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phi-meson and Multi-Strange Hyperon Production at FAIR Energies from Transport Model in Heavy Ion Collision

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The study of phi meson and multi-strange production in heavy ion collision are the most interesting observables for exploring the new phase of matter named Quark Gluon Plasma. We will investigate the phi-meson and multi-strange production at FAIR energies using transport models like Ultra Relativistic Quantum Molecular Dynamics (UrQMD)[1] and A Multi Phase Transport Model (AMPT)[2]. The UrQMD model is based on a microscopic transport theory where there is phase space description of the reactions and resonance decays included. The AMPT is based on minijet formation. In this paper we present the measurement of elliptic flow (v_2) of phi-meson and hyperon in Au-Au collisions at lab energies 10 GeV, 25 GeV and 35 GeV.

References

- [1] S.A. Bass et al., Prog. Part. Nucl. Phys. 41 255 (1998).
- [2] Zi-Wei Lin et al., Phys. Rev. C 72, 064901 (2005)

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