Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. Rodionov and G. Shulyak	NDS 136, 163 (2016)	14-Jul-2016

S(n)=11380 *SY*; S(p)=−896 *6*; Q(α)=3930 *SY* 2012Wa38
ΔS(n)=280, ΔQ(α)=540, Q(εp)=10940 *200* (syst,2012Wa38).
Produced and identified by 1993WoZY, 1993Li18; from ^{92}Mo(^{58}Ni,X), E=287 MeV reaction.
The level scheme of ^{146}Tm was studied by two experimental groups (2005Ro40,2006Ta08) using the reactions ^{92}Mo(^{58}Ni,3npγ) and ^{58}Ni(^{92}Mo,3npγ) for producing this nucleus. Five delayed proton lines were detected; half-lives of p-decaying states were measured (see comment in (HI,xnγ) dataset). Rotational band levels were studied in ^{58}Ni(^{92}Mo,3npγ) reaction.

^{146}Tm Levels

Cross Reference (XREF) Flags

A (HI,xnγ)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
0.0	(5⁻)	68 ms *3*	A	%p=?; %ε+%β⁺=? Jπ: configuration=53%[πh$_{11/2}$⊗νs$_{1/2}$⊗0⁺]+41%[πh$_{11/2}$⊗νs$_{1/2}$⊗2⁺]+4%[πf$_{7/2}$⊗νs$_{1/2}$⊗2⁺]+2%[πs$_{1/2}$⊗ν$_{11/2}$⊗0⁺] (2006Ta08).
182@ *4*	(10⁺)	198 ms *3*	A	%p=?; %ε+%β⁺=? Additional information 1. E(level): calculated from E(p) proton lines by the evaluators. Jπ: configuration=55%[πh$_{11/2}$⊗νh$_{11/2}$⊗0⁺]+42%[πh$_{11/2}$⊗νh$_{11/2}$⊗2⁺]+2.5%[πf$_{7/2}$⊗νh$_{11/2}$⊗2⁺]+0.5% others (2006Ta08). Proton branch to excited state E=253 keV *4*, Jπ=(11/2⁻) of ^{145}Er: E(p)=1120 keV *1*, I(p)=100% *1*, $T_{1/2}$(p)=198 ms *3* (2006Ta08). Proton branch to excited state E=484 keV *9*, Jπ=(13/2⁻) of ^{145}Er: E(p)=889 keV *8*, I(p)=1.0% *4*, $T_{1/2}$(p)=200 ms *40* (2006Ta08).
658.0@ *10*	(12⁺)		A	
991.3@ *13*	(13⁺)		A	
1365.7@ *13*	(14⁺)		A	
1804.7@ *17*	(15⁺)		A	

† From a least-square fit to Eγ data.
‡ From 2006Ta08.
# From systematics of odd-odd N=77 isotones (2007BaZQ).
@ Band(A): Possible configuration=πh$_{11/2}$⊗νh$_{11/2}$.

γ(^{146}Tm)

E_i(level)	J_i^π	Eγ†	E_f	J_f^π
658.0	(12⁺)	476	182	(10⁺)
991.3	(13⁺)	333	658.0	(12⁺)
1365.7	(14⁺)	374	991.3	(13⁺)
		708	658.0	(12⁺)
1804.7	(15⁺)	439	1365.7	(14⁺)

† From fig. 2 of 2005Ro40; assumed ΔE equals 1 keV.

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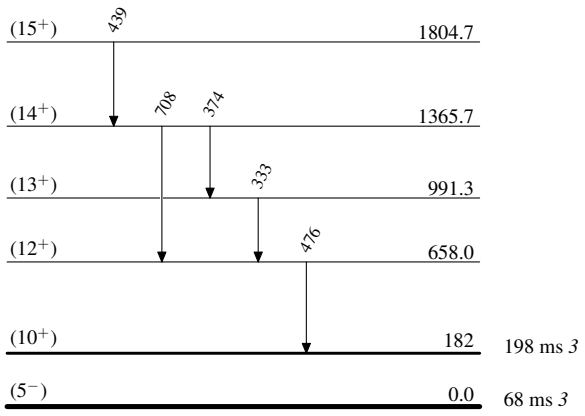
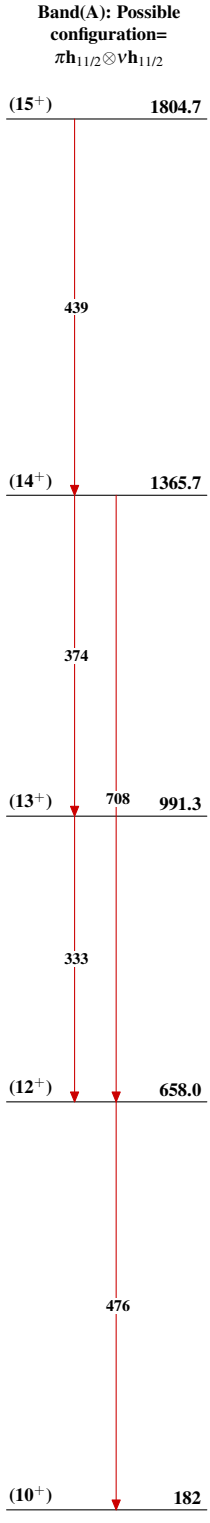
Level Scheme



$^{146}_{69}Tm_{77}$

Adopted Levels, Gammas



$^{146}_{69}Tm_{77}$