S. N. Fedotkin

ATOMIC IONIZATION AT POSITRON ANNIHILATION AT $\beta^\text{+}\text{-}DECAY$ WITH TAKING INTO ACCOUNT SCREENING

The role of the nuclear charge screening and correctness of Born approximation for electron which is leaving atom in the process of atomic ionization at annihilation of positron with another electron of daughter's atom at β^+ -decay is studied. Processes of the different atomic shells ionization at annihilation of positron, emitted at β^+ -decay, with K-electron of daughter's atom are considered. It is shown that the screening effect is important only for shell with n=4. While corrections to the Born approximation plays the essential role for all shells. It is shown that the most probable process is related with emission of other K-electron.

Keywords: annihilation, β⁺-decay, atomic shell, K-electron, L, M, N-atomic shells, screening.