



Contribution ID: 402

Type: **Poster**

Torque effect and long-range rapidity fluctuations

Tuesday, 29 September 2015 16:30 (2 hours)

We investigate the torque effect (decorrelation of event planes in rapidity) [1,2] and find that the recent CMS results for p+Pb and Pb+Pb collisions suggest specific fluctuations of the initially deposited entropy. In our model, the extent in rapidity of the initial sources is randomly distributed over the available range. These fluctuations increase the event-plane decorrelation: for Pb+Pb they bring the results closer to the data, while for p+Pb collisions they are essential to generate sizable decorrelation.

We also make predictions of the torque effect for the collisions of Au+Au and Cu+Au at RHIC energies, which may be used as baseline for future experiments.

[1] The torque effect and fluctuations of entropy deposition in rapidity in ultra-relativistic nuclear collisions. Piotr Bozek, Wojciech Broniowski [arXiv:1506.02817 [nucl-th]]

[2] Hydrodynamic modeling of pseudorapidity flow correlations in relativistic heavy-ion collisions and the torque effect.

Piotr Bozek, Wojciech Broniowski, Adam Olszewski, Phys. Rev. C91 (2015) 054912

On behalf of collaboration:

NONE

Primary authors: BOZEK, Piotr (AGH University of Science and Technology); BRONIOWSKI, Wojciech (IFJ PAN)

Presenter: BOZEK, Piotr (AGH University of Science and Technology)

Session Classification: Poster Session

Track Classification: Correlations and Fluctuations