

Dynamic three-quasiparticle correlations in the ground state

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Earlier, three-quasiparticle correlations in the ground state (GSC_3) were studied in [1,2] for static characteristics in the calculations of quadrupole moments in first excited 2^+ and 3^- states of Sn isotopes. Here we discuss GSC_3 for transitions with the energy 0 between these excited states. Calculations were performed for a large number of Sn isotopes. It was shown that, similar to the [1,2,3] results, and to the contrary to GSC_2 of the RPA case, GSC_3 give a considerable contribution to the B(E1) values for transitions between first excited 2^+ and 3^- states. However, there is a specificity for the pairing case: it turned out that here the GSC_3 role is decreased as compared with the static case [1,2], but nevertheless it is rather noticeable. A comparison with the similar physical problems within the Quasiparticle-Phonon Model was performed.

1. D. Voitenkov, S. Kamerzhiev, S. Krewald, E.E. Saperstein and S.V. Tolokonnikov, Phys. Rev. C 85, 054319 (2012).
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3. М. И. Шитов, Д. А. Войтенков, С. П. Камерджиев, С. В. Толоконников, Ядерная физика, том 85, 1 (2022).

The speaker is a student or young scientist

Yes

Section

1. Nuclear structure: theory and experiment

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