

Physical and Geometrical Parameters of VCBS XIII: HIP 105947

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Abstract: The perfect physical and geometrical parameters of the main-sequence close visual binary system (CVBS); HIP 105947, are explicitly presented. These parameters have been constructed conclusively using Al-Wardat's complex method for analysing CVBSs, which is a method for constructing a synthetic spectral energy distribution (SED) for the entire binary system using individual SED for each component star. Which in its turn built using Kurucz (ATLAS9) line-blanketed plane-parallel models. At the same time, the orbital parameters for the system are calculated using Tokovinin's dynamical method for constructing the best orbits of interferometric binary system. Henceforth, the mass-sum of the components, the $\Delta\theta$ and $\Delta\rho$ residuals for the system are introduced. The combination of Al Wardat's and Tokovinin's methods yields the estimation of the physical and geometrical parameters to their best values. The positions of the components of the system on the evolutionary tracks and isochrones are plotted and their formation and evolution are discussed.

Keywords:

Binaries, close – binaries, visual-stars, fundamental parameters-stars, individual, HIP 105947.

Article history:

Received: 24 September 2017

Accepted: 8 February 2018

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