

On the long-term optical and X-ray behaviour of sibling SMC Be X-ray binaries SXP15.3 and SXP305

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Be X-ray binaries, which make up the largest subclass of the high mass X-ray binary systems, comprise a neutron star in an eccentric orbit around Be star companion with a geometrically thin Keplerian disc. The interaction of the neutron star with the Be disc results in the accretion of matter leading to X-ray outbursts. The X-ray outbursts occur in two flavours: type I (or normal, with luminosities less than 10^{37} erg/s) and type II (or giant, with luminosities greater than 10^{37} erg/s). The disc variability is traced through the variability of the Balmer emission lines in the optical spectra, the strongest and best-studied of which is the H-alpha emission line.

In this talk I will present preliminary optical and X-ray results from long-term monitoring of two Be X-ray binaries in the Small Magellanic Cloud that are in close proximity, SXP15.3 and SXP305. The X-ray emission from the combined field of the two sources has recently displayed a series of outbursts, the origin of which is difficult to discern. I will discuss the long-term behaviour of the Be discs of the two sources, where inferences about their structure and geometry are made from OGLE and SALT data.

Abstract field

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