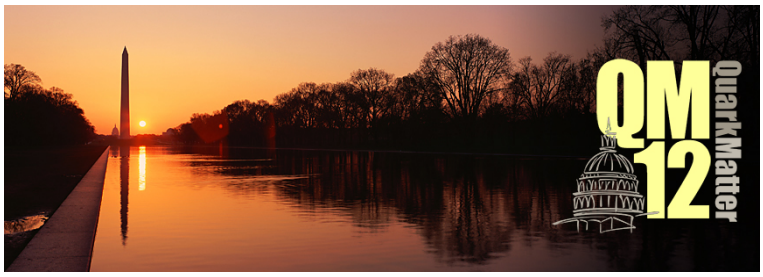

Contribution ID: **296** Type: **Poster**

Harmonious Harmonics? After the common origin of correlations and flow.

Thursday, 16 August 2012 16:00 (2 hours)

We show that initial state fluctuations in concert with later-stage hydrodynamic flow describes a range of observables including both even and odd flow harmonics, the ridge, and multiplicity, momentum and flow fluctuations [1]. This is the first comparison between multiplicity and transverse momentum fluctuations and flow fluctuations in the same framework. The simultaneous investigation of these observables allows us to study the interplay of correlations induced by collision geometry and common points of production. We employ a framework of initial state Glasma flux tubes followed by later stage hydrodynamic flow modeled in a blast wave. Our approach has the advantage that we can test our calculations over a broad range of collision systems and energies and provide useful benchmarks for more rigorous event-by-event hydrodynamic simulations. Our survey over these observables reveals a common energy and centrality dependence that we attribute to the production mechanism. Glasma calculations are consistent with this dependence [2,3].
[1] S. Gavin and G. Moschelli, in preperation
[2] S. Gavin, L. McLerran, and G. Moschelli, Phys. Rev. C79, 051902 (2009), arXiv:0806.4718 [nucl-th]
[3] S. Gavin and G. Moschelli, Phys.Rev. C85, 014905 (2012), arXiv:1107.3317 [nucl-th]

Primary author: MOSCHELLI, George (Frankfurt Institute for Advanced Studies)

Co-author: GAVIN, Sean (Wayne State University)

Presenter: MOSCHELLI, George (Frankfurt Institute for Advanced Studies)

Session Classification: Poster Session Reception

Track Classification: Correlations and fluctuations