

properties of S Dor and R 71 (including their spectra) are strikingly similar (if observed at the same lightcurve phase!), except for the fact that R 71 has a hotter photosphere. Like other Hubble-Sandage variables R 71 shows a lightcurve which (although being clearly not strictly periodic) consists of extended maximum and minimum phases, lasting typically about a decade, separated by relatively short transition periods. The last maximum phase of R 71 occurred between about 1970 and 1977, when the star had a visual magnitude of about $m_v = 9.9$. Since sometime in 1978 (when the IUE satellite was launched) R 71 is again in its minimum state, fluctuating slightly around $m_v = 10.9$. Although this is rather faint for high-resolution spectroscopy with the IUE satellite (which after all has only a 45 cm telescope) we knew that the star is relatively hot (photospheric spectral type during the minimum state: B 2.5 Iep) and we therefore expected such observations to be just possible. Indeed, two very long IUE exposures, each lasting more than seven hours, obtained in January 1981, resulted in two well-exposed high-resolution spectrograms, which together cover the wavelength range 1250 to 3200 Å. Coudé spectrograms obtained at the ESO 1.5 m telescope at the same epoch cover the wavelength range 3550 to 4900 Å. For technical reasons it was not possible to take simultaneously spectrograms in the red spectral range. However, for completeness, one week earlier we had obtained several low-resolution image-tube spectrograms of R 71 covering the wavelength range 5400 to 7000 Å. These plates showed that at least the basic properties of the red spectrum had remained unchanged since our high-resolution spectroscopic observations of the H_{α} region carried out 14 months earlier at the beginning of the

Tentative Time-table of Council Sessions and Committee Meetings

November 10	Scientific Technical Committee
November 11 – 12	Finance Committee
November 13	Committee of Council
Nov. 30 – Dec. 1 – 2	Observing Programmes Committee
December 3 – 4	Council

All meetings will take place at ESO in Garching.

present minimum of R 71. The spectroscopic observations were supplemented by photometric observations which Dr. S. Wramdemark kindly carried out for us at ESO.

II. Results

There are two main results of our coordinated IUE and ground-based observations of R 71: Firstly, our observations allowed to derive the continuum energy distribution of R 71 for all wavelengths which contribute significantly to the total luminosity of this star. From an integration of the energy distribution and from the known distance of the LMC we were able to calculate the (minimum state) total luminosity of R 71 which was found to be about 200,000 times the solar luminosity. In addition, the shape of the energy distribution allowed us to estimate the photospheric effective temperature (about

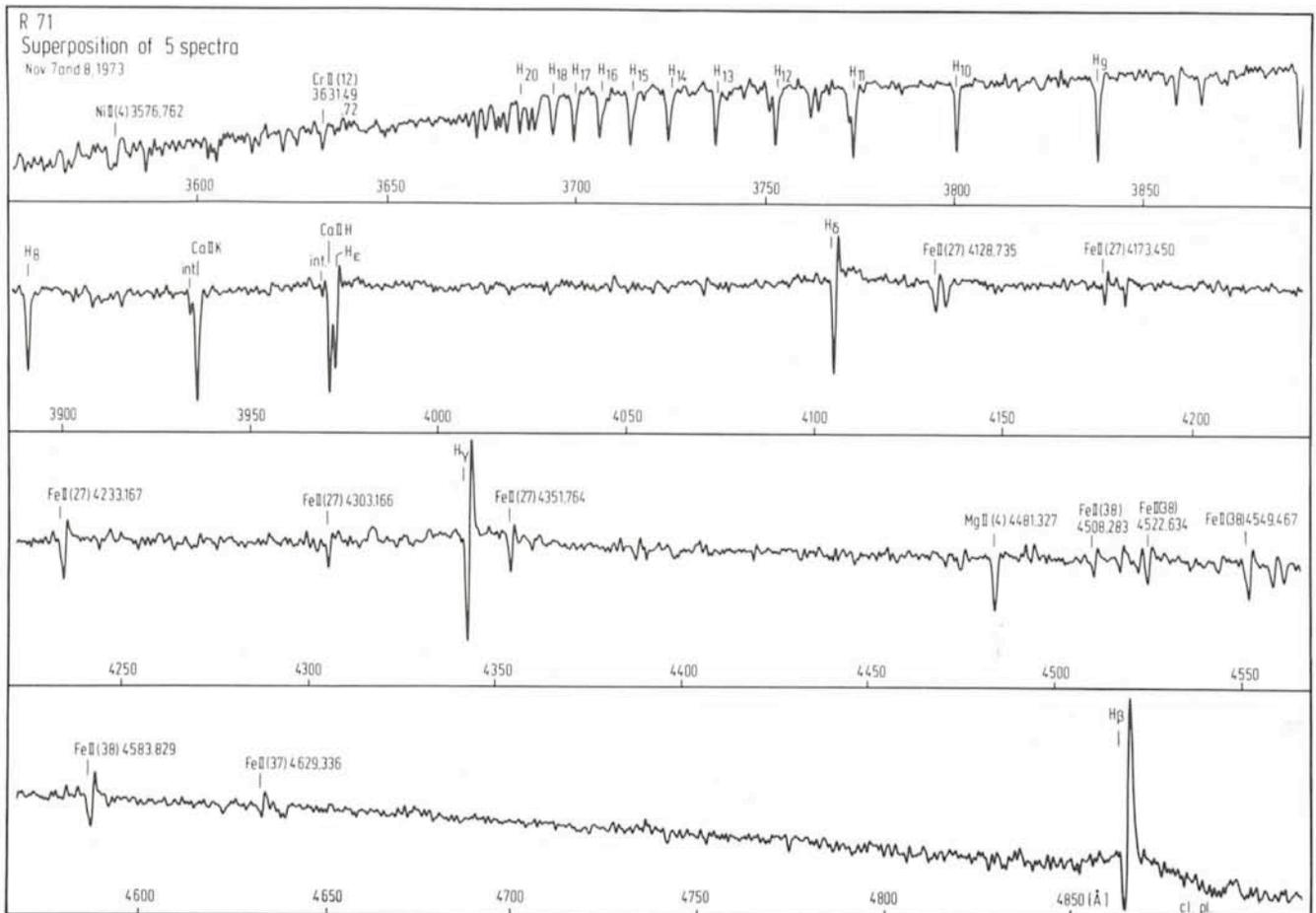


Fig. 3: The photographic maximum state spectrum of HDE 269006.