

Observation of positive parity wave in low energy spectrum of ${}^7\text{He}$

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The ${}^7\text{He}$ nucleus was studied using the ${}^6\text{He}(\text{d}, \text{p}){}^7\text{He}$ reaction in inverse kinematics at 29 A·MeV ${}^6\text{He}$ beam delivered by the ACCULINNA-2 fragment separator (FLNR, JINR). The registration of neutrons from ${}^7\text{He} \rightarrow \text{n} + {}^6\text{He}$ decay made it possible to derive the ${}^7\text{He}$ ground state parameters, the decay energy of 0.38(2) MeV and width of 0.11(3) MeV. The forward-backward asymmetry in the neutron emission from unbound states of ${}^7\text{He}$ has been found. That implies the presence of a positive parity wave in the ${}^7\text{He}$ spectrum.

Section

Experimental and theoretical studies of nuclear reactions

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