

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111,1619 (2010)	20-Jan-2009

Q(β⁻)=-9.5×10³ syst; S(n)=1.27×10⁴ syst; S(p)=7.×10² syst; Q(α)=1.8×10³ syst 2012Wa38

Note: Current evaluation has used the following Q record -9697 SY12785 syst 801 syst 1667 syst 2009AuZZ.

ΔQ(β⁻)=711, ΔS(n)=711, ΔS(p)=586, ΔQ(α)=507 (syst,2009AuZZ).

Q(εp)=4199 503 (syst,2009AuZZ).

Identification: ⁹²Mo(³²S,p2n), E=150 MeV, on-line mass separation, parent of ¹²¹Ba, grandparent of ¹²¹Cs.

¹²¹La Levels

Cross Reference (XREF) Flags

A ⁹²Mo(³²S,2npγ)

E(level)#	J ^π	T _{1/2}	XREF	Comments
0.0		5.3 s 2	A	%ε+%β ⁺ =100 T _{1/2} : from γ ray counting (1988Se08).
x [†]	(11/2 ⁻)@		A	Additional information 1.
251.0+x [†] 10	(15/2 ⁻)@		A	
668.0+x [†] 15	(19/2 ⁻)@		A	
1229.0+x [†] 18	(23/2 ⁻)@		A	
1912.0+x [†] 20	(27/2 ⁻)@		A	
2695.0+x [†] 23	(31/2 ⁻)@		A	
3562.0+x [†] 25	(35/2 ⁻)@		A	
4504+x [†] 3	(39/2 ⁻)@		A	
5515+x [†] 3	(43/2 ⁻)@		A	
6588+x [†]	(47/2 ⁻)@		A	
7718+x [†]	(51/2 ⁻)@		A	
y [‡]	(9/2 ⁺)&		A	Additional information 2.
204.0+y [‡] 8	(11/2 ⁺)&		A	
438.0+y [‡] 8	(13/2 ⁺)&		A	
701.0+y [‡] 10	(15/2 ⁺)&		A	
990.0+y [‡] 11	(17/2 ⁺)&		A	
1304.0+y [‡] 12	(19/2 ⁺)&		A	
1640.0+y [‡] 13	(21/2 ⁺)&		A	
1996.0+y [‡] 13	(23/2 ⁺)&		A	
2371.0+y [‡] 14	(25/2 ⁺)&		A	
2757.0+y [‡] 15	(27/2 ⁺)&		A	

[†] Band(A): decoupled rotational band 1/2⁻[550].

[‡] Band(B): decoupled rotational band 9/2⁺[404].

E(levels) are based on a least-squares fit to E(γ's) assuming ΔE=1keV.

@ Monotonically increasing J sequence is suggested by cascade of coincident γ's forming decoupled band based on 1/2⁻[550] Nilsson state starting from J^π=11/2⁻.

Adopted Levels, Gammas (continued) ^{121}La Levels (continued)

& Monotonically increasing J sequence is suggested by cascade of coincident γ 's forming rotational band based on $9/2^+[404]$ Nilsson orbital.

 $\gamma(^{121}\text{La})$

$E_i(\text{level})$	J_i^π	E_γ^\dagger	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ^\dagger	E_f	J_f^π
251.0+x	(15/2 ⁻)	251	x	(11/2 ⁻)	701.0+y	(15/2 ⁺)	497	204.0+y	(11/2 ⁺)
668.0+x	(19/2 ⁻)	417	251.0+x	(15/2 ⁻)	990.0+y	(17/2 ⁺)	289	701.0+y	(15/2 ⁺)
1229.0+x	(23/2 ⁻)	561	668.0+x	(19/2 ⁻)			552	438.0+y	(13/2 ⁺)
1912.0+x	(27/2 ⁻)	683	1229.0+x	(23/2 ⁻)	1304.0+y	(19/2 ⁺)	314	990.0+y	(17/2 ⁺)
2695.0+x	(31/2 ⁻)	783	1912.0+x	(27/2 ⁻)			603	701.0+y	(15/2 ⁺)
3562.0+x	(35/2 ⁻)	867	2695.0+x	(31/2 ⁻)	1640.0+y	(21/2 ⁺)	336	1304.0+y	(19/2 ⁺)
4504+x	(39/2 ⁻)	942	3562.0+x	(35/2 ⁻)			650	990.0+y	(17/2 ⁺)
5515+x	(43/2 ⁻)	1011	4504+x	(39/2 ⁻)	1996.0+y	(23/2 ⁺)	356	1640.0+y	(21/2 ⁺)
6588+x?	(47/2 ⁻)	1073 [‡]	5515+x	(43/2 ⁻)			692	1304.0+y	(19/2 ⁺)
7718+x?	(51/2 ⁻)	1130 [‡]	6588+x?	(47/2 ⁻)	2371.0+y	(25/2 ⁺)	375	1996.0+y	(23/2 ⁺)
204.0+y	(11/2 ⁺)	204	y	(9/2 ⁺)			731	1640.0+y	(21/2 ⁺)
438.0+y	(13/2 ⁺)	234	204.0+y	(11/2 ⁺)	2757.0+y	(27/2 ⁺)	386	2371.0+y	(25/2 ⁺)
		438	y	(9/2 ⁺)			761	1996.0+y	(23/2 ⁺)
701.0+y	(15/2 ⁺)	263	438.0+y	(13/2 ⁺)					

[†] From $^{92}\text{Mo}(^{32}\text{S},2\text{np}\gamma)$, no I_γ data are given.

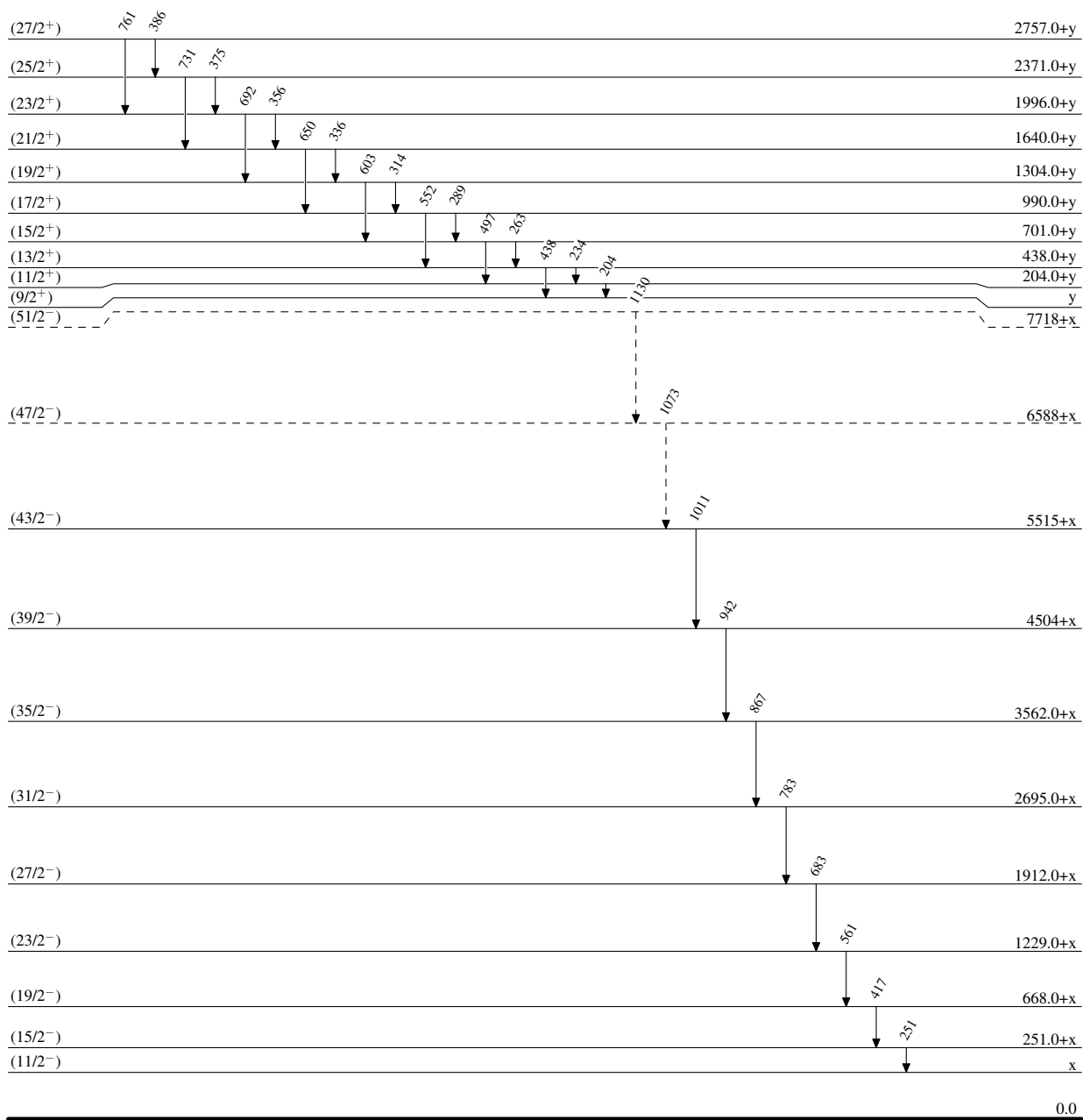
[‡] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

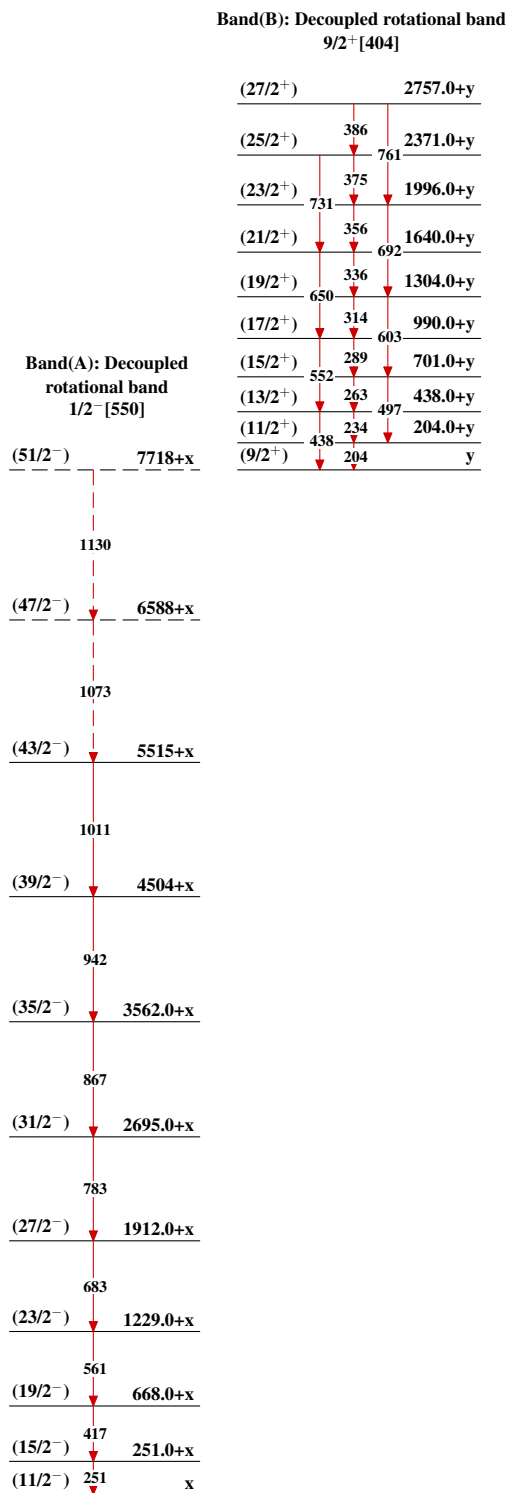
Legend

Level Scheme

-----> γ Decay (Uncertain)



$^{121}_{57}\text{La}_{64}$

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