
SEMINARIO

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Supermassive black holes: flares from the galactic center and electromagnetic counterpart to the coalescence of binaries

Abstract: In this talk, I will present the two sides of my current work, focused on unitary and binary black holes. First, I will introduce a model to explain the flares (rises of activity) of Sagittarius A*, the black hole (BH) at the center of the Milky Way, with the episodic accretion of material. The specificity lies in the pipeline to test it: general relativistic (GR) magneto-hydrodynamical simulations, post-processed with a GR ray-tracing code to produce light-curves and energy spectra, to be directly compared with observations. Then, I will show how we can, using the same tools, predict the electromagnetic counterpart to the fusion of supermassive BHs. Such a signal would give us new constraints on the speed of gravitational waves, test GR in the strong field regime and our scenarios of galaxy formation/mergers. For that purpose, an additional ingredient is required: the curved spacetime around binary BHs.

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