Adopted Levels

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

Q(β^-)=1.32×10^4 *syst*; S(n)=4.0×10^3 *syst*; S(p)=1.41×10^4 *syst*; Q(α)=−1.15×10^4 *syst* 2012Wa38

Note: Current evaluation has used the following Q record 12860 syst 3490 syst 14540 syst-11120 syst 2009AuZZ,2003Au03.

ΔQ(β^-)=830, ΔS(n)=990 *1200*, ΔS(p)=1140, ΔQ(α)=990 (syst,2009AuZZ,2003Au03).

Q(β^-n)=10180 *730*, S(2n)=7250 *1020*, S(2p)=35000 *1220* (syst,2009AuZZ,2003Au03).

1997Be70: ^{57}Sc activity produced by fragmentation of 750 MeV/nucleon beam of ^{238}U on a ^{9}Be target and subsequent mass separation in the FRS spectrometer at GSI facility. Determined production cross section for ^{57}Sc.

2005Ga01, 1999So20 (also 2003So21, 2005GaZR thesis): ^{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.

2009Cr02, 2008Ma01: production of ^{57}Sc in fragmentation of 130-140 MeV/nucleon ^{76}Ge beam with ^{9}Be target at NSCL facility.

^{57}Sc Levels

E(level)	$T_{1/2}$	Comments
0	13 ms *4*	%β^-=100; %β^-n=?; %β^-2n=? %β^-n=33, %β^-2n=0.6 (calculated,1997Mo25). J$^\pi$: 7/2$^-$ proposed from systematics (2003Au02) and calculations (1997Mo25). $T_{1/2}$: measured in 2005Ga01 (also 2003So21). Production cross section determined to be 10 nb, with a systematic error estimated to be 30% (1997Be70).