

Radiative model of MADs and its application to M87*

Tuesday, 6 May 2025 15:00 (15 minutes)

We study spectra produced by weakly accreting black hole systems using the GRMHD simulations. We highlight the role of large temperature fluctuations, which characterise the GRMHD solutions, in shaping the broadband spectrum and find that this effect can explain the SED observed in the active nucleus of galaxy M87. We apply our model to VLBI images of this active nucleus, but find that the constraints on the physical model are relatively weak at their current angular resolution. We also discuss the applicability of the popular R-beta prescription for the electron temperature to the interpretation of the observed spectra and images.

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