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Study of ground states of 10,11B, 10,11C nuclei by Feynman's continual integrals method

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The wave functions of the ground states of few-body nuclei ^{10,11}B, ^{10,11}C were calculated by Feynman's continual integrals method in Euclidean time [1–3]. The algorithm of parallel calculations was implemented in C++ programming language using NVIDIA CUDA technology [4]. Calculations were performed on the NVIDIA Tesla K40 accelerator installed within the heterogeneous cluster of the Laboratory of Information Technologies, Joint Institute for Nuclear Research, Dubna.
The studied isotopes are considered as cluster nuclei with the following configurations: ^{10}B (2α + n + p), ^{11}B (2α + n + n + p), ^{10}C (2α + p + p) and ^{11}C (2α + n + p + p). Results of the cluster model were compared with results of the shell model of deformed nuclei [5, 6].

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