

Comparison of Spectra, Strangeness, Flow and HBT Results from STAR Au + Au $\sqrt{s_{NN}} = 0.4$ GeV Fixed-Target and AGS Au + Au Fixed-Target Collisions

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The goal of the Fixed-Target Program at STAR (FXT) is to extend BES-II to energies below 7 GeV and to baryon chemical potentials, μ_B , up to about 720 MeV. Studying these lower energy collisions could clarify the behavior of several observables studied during BES-I that suggest a transition from a parton-dominated regime to a hadron-dominated regime. In this talk we present results from STAR's first dedicated fixed-target test run conducted in 2015 with Au + Au collisions at $\sqrt{s_{NN}} = 4.5$ GeV. Directed flow of protons, elliptic flow of identified hadrons, HBT radii, as well as spectra of π , K_S^0 , and Λ are compared with previous results from the Alternating Gradient Synchrotron (AGS) experiments. These results demonstrate that STAR has good event reconstruction and particle identification capabilities for this fixed-target configuration. The implications of these results on future STAR fixed-target physics runs are discussed.

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