

PECULIARITIES OF THE DENSITY
DISTRIBUTION IN HALO NUCLEI

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S u m m a r y

Within the framework of the microscopic approach using the flexible base of variational functions of the model of polarized orbitals, the detailed analysis of the nuclear density distribution in ^{11}Be halo nuclei is carried out. It is shown that the approach to the many-particle problem under consideration enables one to describe the most essential features of the density distribution in ^{11}Be in agreement with the experiment. Taking into account the results of specific calculations and exceptionally high reliability of experimental data on the nuclear density distributions in the ^{11}Be -“tail”, we should regard about the discovery of halo nuclei of the 1-st kind as the discovery of new structures with the sizes ranging up to tens of fm and the densities being thousands and more times less than the nuclear one.