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Study on halo structure of Helium-6 nuclei

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The cosmos consists of various elements, which have many different isotopes. Some of those isotopes are stable nuclei, but some of those are radioactive nuclei. However, some radioactive isotopes have exotic properties, and these nuclei cannot be explained by the shell model. In this work, we studied the light neutron-rich nuclei, He-6, by using the halo structure model. We applied the Wood-Saxon potential and the hyperbolic cosine potential to calculate the nuclear density. We also compared our calculation results to the experimental results of He-6.

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