

DESY Seminar

Tuesday, 08.07.2008, 17h

DESY Hörsaal

Exploring the spin structure of the proton in high-energy polarized pp collisions

Bernd Surrow (MIT)

The PHENIX and STAR experiments at the Relativistic Heavy-Ion Collider at Brookhaven National Laboratory are carrying out a spin physics program in high-energy polarized proton collisions at $\sqrt{s} = 200\text{GeV}$ and eventually at $\sqrt{s} = 500\text{GeV}$ to gain a deeper insight into the spin structure and dynamics of the proton. These studies provide fundamental tests of Quantum Chromodynamics. One of the main objectives of the spin physics program at RHIC is the precise determination of the polarized gluon distribution function. Recent results will be shown on the measurement of the longitudinal double spin asymmetry A_{LL} . Those measurements are compared to NLO pQCD calculations based on different assumptions for the gluon polarization in the proton. Future prospects such as the W physics program at RHIC to constrain polarized anti-quark distributions will be discussed at the end along with the plan for the construction of a new electron-proton/ion collider (EIC) facility.

- Tea and cookies will be served at 16.45h in the lobby
- After the seminar there is a chance for private discussions with the speaker over wine and pretzels