

## Comets – Distant and Nearby

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### Comet P/Halley Observed at ESO

With the recovery of Comet Halley on October 16, 1982, the interest in comets has received a new impetus. Everybody knows this famous comet and when the predicted orbit for its current return was published in 1977, several astronomers started a systematic search to recover the object.

Apart from the honour of being the first to see P/Halley (P/ is used for *periodic* comets with periods of less than 200 years), there was also a very practical aspect. No less than four spacecraft are planned to intercept Comet Halley in 1986, and it was of obvious necessity to learn, as early as possible, the exact orbit of the comet upon its return.

Following the recovery 5 m Palomar observations, teams of astronomers at the Kitt Peak 4 m and the Canada-France-Hawaii 3.5 m telescopes were immediately successful in detecting P/Halley. At ESO, the first (unsuccessful) attempts were already made in 1980, with the ESO 3.6 m telescope on photographic plates and with the Danish 1.5 m telescope by means of the electronographic McMullan camera. These attempts were heroic but since at that time, as we know now, the comet's magnitude was certainly much fainter than 25, they were doomed from the beginning.

With the installation of a CCD camera at the Danish 1.5 m telescope, it became possible, during the past year, to observe extremely faint objects. It was, however, still somewhat doubtful whether it would be possible to observe P/Halley which according to the American and French observations would have a magnitude of approximately 24.5. The main problem was that extremely accurate tracking of the comet would be necessary to keep the few photons received from it falling on the same pixels of the CCD camera throughout the exposure. Since it was impossible to "see" the comet, *blind tracking* was necessary, that is letting the telescope follow the predicted motion of the comet, but without any possibility of checking that it actually does so.

Through a combination of very good seeing, exceedingly accurate tracking and admittedly a bit of good luck, Holger

Pedersen was finally able to obtain the first ESO picture of Comet Halley on 10 December 1982. Near the centre of a 45-minute exposure through a broad-band filter (3700–7800 Å) there was a very weak spot which could barely be seen on the

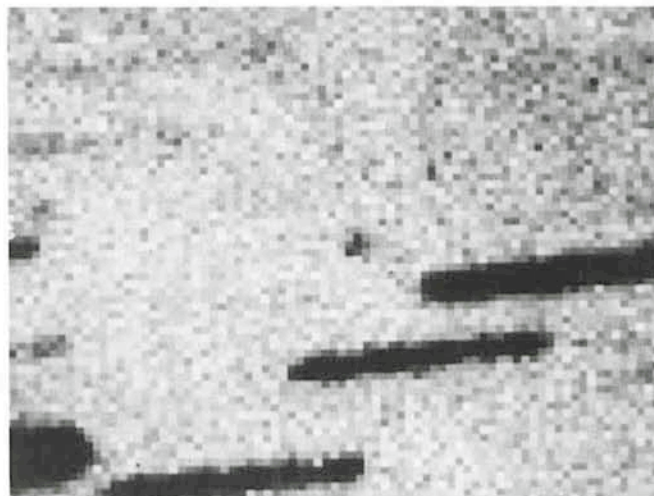


Fig. 1: P/Halley as seen on 45-min broad-band (3700–7800 Å) frame, obtained with a CCD on the Danish 1.5 m telescope, January 14, 1983. 1 pixel = 0.47 arcseconds.

### Prof. Otto Heckmann, 1901–1983

It is with deep regret that we have to announce the death of Professor Otto Heckmann on 14 May 1983. Professor Heckmann was Director General of ESO from 1962 to 1969. An obituary will follow in the next issue of the *Messenger*.