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SPECTROSCOPIC STUDY OF THE BINARY SYSTEM HD 153919

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ABSTRACT. We report preliminary results on HD 153919. It was observed at SAAO on June 17-25, July 15-22, 1986, covering four complete cycles with the RPCS of the 1.9 m telescope. UV spectra were also obtained with the IUE satellite on 22 July, 1986. The most outstanding features of UV spectra are: 1-SiIV: with a P Cyg asymmetric profile, and with a wide and strong absorption component that has radial velocities of about -1800 km/sec thus indicating the presence of the envelope and perhaps gaseous streams. C IV: on the contrary, does not show us the features, because the two components are too close together. 2-One non-identified emission line in λ2483 that shows variations in intensity in one hour, may perhaps be related to the x-ray source. In optical spectra, we observed, at phase 0.75, one strong and wide component of HeI-D3 a radial velocity -700 km/sec. We have not reached any definite conclusion, as yet; we are continuing analyzing and studying all the data obtained through the observations.

Key words: LINE-PROFILE -- STARS-BINARY

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Hα PROFILE VARIATIONS IN EPSILON AURIGAE

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ABSTRACT. Five Hα profiles obtained during the 1982-1984 eclipse and three out of the eclipse are presented. The spectra are all of similar dispersions (6-9 Å/mm) and were obtained at the observatories of Calar Alto, Almería, Spain, San Pedro Mártir, México and Rozhen, Bulgaria.

Prominent profile variations can be noticed, among the most important are: lack of both blue and red wing emission as well as the shallowness of the line during the totality. These two features have been observed during the 1955-57 eclipse (Morris 1963, Ph. D. Thesis University of Toronto). During ingress the profile has both wings in emission as observed in other eclipses. The deep core emission detected by other authors is also present in some of our eclipse spectra.

The spectrum on December 9, 1984, eight months after fourth contact, still shows emission structure in the core of the line, while the two spectra on August 1985 do not show traces of core emission. Hα profiles out of the eclipse are not common in the literature and we can not tell if core emission out of eclipse is a common phenomenon. Four spectra out of eclipse obtained by Morris (1963, ibid), do not show core emission. The series of spectra published by Arellano Ferro (1985 Rev. Mex. Astron. and Astrof., 11, 113) is unfortunately of too low a dispersion (16 Å/mm) to unveil any incipient core emission.

The blue wing variation that may be connected with the primary F star pulsation (Arellano Ferro 1985, ibid) was not detected in the present out of eclipse spectra but our material is scarce. More spectra obtained at time intervals of weeks are needed to confirm whether the blue wing variation is at all periodic and whether it is related to the underlying stellar pulsation. Spectra and more details will be published elsewhere.

Key words: LINE-PROFILE -- STARS-BINARY

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