



Département de Physique Nucléaire

Séminaires du DPhN

Vendredi 26/06/2015, 11:00-12:00

Bat 703, p 45, CEA Saclay, Orme des Merisiers

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## **Spin Physics Experiments at NICA-SPD with polarized proton and deuteron beams**

Measurements of asymmetries in the lepton pair (Drell-Yan) production in collisions of non-polarized, longitudinally and transversally polarized protons and deuterons beams are suggested to be performed at the collider NICA of the JINR using the specialized Spin Physics Detector (SPD). These measurements can provide an access to all leading twist collinear and Transverse-Momentum Dependent distribution functions of quarks and anti-quarks in nucleons. The measurements of asymmetries in production of  $J/\psi$  and direct photons, which supply complimentary information on the nucleon structure, will be performed simultaneously with Drell-Yan data using dedicated triggers. The set of these measurements permits to test the quark-parton model of nucleons at the QCD twist-2 level with minimal systematic errors. Physics motivations and possible layout of SPD will be presented as well as the plans for polarized beams at NICA.