	3			RES
1998 01 31.72		S	8.5	HI	6.0	B		20	6.5	3/			RES
1998 01 31.76		O	8.8	TI	20	L	4	57	4	2/			KYS
1998 01 31.79		M	8.7	TI	10	B		25	4	2			KUJ
1998 01 31.80		S	9.3	AC	30.0	L	5	60	4	6			SCH04
1998 01 31.82	x	S	8.9	TT	10.0	B		20	6	2			MEY
1998 01 31.84		S	8.3:	TI	6	R	12	37	6.6	4			SVE
1998 02 01.09		S	9.0	AA	10.0	R	5	49	4.2	3/			SPR
1998 02 01.49		S	8.1	AA	8.0	B		15	5	4			SEA01
1998 02 01.72		S	8.7	HI	6.0	B		20	5.0	2			RES
1998 02 01.75		S	9.0	TI	20	L	4	34	4	2			KYS
1998 02 01.79		M	9.2	TI	10	B		25	4	2			KUJ
1998 02 01.86		S	9.4	TT	20	R	14	70	1.9	2			SHA02
1998 02 02.42		S	8.8	AA	25.4	L		61	1.5	2			SEA01
1998 02 04.74		S	9.0:	TI	8.0	B		20	2.5	2			OKS
1998 02 04.75		S	9.2	TI	20	N	4	34	3	2/			KYS
1998 02 11.78	!	V	10.3	YF	36.0	T	7	a120	+ 4.5	6			MIK
1998 02 13.79		S	10.6	VB	33	L	5	75	1.6	2			SHA02
1998 02 14.24		S	9.5	TJ	25.6	L	5	42	3	4			BIV
1998 02 14.25		S	9.4	TJ	5.0	B		7	4	4			BIV
1998 02 14.81		S	9.1	HV	20.3	T	10	50	3.9	3			KAM01
1998 02 15.29		S	9.8	TJ	25.6	L	5	42	3	3			BIV
1998 02 15.85	w	M	9.9	PA	25	L	4	38	4	3			SHU
1998 02 16.12		S	9.5	AA	20.0	T	10	102	4.0	2/			SPR
1998 02 16.49		S	10.5	TI	20	L	7	45	4	3			MAT08
1998 02 16.75		S	9.6	HI	6.0	B		20	3.5	2/			RES
1998 02 17.28		S	10.1	TJ	25.6	L	5	42	4.5	3	0.05	70	BIV
1998 02 17.30		S	9.7	TJ	5.0	B		7	4	3			BIV
1998 02 17.49		S	10.5	TI	20	L	7	45	4	3			MAT08
1998 02 17.75		S	9.5	TI	8.0	B		20	4.5	2			OKS
1998 02 17.80		S	11.3	TT	30	R	18	100	1.5	2			SHA02
1998 02 17.81		S	10.4	AA	20	L	7	60	2.5	0			CSU
1998 02 18.29		S	10.3	TJ	25.6	L	5	42	3	2			BIV
1998 02 18.77	x	S	9.7	TT	10.0	B		20	4.5	1/			MEY
1998 02 18.785		S	10.1	TT	10.0	B		25	2.6	4			HAS02

Comet 103P/Hartley 2 [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 18.81	!	V	10.1	YF	19.0	T	4	a120	+ 7.0	6			MIK
1998 02 18.82		M	10.1	TT	35	L	5	66	4.2	2			HOR02
1998 02 18.82		S	9.0	TJ	20.3	T	10	50	4.0	3			KAM01
1998 02 19.75		S	9.7	TI	8.0	B		20	4	2			OKS
1998 02 19.76		S	9.0	AA	6.3	R	13	52	12	0			KOS
1998 02 19.78		M	10.0	TI	10	B		25	5	3			ZNO
1998 02 19.81		M	10.0	TT	35	L	5	66	4	1/			HOR02
1998 02 19.82		M	9.5	TI	35	L	5	69	3.5	1/			PLS
1998 02 20.75		S	9.7	HI	6.0	B		20	3.0	2			RES
1998 02 20.77	x	S	10.0	TT	25.4	L	5	65	2.7	2			MEY
1998 02 20.85	!	V	9.9	YF	20.0	T	2	a300	+ 7.1	7			MIK
1998 02 21.29		S	10.5	TJ	25.6	L	5	42	3	3			BIV
1998 02 21.44	x	S	9.8	TJ	25.4	T	6	32	6	3			YOS04
1998 02 21.76		S	9.0	AA	6.3	R	13	52	12	1			KOS
1998 02 21.77	x	S	10.0	TT	25.4	L	5	65	2.9	2/			MEY
1998 02 21.86		S	10.6:	TT	33	L	5	75	1.8	2			SHA02
1998 02 22.31		S	9.9	TJ	25.6	L	5	42	4	3			BIV
1998 02 22.46		S	10.3	TI	20	L	7	45	4	3			MAT08
1998 02 22.74		S	9.0	AA	6.3	R	13	52	12	1			KOS
1998 02 22.81		S	10.5	TT	33	L	5	60	3.6	2			SHA02
1998 02 22.83		S	8.9	TT	10.0	B		14	& 8	3			VIT01
1998 02 22.83		S	9.3	TT	10.0	B		14	&10	1/			PER01
1998 02 23.79		M	9.9	TI	10	B		25	5	2			ZNO
1998 02 23.82	w	M	9.8	PA	25	L	4	64	3	2			SHU
1998 02 23.84		S	9.4	TT	10.0	B		14	&10	2/			PER01
1998 02 23.85		S	9.5	TT	10.0	B		14	&10	1/			VIT01
1998 02 23.85		S	10.1	NP	21	L	6	60	4	2/			MAR02
1998 02 24.28		S	10.6	TJ	25.6	L	5	42	4	3			BIV
1998 02 24.83		S	9.3	TT	10.0	B		14	& 8	3			PER01
1998 02 24.83		S	9.6	TT	10.0	B		14	& 9	2/			VIT01
1998 02 25.81	w	M	10.1	PA	25	L	4	96	3	3			SHU
1998 02 25.84		S	9.7	TT	10.0	B		14	& 5	4			PER01
1998 02 25.84		S	9.7	TT	10.0	B		14	& 6	2			VIT01
1998 02 25.84		S	11.2	TT	30	R	18	100	1.2	2			SHA02
1998 02 25.86		M	9.8	NP	32	L	5	75	5	4			MAR02
1998 02 25.86		S	10.0	NP	32	L	5	75	5	3			SAN04
1998 02 26.73		S	9.2	AA	5.5	M		12	9	1			KOS
1998 02 26.85		S	9.7	TT	10.0	B		14	& 7	4			PER01
1998 02 27.29		S	10.9	TJ	25.6	L	5	42	2.5	2			BIV
1998 02 27.76		S	9.2	AA	6.3	R	13	52	8	0			KOS
1998 02 27.78		M	10.1	TI	10	B		25	5.5	2			ZNO
1998 02 27.85		M	9.7	NP	10	R	5	20	4	3			MAR02
1998 02 28.25		S	11.1	TJ	25.6	L	5	42	3	2			BIV
1998 02 28.75		S	9.2	AA	6.3	R	13	52	7	0			KOS
1998 02 28.78		S	9.9:	HV	7.0	R	7	48	3	2			GRA04
1998 02 28.86		M	9.8	NP	10	R	5	20	6	4/			MAR02
1998 03 01.26		S	10.8	TJ	25.6	L	5	42	3	2			BIV
1998 03 01.47	x	S	10.2	TT	10.0	B		37	4	2			YOS02
1998 03 01.76		M	9.9	TI	10	B		25	4.5	2/			ZNO
1998 03 01.77		S	9.7	TT	8.0	B		10	7	1/			HOR02
1998 03 01.78		S	10.5:	AC	15.2	L	5	42	3.0	2			MOE
1998 03 01.79		S	10.0	TJ	7.0	R	7	24	4.2	1/			GRA04
1998 03 01.85		S	11.9	HS	38.0	L	4	55	1.9	2			WAR01
1998 03 02.49		S	11.0	TI	20	L	7	45	3	2			MAT08
1998 03 03.11		J	9.4	SC	25.4	T	5	a 60	12.13	s5/	0.4m	78	ROQ
1998 03 07.48		S	11.3	HS	46.0	L	5	150	1.4	2			YOS04
1998 03 08.81		S	11.2:	TT	33	L	5	75	1.0	2			SHA02
1998 03 09.75		S	10.0	HI	25.0	L	6	61	2.0	3			RES
1998 03 09.85		M	10.6	TT	35	L	5	92	2.3	2			HOR02
1998 03 10.11		J	11.0	SC	25.4	T	5	a 60	7.19	s6	0.7m	74	ROQ
1998 03 11.75		S	10.4	AC	25.0	L	6	121	2.5	2			RES
1998 03 14.76		S	10.6	AC	25.0	L	6	61	4.0	1/			RES
1998 03 15.26		S	10.9	TJ	25.6	L	5	42	2	2			BIV
1998 03 15.76		S	11.0	AC	25.0	L	6	61	3.5	1			RES
1998 03 15.78		S	11.1	TT	13	L	8	69	2.5	2			HOR02

Comet 103P/Hartley 2 [cont.]

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 03 16.26		S	11.2	TJ	25.6	L	5	42	2.5	1			BIV
1998 03 18.32		S	11.5	HS	25.6	L	5	42	2	2			BIV
1998 03 18.82		S	10.9	AC	15.2	L	5	42	2.0	2			MOE
1998 03 19.11		J	11.4	SC	25.4	T	5	a 60	8.58	s6	0.9m	93	ROQ
1998 03 19.82		S	12.7	VB	30	R	18	100	1.1	2			SHA02
1998 03 19.84		S	11.0	TT	35	L	5	92	2.8	1/			HOR02
1998 03 20.26		S	11.7	HS	25.6	L	5	42	2	2			BIV
1998 03 20.80		S	11.1	HS	44.5	L	4	146	1.8	3			SAR02
1998 03 20.93		S	11.7	NP	32	L	5	75	2	1			SAN04
1998 03 20.93		S	11.9	NP	32	L	5	75	2	1/			MAR02
1998 03 21.82	x	S	11.5	TJ	25.4	J	6	72	2.5	0/			BOU
1998 03 22.76		S	11.3	AC	25.0	L	6	121	2.0	2			RES
1998 03 23.83	x	S	11.8	TJ	25.4	J	6	72	2.4	0			BOU
1998 03 28.86		S	12.7:	VB	30	R	18	170	0.9	2			SHA02
1998 03 29.15		S	12.0	AC	20.0	T	10	185	1.2	1/			SPR

Comet 104P/Kowal 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 16.73		S	13.0	AC	25.0	L	6	121	1.2	3			RES
1998 01 01.75		S	13.1	AC	25.0	L	6	121	0.9	3			RES
1998 01 02.73		S	13.0	AC	25.0	L	6	121	0.9	3			RES
1998 01 17.76		S	13.0	AC	25.0	L	6	121	1.0	3			RES
1998 01 23.74		S	13.0	AC	25.0	L	6	121	1.0	2			RES
1998 01 29.75		S	12.9	AC	25.0	L	6	121	1.0	3/			RES
1998 01 29.76		S	12.8	HS	35	L	5	158	1.3	2/			HOR02
1998 01 29.77		S	13.0	HS	35	L	5	158	1	2/			PLS
1998 01 31.74		S	13.3	AC	25.0	L	6	121	1.1	1/			RES
1998 01 31.75		S	12.5	HS	20	L	4	57	1.2	2			KYS
1998 02 01.74		S	12.8	AC	25.0	L	6	121	0.8	2/			RES
1998 02 17.79		S	12.8:	HS	30	R	18	170	0.7	2			SHA02
1998 02 18.792		S	13.5	HS	44.0	L	5	226	0.5	4			HAS02
1998 02 18.80		S	12.6:	HS	35	L	5	92	1.6	2			HOR02
1998 02 19.74		S	13.2	HS	15	R	13	80	1.5	4			ZNO
1998 02 21.43		S	13.2	HS	46.0	L	5	150	1.0	2/			YOS04
1998 02 22.79		S[	13.0	VB	33	L	5	100					SHA02
1998 02 23.75		S	13.1	HS	15	R	13	80	1.8	3			ZNO
1998 02 27.75		S	13.4	HS	15	R	13	80	1.2	2/			ZNO
1998 03 01.75		S	13.4	HS	15	R	13	80	1.0	2/			ZNO
1998 03 02.43		C	14.0	GA	60.0	Y	6	a120	1.5				NAK01
1998 03 14.76		S	12.7	AC	25.0	L	6	121	0.9	3			RES
1998 03 19.79		S	13.1	HS	35	L	5	207	1.2	2			HOR02
1998 03 20 68		S	13.8	HS	44.5	L	4	230	1	3			SAR02

Comet 111P/Helin-Roman-Crockett

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 28.49		C	20.5	FA	91.4	L	5			9			SC001

Comet 118P/Shoemaker-Levy 4

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.54		c	22.6	FA	91.4	L	5						SC001
1998 02 02.55		C	20.2	FA	91.4	L	5		0.15		23.4s	296	SC001
1998 02 26.52		c	22.7	FA	91.4	L	5						SC001
1998 02 26.53		C	20.3	FA	91.4	L	5		0.13		40.2s	290	SC001

Comet 121P/Shoemaker-Holt 2

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 02 08.96		S	13.9	NP	44.5	L	5	100	0.5	0			MAR02

Comet 129P/Shoemaker-Levy 3

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 17.90		S	14.6	HS	35	L	5	207	0.5	2			HOR02
1998 02 18.83		S	14.7	HS	35	L	5	207	0.4	2			HOR02
1998 02 19.84		S	14.6	HS	35	L	5	207	0.5	2			HOR02

Comet 134P/Kowal-Vavrova

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.70		C	19.4	GA	60.0	Y	6	a240	0.22				NAK01
1998 02 21.69		C	19.3	GA	60.0	Y	6	a240	0.2				NAK01
1998 02 24.32		c	21.6	FA	91.4	L	5						SC001
1998 02 24.33		C	18.8	FA	91.4	L	5		0.17		15 s	288	SC001

Comet P/1997 C1 (Gehrels)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.52		c	23.2	FA	91.4	L	5						SC001
1998 02 02.53		C	21.9	FA	91.4	L	5		0.10		43.2s	292	SC001

Comet P/1997 G1 (Montani)

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1998 02 02.74		C	19.1	GA	60.0	Y	6	a240	0.3		1.2m	293	NAK01
1998 03 02.67		C	18.9	GA	60.0	Y	6	a240	0.3		1.1m	303	NAK01

Φ Φ Φ

Photometry of Deep-Sky Objects

Here we provide the first installment of contributed total visual photometry of deep-sky objects by experienced comet observers, as a result of the call for such data over the last few years (*cf. ICQ* **18**, 181). The idea here is to have experienced comet observers choose deep-sky objects (star clusters, galaxies, nebulae) that strongly resemble comets *in the instruments employed for the specific magnitude estimates*; ultimately, we hope both to provide a list of deep-sky-object magnitudes that beginning comet observers can use for learning proper methodology and procedures for making useful m_1 estimates of comets and to provide a useful base of data that researchers can use for analyzing methodology effects. We encourage *all* experienced comet observers to contribute to this project, and we publish the observations here as encouragement; by "experienced" comet observers, we mean observers who have made careful series of m_1 estimates of many comets (preferably 25 or more comets) over many years (preferably at least 10-15 years), spanning naked-eye to telescopic (fainter than 10th mag) brightness levels, and a good criterion might be those observers who have published in the pages of the *ICQ* more than 100 cometary m_1 estimates fainter than magnitude 10. Note that the main instrument for making the m_1 estimate should — as with the case of comets — be that instrument with the smallest aperture and magnification needed to *easily* see the object being measured. Larger instruments and magnifications may be used afterwards, if the observer so wishes, to estimate m_1 values as a function of aperture or magnification effect.

Some four years ago, it was suggested (*ICQ* **16**, 129) that contributors observe NGC 2068, NGC 3031, NGC 3627, NGC 3640, NGC 4147, NGC 4374, NGC 4406, and NGC 5024, in particular, and a few of these objects are represented in the data below. In addition, observers are encouraged to estimate m_1 and diameters of the following deep-sky objects, which were selected at the request of the *ICQ* Editor by a small group of very experienced comet observers and discoverers as objects that are somewhat close to cometary in morphology (and are sometimes mistaken for comets in visual searches): NGC 221 = M32; NGC 936; NGC 1068 = M77; NGC 1952 = M1; UGC 5373; NGC 3344; NGC 3485; NGC 3623 = M65; NGC 4486 = M87; NGC 4594 = M104; NGC 4649 = M60; NGC 5236 = M83; NGC 5272 = M3; NGC 6356; NGC 6384; NGC 6426; NGC 6712; NGC 6760; NGC 6781; NGC 6934; and NGC 7078 = M15. These 21 deep-sky objects and the previous 8 yield an interesting variety of objects that may be both challenging to the observer and potentially very useful to observe. Contributors should send deep-sky photometry data in tabulated comet format (with the minor changes noted in the October 1997 issue of the *ICQ*), and CCD observers are also encouraged to try obtaining total photometry of these same objects. It might be instructive also to observe these objects at low altitude, with m_1 correction via the standard *ICQ* extinction tables, but this should only be done after the given deep-sky object has been observed first at high altitude above the local horizon.

Note that NGC 4374 = M84; NGC 4406 = M86; NGC 598 = M33; NGC 1960 = M36; NGC 2099 = M37; NGC 1912 = M38. Observers below not listed on page 61: MOR04 = Vladimir G. Mormyl, Chernigovka, Ukraine; MOR08 = Alexandra M. Mormyl, Ukraine; SCO04 = Borys Skorichenko, Ukraine.

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

◇ *NGC 205* ⟹ 1997 Dec. 6.02: w/ 25.3-cm f/5.6 L (58×), approximately elliptical-shaped (5′ × 6′); 8 stars used (7 were within 0.4 mag of the object's m_1); all comp. stars within 1° of NGC 205; the object was definitely seen in 9×34 B, but too faint and dia. too indeterminate for a reliable obs.; the estimates against the several stars are coherent to 0.1 mag or better with the 14×100 B, but there is a ±0.2 mag range in scatter for the estimates with the 25.3-cm L [PER01].

◇ *NGC 2068 = M78* ⟹ 1997 Sept. 30.16: in 25.3-cm f/5.6L (58×), background "coma" (ignoring two superimposed stars) has DC = 2, m_1 = 9.1 via VSS method; each of the two superimposed inner stars is estimated at mag ~ 10.5 [PER01].

◇ *NGC 2632 = M44* ⟹ 1996 Nov. 8.18: method w/ binoculars was defocusing the cluster, making the stars blend, comparison then made with stars defocused to 20′; the original result was 5.0, which — correcting for the dia. of the defocused cluster — yields m_1 = 3.6 [PER01]. 1997 Feb. 2.98, 3.04, 3.95: naked-eye B and S methods achieved by the technique for defocusing the eye described at URL `http://skull.cc.fc.ul.pt/~falfredo/nakeye.html` [PER01, VIT01].

◇ *NGC 3031* ⟹ 1997 June 4.87: w/ 7×50 B, dia. 6′ × 12′ [MOR04 and MOR08]. June 4.87: w/ 28×80 B, dia. 16′ × 8′; w/ 40×80 B, dia. 7′ × 15′ [MOR04]. June 4.87: w/ 80-mm B, dia. 7′ × 15′ [MOR08].

◇ *NGC 3587 = M97* ⟹ 1997 Jan. 13.18-13.20: only glimpsed in 9×34 B, but definitely seen; for the obs. with mag ref AA, the SV UMa AAVSO seq. was used [PER01]. Jan. 27.22: obs. deliberately made in strong moonlight to determine the effect of contrast on a sharp-edged extended object, as opposed to the effect on diffuse-edged objects; M97 faint in the reflector; for the obs. w/ mag ref = AA, the SV UMa AAVSO seq. was used; another estimate using selected area 13 from Atlas of Selected Areas yields m_1 = 9.6 [PER01].

◇ *NGC 3627 = M66* ⟹ 1996 Apr. 18.00: same magnitudes obtained with AAVSO sequence [PER01].

◇ ◇ ◇

NGC 205

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 12 06.02		S	9.2	TI	10.0	B		14	& 5.5	3			PER01
1997 12 06.02		S	9.4	TI	25.3	L	6	58	& 5	2/	6		PER01

NGC 598

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 11 29.81		I	6.2	AA	0.0	E		1					PER01
1996 11 29.81		S	5.7	AA	2.4	B		8	&30	2/			PER01
1996 11 29.81		S	5.9	AA	3.4	B		9	&28	1/			PER01
1996 11 29.81		S	6.3	AA	5.0	R		5	&27	2/			PER01
1996 12 01.94		I	5.9	AA	0.0	E		1					PER01
1996 12 01.94		S	5.5	AA	2.4	B		8	&31	1/			PER01
1996 12 01.94		S	5.8	AA	3.4	B		9	&30	2/			PER01
1996 12 01.94		S	6.2	AA	3.4	B		9	&25	2			VIT01

NGC 1912

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 12 01.94		S	5.7	AA	2.4	B		8	&23	2/			PER01
1996 12 01.94		S	6.0	AA	3.4	B		9	&19	2			PER01

NGC 1960

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 12 01.94		M	6.1	AA	3.4	B		9	& 7.5	5			PER01
1996 12 01.94		M	6.1	AA	3.4	B		9	&10	3/			VIT01
1996 12 01.94		M	6.2	AA	2.4	B		8	&10	4/			VIT01
1996 12 01.94		M	6.2	AA	2.4	B		8	&11	5			PER01

NGC 2068

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 09 29.19		M	8.6	TI	10.0	B		14	& 4.5	5			PER01
1997 09 29.20		B	8.3	TI	10.0	B		14	& 4	5			VIT01
1997 09 29.20		M	8.4	TI	10.0	B		14	& 4	5			VIT01
1997 09 30.16		M	8.3	TI	25.3	L	6	58	& 3.5	6			PER01

NGC 2099

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 12 01.94		M	5.5	AA	3.4	B		9	&13	4			PER01
1996 12 01.94		M	6.1	AA	3.4	B		9	&16.5	3			VIT01
1996 12 01.94		S	5.3	AA	3.4	B		9	&13	4			PER01
1996 12 01.94		S	5.6	AA	2.4	B		8	&16	3/			PER01
1996 12 01.94		S	6.0	AA	3.4	B		9	&16.5	3			VIT01

NGC 2632

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 11 08.16		I	3.9	AA	0.0	E		1					PER01
1996 11 08.18		M	3.6	AA	3.4	B		9	&38				PER01
1997 02 02.98		B	3.6:	AA	0.0	E		1	>30	4/			PER01
1997 02 02.98		I	3.4	AA	0.0	E		1	>30	4/			PER01
1997 02 02.98		S	2.9	AA	0.0	E		1	>30	4/			PER01
1997 02 03.04		I	3.6	AA	0.0	E		1	&60	3/			PER01
1997 02 03.04		S	3.1	AA	0.0	E		1	&60	3/			PER01
1997 02 03.95		I	3.5	AA	0.0	E		1	&60	4			PER01
1997 02 03.95		I	3.8	AA	0.0	E		1	&68	3/			VIT01
1997 02 03.95		S	2.8	AA	0.0	E		1	&60	4			PER01
1997 02 03.95		S	3.6	AA	0.0	E		1	&68	3/			VIT01
1997 03 12.00		I	3.1	AT	0.0	E		1	&58	3/			PER01
1997 03 12.00		M	3.2	AT	3.5	R		1	&55	5			PER01

NGC 3031

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 04 04.84		E	7.4	AA	13.3	R	5	40	9	D6/			SC004
1997 06 04.85		B	7.4	SC	5.0	B		7	&12	5			MOR08
1997 06 04.85		M	7.4	SC	5.0	B		7	&12	5			MOR08
1997 06 04.87		B	7.0	SC	8.0	B	10	28	&16	6			MOR04
1997 06 04.87		B	7.1	SC	8.0	B	10	40	&15	6			MOR04
1997 06 04.87		B	7.2	SC	5.0	B		7	&12	5			MOR04
1997 06 04.87		B	7.2	SC	8.0	B	10	28	&15	6			MOR08
1997 06 04.87		B	7.3	SC	8.0	B	10	40	&15	6			MOR08
1997 06 04.87		M	7.0	SC	8.0	B	10	28	&16	6			MOR04
1997 06 04.87		M	7.1	SC	8.0	B	10	40	&15	6			MOR04
1997 06 04.87		M	7.2	SC	5.0	B		7	&12	5			MOR04
1997 06 04.87		M	7.2	SC	8.0	B	10	28	&15	6			MOR08
1997 06 04.87		M	7.3	SC	8.0	B	10	40	&15	6			MOR08

NGC 3587

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 01 13.18		S	9.2	AA	25.3	L	6	58	& 3.5	0/			PER01
1997 01 13.18		S	9.5	HI	25.3	L	6	58	& 3.5	0/			PER01
1997 01 13.20		S	8.9	AA	3.4	B		9	< 3.5				PER01
1997 01 27.22		S	9.4	AA	25.3	L	6	58	& 3.5	2/			PER01
1997 01 27.22		S	9.6	HI	25.3	L	6	58	& 3.5	2/			PER01
1997 02 09.02		S	9.5	HI	25.3	L	6	58	& 2.5	1			VIT01

NGC 3627

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1996 04 18.00		M	8.8	TI	25.3	L	6	57	& 3	4/			PER01
1996 04 18.01		M	8.2	TI	15.0	L	4	26	& 3	3			PER01
1996 04 18.01		S	8.3	TI	15.0	L	4	26	& 3	3			PER01
1997 03 08.02		E	8.8	AA	13.3	R	5	40	1.6	4/			SC004

NGC 3640

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 03 08.02		E	9.7	AA	13.3	R	5	40	1.6	2			SC004

NGC 4147

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 04 04.81		E	10.3	AA	13.3	R	5	40	1	3			SC004

NGC 4374

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 03 12.08		M	9.6	HI	25.3	L	6	58	& 3	5			PER01
1997 03 13.04		E	9.6	AA	13.3	R	5	40	1.7	8			SC004

NGC 4406

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 03 12.08		M	9.5	HI	25.3	L	6	58	& 3	5			PER01
1997 03 13.04		E	9.4	AA	13.3	R	5	40	2.3	7			SC004

NGC 5024

DATE (UT)	N	MM	MAG.	RF	AP.	T	F/	PWR	COMA	DC	TAIL	PA	OBS.
1997 03 13.00		E	8.3	AA	13.3	R	5	40	2.9	5			SC004
1997 06 03.85		B	7.6	SC	8.0	B	10	28	8	4			MOR04
1997 06 03.85		B	7.7	SC	5.0	B		7	7	5			MOR04
1997 06 03.85		B	7.8	SC	8.0	B	10	40	6	4			MOR04
1997 06 03.85		B	7.8	SC	8.0	B	10	40	6	5			MOR04
1997 06 03.85		B	7.9	SC	5.0	B		7	7	5			MOR08
1997 06 03.85		B	8.0	SC	8.0	B	10	40	8	5			MOR08
1997 06 03.85		M	7.6	SC	5.0	B		7	7	5			MOR04
1997 06 03.85		M	7.6	SC	8.0	B	10	28	8	4			MOR04
1997 06 03.85		M	7.8	SC	8.0	B	10	28	6	4			MOR08
1997 06 03.85		M	7.8	SC	8.0	B	10	28	8	5			MOR08
1997 06 03.85		M	7.9	SC	5.0	B		7	7	5			MOR08
1997 06 03.85		M	8.0	SC	8.0	B	10	40	6	5			MOR08

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Book Reviews

The Comet of 44 B.C. and Caesar's Funeral Games, *by John T. Ramsey and A. Lewis Licht (Atlanta: Scholars Press), 256 pages [ISBN 0-7885-0273-5], 1997.*

This admirable study is the result of two researchers at the University of Illinois, Chicago — Ramsey being in the Department of Classic and Licht in the Department of Physics. It is admirable for two reasons: first, it is the most detailed study yet on this presumed comet apparition; second, it shows how valuable historical studies can be when scientists work with experts in other (non-science) fields to produce a much better final result than either could have done separately.

The book covers the records from ancient Roman literature, as well as sightings of a comet around the same year in ancient Chinese records. There is an attempt to produce an orbit from available observations, trying to reconcile the scant European material with the limited Chinese data. In the Foreword by Brian G. Marsden, one learns quickly that there is no certainty to the Roman report referring to a real comet (as opposed to an apparition made up by Augustus to further his own cause). But this book is highly deserving of a reading by all interested in comets and history.

— *D.W.E.G.*

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The Archive of The Amateur Observation Network of The International Halley Watch. *Volume 1: Comet Giacobini-Zinner, 206 pages. Volume 2: Comet Halley, 692 pages. Ed. by S. J. Edberg (Pasadena, CA: NASA Jet Propulsion Laboratory), JPL Publication 96-3, 1996/97.*

This is the long-overdue paperback results of the observations of comet 1P/Halley made by "amateur" astronomers to the IHW. Due to its favorable apparition in 1985, the IHW also solicited observations of comet 21P/Giacobini-Zinner and incorporated these into Volume 1 of this 2-book set — the 1P data appearing the much-larger second volume.

Regarding the data on 21P, there are a few drawings and photographs noted, but the vast majority of 1-line observations are those of visual observations yielding magnitude, coma, and tail information (with pretty much the same information as is provided in the *ICQ*, with limiting-naked-eye-star magnitude, dark-adaptation comment, and site listings added for many observations). The most amazing thing upon quick perusal of Volume 1 of *The Archive* is the number of nearly-blank pages present: In the 148 pages of tabulated data, only a handful extend halfway down the page. The vast majority of the 8.5×11-inch pages have only an inch or two of data per average page — the rest blank. Allowing an inch or two of blank space to separate different dates (instead of starting a new date on a new page) could have reduced the length of this Volume to under 90 pages; that's a *lot* of wasted paper in terms of blank space! Another wastage of paper occurred by having the first 63 pages of introductory text repeated *verbatim* in each of the two volumes!

My own observations of comet 1P, which were sent in *ICQ* form upon the request of Edberg, lack site and limiting-naked-eye-magnitude information; in addition, Edberg erred in taking the *ICQ* reference code 'L' (which I used for many estimates of 1P) and stated that I used "Lampkin's Naked-Eye Stars" (a publication that I have never even *seen*!), when in fact it stands for the usual Landolt *V* photometry. In the same vein of confusing — though Edberg sought out the advice of the *ICQ* editors when launching his IHW amateur project in the early 1980s, so as to keep things as uniform as possible in terms of observing standards and reporting procedures — the archive uses different codings and abbreviations for magnitude sources and intrument type, and displays aperture in units of meters (so that binoculars have apertures displayed in the unusual form of 0.023, for example).

There are many more observations of comet 1P in Volume 2 than there are of 21P in Volume 1, so many of the pages of data around the time peak brightness of 1P are filled out. Yet, we still find hundreds of pages that are well over half-blank due to limited data. Had the 1P data for different dates also combined onto the same pages, as suggested for 21P above, another 200+ pages could have been easily saved. Dumping all visual data, photographic data, and spectroscopic data into three long tables (*ICQ*-style) would have probably saved another couple of hundred pages easily. Then, by cutting the repeated 63 pages of introductory text out the second time, one could have printed a single volume of data on both comets 21P and 1P in well under 500 pages — possibly as few as about 300 pages. Given that these data are available via CD-ROM (which also contains the professional photometry, astrometry, and spectroscopy on these comets) and that the majority of useful visual data were printed in the pages of the *ICQ* in the mid-1980s (numerous data included in the IHW archive were rejected by the *ICQ* for not containing standardized information), one might indeed question the idea behind printing these two volumes at all. — *D. W. E. Green*

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The Letters and Papers of Jan Hendrik Oort, as Archived in the University Library, Leiden, *by J. K. Katgert-Merkelijn (Dordrecht: Kluwer Academic Publishers), 228 pages (hardbound) [ISBN 0-7923-4542-8], 1997, $50.00.*

This curious book may prove useful to many historians of 20th-century astronomy, as the Dutch astronomer Jan Oort (1900-1992) was a giant in the field of astronomy. I say "curious book" because it is unusual to find a hardbound book containing simply a list of the papers and correspondence of an astronomer, as one finds here; as the editor states in his Introduction, it "represents an inventory of the papers and letters" of Oort's astronomical career.

There is a very informative biography about 14 pages long, in which one quickly learns of the many diverse areas of astronomy that Oort spent time working in. This biography is an "astronomical" one, in that it speaks of his personal life in places to give a picture of his interests outside of astronomy, but it concentrates on his astronomical career and presents his personal life largely as it affected his professional life. The book is sprinkled with a couple of dozen nice black-and-white photographs that additionally document Oort's long career. The biography only touches briefly on Oort's contribution to comet research, in which he noted correctly that many long-period comets seem to have an aphelion distance around 50,000 AU — leading to what is now commonly called the "Oort cloud", or 'reservoir' of comets.

However, upon delving into the 158 pages listing Oort's papers, generally categorized by topic and a short time span during which Oort worked on a given topic, one finds much more comet-related material. For example, on page 15, we find the heading "Origin of Comets: Miscellaneous Work Notes, Data, Correspondence, 1947-1951" with the sub-heading "M. Schmidt - Special lecture - A. J. J. van Woerkom". The material under this heading is divided into 12 groups, each one typically dealing with a single researcher's work, letters, papers, etc. (such as F. L. Whipple and his comet model; G. P. Kuiper; A. D. Fokker, Jr., and his research on comet tails; letters on controversy with R. A. Lyttleton; and articles by Russian researchers including S. K. Vsekhsvyatsky, E. L. Krinov, B. U. Levin, and others). (Curiously, additional letters on comets and minor planets are given under "Miscellaneous Correspondence" for 1954, 1971, and 1974 — listed by correspondent — possibly because more than one topic was discussed in such correspondence.) A list of Oort's publications coming out of this work is then referred to (the actual publications appearing in a special section at the end of the book). In the period 1949-1953, Oort gave university lectures on "Comets and planets" (and later in 1969-1970, on "Comets and asteroids"), from which he left two notebooks (as noted on pages 50-51 of this book).

Toward the end of Oort's career, we find a list of "Research notes on comets and their composition, on the extent of the comet cloud and on Halley's comet, 1985-1990" (page 41). Here we find correspondence tallied to/from M. Bailey, G. W. Wetherill, C. Alcock, R. Lüst, W. F. Huebner (45 letters!), S. D. Tremaine (12 letters), and many others, and it is noted that he made extensive comments on a 1978 reprint article by B. G. Marsden *et al.* entitled "New osculating orbits for 110 comet and analysis of original orbits for 200 comets". He also had a series of letter correspondence with T. Gehrels and L. A. Frank regarding the latter's suggestion of cometesimals in the earth's atmosphere. By this late stage in his career, only three published citations are listed for Oort. — *D. W. E. Green*

Updated ICQ Archive Statistics

With the tabulated observations published in this issue, the *ICQ* archive has passed the 100,000 mark: we now have a total of 100,901 observations (38,232 of short-period comets and 62,669 of long-period comets) — where an "observation" is counted as a 1-line, 80-character record. Below are the current tallies of observations for the 25 most-observed long-period comets and 25 most-observed short-period comets in the *ICQ* archive:

Long-period comets	
11309	C/1995 O1 (Hale-Bopp)
4822	C/1990 K1 = 1990c = 1990 XX
3904	C/1996 B2 (Hyakutake)
2346	C/1989 X1 = 1989c1 = 1990 V
2219	C/1987 P1 = 1987s = 1987 XXIX
1477	C/1989 Q1 = 1989r = 1989 XIX
1426	C/1988 A1 = 1988a = 1988 V
1137	C/1977 R1 = 1977m = 1977 XIV
1081	C/1975 N1 = 1975h = 1975 IX
1068	C/1993 Y1 = 1993v = 1994 XI
1002	C/1982 M1 = 1982g = 1982 VI
990	C/1996 Q1 (Tabur)
954	C/1973 E1 = 1973f = 1973 XII
861	C/1986 P1 = 1986l = 1987 VII
860	C/1991 T2 = 1991a1 = 1992 XIX
849	C/1993 A1 = 1993a = 1994 I
683	C/1974 C1 = 1974b = 1974 III
674	C/1980 Y2 = 1980u = 1981 II
656	C/1979 Y1 = 1979l = 1979 X
630	C/1969 Y1 = 1969i = 1970 II
614	C/1994 N1 = 1994m = 1994 XX
608	C/1992 F1 = 1992d = 1992 X
576	C/1986 V1 = 1986n = 1987 II
556	C/1994 G1 = 1994f = 1994 XIII
538	C/1975 V1 = 1975n = 1976 VI

Short-period comets	
7096	1P/Halley
2674	109P/Swift-Tuttle
1950	19P/Borrelly
1673	29P/Schwassmann-Wachmann 1
1413	22P/Kopff
1260	103P/Hartley 2
1142	23P/Brorsen-Metcalf
1119	6P/d'Arrest
1114	9P/Tempel 1
1078	2P/Encke
1035	122P/de Vico
1028	21P/Giacobini-Zinner
1024	24P/Schaumasse
845	81P/Wild 2
841	4P/Faye
826	67P/Churyumov-Gerasimenko
664	38P/Stephan-Oterma
646	10P/Tempel 2
465	31P/Schwassmann-Wachmann 2
451	73P/Schwassmann-Wachmann 3
429	P/1994 P1 (Machholz 2)
409	8P/Tuttle
380	116P/Wild 4
380	P/1991 L3 (Levy)
359	55P/Tempel-Tuttle

The figures above include *all* observations (including those observations with no magnitude information); 98 percent of the observations contain some sort of magnitude information. Below are the numbers of magnitude estimates for the top 50 observers in the *ICQ* archive, listed by *ICQ* observer code, the number of positive magnitude estimates for each observer (comet seen), and the number of "negative" magnitude estimates (comet not definitely seen). — *D.W.E.G.*

Code	Mag.	Neg.
BOR	3139	89
MOR	2694	107
NAK01	2609	11
JON	2433	1
BEY	2331	71
BOU	2284	29
SHA02	2038	128
HAL	1582	641
MOE	1409	0
PEA	1389	60
MOR03	1297	0
KEI	1292	5
KRO02	1278	0
SPR	1208	0
ISH02	1146	0
MOD	1145	402
GRE	1138	3
SEA	1111	4
SCO01	1074	0
HOR02	970	65
PER01	937	0
COM	931	2
BAR06	848	20
GRA04	837	9
SEA01	792	5

Code	Mag.	Neg.
MIK	776	38
KEE	771	4
HAS02	737	18
DES01	730	0
CLA	714	0
KOR01	664	8
KAN	608	0
BIV	577	0
CHE03	575	4
MER	570	30
PLE01	546	1
KYS	541	30
CAM03	540	7
PAN	531	1
ZNO	503	0
SCH04	500	0
LOO01	498	0
MAC	492	14
MEY	481	1
BUS01	464	0
KOS	454	0
JAH	440	0
ZAN	423	19
SIM	399	3
JAC01	392	20

DESIGNATIONS OF RECENT COMETS

Listed below, for handy reference, are the last 35 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). 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 ESA/NASA Solar and Heliospheric Observatory (SOHO) spacecraft — and seen only close to the sun with the SOHO instruments — that are presumed to be Kreutz sungrazers that are no longer in existence (*IAUC* 6781, 6811, 6813, 6825, 6837, 6862, 6879): C/1997 H3, C/1997 P3, C/1997 S2, C/1997 U1, C/1997 W1, C/1997 W2, C/1997 X1, C/1998 A1, C/1998 E1, C/1998 F1, C/1998 G2 (see list in October 1997 *ICQ*, p. 286, for earlier SOHO comets). [This list updates that in the January 1998 issue, p. 50.]

	New-Style Designation	*P*	*T*	*q*	*IAUC*
⋆	133P/1996 N2 (Elst-Pizarro)	5.6	4/18/96	2.63	6456
	126P/1996 P1 (IRAS)	13.3	10/29/96	1.70	6446
⋆	C/1996 P2 (Russell-Watson)		3/1/96	2.01	6448
⋆	C/1996 Q1 (Tabur)		11/3/96	0.84	6455
⋆	C/1996 R1 (Hergenrother-Spahr)		8/29/96	1.90	6470
⋆	P/1996 R2 (Lagerkvist)	7.3	1/18/97	2.62	6473
⋆	C/1996 R3		5/30/96	1.8	6564
	127P/1996 S1 (Holt-Olmstead)	6.3	2/6/97	2.15	6475
	128P/1996 S2 (Shoemaker-Holt 1)	9.5	11/20/97	3.05	6477
	129P/1996 U1 (Shoemaker-Levy 3)	7.2	3/4/98	2.82	6494
⋆	C/1997 A1 (NEAT)		6/19/97	3.16	6532
⋆	P/1997 B1 (Kobayashi)	25.2	3/2/97	2.05	6553
⋆	C/1997 BA_6 (Spacewatch)		11/26/99	3.4	6561
⋆	P/1997 C1 (Gehrels)	17.4	1/29/96	3.6	6549
⋆	C/1997 D1 (Mueller)		10/11/97	2.25	6562
	55P/1997 E1 (Tempel-Tuttle)	33.2	2/27/98	0.98	6579
⋆	P/1997 G1 (Montani)	21.8	4/26/97	4.2	6622
⋆	C/1997 G2 (Montani)		4/16/98	3.1	6626
	130P/1997 H1 (McNaught-Hughes)	6.7	2/23/98	2.1	6640
⋆	C/1997 J1 (Mueller)		5/3/97	2.3	6642
⋆	C/1997 J2 (Meunier-Dupouy)		3/10/98	3.0	6648
⋆	C/1997 H2 (SOHO)		5/2/97	0.14	6650
⋆	C/1997 L1 (Xinglong)		11/22/96	4.9	6677
⋆	C/1997 L2 (SOHO)		6/10/97	0.04	6684
⋆	C/1997 N1 (Tabur)		8/15/97	0.40	6692
	131P/1997 M2 (Mueller 2)	7.0	11/22/97	2.4	6695
	132P/1997 N2 (Helin-Roman-Alu 2)	8.2	11/10/97	1.9	6704
⋆	C/1997 O1 (Tilbrook)		7/13/97	1.37	6705
⋆	C/1997 P2 (Spacewatch)		8/31/97	4.3	6717
⋆	C/1997 T1 (Utsunomiya)		12/10/97	1.36	6751
⋆	P/1997 T3 (Lagerkvist-Carsenty)	17.3	3/10/98	4.2	6754
⋆	P/1997 V1 (Larsen)	11.0	9/15/97	3.3	6767
	134P/1997 X2 (Kowal-Vávrová)	15.6	11/18/98	2.6	6784
	135P/1998 B1 (Shoemaker-Levy 8)	7.5	12/10/99	2.7	6821
⋆	P/1998 G1 (LINEAR)	41.5	11/16/98	2.1	6863

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CORRIGENDA

• In the April 1997 *ICQ*, page 108, Comet C/1995 O1 (Hale-Bopp), magnitude estimate on 1997 02 08.21 by BR006 was via naked eye, *not* with 11×80 B.

• In the January 1998 *ICQ*, page 13, Comet 104P/Kowal 2, *delete* the observation on Nov. 19.83 by BOU.