Adopted Levels

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

Q(β^-)=6160 *SY*; S(n)=5380 *SY*; S(p)=9940 *SY*; Q(α)=−2450 *SY* 2017Wa10
ΔQ(β^-)=590; ΔS(n)=640; ΔS(p)=780; ΔQ(α)=640 (2017Wa10).
S(2n)=9850 (syst) *590*, Q(β^-n)=1560 (syst) *540* (2017Wa10).

2012Ku26: ^{171}Tb produced and identified in ^{9}Be(^{238}U,F), with E=1 GeV/nucleon followed by separation using the Fragment Separator (FRS). Particle identification using event-by-event in-flight analysis of time-of-flight, energy loss and magnetic rigidity (tof-ΔE′-Bρ) measurements. Time-of-flight was measured using two plastic scintillation detectors, energy loss or deposit by ionization chambers (MUSIC), and magnetic rigidity by four time-projection chambers (TPC), which also provided energy deposit information. Measured production cross section.

2017Wu04: ^{171}Tb produced using the ^{9}Be(^{238}U,F) reaction at E=345 MeV/nucleon and identification made in the BigRIPS separator by measuring the atomic number and the mass-to-charge ratio of the ion using the tof-Bρ-ΔE method. Reaction products were transported through the ZeroDegree Spectrometer and implanted into the beta-counting system WAS3ABi which was surrounded by the EURICA array consisting of 84 HPGe detectors. Measured implanted ion-β^-(t), implanted ion-β^--γ(t) and implanted ions-γ(t); deduced $T_{1/2}$.

^{171}Tb Levels

E(level)	$T_{1/2}$	Comments
0.0	1.24 s *+9−10*	%β^-=100; %β^-n=? %β^-: Only β^- decay mode is expected. J^π: $3/2^+$ is expected from systematics of known quasiparticle states in neighboring nuclei. $T_{1/2}$: from 2017Wu04, using a fit to the implanted ion-β^--t spectrum applying the least-squares and maximum-likelihood methods; analysis included contributions from the parent, daughter and grand-daughter decays, as well as a constant background. Production σ(at 1 GeV/nucleon)=14 nb *2* (2012Ku26).