

Contributed Talk

Splinter HotStars

MASSIVE BINARY STARS WITH RELATIVISTIC COMPANIONS:
STUDYING DONOR WINDS WITH THE HST

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High-mass X-ray binaries (HMXBs) are essential massive star laboratories. These objects represent an advanced stage in the evolution of massive binary systems, after the initially more massive star has already collapsed in a supernova explosion, but its remnant, a neutron star or a black hole, remains gravitationally bound to the system. The stellar wind from the OB-type donor is partially accreted onto its compact companion, powering its high X-ray luminosity. Recently, the number of known Galactic HMXBs was more than doubled by the unexpected discovery of a new type of objects: the supergiant fast X-ray transients with OB supergiant donor stars. It was suggested that the physics of these objects is governed by their donor's stellar winds. To correctly model the populations of relativistic binaries in galaxies we shall understand the reasons for the existence of different types of HMXBs with OB donors. But, up to now, only a few donor stars were analyzed by means of sophisticated stellar atmosphere models. Therefore, using the HST we performed a UV spectroscopic survey of donor stars, covering both the newly discovered as well as the classical HMXB systems. The UV spectra were complemented by optical and simultaneously obtained X-ray data. The analysis was performed using PoWR non-LTE stellar atmospheres. In this talk, I will present first results of this survey, including an up-to-date overview of our knowledge about OB supergiant donors with relativistic companions.