^{53}K β^-2n decay (30 ms) 2006Pe16

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong	NDS 144, 1 (2017)	1-Mar-2016

Parent: ^{53}K: E=0; J^π=(3/2$^+$); $T_{1/2}$=30 ms *5*; Q(β^-2n)=7.89×10^3 *12*; %β^-2n decay<10.0

^{53}K-Q(β^-2n): from Q(β^-)(^{53}K)=16780 *640* and S(2n)=8260 *400* (syst,2012Wa38), Q(β^-2n)=8520, ΔQ(β^-2n)=755.

^{53}K-$T_{1/2}$,J^π: From Adopted Levels in ^{53}K.

^{53}K-%β^-2n decay: %β^-2n<10% (β-γ-n coin, 2006Pe16).

2006Pe16: ^{53}K isotope produced in spallation reaction by bombarding a UC_x target by a 1.4 GeV proton beam produced by the CERN proton-synchroton booster (PSB). Spallation products analyzed using the high resolution separator (HRS). Measured Eγ, $\gamma\gamma$, β, βn coin, βnγ coin, $\beta\gamma$ coin, $\beta\gamma\gamma$. γ rays detected using two large Ge clusters from the MINIBALL array. Low energy neutrons detected using six detectors each composed of a thick BC400 plastic scintillor. High energy neutrons detected using 11 curved BC400 scintillating plastic bars from the TONNERRE array. β particles detected using a cylindrical plastic scintillator.