filters out to 5 microns. There were very large daily variations which correlated well with the outbursts seen on the GPO pictures in the sense that when the comet was brighter in infrared light, then there was also more dust around the nucleus.

The ESO Schmidt telescope, which for safety reasons cannot point close to the horizon, started observations on 2 March. As soon as possible, a daily routine consisting of two exposures was adopted, one red and one blue. Whereas the red plates showed less and less detail (reflecting the decreasing amount of cometary dust as Halley moved away from the sun), the 30-minute blue plates are probably among the most spectacular ever taken of a comet. The motion in the ion tails, driven by the variable solar wind, becomes apparent and a major disconnection event on 9 March can be traced to plasma instabilities one day before. By mid-March, H.-E. Schuster and his night assistants G. and O. Pizarro had more than two weeks of uninterrupted observations. The calibrated plates will now be measured and analyzed by the ESO image processing systems in Garching. Taken together with the GPO plates and the wide-field CCD images, the post-perihelion development of comet Halley can be studied, all the way out from the innermost regions near the nucleus to the distant tail areas.

Observations of Halley were also made at La Silla by a team of astronomers from the Ruhr University at Bochum, FRG, by means of a multi-camera mounting, employing different filters which separate the various ions in the tail.

During a 16-night period from late February, close-up CCD images of the nuclear region were obtained by Danish astronomer S. Frandsen, in collaboration with B. Reipurth at the Danish 1.5-m telescope equipped with the Aarhus CCD camera.

Starting early March, more teams arrived at La Silla to use other ESO telescopes for the study of Halley. It is expected that articles about these activities will appear in the June issue of the *Messenger*.

Rapid Changes in Comet Halley's CO^+ Tail

Regular observations of Comet Halley were undertaken at the European Southern Observatory at La Silla from mid-February 1986. However, since the comet was seen in a moon-lit sky in the period 23 February – 8 March, special measures had to be taken to suppress the adverse influence of the bright background. Therefore, observations with the Wide-Field CCD Camera were made through narrow optical filters centred at wavelengths near the spectral emissions of the major constituents in the gaseous tail(s). The picture shows two such exposures made on 3 and 4 March through a 7 nm wide filter near 426 nm in violet light which record emission from carbon monoxide ions (CO^+). In order to show the full extent of the tail, each picture consists of two 40-minute exposures. Pixels are indicated along the edges; each pixel measures 31 arcseconds. The distance from the comet to the sun was 114 million kilometres and the comet was 182 million kilometres from the earth. The length of the CO^+ tail is more than 15 degrees or 50 million kilometres.

Major changes in the tail structure have occurred during the 24-hour interval. Note also the presence of sub-tails in the March 4 picture, pointing towards north (left). This phenomenon which was first found at ESO on 18 February is believed to be caused by matter which has been released from the comet nucleus during a series of outbursts after the perihelion passage on 9 February 1986.