

Semi-holography for heavy ion collisions

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I will present the recent developments [JHEP05(2016)141] of the semi-holographic model first proposed in [JHEP06(2015)003]. The semi-holographic approach makes it possible to combine Color Glass Condensate initial conditions and weak-coupling glasma field equations with a simultaneous evolution of a strongly coupled infrared sector describing the soft gluons radiated by hard partons. The new developments presented here include self-consistent couplings between the CGC framework and an infrared AdS/CFT sector, such as to guarantee the existence of a conserved energy-momentum tensor for the combined system that is local in space and time. Moreover, we include a coupling of the topological charge density in the glasma to the same of the soft sector. As a first numerical test of a of the iterative numerical procedure suggested earlier we study the dynamics of fluctuating homogeneous color-spin-locked Yang-Mills fields when coupled to a homogeneous and isotropic energy-momentum tensor of the soft sector.

Primary author: Mr PREIS, Florian (Technische Universität Wien)

Co-authors: Prof. REBHAN, Anton (Technische Universität Wien); MUKHOPADHYAY, Ayan (Technische Universität Wien); STRICKER, Stefan (Technische Universität Wien)

Presenter: Mr PREIS, Florian (Technische Universität Wien)

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