

APR20-2020-001008

Abstract for an Invited Paper
for the APR20 Meeting of
the American Physical Society

Imaging Supermassive Black Holes with the Event Horizon Telescope: Current Results and Future Prospects

MICHAEL JOHNSON, Center for Astrophysics — Harvard Smithsonian

Using Very Long Baseline Interferometry at 1.3mm wavelength, the Event Horizon Telescope (EHT) Collaboration recently published the first images of a black hole. I will discuss the breakthroughs that made these images possible and their implications for our understanding of supermassive black holes. I will also describe the emerging capabilities of the EHT to study relativistic dynamics of accretion flows, to elucidate the role of magnetic fields in jet launching, and to enable precision tests of General Relativity. Finally, I will discuss how black holes produce unique image signatures that enable a new type of telescope that could image thousands of supermassive black holes.