^{57}Sc β^- decay (13 ms) 2005Ga01,1999So20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	12-Apr-2010

Parent: ^{57}Sc: E=0.0; $T_{1/2}$=13 ms *4*; Q(β^-)=12860 *SY*; %β^- decay=100.0

^{57}Sc-$T_{1/2}$: From 2005Ga01.

^{57}Sc-Q(β^-): 12860 *830* (syst,2009AuZZ,2003Au03).

All information taken from 2005Ga01, unless otherwise stated.

2005GA01, 1999So20 (also 2003So21): ^{57}Sc produced in fragmentation of $^{76}Ge^{30+}$ beam on a ^{58}Ni target. LISE3 achromatic spectrometer used to separate fragments with magnetic rigidity tuned to optimize transmission of ^{62}V and ^{64}Cr fragments. Transmitted nuclei were identified by three Si detectors where two served for energy loss and time-of-flight measurements while the others determined their residual energies.

Measured Eγ, Iγ, Iβ, $\gamma\gamma$, $\beta\gamma$ coin, γ(t), lifetimes with four Ge detectors placed around a thick Si telescope. Half-lives determined by fitting procedure involving five parameters: half-lives of mother, daughter and grand-daughter nuclei, the β-efficiency and the background rate over the 1 s collecting time.

^{57}Ti Levels

E(level)	J^π	Comments
0.0	(5/2$^-$)	J^π: from Adopted Levels.