

Spanish and Portuguese Relativity Meeting



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Hyperboloidal evolution in Numerical Relativity: the case of Generalized Harmonic Gauge

Monday 22 July 2024 15:45 (15 minutes)

In this talk I will discuss the implementation of hyperboloidal coordinates in the Generalized Harmonic Gauge (GHG) formulation of General Relativity within the Dual-Foliation formalism. This approach allows us to include future null infinity in the computational domain, while keeping standard methods for the evolution of the strong field region. First I will mention the asymptotic properties of the metric in GHG, and how these depend in the choice of gauge. I will show numerical results of spherically symmetric evolutions with a massless scalar field as matter content as a first step towards the application of hyperboloidal evolution in GR without symmetry assumptions.

Author: PETERSON BÓRQUEZ, Christian

Presenter: PETERSON BÓRQUEZ, Christian

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