

Analysis of nuclear track emulsion exposed by relativistic hadrons

Tuesday 2 July 2024 15:00 (15 minutes)

The recent results of exposure of a nuclear track emulsion (NTE) in a mixed hadron beam is discussed. The purpose of this work is to search and measure the length of short-range tracks of alpha particles produced in the interactions of hadrons and nuclei from the composition of a NTE. Modeling the ionization losses of alpha particles in the substance of a NTE in the SRIM program made it possible to reconstruct their kinetic energies in each found event. Reconstruction of tracks in full 4π -geometry makes it possible to reconstruct the emission angles of alpha particles with high accuracy. In this way, combinatorial spectra of invariant masses of systems of (2-3) alpha particles in the event have been obtained. The angular and energy correlation of the produced alpha particles is presented.

Section

Heavy ion collisions at Intermediate and high energies

Primary author: Dr NATARAJAN, MARIMUTHU (Joint Institute for Nuclear Research)

Co-authors: ZAITSEV, Andrei (JINR, LHEP); ARTEMENKOV, Denis (JINR); ZARUBIN, Pavel (JINR Laboratory of High Energy Physics)

Presenter: Dr NATARAJAN, MARIMUTHU (Joint Institute for Nuclear Research)

Session Classification: Heavy ion collisions at Intermediate and high energies