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Kaon production in central Au+Au collisions at 30 A and 45 A GeV

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Ultra-relativistic heavy ion collisions are used to study the confinement to de-confinement phase transition state and the possibility to create quark gluon plasma (QGP). Strangeness enhancement is considered to be one of traditional signature formation of (QGP). Kaons are the lightest strange particles which are produced only at the time of collisions and thus are expected to carry important information of collision dynamics. The production of Kaon mesons are investigated within the Ultra-Relativistic Quantum Molecular Dynamics Model (UrQMD). The time evolution of average density around the collision center is calculated at different collision times at 30 A and 45 A GeV. The time of maximum compression can then be determined. The distribution of rapidity and transverse mass are presented for Kaon mesons.

[1] C. Alt et al., Phys. Rev. C 77, 024903 (2008).
[2] L. Adamczyk, et al., arXiv:1301.2348 [nucl-ex] (2013).

Primary authors: Dr ALHENDI, Hamad (King Saud University); ALHARBI, Hamoud (KACST); BAJUSAIR, Magdi (King Saud university); ALMALKI, Masaud (King Abdulaziz City for Science and Technology)

Presenters: ALHARBI, Hamoud (KACST); BAJUSAIR, Magdi (King Saud university); ALMALKI, Masaud (King Abdulaziz City for Science and Technology)

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