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Probing the nucleon effective mass with n/p ratios using Bayesian analysis

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Abstract: In this study, we analyze the experimental data from heavy-ion collision (HIC) using ^{40}Ca and ^{48}Ca beams at 140 MeV/u impinging on ^{58}Ni and ^{64}Ni targets. The experimental set up includes a charged particle array HiRA10 and the neutron wall array, LANA. From the charged particles, we construct coalescence invariant ratios of pseudo-neutrons and protons as a function of transverse momentum. The data is compared with nuclear transport model predictions using Bayesian analysis technique to infer the correlations of nucleon effective masses.

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Classification de Session: Nuclear Dynamics : from fission to multifragmentation

Classification de thématique: Nuclear Dynamics : from fission to multifragmentation: Probing the nucleon effective mass with n/p ratios using Bayesian analysis