



Department of Physics

Colloquium

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Astronomy and Astrophysics**

Imaging Black Holes with the Event Horizon Telescope

The Event Horizon Telescope (EHT) is a global submillimeter-wavelength very long baseline array that produces the highest angular resolution images of black holes. The EHT Collaboration has produced images of two black holes, the supermassive black hole in the elliptical galaxy M87 and the Galactic Center black hole, Sgr A*.

In this talk, I will describe the techniques and technology behind these measurements, give updates on the latest results, and plans for future observations. Images of both sources have a ring-like morphology consistent with predictions of general relativity and the Kerr metric. Comparison with an unprecedented library of GRMHD simulations provides insights on the accretion and outflow properties. These results confirm that the gravitational lensing feature is a universal property of black holes, establishes the consistency of general relativity over three orders of magnitude in mass, and opens the door for future tests of gravitational physics, accretion, and jet formation.

FRIDAY, 21 February 2025

3:30 PM

Chemistry Bldg. – Room 108

2000 East Kenwood Blvd.