Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 121, 395 (2014)	1-Mar-2014

Q(β^-)=−853×10[1] *5*; S(n)=10836 *29*; S(p)=−240 *16*; Q(α)=7339 *5* 2012Wa38

2005Ke10: ^{142}Nd(^{56}Fe,2np),E=262MeV, measured Eα, $T_{1/2}$.

2003Ke04: ^{142}Nd(^{56}Fe,2np),E=262MeV, measured Eα, $T_{1/2}$.

1996PuZZ: ^{164}Er(^{36}Ar,p4nγ) E=183, 199 MeV,measured Eα,$T_{1/2}$.

1995NoZW: ^{164}Er(^{36}Ar,p4nγ) E=5,6MeV/nucleon, measured Eα,$T_{1/2}$.

1995Le15: ^{141}Pr(^{56}Fe,xnγ) E=130 MeV,measured Eα,Iα.

1967Tr06: ^{185}Re(^{20}Ne,xnγ) E=160-210 MeV, Enriched targets, tentative assignment from genetics with ^{195}Po α's via ε decay of ^{195}At.

2013Ny01: ^{147}Sm(^{51}V,3nγ), E(^{51}V)=224 MeV. Measured Eγ, Iγ, $\gamma\gamma$-coin, $\alpha\gamma$-coin using RITU separator, GREAT spectrometer for particle detection and JUROGAM array of 43 Compton-suppressed HPGe detectors for γ rays at JYFL facility. Recoil-decay tagging technique. Deduced levels, J, π, strongly-coupled rotational band.

All data are from 2013Ny01.

^{195}At Levels

Cross Reference (XREF) Flags

- A ^{199}Fr α decay (4.5 ms)
- B ^{199}Fr α decay (6.2 ms)
- C ^{147}Sm(^{51}V,3nγ)

E(level)[†]	J$^\pi$	$T_{1/2}$[‡]	XREF	Comments
0.0[@]	(1/2$^+$)	290 ms *20*	ABC	%α=100 J$^\pi$: Configuration=(π(4p−1h)) (2005Ke10). $T_{1/2}$: from 2013Ny01. Others: 328 ms *20* (2003Ke04), 0.39 s *+7−5* (1999Ta20),32 ms *+32−10* α(t) measurements (1996PuZZ),0.63 s *+31−16* (1995Le15).
33.0 *10*	(7/2$^-$)	143 ms *3*	BC	%IT=12 *4* (2013Ny01); %α=88 *4* J$^\pi$: Configuration=7/2$^-$[514] (2005Ke10). %IT branch from recoil-α time distributions (2013Ny01). $T_{1/2}$: from 2013Ny01. Others: 147 ms *5* (2003Ke04), 146 ms *+21−17* (1999Ta20), 135 ms *30* and 55 ms *25* α(t) measurements (1996PuZZ), 150 ms *30* and 140 ms *50* (1995Le15),24 ms *+34−10* (1995NoZW). E(level): α decay energy Eα=7075 4, 7221 4 (2003Ke04).
118.8? *5*			C	
293.6?[@] *5*	(5/2$^+$)		C	
648.8?[@] *9*	(9/2$^+$)		C	
0+x[#]	(13/2$^+$)		C	E(level): x<130 keV (2013Ny01).
281.29+x[#] *20*	(15/2$^+$)			
516.3+x[#] *4*	(17/2$^+$)		C	
719.9+x *7*			C	
804.7+x[#] *5*	(19/2$^+$)		C	
1056.6+x[#] *6*	(21/2$^+$)		C	
1371.4+x[#] *8*	(23/2$^+$)		C	
1636.0+x[#] *10*	(25/2$^+$)		C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{195}At Levels (continued)

† From least-squares fit to Eγ data.
‡ From recoil-α time distributions (2013Ny01).
# Band(A): Strongly-coupled $\pi i_{13/2}$ band.
@ Band(B): Band based on $1/2^+$.

γ(^{195}At)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.
33.0	(7/2⁻)	(33)	100	0.0	(1/2⁺)	[E3]
118.8?		119.2† *5*	100	0.0	(1/2⁺)	
293.6?	(5/2⁺)	175.2† *5*	88 *38*	118.8?		
		293.0† *6*	100 *50*	0.0	(1/2⁺)	
648.8?	(9/2⁺)	355.2† *7*	100	293.6?	(5/2⁺)	
281.29+x	(15/2⁺)	281.2 *2*	100	0+x	(13/2⁺)	
516.3+x	(17/2⁺)	235.1 *4*	100 *26*	281.29+x	(15/2⁺)	
		517.1 *6*	94 *37*	0+x	(13/2⁺)	
719.9+x		438.6 *6*	100	281.29+x	(15/2⁺)	
804.7+x	(19/2⁺)	288.4 *4*	100 *28*	516.3+x	(17/2⁺)	
		522.4 *6*	81 *31*	281.29+x	(15/2⁺)	
1056.6+x	(21/2⁺)	250.8 *7*	74 *26*	804.7+x	(19/2⁺)	
		541.0 *5*	100 *32*	516.3+x	(17/2⁺)	
1371.4+x	(23/2⁺)	315.5 *15*	30 *25*	1056.6+x	(21/2⁺)	
		566.5 *8*	100 *50*	804.7+x	(19/2⁺)	
1636.0+x	(25/2⁺)	579.4 *8*	100	1056.6+x	(21/2⁺)	

† Placement of transition in the level scheme is uncertain.

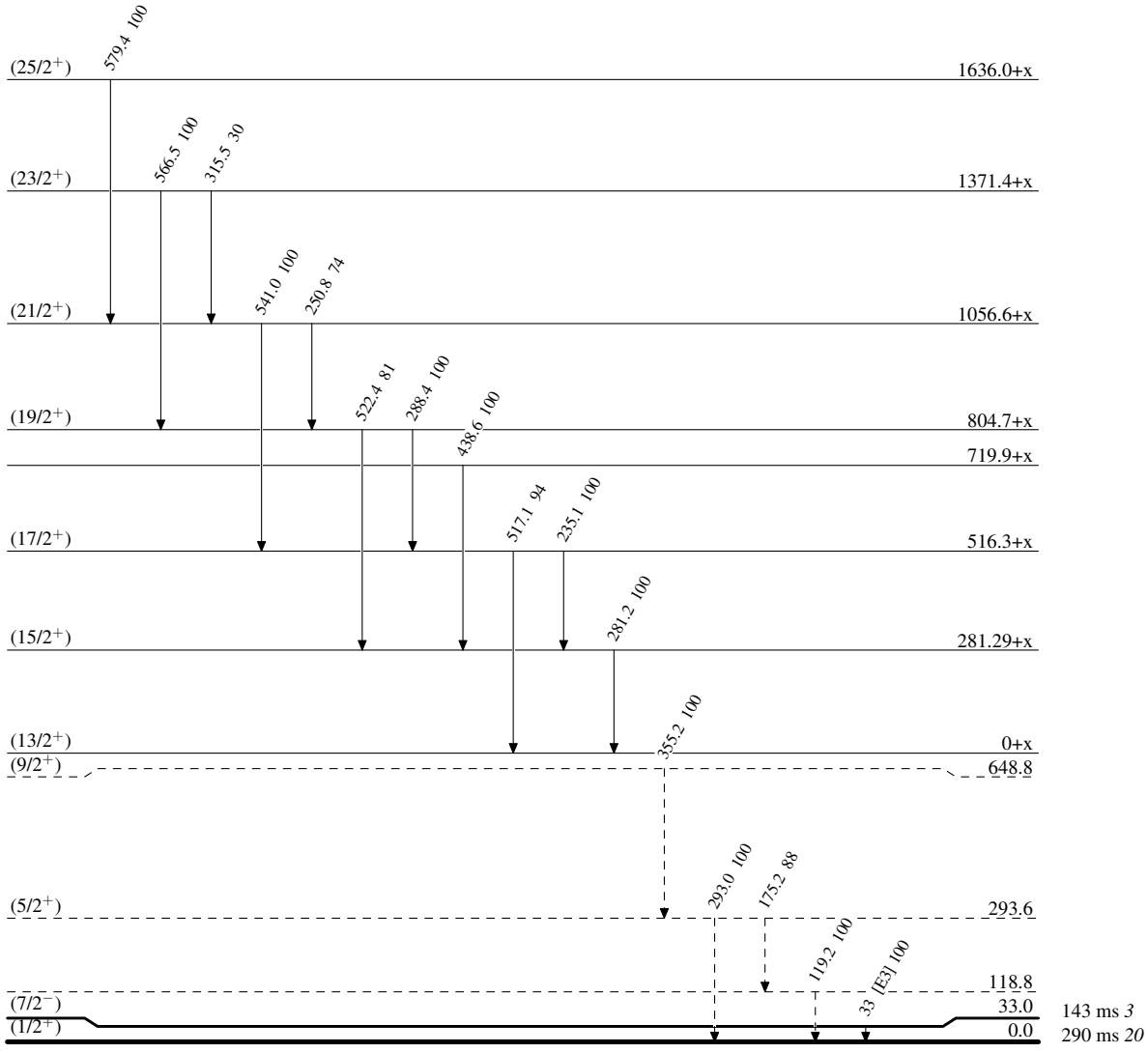
Adopted Levels, Gammas

Legend

Level Scheme

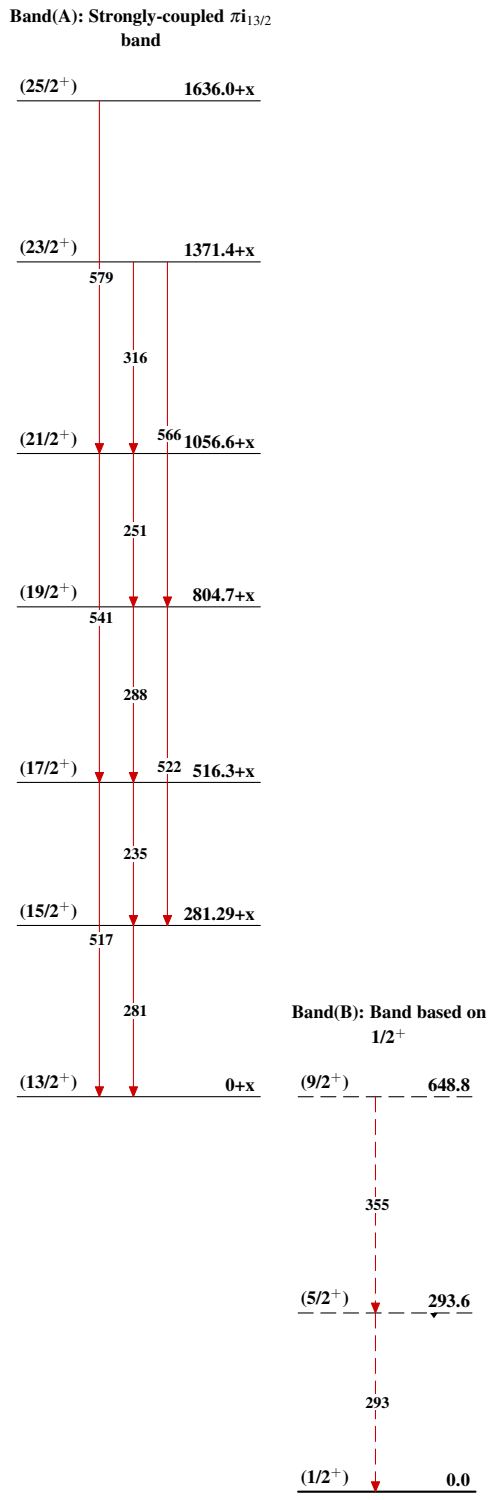
Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{195}_{85}At_{110}$

Adopted Levels, Gammas



$^{195}_{85}At_{110}$