Lecacheux/Bouchet, Antonello/Conconi/Mantegazza, Carrasco/Loyola, Haug/Drechsel/Strupat/Rahe.

July: Haug/Drechsel/Strupat/Rahe, Arlot/Thuillot/Morando/Lecacheux/Bouchet, Thé/Westerlund, Arlot/Thuillot/Morando/Lecacheux/Bouchet.

August: Arlot/Thuillot/Morando/Lecacheux/Bouchet, Carrasco/Loyola, Schober/Surdej A. and J./Michalowski, Häfner/Metz, Pietsch/Voges.

Sept.: Häfner/Metz, Pietsch/Voges, di Martino/Zappala/Farinella/Paolicchi/Cacciatori/Barucci, Arlot/Thuillot/Morando/Lecacheux/Bouchet, di Martino/Zappala/Farinella/Paolicchi/Cacciatori/Barucci, Hahn/Lagerkvist/Rickman, Arlot/Thuillot/Morando, Lecacheux/Bouchet, Debehogne/Zappala/de Sanctis.

### GPO 40 cm Astrograph

April: Goossens/Waelkens.

May: Bässgen/Grewing/Kappelmann/Krämer, Goossens/Waelkens.

June: Goossens/Waelkens.

July: Goossens/Waelkens.

Sept.: Debehogne/Machado/Caldeira/Viera/Netto/Zappala/de Sanctis/Lagerkvist/Mourao/Tavares/Nunes, Protitch-B./Bezerra.

### 1.5 m Danish Telescope

April: Alcaíno/Liller, de Jong/Lub/de Grijp, Motch/Ilovaisky/Chevalier/Pedersen/Pakull/Beuermann, Mouchet/Bonnet-Bidaud/Motch/Schmider, Larsson S./Larsson B., de Souza/Chincarini, Boisson/Reid.

May: Reiz, Teuber/Nielsen/Johansen, Schuster/Nissen.

June: Pedersen, Fusi Pecci/Battistini/Bonoli/Federici, Ortolani/Gratton, Lebertre/Epchtein/Nguyen-Q-Rieu/Sèvre, Rosino/Ortolani, Leitherer/Stahl/Wolf/Zickgraf, Pedersen.

July: Pedersen, Veillet, Acker/Maurice/Prévot, Lindgren/Ardeberg/Maurice/Prévot.

August: Lindgren/Ardeberg/Maurice/Prévot, Andersen/Nordström/Olsen, Mayor/Mermilliod, Clementini/Cacciari/Prévot/Lub/de Bruyn/Lindgren, Andersen/Nordström.

Sept.: Andersen/Nordström, Jørgensen/Hansen/Nørgaard-Nielsen, Imbert/Andersen/Nordström/Ardeberg/Lindgren/Mayor/Maurice/Prévot.

### 50 cm Danish Telescope

April: Schuster/Nissen

May: Lindgren/Ardeberg/Maurice/Prévot, Foing/Bonnet/Crivellari/Beckman/Galleguillos/Lemaire/Gouttebroze.

June: Foing/Bonnet/Crivellari/Beckman/Galleguillos/Lemaire/Gouttebroze, Baade/Ferlet.

July: Baade/Ferlet.

August: Lindgren/Ardeberg/Maurice/Prévot, Group for Long Term Photometry of Variables.

Sept.: Group for Long Term Photometry of Variables, Grenon/Hög/Petersen.

### 90 cm Dutch Telescope

April: van Roermund, de Loore/Monderen, Pakull/Beuermann/Weißsieker/Reinsch.

May: Pakull/Beuermann/Weißsieker, Reinsch, Roobeek.

June: Roobeek, Trefzger/Pel/Blaauw, Gathier/Atherton/Pottasch/Reay, de Zeeuw/Lub/de Geus/Blaauw.

July: de Zeeuw/Lub/de Geus/Blaauw, de Geus, van Amerongen.

August: Thé/Westerlund, v. Amerongen/v. Paradijs, Courvoisier.

### 61 cm Bochum Telescope

April: Hanuschik.

May: Hanuschik, Kohoutek, Group for Long Term Photometry of Variables.

June: Group for Long Term Photometry of Variables.

July: Group for Long Term Photometry of Variables.

August: Group for Long Term Photometry of Variables, Grewing/Bässgen/Barnstedt/Bianchi/Gutekunst.

Sept.: Grewing/Bässgen/Barnstedt/Bianchi/Gutekunst, Kiehling.

# Serendipitous Discovery of a High Redshift Quasar

*M. Azzopardi, ESO*

Within the framework of our survey of carbon stars (C stars) in dwarf spheroidal galaxies (Azzopardi and Westerlund, 1984, *The Messenger* **36,** 12), the Carina galaxy was observed on November 2, 1983 at La Silla. A very good quality 2-hour-exposure plate was obtained at the prime focus of the 3.6 m telescope, using the triplet corrector, the Hoag Grism R35 and a GG435 filter (see Breysacher and Lequeux, 1983, *The Messenger* **33,** 21). The GG435 filter, in combination with the IIIa-J emulsion in order to reduce the instrumental spectral domain to the useful range 4350–5300 Å, allows one to reduce the crowding. The plate was searched systematically using a binocular microscope with small magnification. This allowed us to identify 6 out of the 7 C stars listed by Mould et al. (1982, *Astrophysical Journal* **254,** 500) plus 4 new candidates and one dubious (Azzopardi, Lequeux and Westerlund, 1984, ESO preprint No. 345).

These five newly discovered C star candidates were observed with the Cassegrain Boller and Chivens spectrograph and a CCD camera (CID 53612) at the ESO 3.6 m telescope during the nights of November 23–24, 1984 and January 19–21, 1985. A 400 line/mm grating, blazed at 5400 Å, was used in the first order (171 Å $mm^{-1}$). The slit aperture measured 2 arcseconds, giving a final resolution of 8 Å (FWHM). The observations allowed us to confirm as C stars the candidates Nos. ALW 1, 2 and 3 and to classify as a late M dwarf the dubious candidate ALW 5 according to the library of stellar spectra by Jacoby et al. (1984, *Astrophysical Journal Suppl.* **56,** 257.

Surprisingly, the object ALW 11, which was somewhat far from the central regions of Carina, turned out to be a quasar. Fig. 1 gives the identification chart. Its 1950.0 position is $\alpha = 6^h42^m13^s.40$, $\delta = -50°38'07''.1$ and a rough estimate of its

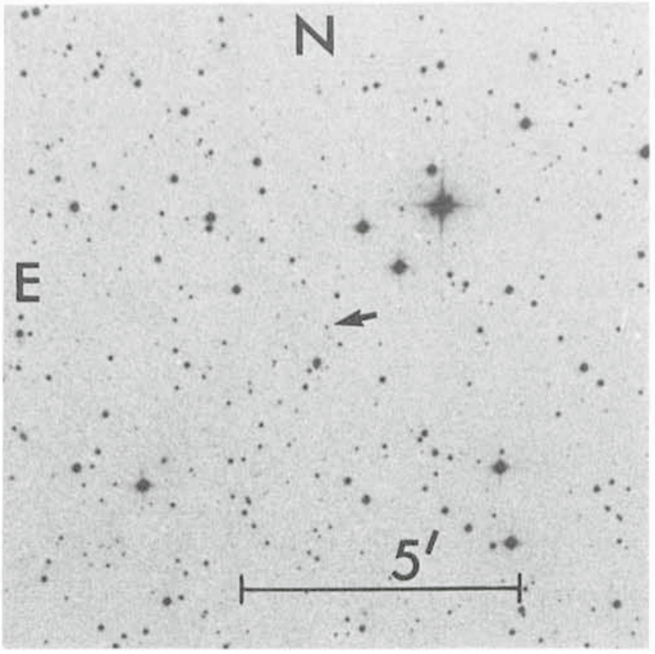


Fig. 1: *Finding chart of the QSO from the ESO Red Sky Survey plate No. 206.*

magnitude is V = 18.5. This object is not listed in the updated Catalogue of Quasars and Active Nuclei by Véron and Véron (1984, *ESO Scientific Report,* No. 1) and as far as we can say is a new high redshift QSO with Z = 3.09. In fact in our very low dispersion spectrum we interpreted the Lyα + NV and CIV λ1550 emission lines as being the continuum on both sides of the λ5165 molecular Swan $C_2$ band.

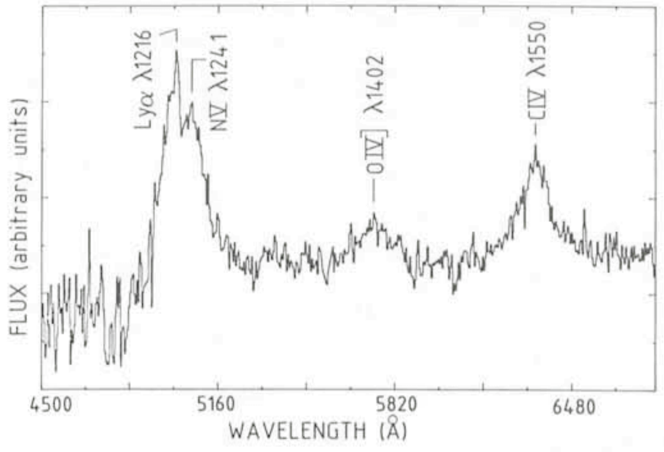


Fig. 2: *Spectrum of the high-redshift QSO obtained with the ESO 3.6 m telescope using the Boller and Chivens spectrograph and a CCD camera. The resolution is 8 Å (FWHM) and the integration time 1 hour.*

Are we lucky or unlucky? We were looking for Wolf-Rayet stars and we found carbon stars; now we are looking for carbon stars and we have found a new high-redshift quasar!

**Acknowledgement**

I wish to thank P. Angebault for helping me in the reduction of the CCD data.

# Circumstellar Shells in the Large Magellanic Cloud

*O. Stahl, Landessternwarte Heidelberg-Königstuhl*

The brightest stars are known to lose mass at a considerable rate. The most spectacular mass-loss characteristics are exhibited by emission-line stars which are known as P Cyg stars, S Dor variables or as η Car-like objects. It is obvious that these stars are surrounded by circumstellar matter since they have strong emission-lines in their spectra. However, to detect this matter by direct photography may not be easy, but of great interest.

A number of Of and WR stars are known to be surrounded by ring nebulae, several of them in the Large Magellanic Cloud (LMC) (see e.g. Chu and Lasker [1980]). These nebulae have linear diameters of about 20–200 pc. They are probably formed by the interaction between stellar ejecta and the ambient interstellar medium. A few emission-line objects are associated with nebulae of much smaller linear diameter (~1 pc) which probably consist mainly of stellar ejecta. These are the nebulae which we want to discuss here.

A well-known example is the nebulous shell surrounding η Car. It is regarded as the remnant of a great outburst of the star in the last century. Recently Davidson et al. (1984) found a strong overabundance of nitrogen in some knots in the shell which shows that the matter has been processed in the star. That means that the nebula consists of stellar ejecta and not of swept-up interstellar matter. Another case of a nebula surrounding an emission-line supergiant is the shell around the S Dor variable AG Car which was detected by Thackeray (1950).

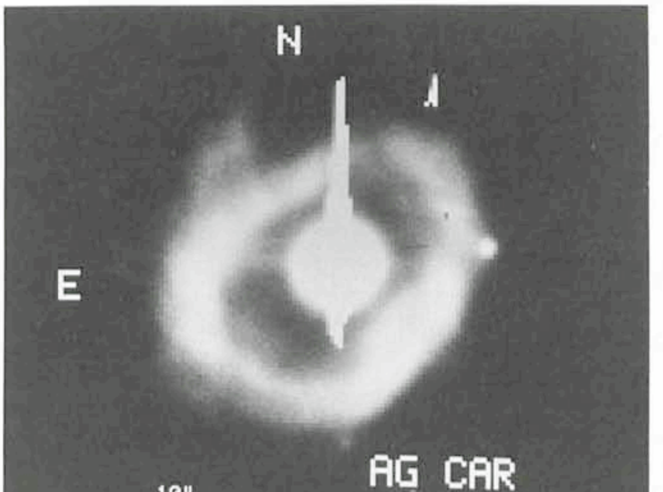


Fig. 1: *CCD image of the ring nebula surrounding the galactic S Dor variable AG Car. A 20 Å wide $H_\alpha$ filter has been used. The exposure time was 30 minutes in a cloudy night. The filamentary structure of the shell can be well seen. The spikes north and south of the central star are not jets but due to charge overflow from the overexposed stellar image. The feature at the northwestern boundary of the nebula is a defect on the CCD.*