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RESONANCE STRUCTURE OF NEUTRINO CAPTURE CROSS SECTION BY 100Mo NUCLEI

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The work presents calculations of the solar neutrino capture cross-section σ(Eν) by 100Mo nuclei. In calculations experimental data on strength function S(E), received in charge-exchange reactions (3He, t) [1, 2] were used. Within the framework of the self-consistent theory of finite Fermi systems, the charge-exchange strength function S(E) for this nucleus is calculated. The influence of the resonance structure of the strength function S(E) on the calculated cross section for the capture of solar neutrinos was investigated. The influence of the Gamow-Teller [3], analog [4] and pygmy resonances [5] is taken into account, and the contributions of each resonance to the cross section for the capture of solar neutrinos σ(Eν) by the 100Mo nucleus was distinguished. The question of changing the neutrino capture cross section due to taking into account the effect of neutron emission from the daughter nucleus is considered. The contribution of all components of the solar neutrino spectrum is calculated. It was noted that the capture of solar neutrinos by the 100Mo nucleus is a background process in the study of double beta decay of this nucleus.
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