



Figure 5: A galaxy associated with a Texas radio source having a probable redshift of 3.6. Left is an R-band image (45-minute exposure with the 2.2-m ESO/MPI telescope). The image has a limiting magnitude of ~ 24 . The superimposed radio contours are from "snapshot" observations taken with the VLA at 20 cm. The two lobes are separated by 7". Right shows the corresponding sky-subtracted 2-dimensional spectrogram (120-minute exposure with EMMI on the NTT). The horizontal axis (wavelength) extend from 5270–6260 Å and the vertical axis is in the spatial direction along the radio axis. One very bright line is observed with a spatial extent of about 8". The continuum falls off sharply bluewards of the line. The only tenable line identification is Ly α at $z = 3.6$.

vide unique diagnostics for studying this important stage in history. Since in most cases, the associated emission lines are both bright and extended, they are excellent objects for follow-up spectroscopy as well as narrow-band and broad-band imaging.

Two interesting objects for which we have already done a limited amount of follow-up are shown in Figures 2 and 3. In both cases the following properties are apparent:

(i) A pair of apparently interacting optical objects are aligned along the radio axes.

(ii) Each member of the pair is anomalously bright in R. (Integrated R-magnitudes are 19.7 and 20.8 respectively compared with a typical value of 23 for other radio galaxies at the same redshift ($2 < z < 3$)).

(iii) Bright Ly α extends for $> 5''$ over each system.

From these properties we were led to consider the possibility that both objects may be primeval galaxy mergers. However, a study of the extent of the

line emission and the colour distributions now leads us to believe that one member of each pair may be a foreground object.

To investigate the probability of chance coincidences in objects of this kind, we are analysing the number vs. magnitude statistics in each of our CCD frames. This study will also provide an important input into discussions of the identification statistics and luminosity function evolution.

We are planning a variety of additional follow-up observations of our highest redshift galaxies. Detailed mapping of the (optical and infrared) spectral energy distributions and analysis of their variations across the galaxies should provide constraints on the optical/radio alignment effect. Models of stellar populations are being refined by Rocca and Guideroni of the Institut d'Astrophysique in Paris for comparison with the spectral energy distributions. The optical data will be complemented by more detailed radio observations with radio arrays, including the Australia Tele-

scope and European and global VLBI networks. A recent discovery by Uson of HI absorption in the radio spectrum of a similar radio galaxy with $z = 3.4$ offers exciting possibilities for using some of our objects for probing neutral gas in the early Universe.

Also, study of the morphologies and kinematics of the ionized gas and the relationship of the line emission to the continuum emission should elucidate the processes responsible for ionizing the gas. The ionized gas halos often extend for more than 100 kpc. The observed nuclear fluxes are insufficient to produce the large emission-line luminosities by photoionization, lending support to the models involving anisotropic photoionization and scattering.

The Key Programme is providing us with a unique dataset of radio galaxies at distances that would have been thought impossible until a few years ago. Studies of these objects from now until deep into the VLT era should provide important information about the early universe.

European Planetarians Meet at ESO Headquarters

On May 10 and 11, 1992, about 75 Planetarians, representing planetaria from most European countries, gathered at ESO Headquarters in Garching. It was the third meeting of this international group, following earlier ones in Strasbourg (1986) and in Paris (1989). The local arrangements were taken care of by the ESO Information Service, while the scientific programme was organized by Professor Agnes Acker of

the Astronomical Observatory at the University in Strasbourg, herself responsible for the planetarium in that city.

The meeting was preceded by a study visit to the Deutsches Museum in München, where the participants were received by the museum staff responsible for the new astronomy exhibition, just opened there (cf. page 21). Under the expert guidance of Drs. Teichmann,

Hartl and Wolfschmidt, who first conveyed the new ideas behind the 1000 m² exhibition, the Planetarians had the opportunity to thoroughly study the numerous displays. Later in the day, they were informed about the new, major planetarium project which will be ready in Munich in 1993.

The actual meeting began at ESO in the late Sunday afternoon with a warm welcome by the Director General, Pro-

essor Harry van der Laan, who emphasized the importance of close connections between the planetaria and the scientific institutions. The scientists produce the new discoveries which are then conveyed to the public by the professional planetarians. Together, they work to explain the science which is an indispensable part of our general culture.

This intervention was followed by a demonstration of some of the latest ESO video films and other educational and publicity products from the ESO Information Service. One of the ESO astronomers spoke about the VLT project and some of the research projects which will be undertaken with it, beginning in 1996 when the first 8.2-metre VLT unit telescope will be ready at Paranal. Thereafter, the participants had the opportunity to visit various areas of the ESO Headquarters, including the Remote Control facility, the image pro-



Figure 1: The ESO Director General, Professor Harry van der Laan, welcomes the European Planetarians to ESO.



Figure 2: Geert Dobbels, Remote Telescope Operator at ESO, explains the Remote Control Facility in Garching, from where observations are made with the New Technology Telescope at La Silla.



Figure 3: Claus Madsen from the ESO Information Service demonstrates some of the photographic techniques employed in the sky atlas laboratory at the ESO Headquarters.

cessing room and the photographic laboratories. At each place, ESO staff explained the techniques. The possibility of observing from Germany with a telescope in Chile, 12,000 km away, was particularly impressive to many of the participants.

The evening ended with a festive conference dinner in a very Bavarian environment.

The next day was fully devoted to the presentation of new projects and techniques and the individual planetaria, and several demonstrations of new equipment were made.

ESO was pleased to be host to this meeting and to inform this distinguished audience about the scientific and technical work taking place at this organization. At the same time, many Planeta-

rians in Europe learned more about the various materials, available from ESO and which may be useful for their work. The meeting was a good demonstration of how the common cause may be fur-

thered by mutual support and it certainly contributed to bringing the originators and the disseminators of astronomical information closer to each other.

The Editor

The VLT Tale

ESO announces its latest video film: THE VLT TALE. It has been produced by the ESO Video Team and describes the background and the first fifteen years (!) of the ESO 16-metre Very Large Telescope project. Beginning with the very first, vague ideas in 1977, it follows the many-sided developments that have led to the present, hectic construction phase. The VLT is placed in its historical context and some of its many high-tech features are explained.

THE VLT TALE is available from the ESO Information Service (address on the last page), in VHS and S-VHS format; the duration is 29:20 min. The price is 70.- DM and prepayment must accompany each order. Please be sure to indicate the desired format.