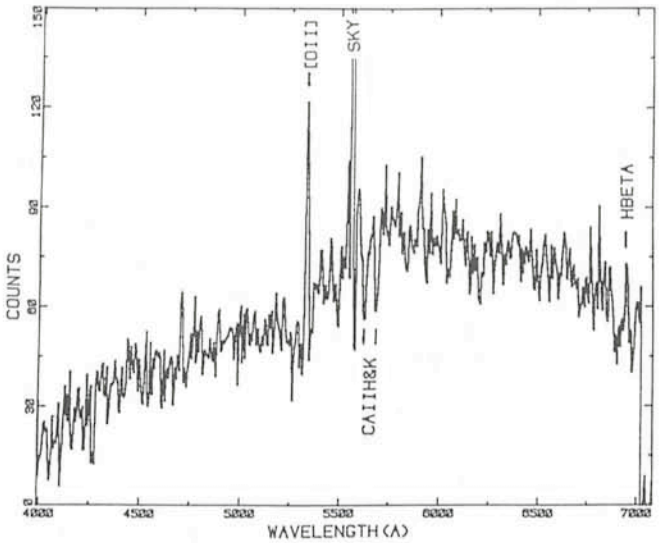

Fig. 2: *Spectrum of galaxy ≠ 1 (m_v = 21.5) 8.6 arcsec northeast of the QSO obtained with EFOSC. It is the sum of two spectra, each of one hour exposure. The spectral resolution is FWHM = 14 Å. The redshift derived from the emission and absorption lines is 0.430; it is equal to the redshift derived from the MgII doublet detected in absorption in the spectrum of the QSO.*

al., 1985). The velocity dispersion of the MgI and MgII lines is small, b ~ 8 km s^{-1}, and the HII column density derived in the assumption of normal abundances is 7 10^{19} cm^{-2} if Mg is mainly singly ionized. The CIV doublet is not detected in the UV spectrum with w (CIV 1549)/w (MgII 2800) ≤ 1.3, and the degree of ionization of the absorber appears similar to, or possibly lower than, those observed in high latitude gas in our Galaxy.

From the above properties we conclude that the absorbing cloud on the line of sight to PKS 2128-12 is more likely associated to a very extended disk than to a halo around a spiral galaxy of absolute luminosity M_V = −20.8.

References

Bergeron, J., Kunth, D.: 1983, *Monthly Notices Roy. Astron. Soc.* **205,** 1053.

Guiderdoni, B., Rocca-Volmerange, B.: 1985, Erice workshop, Spectral evolution of galaxies, in press and pré-publication N°110, Institut d'Astrophysique, Paris.

Tytler, D., Boksenberg, A., Sargent, W.L. W., Young, P., Kunth, D.: 1985, preprint.

Weymann, R.J., Boroson, T.A., Peterson, B.N., Butcher, H.R.: 1978, *Astrophys. J.* **226,** 603.

Young, P., Sargent, W.L.W., Boksenberg, A.: 1982, *Astrophys. J. Suppl.* **48,** 455.

Comet Halley's Plasma Tail Photographed from Germany with a Focal Reducer to be Used at ESO's 1 m Telescope

K. JOCKERS, Max-Planck-Institut für Aeronomie, Katlenburg-Lindau, FRG, and
E. H. GEYER, Observatorium Hoher List, Daun, FRG

A picture of the plasma tail of Comet Halley was obtained at the 1 m telescope of Hoher List Observatory on November 12, 21 UT. A focal reducer, combining instrumentation built at Hoher List Observatory and the Max-Planck-Institute for Aeronomy, was used. At a 1 m telescope the plate scale of the focal reducer very nearly equals the scale of the ESO Schmidt telescope but the field has only 25 mm diameter, corresponding to about 0°.5 in the sky. The exposure of Comet Halley was taken through an interference filter of a bandpass of 425+/−3nm, which transmits the 0–2 band of the CO^+ comet tail band system. A two-stage proximity focus image intensifier was employed and 103a-F film was pressed against its exit window. Exposure time was 15 minutes.

The picture is shown in figure 1. At the time of exposure Comet Halley was at a geocentric distance of 117 million kilometers and quite close to opposition, i.e. the angle earth-comet-sun was only 9°. This is an unusual geometry for comet observations. As the cometary plasma is interacting with the solar wind, which flows nearly radially out of the sun, the comet tail is always pointing away from the sun. Therefore, in the picture we look very much along the cometary tail. While the projected length of the comet tail as seen on the photograph amounts to about 5 × 10^5 km, its true length may exceed 3 million kilometers. The fact that in the picture the tail forms a large angle with the antisolar direction may be caused by a slight deviation of the solar wind direction from radial towards south.

With the same instrumentation a program will be conducted at the ESO 1 m telescope when Comet Halley will be best visible from the southern hemisphere. The program aims at the determination of content and topology of cometary ions CO^+, N_2^+, CO_2^+ and H_2O^+ in relation to the neutral coma molecules. Considering the excellent sky conditions at La Silla as compared to German November days we hope to obtain very good observations in March and April 1986.