



Nature, formation and evolution of High Mass X-ray Binaries

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The aim of this review is to describe the nature, formation and evolution of the three kinds of high mass X-ray binary (HMXB) population: i. systems hosting Be stars (BeHMXBs), ii. systems accreting the stellar wind of supergiant stars (sgHMXBs), and iii. supergiant stars overflowing their Roche lobe. There are now many new observations, from the high-energy side (mainly from the INTEGRAL satellite), complemented by multi-wavelength observations (mainly in the optical, near and mid-infrared from ESO facilities), showing that a new population of supergiant HMXBs has been recently revealed. New observations also suggest the existence of evolutionary links between Be and stellar wind accreting supergiant X-ray binaries. I describe here the observational facts about the different categories of HMXBs, discuss the different models of accretion in these sources (e.g. transitory accretion disc versus clumpy winds), show the evidences of a link between different kinds of HMXBs, and finally compare observations with population synthesis models.

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