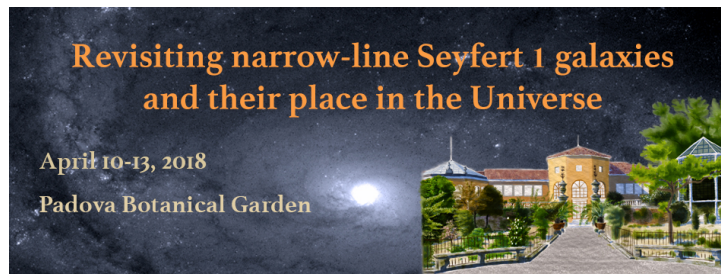


Revisiting narrow-line Seyfert 1 galaxies and their place in the Universe



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The gamma-ray emitting NLS1 1H 0323+342 and the disc-jet connection

Wednesday, 11 April 2018 10:50 (20 minutes)

The *Fermi Gamma-Ray Space Telescope* has detected gamma-ray emission from a rare sub-set of radio-loud narrow-line Seyfert 1 (NLS1) galaxies, confirming the presence of blazar-like jets. This discovery has challenged the paradigm that powerful, relativistic jets are only associated with large, elliptical galaxies hosting the most massive central black holes. The small population of gamma-ray emitting NLS1s extends the blazar population down to low black hole masses and so allows us to investigate how jets scale with black hole mass.

We have performed a detailed analysis of the comprehensive multi-wavelength data set assembled for the lowest-redshift gamma-ray emitting NLS1, 1H 0323+342. This involves application of accretion flow and jet emission models to explore the disc-jet connection in greater depth than previously possible. We show that standard scaling relations vastly overpredict the jet power of this source. That gamma-ray emitting NLS1s appear to host such low-powered jets may go some way to explaining why so few have been detected to date.

Motivation

Grant

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