

## The theoretical study of the halo nucleus of $^{11}\text{Be}$

In this work, the energy levels of the halo nucleus of  $^{11}\text{Be}$  are calculated, taking into account the effect of an external magnetic field. The  $^{11}\text{Be}$  nucleus is regarded as a neutron halo consisting of  $^{10}\text{Be}$  core and one neutron. Also the root-mean-square radius of the  $^{11}\text{Be}$  nucleus is numerically calculated in the ground state. This work is the initial stage of the work on the investigation of the breakup of halo nuclei in the quantum-mechanical approach.

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