Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 110,1239 (2009)	1-Feb-2008

Q(β^-)=−1.056×10^4 *9*; S(n)=1.256×10^4 *5*; S(p)=13 *9*; Q(α)=3275 *6* 2012Wa38
Note: Current evaluation has used the following Q record −10550.0 SY12697.0 syst−41.0 SY3.28E+3 *5* 2003Au03.
ΔQ(β^-)=427, ΔS(n)=432, ΔS(p)=307 (2003Au03).
The first production was from: ^{58}Ni(^{58}Ni,3p2n) E=290 MeV, on-line ms.
Identification: genetics with delayed protons (19 s) via ^{111}Te decay.
Measured Eγ(^{111}Te)=266.5 *6*, 321.5 *6*, 341.2 *6* (1977Ki11).
Measured Eα(^{107}Sb)=3120 *40* (1977Ki11), 3150 *30* (1978Ro19); %α=0.088 estimated. Syst of Q(α) and reduced α-widths discussed (1978Ro19).
Av β-strength function calc and regional trend studied (1977Ki11).

^{111}I Levels

Cross Reference (XREF) Flags

A ^{58}Ni(^{54}Fe,xng)
B ^{58}Ni(^{58}Ni,αpγ)

E(level)	J$^\pi$[†]	T$_{1/2}$	XREF	Comments
0.0	(5/2$^+$)	2.5 s *2*	AB	%ε+%β^+=99.9; %α≈0.1 T$_{1/2}$: from 1977Ki11: 2.5 s *2* (tellurium Kα x ray), 2.3 s *3* (3120α), 2.7 s *2* (266,321,341 γ's). J$^\pi$: from syst.
37.2 *3*	7/2$^{(+)}$		B	
618.90 *20*	9/2$^{(+)}$		B	
679.8 *3*	11/2$^{(+)}$		B	
1094.8[#] *3*	11/2$^-$		B	
1496[&]	(13/2$^-$)			
1649.9[#] *4*	15/2$^-$		B	
2340.5[#] *4*	19/2$^-$		B	
2519[&]	(15/2$^-$)			
2988[&]	(19/2$^-$)			
3031.1[#] *5*	23/2$^-$		B	
3048.9 *5*			B	
3444[&]	(23/2$^-$)			
3596.9 *11*			B	
3778.3[#] *5*	27/2$^-$		B	
4000.6[@] *5*	25/2$^{(+)}$		B	
4149[&]	(27/2$^-$)			
4159.1 *11*			B	
4222.1 *11*			B	
4432.7[‡] *6*	31/2$^-$		B	
4510.9[@] *6*	(29/2$^+$)		B	
4549.3[#] *6*	31/2$^-$		B	
5023[&]	(31/2$^-$)			
5114.1 *15*			B	
5177.4[@] *6*	(33/2$^+$)		B	
5199.2[‡] *6*	35/2$^-$		B	

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Adopted Levels, Gammas (continued)

^{111}I Levels (continued)

E(level)	J$^{\pi}$[†]	XREF	E(level)	J$^{\pi}$[†]	XREF	E(level)	J$^{\pi}$[†]	XREF
5397.9[#] *6*	35/2$^-$	B	7076.2[‡] *6*	43/2$^-$	B	10318.7[‡] *16*	(55/2$^-$)	B
5968.2[@] *6*	(37/2$^+$)	B	7847.1[@] *12*	(45/2$^+$)	B	11507.8[‡] *19*	(59/2$^-$)	B
6055.3 *6*		B	8084.7[‡] *6*	(47/2$^-$)	B	13016.8[‡] *21*	(63/2$^-$)	B
6246.5[‡] *6*	39/2$^-$	B	8996.1[@] *16*	(49/2$^+$)	B			
6878.1[@] *7*	(41/2$^+$)	B	9156.7[‡] *12*	(51/2$^-$)	B			

[†] The low structure is characterized single particle excitation of the odd proton involving the d5/2 and g9/2 orbitals. The high spin are deduced from γ multipolarities derived from DCO measurements.
[‡] Band(A): band based on 31/2$^-$.
[#] Band(B): $\pi h_{11/2}$ band.
[@] Band(C): band based on 25/2$^{(+)}$.
[&] Band(D): band based on (13/2$^-$) Only given by 2001Sp02.

γ(^{111}I)

E$_i$(level)	J$_i^{\pi}$	E$_{\gamma}$	I$_{\gamma}$	E$_f$	J$_f^{\pi}$	Mult.[†]
618.90	9/2$^{(+)}$	581.7 *2*	36	37.2	7/2$^{(+)}$	M1+E2
		618.9 *2*	100	0.0	(5/2$^+$)	E2
679.8	11/2$^{(+)}$	642.5 *2*	100	37.2	7/2$^{(+)}$	E2
1094.8	11/2$^-$	415.0 *2*	100	679.8	11/2$^{(+)}$	E1
		475.9 *2*	25	618.90	9/2$^{(+)}$	E1
1496	(13/2$^-$)	817		679.8	11/2$^{(+)}$	
1649.9	15/2$^-$	555.1 *2*	100	1094.8	11/2$^-$	E2
2340.5	19/2$^-$	690.6 *2*	100	1649.9	15/2$^-$	E2
2519	(15/2$^-$)	1023		1496	(13/2$^-$)	
2988	(19/2$^-$)	469		2519	(15/2$^-$)	
3031.1	23/2$^-$	690.6 *2*	100	2340.5	19/2$^-$	E2
3048.9		708.4 *2*	100	2340.5	19/2$^-$	
3444	(23/2$^-$)	456		2988	(19/2$^-$)	
3596.9		548 *1*	100	3048.9		
3778.3	27/2$^-$	747.2 *2*	100	3031.1	23/2$^-$	E2
4000.6	25/2$^{(+)}$	969.5 *2*	100	3031.1	23/2$^-$	E1
4149	(27/2$^-$)	705		3444	(23/2$^-$)	
4159.1		1128 *1*	100	3031.1	23/2$^-$	
4222.1		1191 *1*	100	3031.1	23/2$^-$	
4432.7	31/2$^-$	654.6 *2*	100	3778.3	27/2$^-$	E2
4510.9	(29/2$^+$)	510.3 *2*	100	4000.6	25/2$^{(+)}$	
4549.3	31/2$^-$	770.8 *2*	100	3778.3	27/2$^-$	E2
5023	(31/2$^-$)	874		4149	(27/2$^-$)	
5114.1		892 *1*	100	4222.1		
5177.4	(33/2$^+$)	666.5 *2*	100	4510.9	(29/2$^+$)	E2
5199.2	35/2$^-$	766.7 *2*	100	4432.7	31/2$^-$	E2
5397.9	35/2$^-$	848.4 *2*	100	4549.3	31/2$^-$	E2
5968.2	(37/2$^+$)	790.8 *2*	100	5177.4	(33/2$^+$)	E2
6055.3		856.2 *2*	100	5199.2	35/2$^-$	
6246.5	39/2$^-$	191.4 *2*	8.	6055.3		
		848.4 *2*	75	5397.9	35/2$^-$	E2
		1047.4 *2*	100	5199.2	35/2$^-$	E2
6878.1	(41/2$^+$)	909.9 *2*	100	5968.2	(37/2$^+$)	E2
7076.2	43/2$^-$	829.7 *2*	100	6246.5	39/2$^-$	E2
7847.1	(45/2$^+$)	969 *1*	100	6878.1	(41/2$^+$)	

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Adopted Levels, Gammas (continued)

$\gamma(^{111}I)$ (continued)

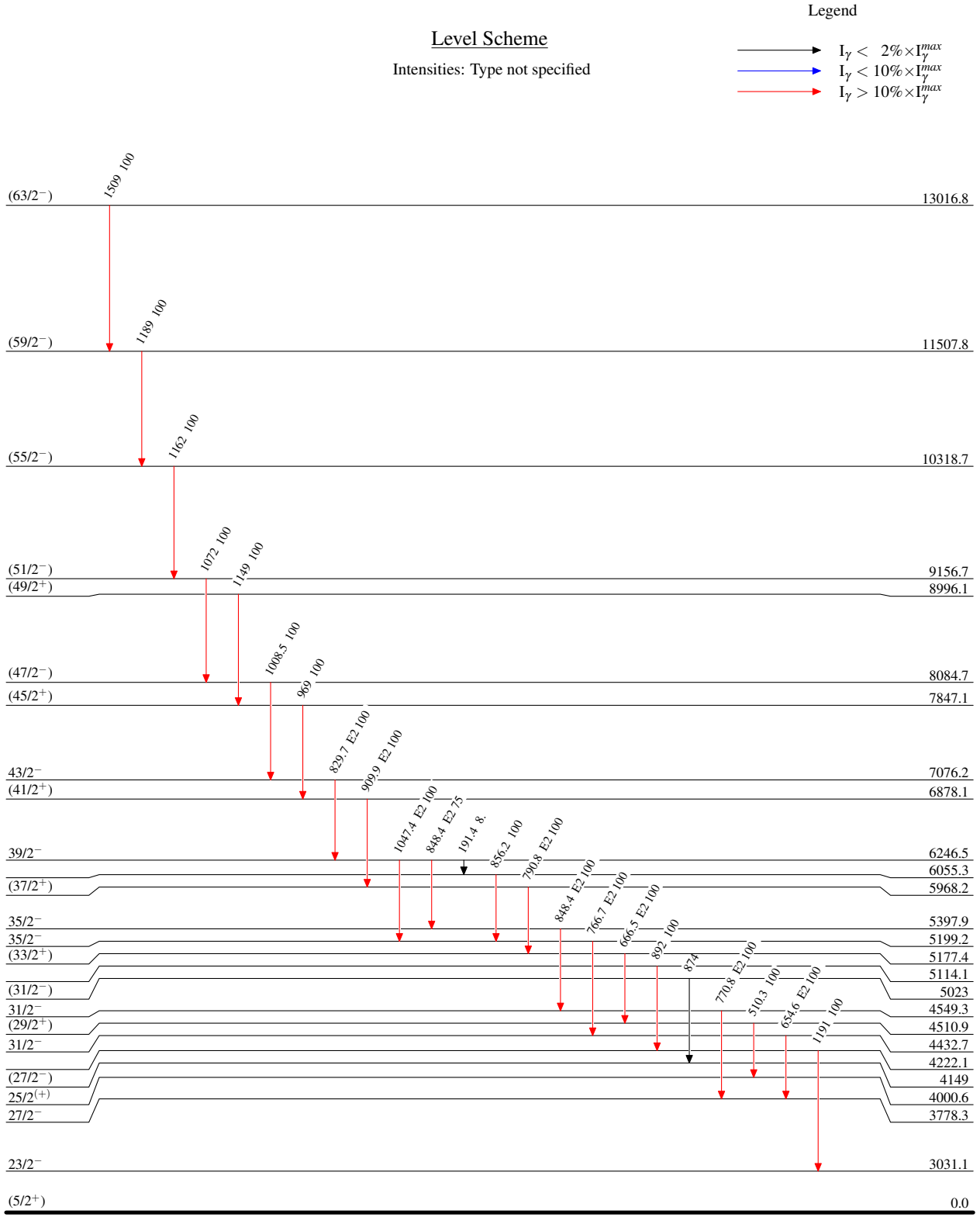
E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
8084.7	$(47/2^-)$	1008.5 *2*	100	7076.2	$43/2^-$
8996.1	$(49/2^+)$	1149 *1*	100	7847.1	$(45/2^+)$
9156.7	$(51/2^-)$	1072 *1*	100	8084.7	$(47/2^-)$
10318.7	$(55/2^-)$	1162 *1*	100	9156.7	$(51/2^-)$
11507.8	$(59/2^-)$	1189 *1*	100	10318.7	$(55/2^-)$
13016.8	$(63/2^-)$	1509 *1*	100	11507.8	$(59/2^-)$

† Based on DCO measurements.

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

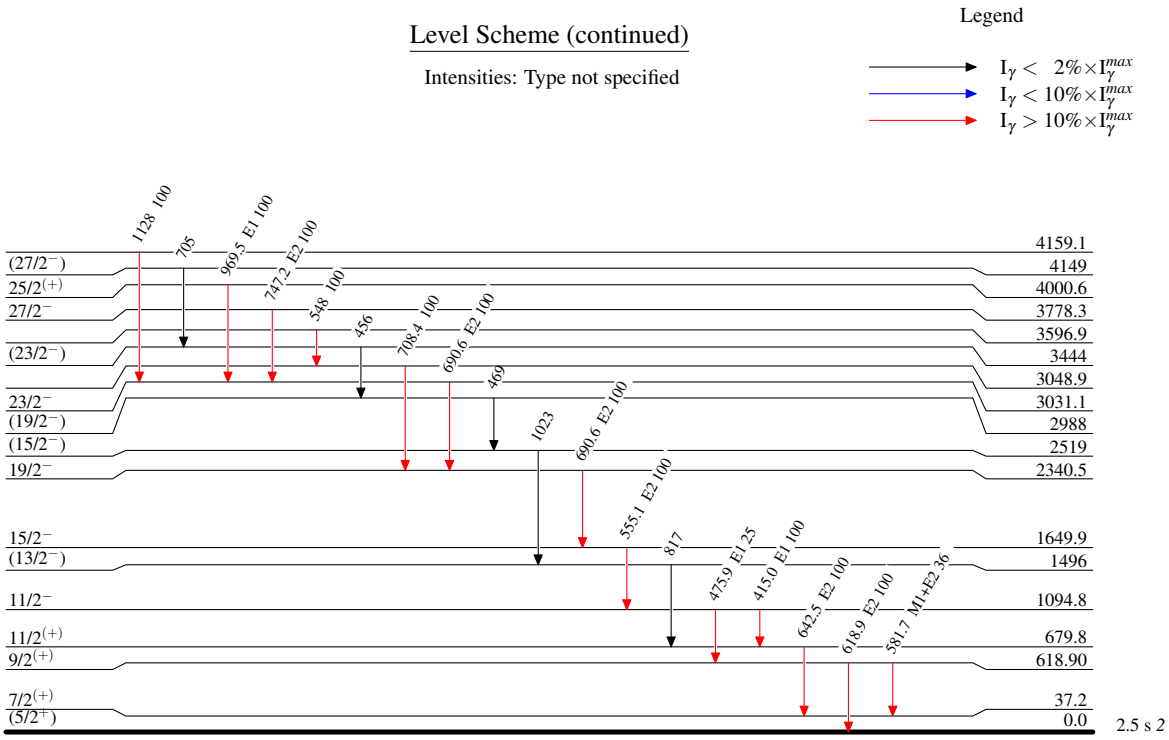


$^{111}_{53}I_{58}$

Adopted Levels, Gammas

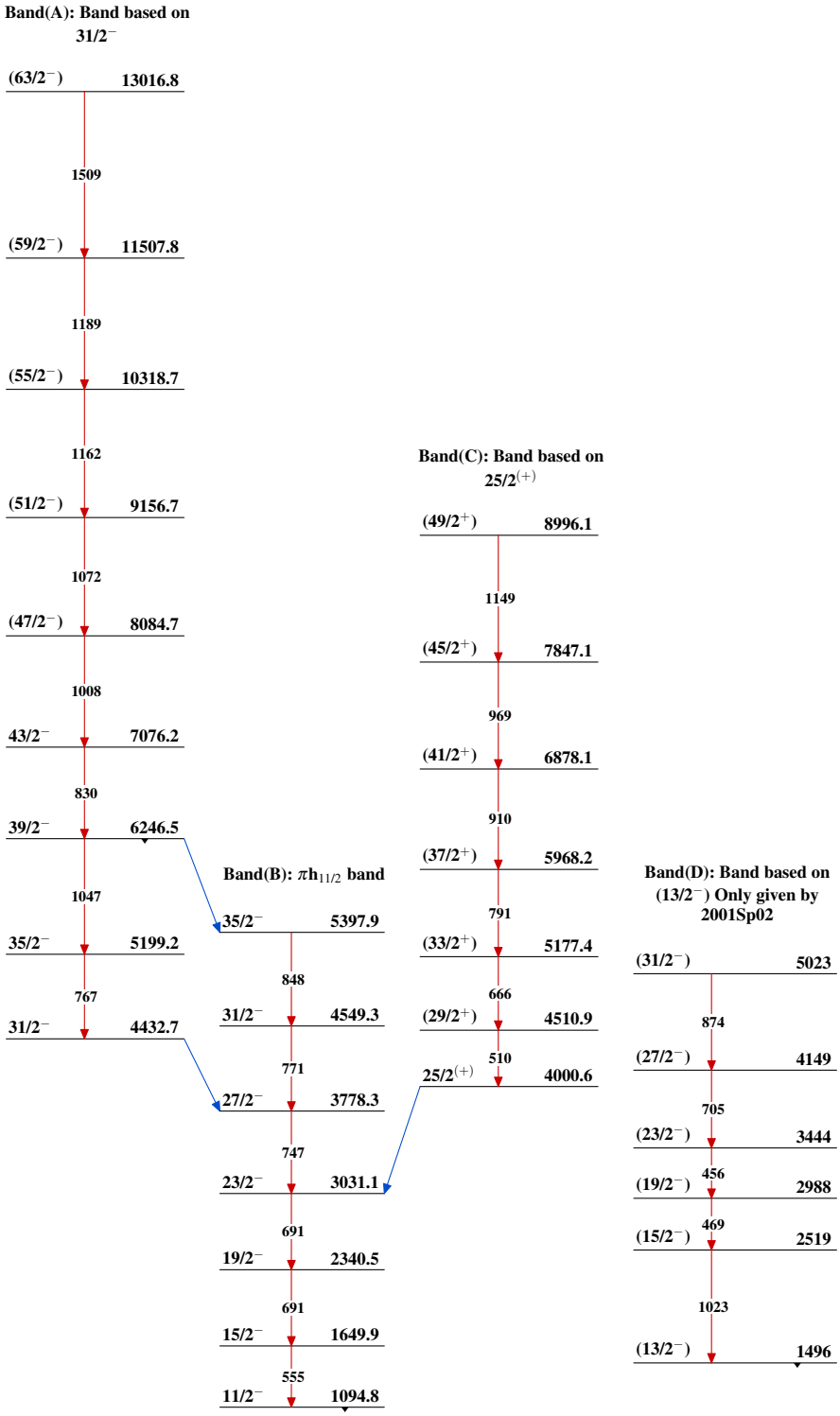
Level Scheme (continued)

Intensities: Type not specified



$^{111}_{53}I_{58}$

Adopted Levels, Gammas



$^{111}_{53}I_{58}$