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Recent results from NA61/SHINE experiment at CERN SPS: open charm mesons and enhanced production of charged over neutral kaons in nucleus-nucleus collisions

The NA61/SHINE at the CERN SPS is a multipurpose fixed-target experiment for charged and neutral hadron measurements. Its research program includes studies of strong interactions as well as reference measurements for neutrino and cosmic-ray physics. The advantage of the NA61/SHINE spectrometer over collider experiments is the coverage of nearly the entire forward hemisphere for charged hadrons. Additionally, a large part of the backward hemisphere is covered for specific unstable neutrals. The presentation summarizes a selected set of recent results. Particular attention is devoted to the direct measurement of open charm production in nucleus-nucleus collisions at SPS energies. The enhanced production of charged kaons with respect to the neutral ones, observed in Ar+Sc reaction, is up to now not understood by models accounting for the known isospin violation effects.

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