



Contribution ID: 92

Type: not specified

Multiparticle correlations and collectivity in proton nucleus collisions from the initial state

Wednesday 20 September 2017 15:50 (20 minutes)

In this talk, I will discuss recent progress in understanding multiparticle correlations in small systems from an initial state model. In this model of eikonal quarks scattering off of a dense nuclear target with localized domains of color charge, we are able to reproduce many of the qualitative features observed in light-heavy ion collisions at RHIC and the LHC which are often ascribed to collective behavior. These include the ordering of n-th moment two particle Fourier azimuthal anisotropy coefficient, $v_n\{2\}$; a negative four particle second Fourier cumulant $c_2\{4\}$, giving rise to a real $v_2\{4\}$; the similarity for multiparticle second Fourier harmonics $v_2\{4\} \approx v_2\{6\} \approx v_2\{8\}$; and the energy dependence of the four particle symmetric cumulants. I will also contrast this model with the Glauber graph approximation, where some of these features cannot be reproduced, leading to the conclusion that multiple scattering is a key ingredient for the observed multiparticle correlations from the initial state.

Primary author: MACE, Mark (Stony Brook University)

Presenter: MACE, Mark (Stony Brook University)

Session Classification: CGC