ON POSSIBLE MASS LOSS FROM THE SUPERGIANT RHO CASSIOPEIA

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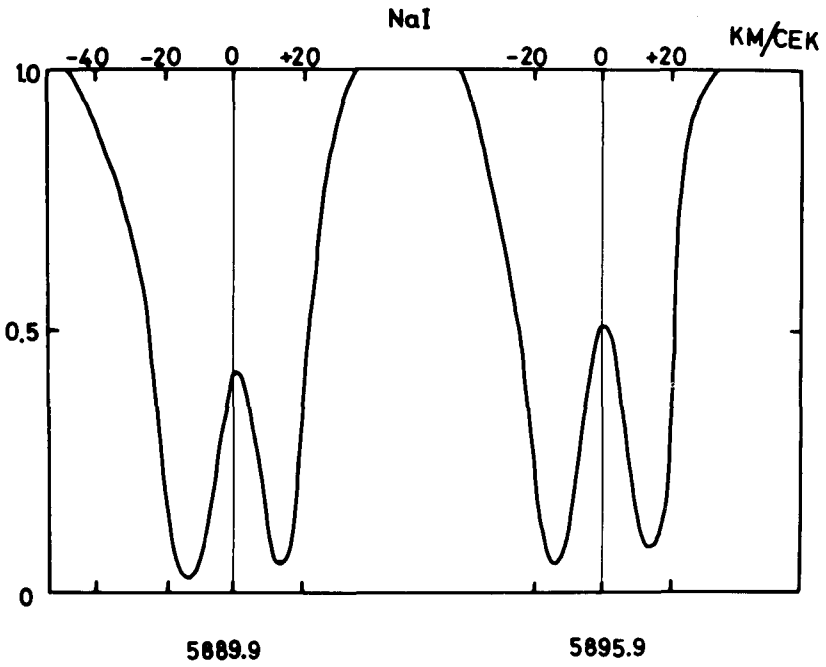
The supergiant Rho Cas F8Ia has a very high luminosity. Astronomers have payed attention to this star in August 1946, when its by its brightness had dropped from 4.2 to 6.2. The systematic spectrographic observations of Rho Cas are beeing carried out at the Crimean Astrophysical Observatory since 1965. No large light variations were observed during that time.

However, it is possible to point out that spectra of Rho Cas give a strong evidence on a large mass loss rate. We have observed the following main features of the spectra of Rho Cas:

1. H-alpha emission profile is a normal profile of the P Cyg-type.



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2. All resonance lines within the range from 3800 to 6900 A, namely, lines of NaI, AlI, Ca I, BaII, SrII display emission components as well as absorption shell components. The exception is H and K lines of CaII.
3. The extremely strong emission was observed in D-lines of NaI (Fig.).
4. In addition to the mentioned above resonance emission lines we observed also the emission components of some FeI and TiII lines, that have excitation potentials of about 1,5 e.v.

All features mentioned above give rise to a suggestion on the existance of an envelope around the star. A rather high level of excitation in envelope means that it is located near the stellar surface. Applying theoretical calculations to our observations one may estimate a mass loss rate of about 10^{-5} $M_{\odot}$/yr.

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