



Contribution ID : 60

Type : **Oral talk**

Spin Physics Detector (SPD) at NICA

Friday, 2 December 2022 16:30 (30)

The Spin Physics Detector (SPD) at the Nuclotron based Ion Collider Facility (NICA) is a multi-purpose experiment designed to study nucleon spin structure in the three dimensions. With capabilities to collide polarized protons and deuterons of energies up to 27 GeV with luminosity up to $10^{32} \text{cm}^{-2} \text{s}^{-1}$ for proton (an order of magnitude less for deuteron), the experiment will allow measurements of cross-sections and spin asymmetries sensitive to the unpolarized and various polarized (helicity, Sivers, Boer-Mulders) gluon distributions inside the nucleons. Results from the SPD will be complementary to the present high energy spin experiments at the RHIC facility or future experiments like the EIC(BNL) and AFTER(LHC). It will provide data in moderate and large Bjorken-x for much improved global analyses of spin structures of the basic building blocks of Nature. With polarized deuteron collisions, SPD will be the unique laboratory for probing tensor polarized gluon distributions. In addition, there are also possibilities of colliding other light nuclei like Carbon at reduced collision energy and luminosity at the first stage of the experiment.

Primary author(s) : DATTA, Amaresh (JINR)

Presenter(s) : DATTA, Amaresh (JINR)

Session Classification : Plenary

Track Classification : High energy physics: experiment