

INVESTIGATION OF EXCITED
LEVELS OF ${}^6\text{Li}$ NUCLEUS
FROM THE THREE-PARTICLE
 ${}^3\text{H}(\alpha, d\alpha)n$ REACTION

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S u m m a r y

In the kinematically complete experiment with the use of a beam of α -particles with an energy of 67.2 MeV and a titanium-tritium target, the three-particle ${}^3\text{H}(\alpha, d\alpha)n$ reaction is investigated. In the upper branches of the d - α coincidence loci obtained for the pairs of the registration angles of deuterons and α -particles, $15^\circ - 15^\circ$; $27.5^\circ - 15^\circ$; and $21^\circ - 15^\circ$, three excited levels of ${}^6\text{Li}$ nucleus with excitation energy from 7 to 14 MeV are observed. It is assumed that the process is sequential. On its first step, the unstable levels of nucleus ${}^6\text{Li}$ are formed, which decay then into $d + \alpha$. The fitting gave the energy positions $E_{\text{exc}} = 8.81(0.13)$; $11.31(0.38)$; $13.51(0.38)$ MeV and widths $\Gamma = 1.84(0.71)$; $1.28(1.09)$; $1.45(1.52)$ MeV, respectively, for the three resonance levels observed in the experiment.