Nucleus Nucleus 2015



Contribution ID: 147

Type: Invited Talk - Parallel Session

An Overview of Resonance Measurements at the ALICE Experiment

Tuesday, 23 June 2015 17:25 (25 minutes)

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Resonances play a unique role in the study of ultra-relativistic heavy-ion collisions. Resonance yields, which may be modified by rescattering and regeneration after hadronization, can be used to study the properties of the hadronic phase of the collision. The modification of resonance masses or widths would be a signature of chiral symmetry restoration near the phase transition temperature. The transverse-momentum spectra of the proton and the $\phi(1020)$ can be used to study the mechanisms of particle production. In addition, resonance measurements in pp and p–Pb collisions help to distinguish initial-state effects from the effects of the hot and dense final state. The ALICE Collaboration has studied the K*(892)⁰ and $\phi(1020)$ mesons in pp, p–Pb, and Pb–Pb collisions. Measurements of many resonance properties, including p_T spectra, integrated yields, masses, widths, mean p_T values, and the nuclear modification factors R_{AA} and R_{pPb} , will be presented and compared to measurements from other experiments, non-resonances, and the predictions of theoretical models.

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Track Classification: Relativistic Heavy-Ion Collisions