Disc-jet coupling in black holes

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Abstract

A rich phenomenology of jets, winds, and accretion states has been observed in both active galactic nuclei (AGN) and X-ray binaries (XRBs), suggesting a connection between the accretion and ejection flows at different black hole masses, from supermassive down to stellar mass.The X-ray emission, associated with the accretion flow, is strongly coupled with the radio emission, associated with a jet. Strong correlations between the radio and the X-ray luminosities are found in XRBs, as well as in radio-loud and radio-quiet AGN. I will review observational evidences in favour of the disc-jet coupling at different luminosities and accretion rate scales in AGN and compare this phenomenology with XRBs. The co-existence of jets and winds in AGN will be also discussed in comparison with XRBs. The results will be discussed within the current accretion-ejection physical scenarios.

Keywords: AGN, Xray, radio, disc, accretion, ejection, jets

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