β-DECAY ^{65}Ni$\rightarrow$^{65}Cu

Kurteva A.A.[1], Mitroshin V.E.[2]

[1]*Institute for Nuclear Research, Kiev, Ukraine;* [2]*Kharkov National University, Ukraine*
E-mail: kurteva@ukrpost.ua

β^--decay ^{65}Ni$\rightarrow$^{65}Cd has been described by means of the method offered in [1]. Quasiparticle and multy-phonon states (up to ten phonons) of main band of even-even core, as well as influence of vacuum fluctuations of quasiparticles to reduced probabilities of beta-transitions are taken into account.

The β transitions with maximum intensity and probability occur from the ground state of ^{65}Ni, the main contribution in which gives neutron one-particle state $f_{5/2}$, to $3/2_1^-$, $5/2_1^-$ and $7/2_1^-$ states of ^{65}Cu, the main contributions in which give the proton one-particle states $p_{3/2}, f_{5/2}$ and $p_{3/2}$ accordingly.

The comparison of experimental and calculated $\lg ft$ are present in the table.

I^π	$3/2_1^-$	$5/2_1^-$	$7/2_1^-$
E	0	1115.6	1481.8
I,%	60	10.18	28.4
$\lg ft$, exp.	6.6	6.1	4.9
$\lg ft$, cal.	6.6	6.3	4.6

The renormalization of weak interaction constants in this calculation was the same as for the nuclei with $31 < A < 231$. Hence, it does not depend of Fermi surface of nuclei, so and from Fermi and Gamow-Teller resonances.

1. I.N.Vishnevskii, G.B.Krygin, A.A.Kurteva, *et al*. // Yad. Fiz. 1994. V.57. No1. P.17.