Contribution ID: **164** Contribution code: **S05-HEP-102** Type: **Oral presentation**

K^0_S production in p+p interactions measured by NA61/SHINE

Tuesday, 30 August 2022 14:35 (10 minutes)

NA61/SHINE (SPS Heavy Ion and Neutrino Experiment) is a fixed-target experiment at the CERN Super Proton Synchrotron. One of its research projects is the systematic measurement of hadron production in proton+proton, proton+nucleus and nucleus+nucleus interactions. These studies are performed in particular to study the predicted signals of the onset of deconfinement and search for the critical point of strongly interacting matter. For this investigation, a two-dimensional scan in beam momentum (13A -150A GeV/c) and nuclear mass number of colliding nuclei was performed.

K^0_S are detected and measured by NA61/SHINE by means of their weak decays into $\pi^+ + \pi^-$ with a branching ratio of 69.2\%. This contribution reviews recent results on the production of K^0_S in *p+p* interactions measured by NA61/SHINE. The rapidity and transverse momentum distributions of K^0_S will be presented and compared to transport model predictions. The mean multiplicity of studied K^0_S mesons will be compared with the available data in the range $\sqrt{s_{NN}} = 3 - 32$ GeV.

Primary author: Dr CIRKOVIC, Marjan (Faculty of Physics, University of Belgrade)

Presenter: Dr CIRKOVIC, Marjan (Faculty of Physics, University of Belgrade)

Session Classification: S05 High Energy Physics (Particles and Fields)

Track Classification: Scientific Sections: S05 High Energy Physics (Particles and Fields)