



Contribution ID: 377

Type: Poster

## New results on charged hadron production in Pb+Pb interactions at NA61/SHINE experiment

The study of particle production in heavy ion collisions provides an opportunity to investigate both the hadronic and deconfined phases of strongly interacting matter and the transition between them. By measuring changes in particle yields as a function of energy, one can explore the properties of matter at the phase transition. The NA61/SHINE experiment, a fixed-target project at the SPS facility at CERN, conducted a two-dimensional scan of the phase diagram of strongly interacting matter by varying both the beam momentum (from 13 to 150/158 GeV/c) and the size of the colliding ions (p+p, p+Pb, Be+Be, Ar+Sc, Xe+La, Pb+Pb). This approach offers a unique opportunity to deepen our understanding of the phase transition.

A key objective of the NA61/SHINE program is to investigate the properties at the onset of deconfinement (specifically, the energy threshold for the transition from a hadron gas to quark-gluon plasma) by measuring the strangeness-to-entropy ratio in the produced system. This presentation will discuss the latest results on charged hadron production, focusing on kaons, pions, and their ratios in Pb+Pb interactions. The NA61/SHINE results will be compared with available world data, providing a comprehensive overview of the current understanding of the phase transition.

### Category

Experiment

### Collaboration (if applicable)

NA61/SHINE, CERN

**Author:** SHAH, Syed Uzair Ahmed (Jan Kochanowski University (PL))

**Presenter:** SHAH, Syed Uzair Ahmed (Jan Kochanowski University (PL))

**Session Classification:** Poster session 1

**Track Classification:** QCD phase diagram & critical point