

Nuclear states with abnormal radii

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The radius of a nuclear state is one of the most important its characteristics. Presently there were developed some methods exploiting special features of the nuclear reactions leading to the short – lived excited states and allowing determination of their radii. Comparison of the data with the predictions of different theoretical models led to critical evaluation of the latter and getting a series of new and unexpected results. Two problems, an ambitious popular alpha-particle condensation model and formation of nucleon halos in the isobar – analog states were discussed here. It was shown that one might speak no more than about the “ghost” of condensation in the first case. As to the second one some open problems appear, and further studies are needed.

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