^{192}Ta β^- decay 2009Al30

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 1871 (2012)	15-Jun-2012

Parent: ^{192}Ta: E=0.0; J^π=(1,2); $T_{1/2}$=2.2 s *7*; Q(β^-)=6540 *SY*; %β^- decay=100.0

^{192}Ta-Uncertainty In Q(β^-) is 840 keV (2011AuZZ).

^{192}Ta-E: Ions presumed to be In g.s.

^{192}Ta-$T_{1/2}$: From decay-time spectra of delayed events associated with ^{192}Re Ta 219γ-gated.

^{192}Ta-J^π: Absence of evidence for a 4^+ to 2^+ γ suggests J(^{192}Ta)=1 or 2; however, statistics are inadequate to exclusively rule out population of J>2 yrast states In ^{192}W.

^{192}Ta-$T_{1/2}$: From γ(t) (2009Al30).

2009Al30: ^{192}Ta produced following projectile fragmentation of a 1 GeV/nucleon ^{208}Pb beam striking a natural Be target; residues separated and identified event by event using GSI fragment separator operated In monochromatic mode with Al wedge degrader; ions implanted into RISING active stopper (a series of double-sided Si strip detectors); γ spectrometer array (15 seven-element Ge cluster detectors); two multi-wire proportional counters for position measurement; two scintillators for time of flight and position information; two scintillators and MUSIC ionization chamber for energy loss measurements; particle identification; measured Eγ, Iγ, fragment-β-γ correlations, Iβ, parent $T_{1/2}$; total routhian surface calculations.

^{192}W Levels

E(level)†	J^π‡
0.0	0^+
219	$[2^+]$

† From Eγ.

‡ From Adopted Levels.

β^- radiations

E(decay)	E(level)	Comments
(6321 *SY*)	219	av Eβ=3023.44 calc Log *ft*: ≤5.9 if Q(β^-)=6540 *840* (from systematics) and %Iβ≥40.
(6540† *SY*)	0.0	Iβ^-: based on a comparison of the number of implants and associated $\beta\gamma$ coincidence events, 2009Al30 find No strong evidence for direct β- feeding of the ^{192}W g.s., but cannot rule out such a branch.

† Existence of this branch is questionable.

γ(^{192}W)

Eγ†	Iγ	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.‡	α#	Comments
219	100 *26*	219	$[2^+]$	0.0	0^+	[E2]	0.228	α(K)=0.1322 *19*; α(L)=0.0729 *11*; α(M)=0.0181 *3*; α(N+..)=0.00490 *7* α(N)=0.00428 *6*; α(O)=0.000607 *9*; α(P)=1.065×10^{-5} *15*

† From 2009Al30; uncertainty unstated by authors.

‡ From Adopted Levels.

Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities: Relative I_γ