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Search for ^{10}He in the stopped pion absorption $^{14}\text{C}(\pi^-, p^3\text{He})X$

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The formation of the ^{10}He states was studied in the reaction of stopped pion absorption $^{14}\text{C}(\pi^-, p^3\text{He})X$. Measurements were carried out using two-arm multilayer semiconductor spectrometer and “radioactive” target consisting of 76% ^{14}C and 23% ^{12}C . The contribution of uncontrolled impurities in the target was $\leq 1\%$. In order to determine the contribution of the ^{12}C impurity measurements were performed on an isotope pure carbon ^{12}C target. An indication on the excitation state with $E_x \sim 6$ MeV was observed in missing mass spectrum of $^{14}\text{C}(\pi^-, p^3\text{He})X$ reaction. Comparison with theoretical and experimental results obtained by other authors was performed.

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