Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, [1] and Jun Chen[2]	NDS 169, 1 (2020)	15-Oct-2020

Q(β^-)=5870 *SY*; S(n)=4760 *SY*; S(p)=8640 *SY*; Q(α)=−730 *SY* 2017Wa10

Estimated uncertainties (2017Wa10): 200 for Q(β^-), 280 for S(n), 360 for S(p), and 450 for Q(α).

S(2n)=11040 *200*, S(2p)=19300 *540* (syst, 2017Wa10).

2009Al30 (also 2012Al05): first identification of ^{190}Ta from projectile fragmentation of ^{208}Pb beam at 1 GeV/nucleon with ^{9}Be target at GSI facility. Fragment Recoil separator (FRS) used to separate and identify the ^{190}Ta nuclide. The secondary ions were implanted into the RISING active stopper consisting of double-sided silicon strip detectors. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma$(t).

2006Wa31 calculated total Routhian surfaces (TRS), which predicted oblate shapes induced by rotation-alignment of $\pi h_{11/2}\otimes\nu i_{13/2}$ pair of nucleons, with the oblate shape remaining yrast over a large range of angular momentum. Near-prolate high-K energy minima at $\hbar\omega\approx0$ and near-oblate energy minima at $\hbar\omega\approx0.1$ MeV are predicted from total Routhian surface (TRS) calculations in this work.

^{190}Ta Levels

Cross Reference (XREF) Flags

A ^{9}Be(^{208}Pb,Xγ):isomer

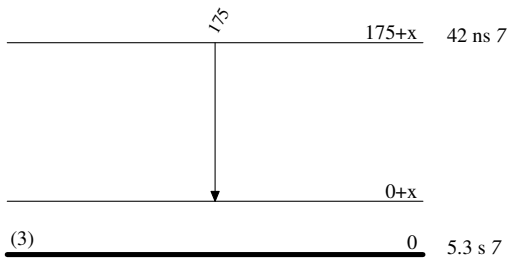
E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	(3)	5.3 s *7*		%β^-=100 E(level): the 5.3-s activity is assumed to belong to the g.s. of ^{190}Ta. J$^\pi$: spin of 3 is suggested by 2009Al30, based on possible β feeding to 454, (2$^+$) and 564, (4$^+$) states in ^{190}W, but this assignment is tentative as the evaluators consider the decay scheme of ^{190}Ta to ^{190}W as incomplete. Possible configuration=π9/2[514]$\otimes\nu$3/2[512] from systematics of neighboring nuclides, and GM rule would suggest 3$^+$. T$_{1/2}$: from $\beta\gamma$ correlated decay curve (2009Al30). Theoretical T$_{1/2}$: 1.4 s (2019Mo01) and 29 s (2016Ma12).
0+x			A	
175+x		42 ns *7*	A	%IT≈100 E(level): 200 keV *150* suggested from systematics (2017Au03). T$_{1/2}$: from γ(t) in ^{9}Be(^{208}Pb,Xγ) (2009Al30). Other: delayed γ-ray spectrum observed in time range Δt=0.03-3.33 μs (2012Al05).

$\gamma(^{190}Ta)$

E$_i$(level)	E$_\gamma$	E$_f$
175+x	175	0+x

Adopted Levels, Gammas

Level Scheme



$^{190}_{73}Ta_{117}$