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Introduction of GRMHD simulations

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Abstract

General-relativistic magnetohydrodynamics (GRMHD) simulation is one of the most important tools to study the evolution of compact objects and high-energy phenomena in the universe. I will give an overview of the formalism of GRMHD simulations coupled to dynamical spacetime evolution, and the implementation of code. Following this, I will talk about the current limitation of numerical simulation and possible solutions to overcome this.