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SOLAR NEUTRINO CAPTURE CROSS-SECTION FOR Ge-76 NUCLEI

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The calculations of the capture cross section of solar neutrinos σ (E) by the 76Ge nucleus are presented. The calculations used experimental data on the strength function S (E) obtained in the charge-exchange reaction of 76Ge (3He, t) 76As. The effect of the resonant structure of the strength function S (E) on the calculated cross section σ (E) was investigated. It is shown that only a giant Gamow-Teller resonance contributes about 20%, and an even greater contribution is made by excitations located lower in the continuous part of the spectrum. These contributions should be taken into account in the calculation of background events in experiments on double beta decay of the GERDA type (LEGEND).

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