

Nuclear Halo-Like Phenomena of ${}^6, {}^8\text{He}$ and Nuclear Short Range Correlation

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Abstract: Based on the nuclear short range correlation in a halo-like nucleus, theoretical analysis of the experimental cross sections for small-angle elastic $p-{}^4, {}^6, {}^8\text{He}$ scattering at the energy of about 0.7 GeV has been performed in the framework of Glauber multiple scattering theory. Our theoretical calculations reproduce the corresponding experimental data quite successfully. These good agreements confirm that the nuclear halo-like phenomena may originate from the short range correlation between nucleons in a halo-like nucleus.

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Key words: halo-like phenomena, nuclear short range correlation, Glauber multiple scattering theory

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