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# Episodic jet flares in black hole transients: observational evidence against the association of jet power with black hole spin

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## Abstract

Episodic jets in black hole transients are usually observed during the black hole intermediate spectral state when the X-ray spectral state transitions between the hard state and the soft state occurs. The most popular suggestion is that the episodic jet power is somehow associated with the black hole spin, supported by the apparent correlation between the peak power of the episodic jet and the measured black hole spin in some black hole transients. Here we use the most complete sample of radio measurements of the episodic jet flares in black hole transients and demonstrate that the peak power of the episodic jet is actually correlated with outburst peak luminosity and rate-of-change of the X-ray luminosity during the rising phase of the outbursts. Together with the correlation between the luminosity corresponding to the hard-to-soft spectral state transitions and the outburst peak luminosity as well as the rate-of-change in the rising phase during the outbursts previously found, these correlations indicate that the diverse range of the episodic jet power is primarily due to the non-stationary accretion onto the black holes. The association of black hole spin with episodic jet power in black hole transients can be ruled out.

**Keywords:** outburst, state transition, episodic jet

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