

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne and A. Negret		NDS 109,943 (2008)	1-May-2007

$Q(\beta^-) = -8.25 \times 10^3$ 10; S(n)=10529 23; S(p)=424 9; Q(α)=1796 9 [2012Wa38](#)

Note: Current evaluation has used the following Q record -8120 SY10580 SY360 syst 1950 syst [2003Au03](#).

Identified in $^{58}\text{Ni}(^{58}\text{Ni}, X)$ E=290 MeV, on-line mass separation, semi ([1981PI05](#), [1982PI05](#), [2005So06](#)).

All (HI,xny) results here are from [2005So06](#).

Others: [1977Ki11](#), [1978Ro19](#).

 ^{106}Sb LevelsCross Reference (XREF) Flags

A ^{110}I α decay (0.65 s)
B $^{54}\text{Fe}(^{58}\text{Ni}, \alpha p n \gamma)$

E(level) [†]	J ^{π} #	T _{1/2}	XREF	Comments
0.0	(2 ⁺)	0.6 s 2	AB	$\% \varepsilon + \% \beta^+ = ?$ T _{1/2} : From I γ (t) (1995LeZZ). J ^{π} : Adopted from (1999So08); 2005So06 do not exclude a possible spin-parity assignment of 1 ⁺ to the ground state.
103.5@ 3	(4 ⁺)	232 ns 21	B	J ^{π} , T _{1/2} : From 1999So08 .
318.9& 5	(5 ⁺)		B	
437.7@ 5	(6 ⁺)		B	
1135.7& 5	(7 ⁺)		B	
1528.3@ 6	(8 ⁺)		B	
1841.8 6	(8 ⁺)		B	
2052.9& 6	(9 ⁺)		B	
2166.1 6	(9 ⁺)		B	
2255.1@ 6	(10 ⁺)		B	
2492.2 6	(10 ⁺)		B	
2703.2& 6	(11 ⁺)		B	
2980.2 7			B	
3117.3 8	(11 ⁺)		B	
3315.9 7			B	
3384.8 6	(11 ⁻)		B	
3483.0@ 6	(12 ⁺)		B	
3764.2& 6	(13 ⁺)		B	
3944.6 ^a 6	(13 ⁻)		B	
3947.9 8			B	
3991.3 6	(13 ⁻)		B	
4339.1@ 6	(14 ⁺)		B	Possible configuration= $\pi g_{7/2} \nu d_{5/2}^3 \nu g_{7/2}^2$. J ^{π} : 2005So06 assigns (13,14 ⁺). The evaluators chose (14 ⁺) based on the band assignment.
4368.9 ^a 6	(14 ⁻)		B	
4823.9 ^a 8	(15 ⁻)		B	
5204.1 8			B	Possible configuration= $\pi d_{5/2} \nu d_{5/2}^2 \nu g_{7/2}^3$, J ^{π} =14 ⁺ or $\pi g_{7/2} \nu d_{5/2}^2 \nu g_{7/2}^3$, J ^{π} =15 ⁺ .
5349.9?+ ^a 8	(16 ⁻)		B	
5768.9 ^a 9	(17 ⁻)		B	
5923.9 8	(17 ⁻)		B	
6087.9 9	(18)		B	Level may be interpreted as 18 ⁻ with fully aligned configuration=

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Adopted Levels, Gammas (continued) ^{106}Sb Levels (continued)

E(level) [†]	J ^π [#]	XREF	Comments
			$\pi d_{5/2} \nu h_{11/2} \nu d_{5/2}^2 \nu g_{7/2}^2$.
6305.97 ^{‡a} 9	(18)	B	
6573.6 9	(19 ⁻)	B	Possible configuration= $\pi g_{7/2} \nu h_{11/2} \nu d_{5/2}^2 \nu g_{7/2}^2$.
6784.1 ^a 10		B	Possible configuration= $\pi g_{7/2} \nu h_{11/2} \nu d_{5/2} \nu g_{7/2}^2$.

[†] From least-squares fit to E γ 's by evaluators.[‡] The orderings of the 478-537 and 419-526 cascades is uncertain, thereby making the energies of the 5349 and 6305 levels uncertain.[#] From gamma linear pol, conversion electron measurements and proposed band structure.@ Band(A): (4⁺) band, $\alpha=0$.& Band(a): (4⁺) band, $\alpha=1$.^a Band(B): (13⁻) band. $\gamma(^{106}\text{Sb})$

E _i (level)	J ^π _i	E _{γ} [#]	I _{γ} [#]	E _f	J ^π _f	Mult. [@]	Comments
103.5	(4 ⁺)	103.4 3	100	0.0	(2 ⁺)	E2	B(E2)(W.u.)=6.9 7 Mult.: From 1999So08; determined from delayed γ -ray and conversion electron measurements.
318.9	(5 ⁺)	215.4 3	100	103.5	(4 ⁺)	M1	
437.7	(6 ⁺)	118.8 3	100	318.9	(5 ⁺)	D	
1135.7	(7 ⁺)	698.0 4	100 10	437.7	(6 ⁺)	M1	
		816.8 3	57 5	318.9	(5 ⁺)	Q	
1528.3	(8 ⁺)	392.4 3	7.4 11	1135.7	(7 ⁺)		
		1090.4 4	100 6	437.7	(6 ⁺)	E2	
1841.8	(8 ⁺)	1404.1 4	100	437.7	(6 ⁺)	E2	
2052.9	(9 ⁺)	524.6 3	20 4	1528.3	(8 ⁺)		
		917.3 4	100 9	1135.7	(7 ⁺)	E2	
2166.1	(9 ⁺)	637.9 4	100	1528.3	(8 ⁺)	M1	
2255.1	(10 ⁺)	202.2 3	25.7 19	2052.9	(9 ⁺)	M1	
		413.4 4	19.5 17	1841.8	(8 ⁺)	E2	
		726.8 4	100 7	1528.3	(8 ⁺)	E2	
2492.2	(10 ⁺)	326.1 3	27 5	2166.1	(9 ⁺)		
		964.0 4	100 14	1528.3	(8 ⁺)	E2	
2703.2	(11 ⁺)	448.0 4	100	2255.1	(10 ⁺)	M1	
2980.2		725.0 3	100	2255.1	(10 ⁺)		
3117.3	(11 ⁺)	951.1 4	100	2166.1	(9 ⁺)	Q	
3315.9		335.7 3	100	2980.2			
3384.8	(11 ⁻)	892.6 3	74 10	2492.2	(10 ⁺)	D	
		1129.6 3	100 12	2255.1	(10 ⁺)		
3483.0	(12 ⁺)	779.8 4	10.3 25	2703.2	(11 ⁺)		
		1227.88 4	100 7	2255.1	(10 ⁺)	E2	
3764.2	(13 ⁺)	281.2 3	23 3	3483.0	(12 ⁺)		
		1061.0 4	100 11	2703.2	(11 ⁺)	E2	
3944.6	(13 ⁻)	461.6 4	100 8	3483.0	(12 ⁺)	E1	
		559.7 4	62 7	3384.8	(11 ⁻)	Q	
3947.9		830.6 3	100	3117.3	(11 ⁺)		
3991.3	(13 ⁻)	508.4 3	100	3483.0	(12 ⁺)	E1	
4339.1	(14 ⁺)	574.8 4	100 11	3764.2	(13 ⁺)		
		856.0 3	93 18	3483.0	(12 ⁺)		
4368.9	(14 ⁻)	377.6 3	35 3	3991.3	(13 ⁻)	(D)	
		424.3 4	100 9	3944.6	(13 ⁻)	M1	

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Adopted Levels, Gammas (continued) $\gamma(^{106}\text{Sb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\#$	$I_\gamma^\#$	E_f	J_f^π	Mult. @
4368.9	(14 ⁻)	604.6 4	47 4	3764.2	(13 ⁺)	D
4823.9	(15 ⁻)	455.0 4	100	4368.9	(14 ⁻)	M1
5204.1		865.0 5	100	4339.1	(14 ⁺)	
5349.9?	(16 ⁻)	526.0 ‡ 3	100	4823.9	(15 ⁻)	M1
5768.9	(17 ⁻)	419.0 ‡ 3	100	5349.9?	(16 ⁻)	M1
5923.9	(17 ⁻)	1100.0 3	100	4823.9	(15 ⁻)	Q
6087.9	(18)	319.0 3	100	5768.9	(17 ⁻)	D
6305.9?	(18)	537.0 † 3	100	5768.9	(17 ⁻)	D
6573.6	(19 ⁻)	649.7 3	100	5923.9	(17 ⁻)	Q
6784.1		478.2 † 3	100	6305.9?	(18)	

† Ordering of the 478-537 cascade is uncertain.

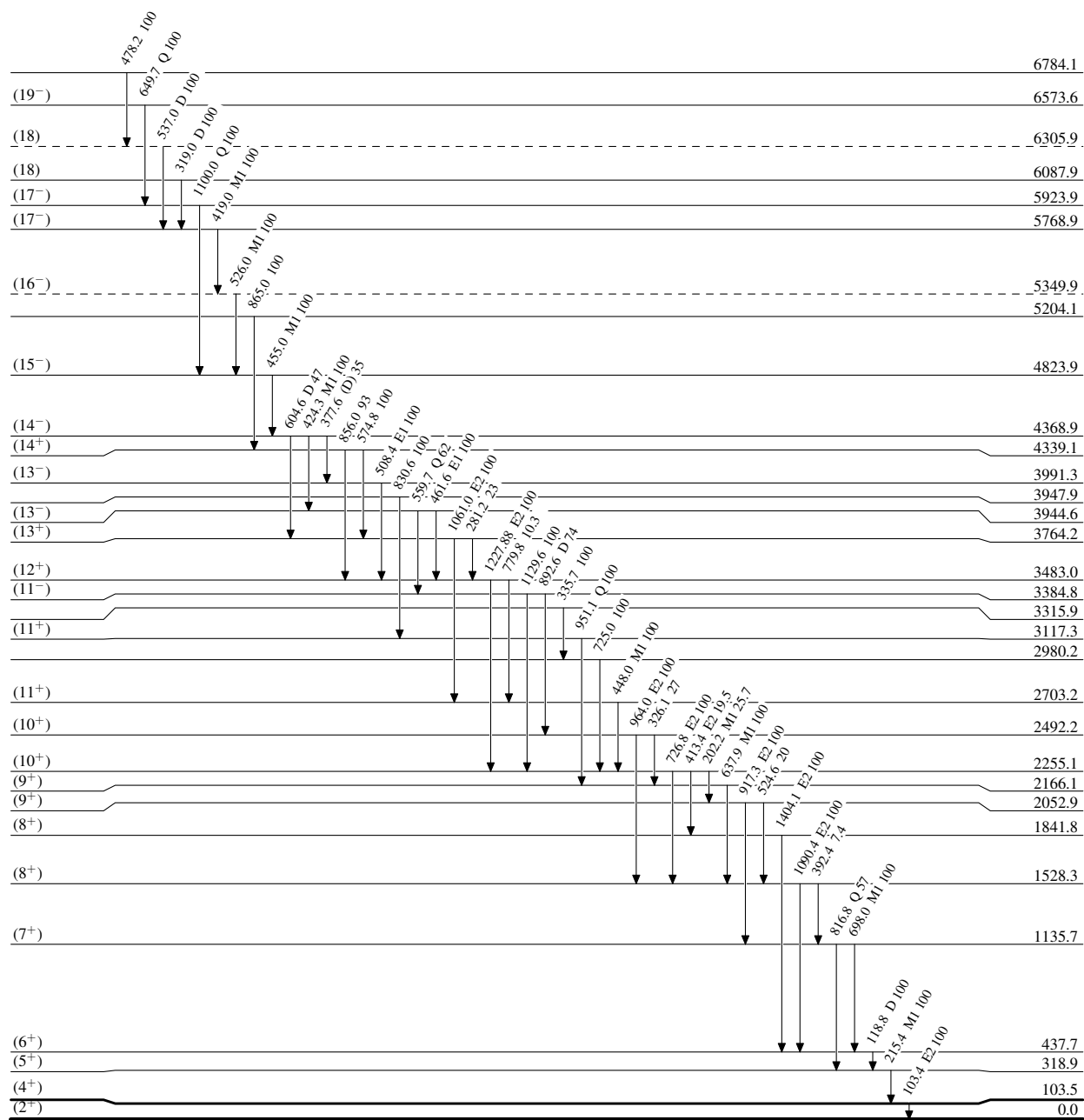
‡ Ordering of the 419-526 cascade is uncertain.

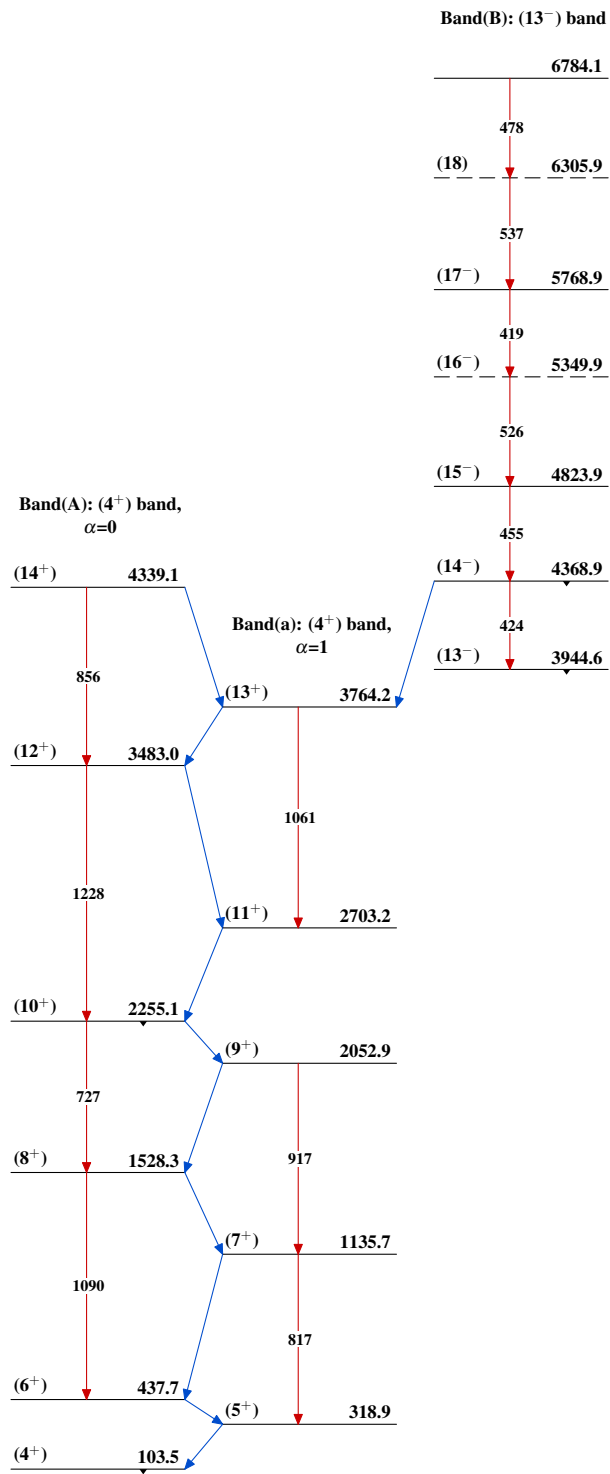
From 2005So06 in $^{54}\text{Fe}(^{58}\text{Ni}, \alpha \text{pn} \gamma)$.

@ From gamma linear pol and and conversion electron measurements.

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

232 ns 2I
0.6 s 2

Adopted Levels, Gammas $^{106}_{51}\text{Sb}_{55}$