CALCULATION OF TWO NEUTRINO DOUBLE BETA DECAY NUCLEAR MATRIX ELEMENTS FOR ^{128,130}Te

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ABSTRACT

In this study, the two neutrino double beta decay nuclear matrix elements for ^{128,130}Te are calculated within QRPA approach by considering the charge exchange spin spin interaction in the particle-particle channel among nucleons. Based on Pyatov-Salamov method [1], the charge exchange effective interaction constant is found from the condition that the Gamow-Teller operator is commutative with the central part of the nuclear Hamiltonian. The comparison of our results obtained by using this method with the results of the schematic spin isospin residual interaction model ($\chi_{GT}=(\sigma\sigma)(\tau\tau)$)[2] and the corresponding experimental values [3,4] is presented in the following table.

GEÇİŞLER	[2]			Our results			EXP
	Fermi	GT	Total	Fermi	GT	Total	
^{128}Te-^{128}Xe	0.005	0.727	0.732	0.0017	0.0194	0.021	0.025[3]
^{130}Te-^{130}Xe	0.0006	0.587	0.588	0.0016	0.0167	0.018	0.017[3] 0.032[4]

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