

DISSOCIATION FEATURES OF RELATIVISTIC ^{10}C NUCLEI IN NUCLEAR TRACK EMULSIONS

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The phenomenon of multiple fragmentation of relativistic nuclei can serve as a source of coherent ensembles of the lightest nuclei and nucleons. In this respect only nuclear track emulsion providing 0.5 μm spatial resolution allow one to follow tracks of all relativistic fragments in forward cone defined by a nucleon Fermi motion [1]. Nuclear track emulsion is exposed to a mixed beam of ^{12}N , ^{10}C and ^7Be nuclei formed by means of primary 1.2 A GeV ^{12}C nucleus beam at Nuclotron, JINR. The scanning along the total length of primary tracks in emulsion layers that was equal to 924.7 m revealed 6144 inelastic interactions. Dissociation of 1.2 A GeV ^{10}C nuclei in nuclear track emulsions is studied [2, 3]. It is shown that most precise angular measurements provided by this technique play a crucial role in the restoration of the excitation spectrum of the $2\alpha + 2p$ system. Strong contribution of the cascade process $^{10}\text{C} \rightarrow ^9\text{B} \rightarrow ^8\text{Be}$ identified. Our experimental data compared with Geant4 + QMD modeling results.

1. Web site of the BECQUEREL Project // <http://becquerel.jinr.ru> (2019).
2. D.A.Artemenkov *et al.* // Phys. At. Nucl. 2010. V.73. P.2103.
3. D.A.Artemenkov *et al.* // Few-Body Syst. 2011. V.50. 259-261.