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Abstract for an Invited Paper
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Radiative Models of Black Hole Accretion Flows

CHARLES F. GAMMIE, Physics Department, University of Illinois

I will discuss models of black hole accretion based on self-consistent general relativistic magnetohydrodynamic (MHD) simulations. We have developed techniques for calculating the emergent radiation from the MHD simulations in both image and spectral forms. I will describe the techniques, capabilities, and implications of our models. The models are motivated in part by recent observational developments in low luminosity galactic nuclei that raise the prospect of direct imaging of black hole accretion flows at the event horizon scale within the next decade.