de Loitsianski permite determinar la dimensión del subsistema a partir de la correspondiente al sistema, y viceversa.

La misma relación de Loitsianski es compatible con las dimensiones de los sistemas de componente obscura (van de Kamp), lo cual vincularía a estos sistemas con los comunes sistemas múltiples y confirmaría la idea generalmente admitida acerca del momento rotatorio de las estrellas tardías. Sin embargo se muestra que los objetos de la lista de van de Kamp no son homogéneos desde el punto de vista de la relación masa-tamaño ya discutida por el autor en trabajos anteriores; es decir, unos objetos la cumplen y otros no. Como la ley masa-tamaño se ha mostrado ser bastante general, la invocación del momento rotatorio podría ser excesivamente simple, al menos en la forma que se le da habitualmente.

EL ESPECTRO DE γ_2 VELORUM

THE SPECTRUM OF γ_2 VELORUM

V.N. de Monteagudo and Jorge Sahade*
(Observatorio Astronómico de La Plata)

γ_2 Velorum, the brightest Wolf-Rayet star in the sky, is a WC object with no N in its spectrum. As it has been already announced the spectrum is a double-lined one and can be described as a WC 7 + 09. The 09 star displays absorption lines of He and H, the Balmer series being visible up to H 17. The spectroscopic period has been set by Bappu as of 78.5 days, and the results of the measurement of about 1/4 of the material at our disposal -some 200 spectra taken at the Córdoba Observatory with a dispersion of 40 A/mm and covering the region $\lambda\lambda$ 3100-6800- seem to agree with such a period.

The expanding envelope around the system responsible for the presence of a set of He I lines that indicate the effect of diluted radiation yields absorption lines that sometimes -especially in He I λ 3888- are multiple, the absorption line more displaced to the violet suggesting a velocity of approximately -1200 km/sec.

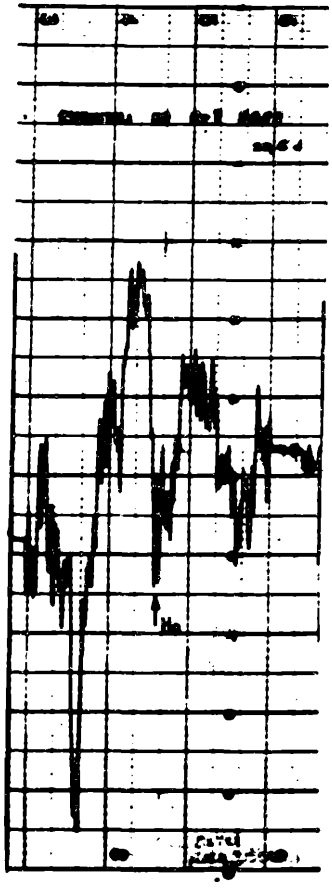

Fig. 1

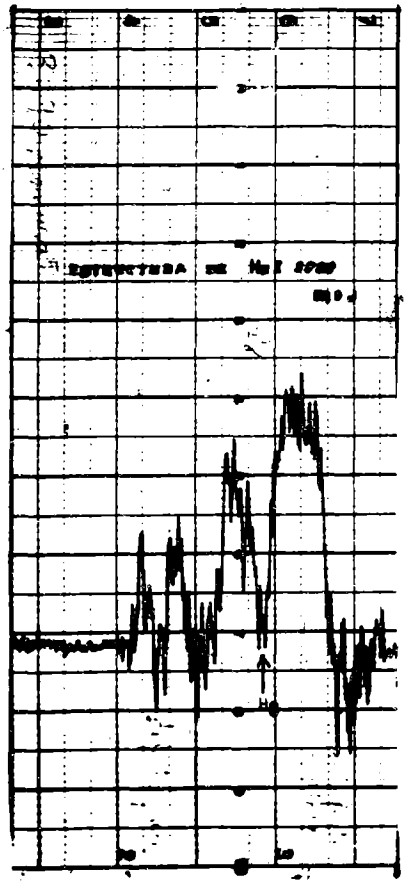

Fig. 2

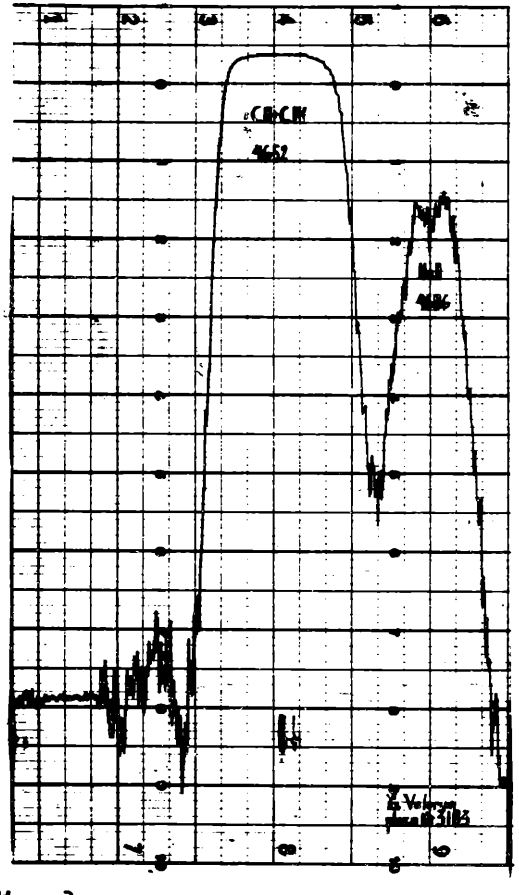

Fig. 3

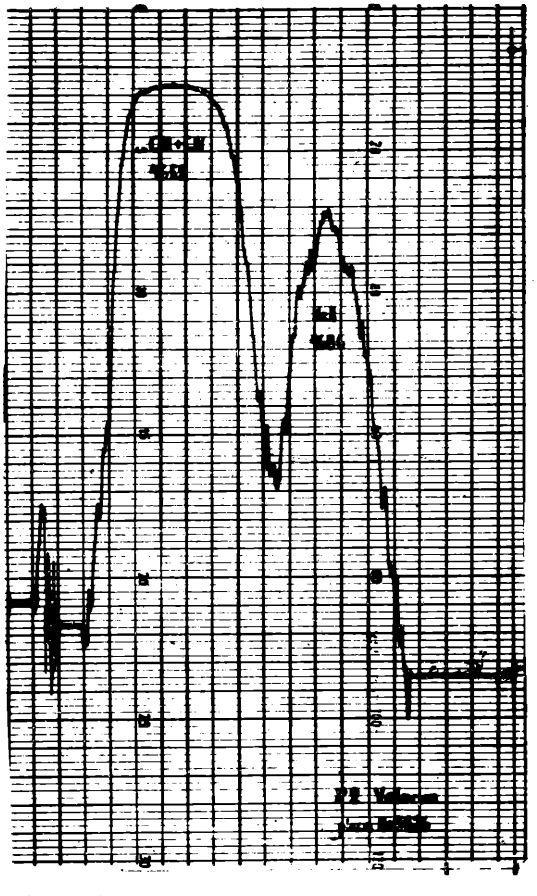

Fig. 4

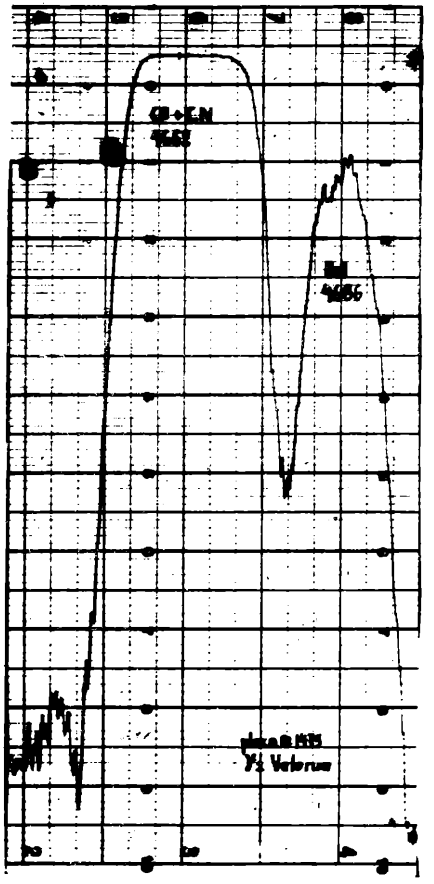

Fig. 5

The same radial velocity is suggested by a violet absorption of C IV λ 4652.

The He I λ 3888 line shows variation in profile and structure and this behavior seems to be correlated with the phase of the orbital motion. For instance, He I 3888 seems to be sharper and stronger just before the beginning of the eclipse where the O star is in front; at this eclipse the line weakens and broadens and afterwards the line strengthens and becomes again sharp although perhaps not as at the phases immediately preceding the eclipse. During the quadrature that follows the line broadens and another component that changes rapidly in velocity does appear; it appears that this phenomenon may last for only 24 hours.

* Member of the Carrera del Investigador Científico, Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina.

At the eclipse where the WR star is in front the He I 3888 line is broad and diffuse. At the following quadrature the line appears again as double but we need more material to ascertain this fact.

An interesting phenomenon which has not been reported so far relates to the behavior of the broad emission in the region of λ 3888. In the phase interval between the eclipse where the O star is in fromt and about phase 35 days of Bappu's cycle, the maximum intensity is located to the violet of H_8, while in the phases after the eclipse where the WR star is in front the maximum emission intensity is to the red of H_8 (Fig. 1 and 2). Such a behavior suggests that part of the material responsible for such an emission is located between the two stars and moves from the WR object towards the advancing hemisphere of its companion.

The emission of He II 4686 displays a variable structure and Fig. 3, 4 and 5 show the three type of profiles that are observed. Nothing can be said at present in regard to correlation with phase.

Fig. 1- The region of λ3888 at phase 20.6 days. Note that the maximum intensity of the broad emission is on the violet side of H_8.

Fig. 2- The region of λ3888 at phase 59,9 days. Note that the

maximum intensity of the broad emission is on the red side of

Fig. 3- Profile of He II 4686.

Fig. 4- Profile of He II 4686.

Fig. 5- Profile of He II 4686.