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THE RECENT SPECTROSCOPIC BEHAVIOUR OF CH CYGNI

CH Cygni was known as a semiregular M6 III star until a blue continuum and permitted and forbidden emission lines of metallic ions appeared for the first time in 1963. Since then, there have been three separate periods of activity in which this star showed a symbiotic spectrum. A program of spectroscopic observations of CH Cygni has been carried on for many years at the Observatory of Trieste, utilizing plates taken on purpose at the Observatoire de Haute Provence. In particular, the entire period of activity begun in 1977 (and not yet ended) is covered by red and blue high dispersion spectra. Here we give some preliminary results drawn from a visual examination of the plates from 1981 to August, 1983. Other publications are concerning the previous years (Faraggiana and Hack, 1971, and Hack et al., 1982).

During these two years the blue continuum was present with almost steady strength, slightly tending to decrease. This can be argued from a slight increase of the absorption band strength, that we explain just in terms of a reduced filling by the additional radiation. The Balmer lines maintained the same appearance, both in the inverse P Cygni profiles and in the visibility of the last terms. H $\alpha$ , H $\beta$ , H $\gamma$  and H $\delta$  have two emission wings, with V>R.

Between July and November, 1981, a lot of chromospheric absorption lines became suddenly visible, and continued to deepen slowly as long as we have observed the star. At the same time the forbidden lines lost much of their intensity, and some of the [Fe II] lines disappeared in 1983, while the other emission lines showed inverse P Cygni profiles. The resonance line of Ca I at  $\lambda 4227$  had a central emission core in 1981; now a sharp absorption is visible in its place. Ionized calcium shows at least three narrow absorptions in the H and K lines; before 1981 there were one or occasionally two wider components, accompanied by a strong red emission.

Coming to the longer wavelengths region, the situation is more stable: all the lines of [O III] are always absent and those of O I ( $\lambda 6300$ ,  $\lambda 6364$ ) present

an emission of constant intensity.

This behaviour is not much different from that of the previous periods of activity, except for the longer duration of this one and for the evident appearance of inverse P Cygni-like profiles, that is now the principal trait of the spectrum. Measurements of the radial velocities and of the line intensities are in progress.

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