



**ASTROPHYSICS
SEMINAR SERIES**

Misty Bentz
Georgia State University

“Black Hole Masses in Active Galaxies”

Monday, March 31, 2014
Refreshments at 3:15pm in CAS 500
Talk begins at 3:30pm in CAS 502

Abstract:

Reverberation mapping, or "echo" mapping, of nearby ($z < 0.1$) active galaxies has provided direct constraints on the mass of the central supermassive black hole in about 50 galaxies. Furthermore, the size of the region of photoionized gas from which the broad emission lines emanate has been found to scale with the luminosity of the central source. This radius-luminosity relationship is heavily used to estimate black hole masses in quasars at cosmological distances, and is foundational for our understanding of the interplay between black hole and galaxy growth and evolution. I will present an overview of the state of the field and discuss current and future work aimed at minimizing the uncertainties in black hole mass determinations.