NEW INSIGHTS ON THE COLLISION DYNAMICS IN RELATIVISTIC NUCLEAR COLLISIONS

Catalin Ristea[1,2], Alexandru Jipa[1], Oana Ristea[1], Ionel Lazanu[1],
Tiberiu Esanu[1,3], Marius Calin[1]

[1]University of Bucharest, Faculty of Physics, Romania
[2]Institute of Space Science, Bucharest-Magurele, Romania
[3]National Institute of Nuclear Physics and Engineering Horia Hulubei, Magurele, Romania

Heavy-ion collisions at high energies offer an unique opportunity to probe highly excited dense nuclear matter and study its properties. In these collisions a large number of particles of different types are produced. The intermediate p_T region (2 - 5 GeV/c) in central Au+Au collisions at RHIC-BNL has rich physics content. The particle ratios at the intermediate p_T give us a powerful tool to investigate the bulk properties of the hot and dense matter created at RHIC and their hadronization processes. We present results of identified charged hadron spectra measured with BRAHMS experiment at RHIC-BNL. We will investigate the collision energy dependence of the strangeness enhancement, nuclear modification factors and baryon to meson ratios. We also discuss the onset of the baryon enhancement at the high energy heavy ion collisions.