

Reverberation mapping black hole accretion discs

Accreting supermassive black holes can produce more electromagnetic and kinetic luminosities than the combined stellar luminosity of an entire galaxy. Most of the power output from an Active Galactic Nucleus is released close to the black hole, and therefore studying the inner accretion flow is essential for understanding how black holes grow and how they affect their surrounding environments. In this talk, I will present a new way of probing these environments, through X-ray reverberation mapping, which allows us to map the gas falling on to black holes on microparsec scales and measure the effects of strongly curved spacetime close to the event horizon. I will give an overview of the field and present new results from the NICER observatory of unprecedented reverberation measurements in accreting black hole X-ray binaries.

**Monday, October 28th**

3:30 - 4:30 p.m.

725 Commonwealth Ave | Room 502

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