

Experimental study of halo structure and neutron correlations in ${}^6\text{He}$ nuclei at CRIB via elastic and transfer reaction: $p+{}^6\text{He}$

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The ${}^6\text{He}$ nucleus, as the lightest halo nucleus described well by an alpha particle and two weakly bound neutrons, which can be used as a reference for understanding other complex halo nuclei. In order to investigate the continuum effect of ${}^6\text{He}$ excited state ($2+$) on elastic scattering and further explore the ${}^6\text{He}$ halo structure and the correlation of two neutrons within ${}^6\text{He}$, the ${}^6\text{He} + p$ reactions were performed at CNS RI beam separator (CRIB). Two MWDC were used to track the ${}^6\text{He}$ beam, the reaction products of interest were detected by an array of 6 dE-E silicon telescopes covering 10-70 degrees in the lab. system. In this talk, the experiment and preliminary analysis results will be discussed.

Presentation type

Oral presentation

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