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## Formation of the multi-neutron systems $2n$ and $3n$ in the reactions of stopped pion absorption

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The formation of the multi-neutron systems  $2n$  and  $3n$  was studied in the reactions of stopped pion absorption by  ${}^9\text{Be}$  nuclei. Measurements were carried out at low energy pion channel of LANL using two-arm multilayer semiconductor spectrometer. The bound states of  $2n$  and  $3n$  have not been found. In the missing mass spectrum of the reaction  ${}^9\text{Be}(\pi^-, t^4\text{He})$ , a peak was observed near the threshold, which is due to the formation of the s-wave virtual state of the dineutron. Indications of the existence of two states of the  $3n$  with resonant parameters ( $E_r \approx 5$  MeV,  $\Gamma < 3$  MeV and  $E_r \approx 13$  MeV,  $\Gamma < 3$  MeV) were first obtained in the reactions  ${}^9\text{Be}(\pi^-, d^4\text{He})$  and  ${}^9\text{Be}(\pi^-, t^3\text{He})$ . Comparison with theoretical and experimental results obtained by other authors was performed.

**Primary author(s)** : Dr. CHERNYSHEV, Boris ( National Research Nuclear University MEPHI); Dr. GUROV, Yuri (National Research Nuclear University MEPHI); Dr. SANDUKOVSKY, Vyacheslav (Joint Institute for Nuclear Research); Dr. TEL'KUSHEV, Mikhael (National Research Nuclear University MEPHI)

**Presenter(s)** : Dr. CHERNYSHEV, Boris ( National Research Nuclear University MEPHI)

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