THE MEASUREMENT OF MATVEEV-MURADYAN-TAVKHELIDZE-DRELL-YAN PROCESSES WITH SPD DETECTOR AT NICA. BACKGROUND STUDIES.

BATOZSKAYA V.[(a)],

[(a)] JOINT INSTITUTE FOR NUCLEAR RESEARCH

SPD NICA project is under preparation at second interaction point of the NICA collider. The purpose of this experiment is the study of the nucleon spin structure with high intensity polarized light nuclear beams. It is argued that the design of the collider can allow us to reach with proton beams a very high collision energy up to $\sqrt{s} \sim 26$ GeV with average luminosity up to $10^{30} - 10^{31}$ $\sqrt{s}$. At the same time, the respective number for deuteron collisions is also quite considerable: at a collision energy per nucleon up to $\sqrt{s} \sim 12$ GeV, the average luminosity reaches up to $10^{29} - 10^{30}$ cm^2/s. It is of great importance that both proton and deuteron beams can be effectively polarized. The preliminary design of the SPD detector for spin physics studies is based on the requirements imposed by the Drell-Yan and J/ψ productions studies. The some sources of background to the Drell-Yan process are the combinatorial background from decays (π^0, η) and gamma contribution and the decays of charmed-mesons, which are studied now.

E-mail: warwara.us@gmail.com