THE PERIODS OF β CANIS MAJORIS

Luis A. Milone
(Observatorio Astronómico e I.M.A.F. Univ.
Nac. de Córdoba; C.N.I.C.T., Buenos Aires)

As the period and maximum epoch of the two fundamental waves governing the radial velocity variations of β Canis Majoris are very well known (see Boletín de la'Asociación Argentina de Astronomía, N°8), it is possible to obtain explicitely those waves by analysing the radial velocity curves. This has been done; the results are shown in Figs. 1 and 2.
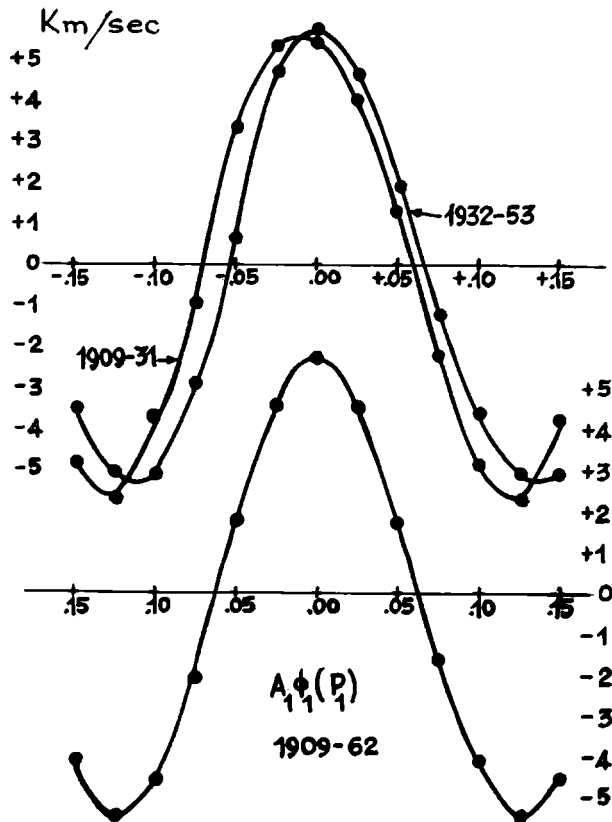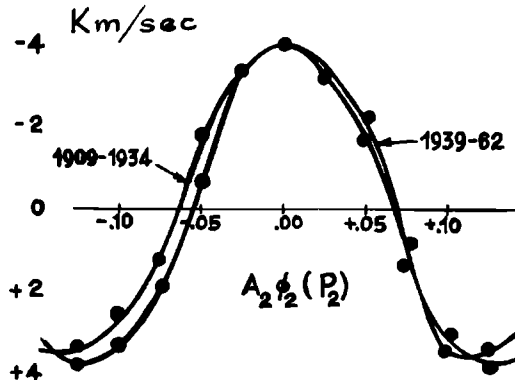

Fig. 1

Fig. 2

Representation of the observations.

It is perhaps interesting to represent the observations by means of the expression

$$V_\rho = K_1 A_1 \phi_1(t) + K_2 A_2 \phi_2(t) + K_3 A_1 A_2 \phi_1 \phi_2 + cte.$$

in which $A_1 \phi_1 (t)$ and $A_2 \phi_2 (t)$, are the primary and secondary wave respectively, as already found; $K_3 A_1 A_2 \phi_1 \phi_2$, is a coupling term, and with respect to K_1 and K_2, it is assumed that they are equal to 1 in the mean, but are allowed to vary from night to night.

For that purpose, three nights with well observed and well defined radial velocity curves were selected. Equations like (1) were used as equations of condition to determine K_1, K_2 and K_3 from observations. Results are shown in Fig. 3.
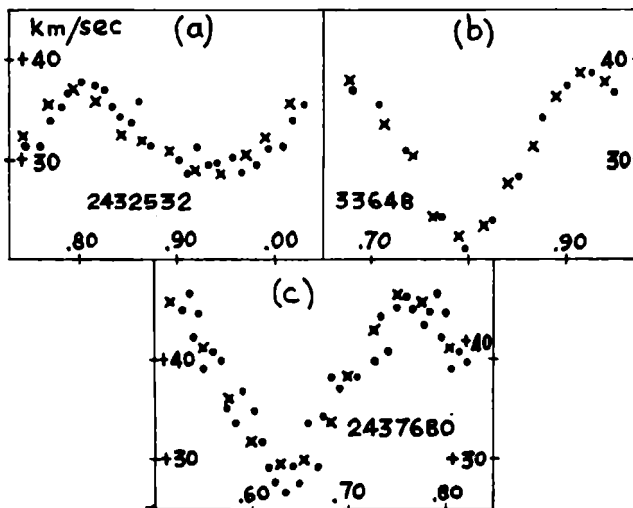
Fig. 3

Dots represent observed radial velocities; crosses are computed values.

The representation is not unreasonably bad, but it requires too large a change of the amplitudes. We have found the following values:

Table I

	K_1	K_2	K_3
2432532	2.14	1.97	-.01
33648	0.69	1.48	-.02
2437680	1.35	0.35	+.05

It is scarcely believable that the amplitudes of the waves change from one epoch to another by as much as a factor of two.

Conclusions.

I.- Both fundamental waves seem to be very stable in the mean, with respect to their shape and amplitude.

2.- Observed radial velocity curves are not well represented by the addition and coupling of the two fundamental waves, unless we assume unusually large changes in their amplitudes, i.e. that other oscillations are present or, that some perturbations are excited in an irregular way; further studies of this point continue.

This work will appear in full in the Boletín del Instituto de Matemática, Astronomía y Física, Vol. II, N° 2.

FILTROS INTERFERENCIALES OBTENIDOS CON EL EQUIPO DE VACIO

Jorge E. Simmons
(Observatorio Astronómico, La Plata)

Se muestran filtros de color obtenidos por depósito de aluminio-creolita-aluminio en el equipo de vacío de La Plata. Se trata de un ensayo para comparar técnicas conocidas.

Interference colour filters are shown, made by deposition of aluminium-crelyte-aluminium with La Plata Observatory vacuum chamber. It is a mere test to compare known techniques.