Contribution ID: **459** Type: **Parallel**

Recent results from NA61/SHINE strong interaction program.

NA61/SHINE is a multipurpose fixed-target experiment located at CERN SPS. Its research program includes studies of strong interactions as well as reference measurements for neutrino and cosmic-ray physics.
One of its main goals is to study the phase diagram of strongly interacting matter.
For this purpose, a unique two-dimensional scan in beam momentum 13A-150(8)A GeV/c and the system size, including p+p, p+Pb, Be+Be, Ar+Sc, Xe+La, and Pb+Pb collisions, was performed. The main goal of the strong interaction program is to understand the onset of deconfinement and locate the critical point of strongly interacting matter.

The latest results from the NA61/SHINE strong interaction program will be reviewed, focusing on hadron spectra and fluctuations in various collisions. The new results on strangeness production, particularly the ratio of positively charged kaons to pions, will be presented, including the first results for Pb+Pb collisions at 30A GeV.
The presentation will also review the recent NA61/SHINE results on proton and negatively charged hadrons intermittency to search for the QCD critical point. The NA61/SHINE data will be compared with other experimental results and predictions from theoretical models like EPOS, PHSD, UrQMD, and confronted with Power-law model predictions. The discussion will also cover the first D0 + anti-D0 measurement in heavy-ion collisions at SPS energies and an unexpected excess of charged over neutral K meson production in central Ar+Sc collisions. Finally, NA61/SHINE plans will be presented.

Secondary track

T05 - QCD and Hadronic Physics

Author: STEFANEK, Grzegorz (Jan Kochanowski University)

Session Classification: Joint T04+T05

Track Classification: T04 - Ultra-relativistic Nuclear Collisions