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# Initial state from holography

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Through holography we can collide arbitrary lumps of energy in strongly coupled gauge theories, where we assume transverse gradients are small in the very first moments of the collision. This can be applied to off-central collisions and subsequently evolved using the MUSIC 3+1D hydrodynamic code. This allows us to compare to experimental observables, where we focus on the multiplicity and directed flow as a function of rapidity. These show qualitative agreement with data, although the multiplicity profile at our very strong coupling calculation is significantly narrower than the data, both at RHIC and especially at LHC energies.

Lastly, we will present new results, using the holographic model to study initial anisotropy and entropy when including event-by-event fluctuations, but without hydrodynamics.

References: arxiv:1507.xxxx, WS and B. Schenke, Directed flow in holographic heavy ion collisions

## On behalf of collaboration:

NONE

**Authors:** SCHENKE, Bjoern (Brookhaven National Lab); VAN DER SCHEE, Wilke (MIT)

**Presenter:** VAN DER SCHEE, Wilke (MIT)

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