



SEMINARIO SEMANAL “Dr. Jesús Reyes Corona”



“Multiwavelength emission of M87 jet from GRMHD simulations”

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Resumen

Relativistic jets are launched in the vicinity of the black holes and emit powerful radiation across the electromagnetic spectrum. According to our current understanding, relativistic jets are launched by directly tapping the rotational energy of spinning black holes via the so-called Blandford-Znajek process. In addition to the spin of the black hole, numerical simulations showed the amount of accreted magnetised flux has a major impact on the formation of relativistic jets. I will present a study of the radiative signatures of self-consistently launched relativistic jets using 3D general relativistic magneto-hydrodynamical (GRMHD) simulations and general relativistic radiative transfer (GRRT) calculations. In our numerical models, we explored the effects of the black hole spin, magnetic field strength, as well as thermodynamics properties of the plasma, particularly electron temperature and electron distribution function in the jet. To compare our results with current and future very long baseline interferometric (VLBI) observations we generated synthetic data taking into account realistic array configurations and image reconstruction algorithms

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