

RADIAL VELOCITIES AND ROTATIONAL VELOCITIES OF LATE-TYPE  
STARS IN THE COMA BER CLUSTER

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Stars with spectral types later than or equal to F5V in the Coma Ber cluster have been measured from 1977 to 1979 with the spectrometer CORAVEL (A. Baranne *et al.* 1980). The aims of this investigation were to clarify the membership based on radial velocity for some faint stars, to study the binarity of the low mass stars of the cluster, and to obtain the distribution of the rotational velocities for the red dwarfs. 391 measurements have been made for 34 stars. The average dispersion over the mean  $V_R$  of each star is  $0.6 \text{ kms}^{-1}$ .

MEMBERSHIP: Among the 34 stars measured, 21 are members of the cluster. With Tr 111, a SB2 star having an orbit determined by Kraft but not measured with CORAVEL, we can admit 22 stars with spectral types later than F5V as known members. For the most probable members:

$$\begin{aligned}\bar{V}_{R_{\text{Coma}}} &= 0.0 \pm 0.1 \text{ km s}^{-1} \\ \sigma_{V_R} &= 0.50 \text{ km s}^{-1} \text{ (19 stars)}\end{aligned}$$

BINARITY: Of the five stars later than F5V and previously detected as spectroscopic binaries, only Tr 111 had a known orbit. We have determined the orbits for five new spectroscopic systems, including two SB2 (Tr 35, 53, 97, 102, 150). Tr 102 is also a spectroscopic binary, but its orbit has not been determined yet. At present 38 members are known in the spectral range A to K, from which 15 SB are confirmed and 4 SB are possible.

Rate of spectroscopic binaries	≥ 40%
Dwarfs A-F4	≥ 44%
Dwarfs F5-K0	≥ 33%

ROTATIONAL VELOCITIES: The width of the cross-correlation function between the spectrum of the star and the mask of CORAVEL allows the measurement of the rotational velocity  $V \sin i$ . The calibration made by Benz and Mayor (1980) shows the possibility of obtaining  $V \sin i$  with a precision better than  $1 \text{ km s}^{-1}$ . The application of this method to Coma Ber gives the behaviour of  $V \sin i$  with the colour for the red dwarf members.

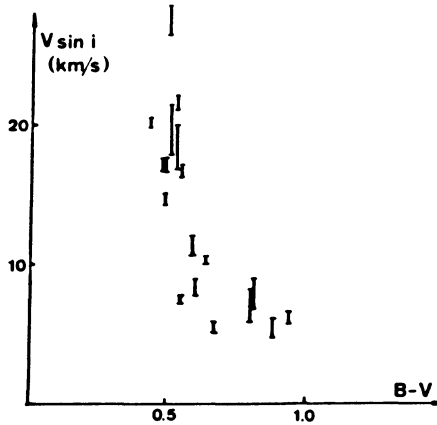


Figure 1. Rotational velocities of late-type stars in Coma Ber.

#### REFERENCES

- Baranne, A., Mayor, M., and Poncet, J.L.: 1980, *Vistas in Astronomy* (in press).  
 Benz, W., and Mayor, M.: 1980, *Astron. & Astrophys.* (in press).