

Gravitational Geometry and Dynamics Group Seminar

Wed., June 4, 2025, at 11h00.

Room: 11.2.25 and Zoom ID: 955 4130 8539

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Stability of Boson Stars as Black Hole Mimickers

We discuss recent results on using boson stars with a solitonic potential as models of ultracompact objects, which could mimic black holes in such phenomenology as VLBI images and gravitational wave signals. Motivated by a conjectured dynamical instability brought on by the presence of stable light rings, we use full numerical relativity to study the long-term stability of these objects, performing a perturbative analysis to determine fundamental radial oscillation frequencies and searching for departures from the resulting predictions. If time permits, we will also discuss preliminary results involving the formation of these models.