NEW OBSERVATIONAL DATA CONCERNING 4 HER AND ζ TAU

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Abstract. Rectified intensity profiles of the Hα and Hβ Balmer lines of the shell star 4 Her were studied on 86 coudé spectrograms taken during 1969–1974. The central intensities of both lines vary periodically with the period of velocity changes equal to 46.194 days, reaching two maxima and minima each cycle. Radial-velocity curves of individual Balmer lines differ systematically one from another, the amplitude of the Hα variations being largest. The V/R ratio of the Hα emission peaks varies in phase with the velocity changes. The velocity of the Hα emission is found to be almost invariable. A model is suggested to explain the observed variations in which 4 Her is considered to be an interacting binary. The full paper will appear in *Bull. Astron. Inst. Czech.* **27**, No. 1 in 1976.

Radial velocities of high-dispersion spectrograms of ζ Tau, obtained mostly during the last observing season, indicate the following facts: (1) Several distinct velocity systems are present in the Balmer lines, not a continuous progression. (2) The main absorption component of the Hα line does not share the long-term velocity variations, its velocity being always rather close to the systemic velocity $+22$ km s^{-1}. (3) The pseudoperiod of the long-term velocity variations has changed and is probably decreasing.

A. Slettebak (ed.), Be and Shell Stars, 67.