ID de Contribution: 14

## Black hole perturbations in modified gravity as a first-order system

jeudi 21 novembre 2024 14:00 (1 heure)

The study of perturbations around a black hole is crucial for the investigation of stability of the solution, as well as the modelization of gravitational waves emitted during the ringdown phase of a binary black hole merger. In general relativity, such perturbations are recast into two decoupled Schrödinger equations; in modified theories of gravity, this is often no longer possible due to the existence of additional fields. In this work, we reformulate the perturbation equations into a first-order system for GR and various modified gravity theories. This allows us to systematically define the proper boundary conditions for the computation of quasinormal modes in these theories, using an algorithm that decouples the perturbation equations asymptotically. We illustrate this method by numerically computing quasi-normal modes in the Minimal Theory of Massive Gravity (MTMG).

Orateur: ROUSSILLE, Hugo (ENS Lyon)