

New detector for studies of cumulative processes in hadron collisions in NA61/SINE at the SPS

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The increase of luminosity of the SPS beams expected after 2020 allows to consider the investigations of rather rare processes. In particular, a so-called cumulative particle production can be studied in hadron collisions by measurements of secondary particle yields in the kinematically forbidden region. It could be considered either as a result of hard parton collisions with some large density multi quark configuration or due to the formation of heavy baryonic resonances. Studies in the backward hemisphere in the fixed target experiment should bring the event-by-event data that could be used, along with those from the forward region, in the correlation analysis, thus giving new constraints to the models.

In this report the design, technology and the first GEANT simulations of new detector are presented and discussed.

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Primary author(s) : Ms. LAZAREVA, Tatiana (Saint-Petersburg State University)

Co-author(s) : Ms. MERZLAYA, Anastasia (Saint-Petersburg State University); Mr. NESTEROV, Dmitrii (Saint-Petersburg State University); Dr. FEOFILOV, Grigory (Saint-Petersburg State University); ALTSYBEEV, Igor (St.Petersburg State University); Mr. PROKOFEV, Nikita (Saint-Petersburg State University); Dr. MALTSEV, Nikolay (Saint-Petersburg State University); Dr. KONDRATIEV, Valery (Saint-Petersburg State University); Dr. ZHEREBCHEVSKY, Vladimir (Saint-Petersburg State University)

Presenter(s) : Ms. LAZAREVA, Tatiana (Saint-Petersburg State University)

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