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Type: Oral talk (15 min + 5 min questions)

## PRELIMINARY DATA OF THE EXPERIMENT ON THE STUDY OF PROTON-PROTON CORRELATIONS IN THE d + 1H $\rightarrow$ p + p + n REACTION

A value of a neutron-neutron scattering length was obtained in different experiments. It can be observed that there is a spread in values of a neutron-neutron scattering length  $a_{nn}$ . In [1] it was suggested that such spread may be explained by influence of 3N-forces. It can be assumed that pp-scattering length and energy of  ${}^{1}S_{0}$  virtual state extracted in the  $d + {}^{1}H \rightarrow n + p + p$  reaction will be influenced by 3N-forces and will differ from the value obtained in the experiment with two protons in a final state. To test the assumption, in INR RAS the study of the  $d + {}^{1}H \rightarrow n + p + p$  reaction is carried out.

In current work a processing of data from several measurements to study the  $d + {}^1 H \rightarrow n + p + p$  reaction with registration of protons from the breakup of a *pp*-system and a recoil neutron is discussed. The proton energy spectrum was obtained in these measurements. A comparison of obtained experimental spectrum with the simulated ones that correspond to different values of virtual *pp*-state energy was carried out. As the comparison result the estimation of possible value of proton-proton energy state was done.

1. E.S. Konobeevski, S.V. Zuyev, A.A. Kasparov, V.I. Kukulin, V.M. Lebedev, M.V. Mordovskoy, V.N. Pomerantsev, and A.V. Spassky // Phys. Atom. Nucl. 81, 595 (2018).

## The speaker is a student or young scientist

Yes

## Section

1. Experimental and theoretical studies of nuclear reactions

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