

Study of phi-meson production in hadronic and nuclear collisions at very high energies

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We expose the experimental and theoretical situation of the interesting case of the production of phi mesons in up to very high energy collisions of hadrons on both nucleon and nuclear targets, and we present a quantitatively good theoretical description of the corresponding experimental data, based on the formalism of the well established Quark-Gluon String Model, that has proved to be valid for a wide energy range. All the available experimental data for phi-meson production in hadron-nucleon collisions on the spectra of secondary phi, and on the ratios of phi/pi(-) and phi/K(-) production cross sections, as well the corresponding ones for phi-meson production on nuclear targets, are considered. In particular, it is shown that the production of phi-mesons on nuclear targets presents unusually small shadow corrections for the inclusive density in the central rapidity region.

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