ICRC 2025 - The Astroparticle Physics Conference



Contribution ID: 714

Type: Poster

Measurements of the charge-changing cross sections for fragmentation process of light and intermediate nuclei at 13A GeV/c with the NA61/SHINE experiment.

Nuclear fragmentation cross sections are important parameters for the modeling of the propagation of cosmic rays through the Galaxy. These types of measurements at energies above 10A GeV are part of the NA61/SHINE experiment's cosmic-ray program. The high quality of the experiment detector was proved during pilot studies conducted in 2018. The second measurement campaign was carried out in the autumn of 2024. Between the two measurement campaigns, the detector system was upgraded, which allowed for a higher rate of data collection. This improvement enabled the registration of a large number of events (over 40 million recorded), allowing the study of reactions induced by a broad range of beam ions, from lithium up to silicon.

This contribution will focus on a charge-changing cross section measurements and will discuss the methodology developed during the pilot run, as well as the improvements based on new data and the modernized detection system.

Collaboration(s)

NA61/SHINE

Author: URBANIAK, Marta Anna (University of Silesia (PL))
Presenter: URBANIAK, Marta Anna (University of Silesia (PL))
Session Classification: PO-1

Track Classification: Cosmic-Ray Direct & Acceleration