

ANALYSIS OF THE HIPPARCOS SAMPLE OF ECLIPSING BINARIES  
PARALLAXES AND MULTIPLICITY

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The Hipparcos astrometric satellite observed 993 known eclipsing binaries. From 1048 eclipsing binaries of the Brancewicz and Dworak's catalogue (1980), there are only 368 observed by Hipparcos, as the others are too faint.

On the basis of these common stars, we have undertaken the comparison of the satellite parallaxes with the photometric ones. We obtain a good agreement between the two systems with a mean dispersion of 5 mas. The greatest dispersion is for the group of eclipsing binaries of the EW type. The eclipsing binaries of this group have a mass-luminosity relation different from those of the main sequence stars.

An inadequate knowledge of the component spectra of an eclipsing binary seems to be one of the most important cause of discrepancies. For some brightest stars, the new Hipparcos trigonometric parallaxes differ very significantly from those previously known from groundbased measurements. It seems that the presence of a close visual components causes statistically an underestimation of photometric or overestimation of Hipparcos parallaxes.

172 Hipparcos eclipsing binaries have a close visual component, generally less than 10 arcseconds apart. The list of these stars for various stellar groups and a brief analysis are presented.

## References

Brancewicz H.K., Dworak T.Z. (1980), 'A Catalogue of Parameters for Eclipsing Binaries', *Acta Astron.*, **30**, N° 4.