X-RAY ASTRONOMY 2019
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The connection between optical and X-ray accretion disc winds in black-hole transients

X-ray observations performed during the last few decades have provided a rich data base on black-hole X-ray binaries. A strong coupling between the properties of the accretion flow and the presence of outflows, such as radio-jets and hot X-ray winds, has been found to be a fundamental characteristic of their powerful outbursts. Since 2015 we have discovered optical accretion disc winds in several black hole transients [Muñoz-Darias et al. 2016 (Nature), 2017, 2018, 2019]. Here, I will present high-quality spectroscopic observations of several black hole transients in outburst, which reveal that cold winds with terminal velocities up to 3000 km/s are a common feature in these objects. I will discuss the impact and nature of these winds, with great emphasis on their relation with the hotter outflows observed in X-rays and the radio-jets.

Topic

Multi-messenger and transient astronomy

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