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Tipo de Comunicación: Oral

Sesión Científica: La via lactea y sus componentes

Titulo: GTC-10.4m/OSIRIS spectroscopy of Aquila X-1

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Resumen:

Low-mass X-ray binaries (LMXBs) are binary systems harbouring an accreting compact object, either a neutron star or a black hole, and a companion star less massive than the Sun. These objects are among the brightest X-ray sources in the sky, allowing us to study in great detail both accretion processes and the fundamental properties (e.g. mass) of compact objects. We present GTC-10.4m/OSIRIS spectroscopy of the optical counterpart of the transient system Aquila X-1 obtained during two consecutive accretion episodes in 2011 and 2013. We have performed a detailed analysis of the evolution of the main optical spectral features, with emphasis on the Bowen blend at 4640 A. This high excitation emission line encodes information regarding both the accretion disc and the irradiated side of the companion, and can thereby be used to carry out dynamical studies. We also study the evolution of hydrogen (Balmer) and helium emission lines as a function of the both the X-ray luminosity and the ionization state of the disc.