

Jets in accreting X-ray binaries

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I will review our current knowledge about three well-studied jets in X-ray binaries, MAXI J1820+070, Cyg X-1, and Cyg X-3. The first two accrete from their donors onto black holes, while this is likely but not certain in Cyg X-3. Thanks to an extensive multi-wavelength campaign during the recent outburst of MAXI J1820+070, the structure of its compact jet emitting in radio to optical frequencies is now very well understood. The relatively long time lags measured between various radio and sub-mm frequencies prove that emission is formed at distances several orders of magnitude higher than the gravitational radius. We determine the jet opening angle, the location of the onset of the emission, the magnetic field strength and the electron distribution, and put constraints on the bulk Lorentz factor, the content of electron-positron pairs and the jet power. Then, I will compare those jet parameters with those in Cyg X-1 and Cyg X-3, both of which emit also high-energy gamma rays.

Abstract field

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