

Dramatic Eruption on Comet Halley

This photo shows the enormous outburst of Comet Halley, as observed by ESO astronomers Olivier Hainaut and Alain Smette with the Danish 1.54-m telescope at La Silla on February 12–14, 1991. At this moment the comet was about 14.3 A.U. (2140 million km) from the Sun and 13.4 (2002 million km) from the Earth. The image is a combination of eight individual CCD Johnson-V exposures with a total exposure time of just over 7 hours.

Comet Halley's nucleus is completely hidden within a diffuse dust cloud (the "coma") that is seen as a bright light point at the centre; the magnitude is $V \sim 21.5$. From here, dust is dispersed into surrounding space; the parabolic shape of the faint, outer contour and the arc-like structure are thought to result from the complex motions of the individual dust particles. The central part of the dust cloud measures more than 30 arcseconds (300,000 km projected) across, but faint contours can be followed much further out. The total brightness of the cloud is about 19, or about 300 times brighter than the predicted magnitude of the nucleus alone, about 25.3. No outburst of a comet has ever been observed at such a large distance from the Sun.

North is up and East is to the left; 1 pixel = 0.464 arcsecond; field size: 153 × 153 pixels, i.e. 71 × 71 arcseconds or



~ 700,000 × 700,000 km at the distance of Halley. The telescope was set to follow the comet's motion (directed at 72° West of North) and several star trails crossed the image of Halley. The

projected direction to the Sun is 15° West of South. To produce this photo, the frames were individually cleaned with the ESO IHAP image processing system. The editor

Visiting Astronomers

(April 1–October 1, 1991)

Observing time has now been allocated for Period 47 (April 1–October 1, 1991). The demand for telescope time was again much greater than the time actually available.

The following list gives the names of the visiting astronomers, by telescope and in chronological order. The complete list, with dates, equipment and programme titles, is available from ESO, Garching.

3.6-m Telescope

April: van der Hucht/Thé/Williams, Courvoisier/Bouchet/Robson, Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Grenier/Ögelman/Gouiffes, Gouiffes/Ögelman/Augusteijn, Reimers et al. (2-009-45K), Reimers/Koester, Prieto/Benvenuti, Chincarini/Buzzoni/Molinari, Turatto et al. (4-004-45K), Danziger/Bouchet/Gouiffes/Lucy/Fransson, Mazzali/Della Valle, Hutsemékers/van Drom.

May: Malbet/Bertout/Léna/Rigaut/Merkle/Lagrange-Henri, Miley et al. (2-001-43K), van Drom/Hutsemékers, Giraud/Melnick/Steppe/Gopal-Krishna, Turatto et al. (4-004-45K), Danziger/Bouchet/Gouiffes/Lucy/Fransson/

Mazzali/Della Valle, Mathys/Maeder, Barbuy/Silk/François, Baade/Crane, Hensberge et al. (5-005-45K).

June: Gratton/Snedden, Andreae/Drechsel, di Serego Alighieri/Fosbury/Schlötelburg, Mirabel/Lutz/Dottori, Schmid/Schild, Gay/Le Bertre/Lefèvre/Lopez/Perrier, Richichi/Lisi/Di Giacomo, Vladilo/Centurion.

July: Vidal-Madjar/Ferlet/Gry, Ferlet/Vidal-Madjar/Dennefeld, Renzini/Greggio/Bragaglia, Penninx/Augusteijn/van der Klis/Kuulkers, Chambers/van Breugel/Dey, Tsvetanov/Fosbury/Tadhunter, Tsvetanov/Wilson/Fosbury, Habing et al. (5-007-45K).

August: Meisenheimer/Wagner, Turatto et al. (4-004-45K), Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Macchetto/Sparks, Véron/Hawkins, Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Cetty-Véron/Véron, Webb/Shaver/Carswell, Westerlund/Pettersson/Edvardsson, Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle.

September: Vettolani et al. (1-019-47K), Borra/Sanvico/Cristiani/Levesque/Shaver, Hammer/Petrosian/Le Fevre/Angonin, Turato et al. (4-004-45K), Danziger/Bouchet/

Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Hes/Fosbury/Barthel, Gouiffes/Ögelman/Augusteijn, Danziger/Bouchet, Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Habing et al. (7-008-47K).

3.5-m NTT

April: Tammann et al. (1-022-47K), Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Bergvall/Rönnback, Ortolani/Rosino/Renzini, Tarengi/D'Odorico/Wampler/Yoshii/Peterson/Silk, Zinnecker/Melnick/Moneti, Reipurth/Zinnecker, Moorwood/Oliva.

May: Oliva/Morwood, Danziger/Moorwood/Oliva, Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Dettmar/Shaw/Dahlem, Tamman et al. (1-022-47K), Danziger/Bouchet/Gouiffes/Lucy/Fransson/Mazzali/Della Valle, Bignami et al. (6-002-45K), Tammann et al. (1-022-47K), Bandiera/Della Valle, Bender et al. (1-004-43K), Tammann et al. (1-022-47K), Bandiera/Della Valle, Dejonghe/Zeilinger, Schönberner/Napiwotzki/Jordan, Tammann et al. (1-022-47K), Bandiera/Della Valle, Spite F./Rebolo/Molaro/Nissen/Spite M., Koornneef/Israel.