

ACCRETION DISK IN THE MASSIVE CLOSE BINARIES

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In this paper we present the results of the study of the massive close binary systems based on the spectroscopic and photometric data. From observations and our modeling it is clear that the spectral features and light-curves shapes of these systems can be successfully interpreted by the CB Roche model in which the less-massive donor fills the critical Roche lobe and transferring mass on the more massive gainer, which is mostly hidden with a large optically and geometrically thick accretion disk. Two active regions are supposed to exist on the rim of the disk, which can be interpreted as a consequence of the mass-transfer from the donor star, and by the effects of the gas dynamics in the system. Our model fits the observations well for all individual pass-band light-curves. From the model best fit to the observed light-curves, orbital and physical parameters of the components are estimated, together with the accretion disk characteristics and the active regions on the disk edge. In some cases we present the evolution stage of these systems, especially for the systems showing double periodicity.