

ephemerides for space probe navigation as well as for "blind" infrared, radio and radar observations were stressed. Ground-based observations necessary to complement the observations by the Japanese, USSR and European space probes have been discussed. Emphasis has been put on the need of a close cooperation between astronomers observing with different techniques to optimize the scientific output of these observations. Finally, a lively discussion showed that it was the general feeling that a close cooperation between the European astronomers and the NASA International Halley Watch would be beneficial for all.

The proceedings of the workshop will be published by ESO in a few weeks. *P. V.*

## The ESO/Uppsala Survey of the ESO (B) Atlas

by *Andris Lauberts (ESO/Uppsala)*

A systematic search for certain objects (NGC + IC galaxies, all galaxies with a diameter larger than about 1.0 arcmin, all disturbed galaxies, all star clusters in the Budapest Catalogue, and all listed planetary nebulae) has been carried out by means of the ESO(B) Atlas, covering the southern sky from  $-90$  to  $-17.5$  degrees. A total of 18,438 objects is listed; of these, about 60% for the first time. Magnitudes and radial velocities are also given for a total of 2,102 galaxies.

Copies of the printed version are available for sale at the European Southern Observatory, Karl-Schwarzschild-Str. 2, D-8046 Garching bei München. The price of the volume is DM 40,-.

Copies of the magnetic tape version may be ordered from the Centre de Données Stellaires, 11, rue de l'Université, F-67000 Strasbourg.

## Near Infrared Observations of O Stars

*Y. Andriolat, Observatoire de Haute-Provence*

### Introduction

During the last two decades, one could note an increasing interest for the O stars because the far ultraviolet observations had an important impact on the study of these objects, displaying principally mass loss phenomena.

In the visible region, the spectrum of the O stars is characterized by the presence of absorption lines of H, and ionized He, C, N and Si. A few of these lines appear in emission in some stars, exhibiting the presence of an extended atmosphere around them. These emissions are due to:

- N III  $\lambda\lambda$  4634-4640 in the Of stars where other emissions can also be present, for example He II  $\lambda$  4686 and C III  $\lambda$  5696
- H lines in the Oe stars which are not exhibiting other emissions (no N III ...).

The O stars have been observed in a very large spectral range from ultraviolet up to the red region. Photographic plates were used, but since their sensitivity is faint beyond  $\lambda$  8750, they were exceptionally employed in the near infrared region.

As far as O stars are concerned, the published data available in the  $1\mu$  region are quite scarce. Although it is poor in features,

## PERSONNEL MOVEMENTS

### STAFF

#### Arrivals

##### Europe

KAZIMIERZAK, Bohumil (B), Mechanical Engineer, 1.3.1982  
 MACFARLANE, Penelope (GB), Scientific Reports Typist, 24.5.1982  
 TKANY, Sylvia (D), Receptionist, 1.6.1982  
 BRISTOW, Pamela (GB), Scientific Reports Typist, 1.7.1982

#### Departures

##### Europe

DOBROFSKY, Songgard (D), Clerk-Typist (Telephone and telex operations), 30.6.1982  
 HEUBES, Hannelore (D), Clerk-Typist (Telephone and telex operations), 30.6.1982

##### Chile

LUB, Jan (NL), Astronomer, 31.5.1982  
 HESSENMÜLLER, Egon (D), Optical Technician, 30.6.1982

### FELLOWS

#### Arrivals

##### Europe

MOUCHET, Martine (F), 1.6.1982

##### Chile

JENSEN, Kaare (DK), 1.7.1982

### ASSOCIATES

#### Arrivals

##### Europe

LAUBERTS, Andris (S), 1.6.1982

the spectral interval  $\lambda\lambda$  8700-11000 is very important because it presents new helium lines, principally He I  $\lambda$  10830 and He II  $\lambda$  10123.

For O stars, helium is the fundamental element. The classification criteria are deduced from the value of the intensity ratio He I/He II.

Fig. 1 shows the spectrum of  $\zeta$  Pup (O4f I(n)) obtained by M. Deneffeld at La Silla. It is characterized by a few faint lines: the hydrogen Paschen lines are visible in absorption from P7 to P15. Some emissions are present: He II  $\lambda$  10123, N IV, N V and H $\alpha$ . Several absorption bands are due to the earth atmosphere.

### Observations

For approximately twenty years, the development of modern detectors has allowed us to reach the near infrared region, but there are still few observational data in this region.

Since 1975, in collaboration with J.M. Vreux, we have studied O stars in the  $\lambda\lambda$  8000-11000 interval. We have used a