

Abstract Submitted
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Simulation of Black Hole Collisions in Asymptotically anti-de Sitter Spacetimes HANS BANTILAN, PAUL ROMATSCHKE, Univ of Colorado - Boulder — The main purpose of this talk is to describe, in detail, the necessary ingredients for achieving stable Cauchy evolution of black hole collisions in asymptotically anti-de Sitter (AdS) spacetimes. I will begin by motivating this program in terms of the heavy-ion physics it is intended to clarify. I will then give an overview of asymptotically AdS spacetimes, the mapping to the dual conformal field theory on the AdS boundary, and the method we use to numerically solve the fully non-linear Einstein field equations with AdS boundary conditions. As a concrete example of these ideas, I will describe the first proof of principle simulation of stable AdS black hole mergers in 5 dimensions.

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