

Charged particle evaporation in the stopped pion absorption reactions.

Wednesday, 4 October 2017 16:00 (15)

The results of the investigation on spectra and yields of hydrogen isotopes formed in the reaction of the stopped pion absorption by atomic nuclei are presented. The study is based on the unique data on charged particle formation following pion absorption on 17 target nuclei in the mass range $6 < A < 209$. The experiment was conducted on the PNPI synchrocyclotron using the semiconductor spectrometer.

In our previous works we proposed a model that allowed us to satisfactorily reproduce spectra of the charged particles (p, d, t) formed in the pion absorption on medium and heavy nuclei. In addition we managed to reproduce primary and pre-equilibrium parts of yields.

In the present work we deeply analyze evaporative spectra and yields of p,d,t formed in the reaction. It is shown that the equilibrium temperature values obtained through the usage of our model are in agreement with the values obtained in various experiments. We also discuss the behaviour of A-dependences of evaporative yields and consider possible contributions of the indirect evaporation process.

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Session Classification : Nuclear Physics - 2

Track Classification : Nuclear physics