Heavy Ion Forum

SPEAKER: Tuomas Lappi (University of Jyvaskyla)

TITLE: **Initial state gluon correlations and azimuthal anisotropies**

DATE: Thu 04/02/2016 11:00

PLACE: TH Conference Room

ABSTRACT

Strong multiparticle azimuthal correlations have been observed in high energy proton-nucleus collisions, usually parametrized in terms of "flow" coefficients v_n. While final state collective effects can be responsible for many of the observations, the domain structure in the classical color field of a high energy nucleus also naturally leads to such correlations without final state interactions. We describe recent calculations of the momentum space 2-particle cumulant azimuthal anisotropy coefficients v_n{2}, n=2,3,4 from fundamental representation Wilson line distributions describing the high energy nucleus. We find significant differences between Wilson lines from the MV model and from JIMWLK evolution. We also discuss the relation of this calculation to the dense-dense case, to earlier calculations on the ridge correlation in the ``glasma graph" approximation, and to the ``color electric field domain model

References:

Azimuthal harmonics of color fields in a high energy nucleus, T. Lappi, Phys.Lett. B744 (2015) 315-319

Tracing the origin of azimuthal gluon correlations in the color glass condensate, T. Lappi, B. Schenke, S. Schlichting, R. Venugopalan, JHEP 1601 (2016) 061

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