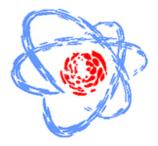
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Structure of B-10 and C-11,12 nuclei in relativistic dissociation

In the framework of the BECQUEREL Project in JINR the nuclear track emulsion (NTE) technique allowed one to investigate clustering of the nuclei Li, Be, B, C and N in their relativistic dissociation. With an unsurpassed spatial resolution (about 0.5 μ m) NTE provides a complete observation of tracks starting from fission fragments and down to relativistic particles. Fragment tracks observed in NTE is a "building blocks" the light nuclei include the lightest clusters having no excited states, namely, α -particles, tritons, 3^hHe nuclei, and deuterons. A pair and triples of protons and α -particles can constitute the unstable 8^hBe and 9^hB. Analysis of NTE exposed by 11,12^hC and 10^hB and investigation the role of unstable 8^hBe and 9^hB nuclei will be presented.

Summary

Contribution of the unstable nuclei 8^Be and 9^B into dissociation of relativistic nuclei 10B and 11,12^C is under study on the basis of the nuclear track emulsion exposed to secondary beams of the JINR Nuclotron. In a charge state distribution of fragments the share of the channel 10B \rightarrow 2He + H is 77%.

On the basis of measurements of fragment emission angles it is determined that unstable nucleus 8^hBe(g.s.) manifests itself with a probability of $(25 \pm 5)\%$ where $(14 \pm 3)\%$ of them occur in decays of the unstable nucleus 9^hB. Channel Be + H appeared subdued accounting for about 2% of "white"stars. A probability ratio of the mirror channels 9^hB + n and 9^hBe + p is estimated to be 6 ± 1 . 8^hBe(g.s.) decays are presented in 24 \pm 7% of 2He + 2H and 27 \pm 11% of the 3He of the 11^hC "white"stars. 9^hB decays are identified in "white"stars 11C \rightarrow 2He + 2H constituting 14% of the 11^hC "white"stars.

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