Contributed Talk

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Title: FCF formulation of Einstein equations: local uniqueness and numerical accuracy and stability

Abstract: We present Einstein equations in the so-called Fully Constrained Formulation (FCF). This formulation has two different sectors: the elliptic sector formed by the Hamiltonian and Momentum constraints together with the equations derived from the gauge choice, and the hyperbolic sector which encodes the evolution of the rest of degrees of freedom of the spacetime metric including the gravitational waves. We present a modification of both sectors that keeps local uniqueness properties but has a better behaviour regarding the relativistic expansion of the equations. We also comment on numerical properties of this reformulation.