

SPS Seminar - 1pm N115 Thursday 16th November

Speaker: Dr. Enrico Bozzo - ISDC, University of Geneva.

Title: Probing massive star winds with SgXBs: current status, recent efforts, and future perspectives

Abstract: Supergiant High Mass X-ray Binaries (SgXBs) are fundamental laboratories to understand the physics of accretion, when this takes place via stellar winds onto strongly magnetized neutron stars.

The bulk of SgXBs hosts, indeed, a neutron star orbiting around an OB supergiant companion, which possesses a strong and dense wind with terminal velocities reaching up to few thousands of km/s.

It was recognized in the early 00s that SgXBs are also crucial in order to advance our understanding of massive star winds, as the compact object in these binary systems works as an in-situ probe of the wind and can help narrowing down the still existing large uncertainties on the physical properties of this fast moving medium.

Massive star winds are a key ingredients in many hot topics of the modern Astronomy and Astrophysics, as these winds regulate the chemical enrichment of the galaxies and consequently control part of the evolution of the Universe also on large scales.

In this talk, I will review the status of our understanding of accretion in SgXBs and the associated uncertainties when we try to reverse-engineer the X-ray observations of these systems into physical parameters of the massive star winds.

I will discuss the currently most pursued efforts in the field and provide an overview of future perspectives by describing the expected improvements foreseen with the next generation of X-ray instruments in space.