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o ANDROMEDAE: NO CONSPICUOUS RADIAL-VELOCITY VARIATIONS

Recently, Fracassini, Pasinetti and Pastori (1977) published an analysis of the radial-velocity behaviour of o And based on prism spectrograms (dispersion 35 \AA/mm at $H\gamma$) obtained at the Merate Observatory in the years 1967-76. In particular, they announced a steep decrease of the hydrogen radial velocity in November 1975. While almost all radial velocities of o And published since 1900 by several authors fall into a range from 0 to -30 km/s, some of the velocities published by Fracassini et al. are as low as -100 km/s. The above authors conclude from it that there is a 23.5-year periodicity in radial velocities of o And, possibly connected with appearance and disappearance of shell lines in the spectrum of this star.

Since Koubský's (1975) discovery of the hydrogen shell lines in the spectrum of o And, a large collection of grating spectrograms of the star (dispersion 8.5 \AA/mm , range 3550-4900 \AA) has been secured at the coudé focus of the Ondrejov 2-m telescope. Some of them were obtained on the same nights as the spectrograms used by Fracassini et al. We measured radial velocities of these spectrograms using the Zeiss Abbe Comparator equipped with a small projection screen. The settings were done on the cores of sharp hydrogen lines. As it is not quite clear to which part of the hydrogen profiles refer the data published by Fracassini et al., we also obtained rectified intensity profiles of the $H\gamma$ line (most of the analyses by Fracassini et al. are based just on the $H\gamma$ velocities) and measured radial velocity of the $H\gamma$ wings relative to the shell core. The accuracy of this quantity is somewhat lower than the accuracy of the shell veloc-

ities measured with the comparator. As it can be seen in Fig.1, we were not able to confirm large negative velocities found by Fracassini et al. Radial velocity of the H γ line of α And was close to -25 km/s for the cores, and to -24 km/s for the wings of the line (very probably this difference is insignificant), with possible variations \pm 10 km/s around these values. According to our data, this was true not only in autumn 1975 but also during 1976; invariably for all the shell hydrogen lines. Consequently, the conclusions presented by Fracassini et al. (1977) should be critically re-examined. We appeal to observers from other observatories who obtained some high-dispersion spectrograms of α And during the critical period (October-December 1975) to publish their radial velocities soon.

As a by-product of our study we have found definite variations of the central intensity of the H γ line between two subsequent nights (see Fig.2). Notably, Bolton and Gulliver (1976) reported intensity variations of metallic lines of α And on the same time scale. There is some indication that the H γ central intensity may vary regularly, with a period of 3.66 days. Presently, we are analyzing more H γ profiles to check on this point. A more detailed analysis of our about eighty coude spectrograms of α And will be published later in Bull. astr. Inst. Czechoslovakia.

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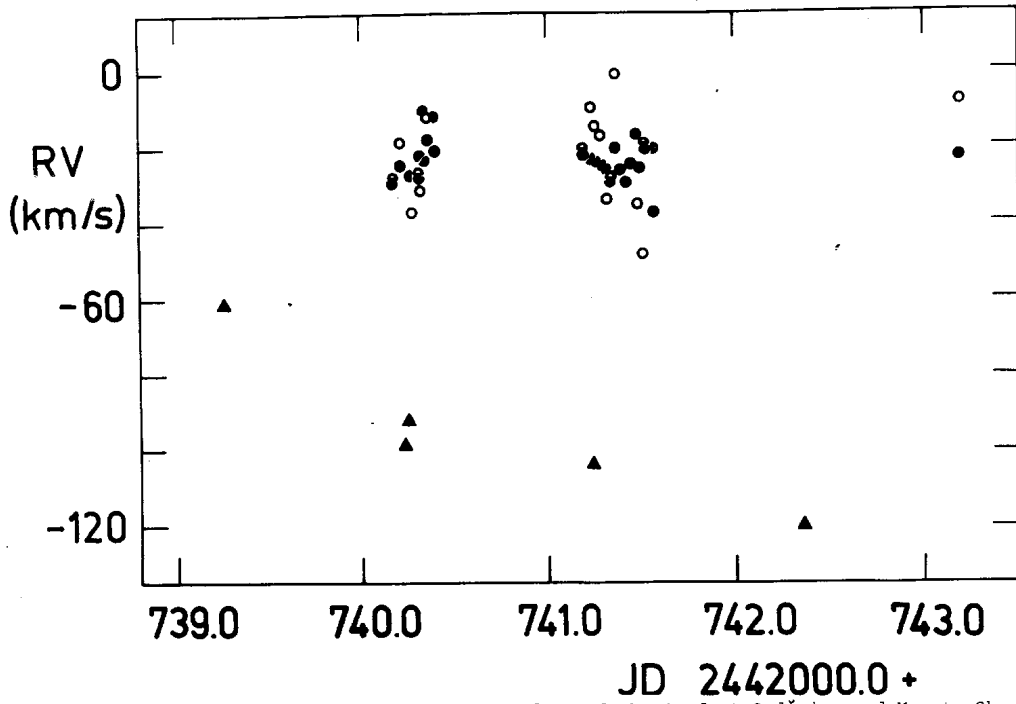


Fig. 1 : Comparison of $H\gamma$ radial velocities of o And obtained at Ondřejov and Merate Observatories at the end of November 1975. Following symbols are used:
 • - Ondřejov, core of the line (Abbe)
 ○ - Ondřejov, wings of the line (rectified intensity tracings)
 ▲ - Merate

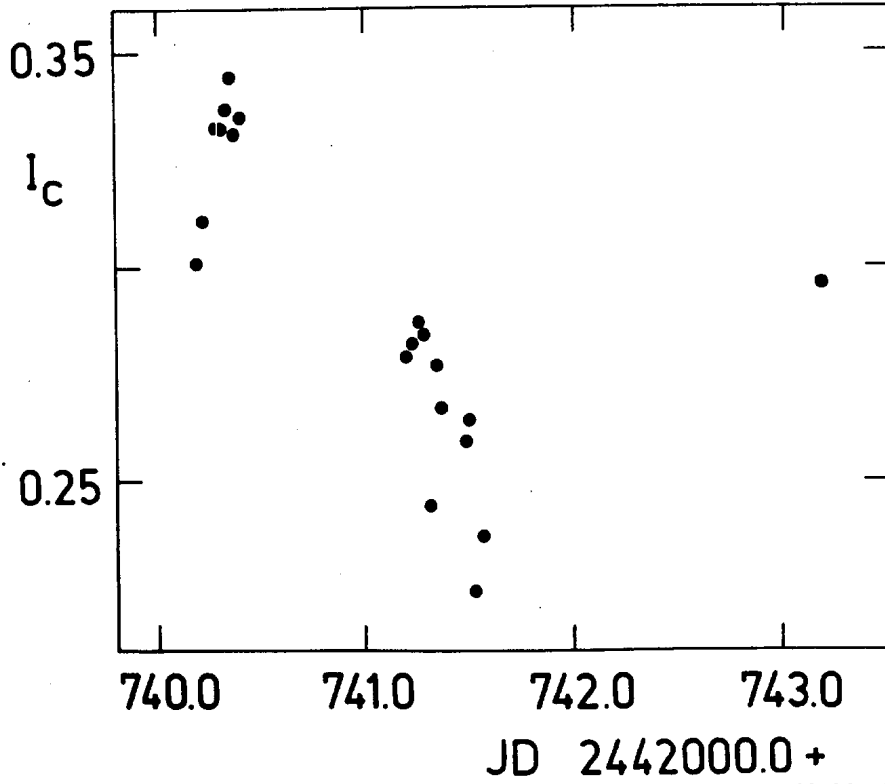


Fig. 2 : Central intensities of the H γ line of o And during November 23-26, 1975.