



College of
Science
Department of Physics
& Astronomy

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Weekly Calendar

November 30–December 4, 2015

Departmental Colloquium:

“Measuring the Spins of Accreting Black Holes”

3:30 PM Thursday, December 3, 2015

109 Nicholson Hall

Jeffrey McClintock
Harvard University

HOST: Gabriela Gonzalez

• Refreshments served at 3:10 PM in 232 (Library) Nicholson Hall •

Both the continuum-fitting and Fe-line methods of measuring black hole spin will be discussed and compared, with attention to sources of systematic error. Both methods rely on estimating the inner radius of the black hole's accretion disk and identifying it with the radius of the ISCO. The Fe-line method is very important because of its dominant role in measuring the spins of supermassive black holes, which is problematic for the continuum-fitting method. Meantime, both methods are applicable to stellar-mass black holes that are located in X-ray binary systems, and we will discuss current efforts to cross-check the spins of individual black holes. Finally, spin and mass data for a dozen stellar-mass black holes will be applied to such problems as the origin of spin, the evolution of black-hole X-ray binaries, and how black holes power jets.