The X-ray/EUV selected binary 2RE J0933+624 (FF UMa): orbital solution and chromospheric activity

M.C. Gálvez, D. Montes, M.J. Fernández Figueroa, E. De Castro, M. Cornide

Departamento de Astrofísica, Facultad de Físicas, Universidad Complutense de Madrid, E-28040 Madrid, Spain. (dmg@astrax.fis.ucm.es)

In this contribution we present high resolution echelle spectroscopic observations taken during several observing runs (1998-2004) of the recently discovered, X-ray/EUV selected, active binary 2RE J0933+624 (FF UMa). We have obtained precise radial velocities by cross correlation with radial velocity standard stars for both components and we have obtained an improved orbital solution. With this information we derived other parameters and classified the system. Rotational velocity (vsin$i$) have been measured too, by using the cross-correlation technique with the routine FXCOR in IRAF. In addition, we have studied the chromosphere of this active binary system using the information provided for several optical spectroscopic features (from the Ca II H & K to Ca II IRT lines) that are formed at different heights in the chromosphere. The chromospheric contribution in these lines has been determined using the spectral subtraction technique, resulting a strong Hα emission above the continuum from both components in all the spectra as well as the emission from Ca II IRT and Ca II H & K and filled absorption lines in Hβ, Hδ and Hγ. This system shows a lithium (Li I λ6707.8) line from both components.