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A Multiwavelength Study of Be/X-ray Binary Stars

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Abstract

Be/X-ray binary stars are the largest subclass of high-mass X-ray binaries which comprise a neutron star in an eccentric orbit around a massive B spectral type star. They undergo X-ray outbursts which come in two flavours: Type I and Type II. The origin of the outbursts is due to the complex interaction between the neutron star and circumstellar disc around the Be star. We perform a systematic study of circumstellar discs of Be/X-ray binaries to demonstrate observational signatures of the Kozai-Lidov mechanism. The results show that circumstellar discs undergo morphological variability which influences the mass accretion onto the neutron star.