

The iron complex in high mass X-ray binaries

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Abstract

An X-ray binary system consists of a compact object (a white dwarf, a neutron star or a black hole) accreting material from an optical companion star. The spectral type of the optical component strongly affects the mass transfer to the compact object. This is the reason why X-ray binary systems are usually divided in High Mass X-ray Binaries (companion O or B type, denoted HMXB) and Low Mass X-ray Binaries (companion type A or later). The HMXB are divided depending on the partner's luminosity class in two main groups: the Supergiant X-ray Binaries (SGXB) and Be X-ray Binaries (BeXB).

We introduce the spectral characterization of a sample of 9 High Mass X-ray Binaries in the iron complex ($\sim 6-7$ keV). This spectral range is a fundamental tool in the study of the surrounding material of these systems. The sources have been divided into three main groups according to their current standard classification: SGXB, BeXB and γ Cassiopeae-like. The purpose of this work is to look for qualitative patterns in the iron complex, around 6-7 keV, in order to discern between current different classes that make up the group of HMXB. We find significant spectral patterns for each of the sets, reflecting differences in accretion physics thereof.