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Gamow-Teller Resonances in the solar neutrino capture cross-section and charge-exchange strength function for 76Ge nuclei.

Friday, May 31, 2019 12:00 PM (30 minutes)

The effect of the GT-resonance structure of charge-exchange strength function in the $^{76}Ge(^{3}He,t)^{76}As$ reaction on the solar neutrino capture cross section was examined. It is shown that accounting of GT-resonances increase solar neutrino capture rate more then 20%. Theoretical strength functions for ^{76}Ge and ^{74}Ge were calculated in accordance with the framework of the self-consistent theory of finite Fermi systems. This results could help to decompose experimental strength function and itemize some low-lying excitation states and pygmy resonances. Also we demonstrate significant role of quenching effect for cross section calculations. Accurate counting of neutrino capture rate could change estimations on background events index in experiments on double beta decay search (like LEGEND).

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Session Classification: Session (Chair: J.Suhonen)