

Adopted Levels, Gammas

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

$Q(\beta^-) = -9625$ 8; $S(n) = 11629$ 8; $S(p) = 5795$ 13; $Q(\alpha) = -527$ 6 [2012Wa38](#)

Note: Current evaluation has used the following Q record -9533.0 SY1.154E+48 5770 23-491 22 [2003Au03](#).

$\Delta Q(\beta^-) = 206$ ([2003Au03](#)).

[1998Je03](#) using the Tilted Axis cranking model (tac) suggest a configuration for the magnetic band 1 and band 2.

[1981An06](#) discuss the possible shell-model configurations of the ^{108}Sn levels.

[1967Ka01](#), [1967Ka23](#) and [1973Bo20](#) studied β^+ delayed-proton emission to ^{108}Sn from 4.1-s ^{109}Te . See [1973Ha77](#) for systematics.

 ^{108}Sn LevelsCross Reference (XREF) Flags

A	^{108}Sb β^+ decay	D	$^{106}\text{Cd}(\alpha, 2n\gamma)$
B	(HI, xn γ)	E	$^{54}\text{Fe}(^{58}\text{Ni}, 4p\gamma)$
C	$^{106}\text{Cd}(^3\text{He}, n)$ E=25.4 MeV	F	Coulomb excitation

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0 [#]	0 ⁺	10.30 min 8	ABCDEF	$\% \epsilon + \% \beta^+ = 100$ $T_{1/2}$: from 1978Hs01 . Others: 10.8 min 3 (1977Va14), 10.5 min 4 (1970Ki04). For earlier measurements see 1956Me94 .
1206.07 [#] 10	2 ⁺	0.48 ps 12	AB DEF	$B(E2) \uparrow = 0.23$ 6 J^π : stretched E2 to 0 ⁺ . $T_{1/2}$: from B(E2).
2111.11 [#] 14	4 ⁺		AB DE	J^π : stretched E2 to 2 ⁺ .
2155.13 23	(2 ⁺)		A	J^π : γ 's to 0 ⁺ and 2 ⁺ .
2364.46 [#] 17	6 ⁺	7.3 ns 4	AB DE	$\mu = -0.24$ 12 (1983Ha37 , 1989Ra17) J^π : stretched E2 to 4 ⁺ . $T_{1/2}$: from centroid shift in (HI, xn γ) (1983Ha37). Other: (HI, xn γ) 7 4 from recoil-distance pulsed beam in (HI, xn γ) (1982AnZY).
2479.0 4			A	
2624.68 21	5 ⁺		B	
2640.6 3			A	
$\approx 2.70 \times 10^3$	(0 ⁺) [‡]		C	
2804.6 4			A	
2817.25 23	6 ⁺		AB	
2855.04 23	4 ⁺		A	J^π : γ 's to 6 ⁺ and 4 ⁺ .
2975.95 24	(3 ⁺ , 4 ⁺)		A	J^π : γ 's to 2 ⁺ and 4 ⁺ .
3074.8 5			A	
3560.38 [#] 19	8 ⁺	71 ps 10	B E	$\mu \geq 0.8$ (1983Ha37 , 1989Ra17) J^π : stretched E2 to 6 ⁺ . $T_{1/2}$: from (HI, xn γ) (1983Ha37), recoil-distance pulsed beam.
3586.46 ^e 20	7 ⁻		B E	J^π : D(+Q) to 6 ⁺ .
3714.0 4			B	
3870.21 20	7 ⁺		B	
$\approx 3.88 \times 10^3$	(0 ⁺) [‡]		C	
3929.9 3	7		B	
4000.6 3	8 ⁺		B	
4145.69 ^e 19	8 ⁻		B E	J^π : E1 γ to 7 ⁻ .
4159.54 23	8 ⁺		B	
4176.24 ^d 22	9 ⁻		B E	J^π : E1 γ to 8 ⁺ .
4256.00 [#] 20	10 ⁺		B E	J^π : stretched E2 to 8 ⁺ .

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Adopted Levels, Gammas (continued)

^{108}Sn Levels (continued)				
E(level)	$J^{\pi\dagger}$	$T_{1/2}$	XREF	Comments
4398.95 24	9 ⁺		B	
4500.34 20	10 ⁺		B	
$\approx 4.90 \times 10^3$	(0 ⁺) [‡]		C	
5062.1 3	9		B	
5140.71 ^e 21	10 ⁻		B E	J^{π} : stretched E2 to 8 ⁻ .
5316.94 ^d 21	11 ⁻		B E	J^{π} : stretched E2 to 9 ⁻ .
5416.07 [#] 20	12 ⁺		B E	J^{π} : stretched E2 to 10 ⁺ .
5699.4 4			B	
5753.91 21	10 ⁺		B	J^{π} : γ 's to 8 ⁺ , 9 ⁺ and 10 ⁺ .
5756.4 8			B	
5765.52 23	10 ⁺		B	
5959.22 ^e 21	12 ⁻		B E	
5970.4 4	(10 ⁺)		B	
6070.22 [@] 22	12 ⁻		B	
6099.14 21	13 ⁻		B E	J^{π} : D+Q γ to 12 ⁺ .
6163.2 3			B	
6315.98 ^d 21	13 ⁻		B E	J^{π} : stretched E2 to 11 ⁻ .
6374.6 3	13 ⁻		B	J^{π} : E2 γ to 11 ⁻ .
6493.75 ^b 23	12 ⁺		B	J^{π} : E2 γ to 12 ⁺ .
6530.13 ^e 21	14 ⁻		B E	
6665.94 22	12 ⁻		B E	
6885.86 [@] 21	13 ⁻		B E	
7028.6 3			B	
7035.9 ^c 4	(13 ⁻)		B	
7183.57 [@] 22	14 ⁻		B E	
7195.0 3	15 ⁻		B E	
7200.9 ^b 3	14 ⁺		B	J^{π} : E2 γ to 12 ⁺ .
7299.6 4	(15 ⁻)		B	
7480.4 3			B	
7607.26 [@] 23	15 ⁻	0.46 ps 4	B E	$T_{1/2}$: from DSAM in $^{54}\text{Fe}(^{58}\text{Ni},4p\gamma)$ (1999Je07).
7646.3 5			B	
7789.9 4	16 ⁻		B	
7790.1 ^c 3	15 ⁻		B	
7992.1 ^b 3	16 ⁺		B	J^{π} : E2 γ to 14 ⁺ .
8037.8 ^d 4	15 ⁻		B	
8079.0 4			B	
8102.8 ^d 7	16 ⁻		B E	
8117.19 [@] 25	16 ⁻	0.16 ps 1	B E	$T_{1/2}$: from DSAM in $^{54}\text{Fe}(^{58}\text{Ni},4p\gamma)$ (1999Je07).
8330.5 4	17 ⁻		B E	
8351.0 ^d 5	17 ⁻		B E	
8380.1 ^{&} 5	15 ⁻		B	
8635.4 [@] 3	17 ⁻	0.20 ps +3-1	B E	$T_{1/2}$: from DSAM in $^{54}\text{Fe}(^{58}\text{Ni},4p\gamma)$ (1999Je07).
8695.5 ^d 4	18 ⁻		B E	
8701.3 ^c 3	17 ⁻		B	
8893.0 ^b 4	18 ⁺		B	
8933.9 11			B	
9105.5 ^d 5	19 ⁻		B E	
9170.5 [@] 3	18 ⁻	0.31 ps +4-3	B E	$T_{1/2}$: from DSAM in $^{54}\text{Fe}(^{58}\text{Ni},4p\gamma)$ (1999Je07).
9232.9 ^{&} 5	17 ⁻		B	

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Adopted Levels, Gammas (continued) ^{108}Sn Levels (continued)

E(level)	$J^\pi^\dagger$	$T_{1/2}$	XREF	Comments
9579.1 ^d 5	20 ⁻	0.39 ps 9	B E	$T_{1/2}$: from DSAM in $^{54}\text{Fe}(^{58}\text{Ni},4p\gamma)$ (1999Je07).
9720.6 [@] 4	19 ⁻		B E	
9773.9 4	19 ⁻		B	
9907.5 ^b 5	20 ⁺		B	
9907.5+x ^a 5	(20 ⁻)		B	
10053.2 ^{&} 5	19 ⁻		B	
10062.3 ^d 7	21 ⁻		B E	
10355.9 [@] 5	20 ⁻		B E	
10571.4 ^d 9	22 ⁻		B E	
10836.60+x ^a 20	(22 ⁻)		B	
10954.4 ^{&} 5	21 ⁻		B	
11004.5 ^c 5	21 ⁻		B	
11026.6 ^b 7	22 ⁺		B	
11865.5+x ^a 6	(24 ⁻)		B	
11902.6 ^{&} 5	23 ⁻		B	
12251.8 ^b 8	24 ⁺		B	
12944.5 ^{&} 6	25 ⁻		B	
13061.5+x ^a 12	(26 ⁻)		B	
13607.8 ^b 9	26 ⁺		B	
14123.5 ^{&} 12	27 ⁻		B	
14447.5+x ^a 12	(28 ⁻)		B	
15121.6 ^b 10	28 ⁺		B	
15479.8 ^{&} 13	29 ⁻		B	
16024.1+x ^a 13	(30 ⁻)		B	
16826.7 ^b 11	30 ⁺		B	
17022.7 ^{&} 13	31 ⁻		B	
17801.5+x ^a 14	(32 ⁻)		B	
18722.0 ^b 11	(32 ⁺)		B	
18764.2 ^{&} 14	33 ⁻		B	
18801.0 ^b 12	(32 ⁺)		B	
19802.8+x ^a 16	(34 ⁻)		B	
20340.6 ^b 12	(34 ⁺)		B	
20746.2 ^{&} 15	(35 ⁻)		B	
22063.4 ^b 12	(36 ⁺)		B	
22087.9+x ^a 18	(36 ⁻)		B	
22987.0 ^{&} 16	(37 ⁻)		B	
23935.5 ^b 13	(38 ⁺)		B	
25559.6 ^{&} 24	(39 ⁻)		B	

[†] For levels seen only in (HI,xn γ) and without comments, the assignments are based on γ -ray multiplicities, DCO ratios, and band consideration.

[‡] L($^3\text{He},n$)=0.

Band(A): g.s. Yrast band.

@ Band(B): Magnetic-rotational band 1, based on 12⁻.

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Adopted Levels, Gammas (continued) ^{108}Sn Levels (continued)& Band(C): Magnetic-rotational band 2, based on 15^- .^a Band(D): $\pi=-$ band 3.^b Band(E): $\pi=+$ band.^c Band(F): $\pi=-$ band 4.^d Band(G): $\pi=-$ band 5.^e Band(H): $\pi=-$ band 6.

$\gamma(^{108}\text{Sn})$								
$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [‡]	$\delta^\#$	Comments
1206.07	2 ⁺	1206.1 1	100	0.0	0 ⁺	E2		B(E2)(W.u.)=15 4
2111.11	4 ⁺	905.1 1	100	1206.07	2 ⁺	E2		
2155.13	(2 ⁺)	949.2 3	100 17	1206.07	2 ⁺			
		2154.4 5	77 15	0.0	0 ⁺			
2364.46	6 ⁺	253.3 1	100	2111.11	4 ⁺	E2		B(E2)(W.u.)=2.43 14
2479.0		1272.9 3	100	1206.07	2 ⁺			
2624.68	5 ⁺	260.1 3	40 3	2364.46	6 ⁺			
		514.1 3	100 13	2111.11	4 ⁺			
2640.6		529.7 4	32 6	2111.11	4 ⁺			
		1434.4 4	100 22	1206.07	2 ⁺			
2804.6		1598.5 3	100	1206.07	2 ⁺			
2817.25	6 ⁺	192.4 3	13.3 24	2624.68	5 ⁺	Q		
		452.9 2	100 4	2364.46	6 ⁺	(Q+O)	-0.10 4	
2855.04	4 ⁺	490.7 3	18 4	2364.46	6 ⁺			
		744.0 3	28 4	2111.11	4 ⁺			
		1648.6 4	100 17	1206.07	2 ⁺			
2975.95	(3 ⁺ ,4 ⁺)	820.7 3	76 12	2155.13	(2 ⁺)			
		865.0 3	98 15	2111.11	4 ⁺			
		1769.7 5	100 17	1206.07	2 ⁺			
3074.8		1868.7 5	100	1206.07	2 ⁺			
3560.38	8 ⁺	1196.0 1	100	2364.46	6 ⁺	E2		B(E2)(W.u.)=0.107 15
3586.46	7 ⁻	962.1 3	10 3	2624.68	5 ⁺			
		1221.3 2	100 3	2364.46	6 ⁺	D(+Q)	+0.01 7	
3714.0		896.8 4	100	2817.25	6 ⁺			
3870.21	7 ⁺	1245.8 3	100 14	2624.68	5 ⁺			
		1505.7 2	90 19	2364.46	6 ⁺			
3929.9	7	1565.5 3	100	2364.46	6 ⁺			
4000.6	8 ⁺	1183.4 3	100 5	2817.25	6 ⁺			
		1636.5 5	11 4	2364.46	6 ⁺			
4145.69	8 ⁻	216 1	<4.7	3929.9	7			
		275.5 1	34.0 19	3870.21	7 ⁺			
		559.1 1	47 5	3586.46	7 ⁻	D(+Q)	-0.01 2	
		585.4 1	100 3	3560.38	8 ⁺			
4159.54	8 ⁺	1795.1 2	100	2364.46	6 ⁺			
4176.24	9 ⁻	615.9 2	100	3560.38	8 ⁺	D(+Q)	-0.05 5	
4256.00	10 ⁺	255.3 3	7.0 9	4000.6	8 ⁺			
		695.6 1	100.0 12	3560.38	8 ⁺	E2		
4398.95	9 ⁺	812.4 3	100 9	3586.46	7 ⁻			
		838.7 3	67 6	3560.38	8 ⁺			
4500.34	10 ⁺	940.0 1	100	3560.38	8 ⁺	E2		
5062.1	9	1132.3 3	100 12	3929.9	7			
		1502 1	88 18	3560.38	8 ⁺			
5140.71	10 ⁻	995.0 1	100	4145.69	8 ⁻	E2		
5316.94	11 ⁻	1061.3 3	1.4 3	4256.00	10 ⁺			
		1140.7 1	100 3	4176.24	9 ⁻	E2		

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Adopted Levels, Gammas (continued)

$\gamma(^{108}\text{Sn})$ (continued)							
$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult. ‡	$\delta^\#$
5416.07	12 ⁺	915.9 2	19.4 7	4500.34	10 ⁺		
		1160.0 1	100.0 20	4256.00	10 ⁺	E2	
5699.4		1523.1 3	100	4176.24	9 ⁻		
5753.91	10 ⁺	692.1 3	43 10	5062.1	9		
		1253.5 2	79 7	4500.34	10 ⁺		
		1355.0 2	100 9	4398.95	9 ⁺		
		1497.8 2	58 6	4256.00	10 ⁺		
		1594.5 2	31 6	4159.54	8 ⁺		
		1753.6 4	14 6	4000.6	8 ⁺		
		2040.1 6	7 4	3714.0			
		2192.4 5	3.7 16	3560.38	8 ⁺		
5756.4		1501 1	100	4256.00	10 ⁺		
5765.52	10 ⁺	703.2 3	40 4	5062.1	9		
		1265.2 3	50 3	4500.34	10 ⁺		
		1366 1	6 4	4398.95	9 ⁺		
		1509.7 3	100 6	4256.00	10 ⁺		
		1605.3 5	3.8 19	4159.54	8 ⁺		
5959.22	12 ⁻	642.2 2	13.8 17	5316.94	11 ⁻		
		818.5 1	100.0 20	5140.71	10 ⁻		
5970.4	(10 ⁺)	1714.1 5	100	4256.00	10 ⁺		
6070.22	12 ⁻	929.5 1	100	5140.71	10 ⁻		
6099.14	13 ⁻	140.3 5	<2.4	5959.22	12 ⁻		
		683.1 1	100	5416.07	12 ⁺	D+Q	-0.05 2
		782.4 3	26.9 9	5316.94	11 ⁻		
6163.2		1022.5 2	100	5140.71	10 ⁻		
6315.98	13 ⁻	356.6 2	7.3 11	5959.22	12 ⁻		
		900.6 3		5416.07	12 ⁺		
		998.9 1	100	5316.94	11 ⁻	E2	
6374.6	13 ⁻	958.2 3	14 2	5416.07	12 ⁺		
		1057.9 5	100 2	5316.94	11 ⁻	E2	
6493.75	12 ⁺	523.3 3	13.7 18	5970.4	(10 ⁺)		
		728.1 2	99.3 21	5765.52	10 ⁺	E2	
		739.9 2	100.0 21	5753.91	10 ⁺		
		1176.9 2	31 2	5316.94	11 ⁻		
6530.13	14 ⁻	214.1 1	38 3	6315.98	13 ⁻		
		431.0 1	100 4	6099.14	13 ⁻	D+Q	-0.21 9
		570.9 4	30 4	5959.22	12 ⁻		
6665.94	12 ⁻	1349.3 2	100	5316.94	11 ⁻		
6885.86	13 ⁻	220.0 1	43 3	6665.94	12 ⁻		
		569.8 1	100 9	6315.98	13 ⁻		
		788 1	29 6	6099.14	13 ⁻		
		815.6 2	45 5	6070.22	12 ⁻		
		1130 1	<15	5756.4			
		1469.7 1	64 4	5416.07	12 ⁺	D	
		1569.2 2	12 3	5316.94	11 ⁻	Q	
7028.6		1069.4 2	100	5959.22	12 ⁻		
7035.9	(13 ⁻)	721 1	100	6315.98	13 ⁻		
7183.57	14 ⁻	297.7 1	100 4	6885.86	13 ⁻		
		653.4 1	84 6	6530.13	14 ⁻		
		867.8 5	11 3	6315.98	13 ⁻		
		1084.9 3	41 4	6099.14	13 ⁻		
7195.0	15 ⁻	820.0 3	41 7	6374.6	13 ⁻		
		879.4 3	23 3	6315.98	13 ⁻		
		1095.8 3	100 5	6099.14	13 ⁻	E2	
7200.9	14 ⁺	707.1 2	100	6493.75	12 ⁺	E2	

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Adopted Levels, Gammas (continued) $\gamma(^{108}\text{Sn})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [‡]
7299.6	(15 ⁻)	925.0 3	100	6374.6	13 ⁻	
7480.4		1106.1 3	48 10	6374.6	13 ⁻	
		1381.0 3	100 10	6099.14	13 ⁻	
7607.26	15 ⁻	423.7 1	100 3	7183.57	14 ⁻	
		721.2 3	11.0 23	6885.86	13 ⁻	
7646.3		1547.5 5	100	6099.14	13 ⁻	
7789.9	16 ⁻	1259.7 3	100	6530.13	14 ⁻	
7790.1	15 ⁻	595.0 3	100 12	7195.0	15 ⁻	
		754.3 3	100 12	7035.9	(13 ⁻)	
		1474.1 3	82 12	6315.98	13 ⁻	
7992.1	16 ⁺	791.2 1	100	7200.9	14 ⁺	E2
8037.8	15 ⁻	1721.5 5	100 13	6315.98	13 ⁻	
		1938.8 5	75 9	6099.14	13 ⁻	
8079.0		289 1	16 5	7789.9	16 ⁻	
		884.0 3	100 9	7195.0	15 ⁻	
8117.19	16 ⁻	509.9 1	100 11	7607.26	15 ⁻	
		933.8 3	83 17	7183.57	14 ⁻	
8330.5	17 ⁻	1135.6 3	100	7195.0	15 ⁻	
8351.0	17 ⁻	248.2 5		8102.8	16 ⁻	
		313.0 5		8037.8	15 ⁻	
8635.4	17 ⁻	518.2 2	100 7	8117.19	16 ⁻	
		1028.3 5	20 6	7607.26	15 ⁻	
8695.5	18 ⁻	344.6 4	53 33	8351.0	17 ⁻	
		365.1 5	100 10	8330.5	17 ⁻	
		579 1	47 17	8117.19	16 ⁻	
		592 @		8102.8	16 ⁻	
8701.3	17 ⁻	911.3 2	100 5	7790.1	15 ⁻	
		1055.3 5		7646.3		
		1506.1 3	52 7	7195.0	15 ⁻	
8893.0	18 ⁺	900.9 2	100	7992.1	16 ⁺	E2
8933.9		1144 1		7789.9	16 ⁻	
9105.5	19 ⁻	410.0 3	100 14	8695.5	18 ⁻	
		470 1	37 9	8635.4	17 ⁻	
		753 1		8351.0	17 ⁻	
		775.1 5	9.0 6	8330.5	17 ⁻	
9170.5	18 ⁻	535.1 1	67 17	8635.4	17 ⁻	
		1053.1 5	100 13	8117.19	16 ⁻	
9232.9	17 ⁻	852.8 2	100 9	8380.1	15 ⁻	
		1240.8 5	7 4	7992.1	16 ⁺	
9579.1	20 ⁻	408 1	35 20	9170.5	18 ⁻	
		473.6 3	100 15	9105.5	19 ⁻	
		885 1		8695.5	18 ⁻	
9720.6	19 ⁻	550.2 2	57 14	9170.5	18 ⁻	
		1084.8 8	100 19	8635.4	17 ⁻	
9773.9	19 ⁻	1072.6 3	100 16	8701.3	17 ⁻	
9907.5	20 ⁺	1014.5 3	100	8893.0	18 ⁺	E2
9907.5+x	(20 ⁻)	x		9907.5	20 ⁺	
10053.2	19 ⁻	820.3 3	100	9232.9	17 ⁻	
10062.3	21 ⁻	483.4 5		9579.1	20 ⁻	
		956 1		9105.5	19 ⁻	
10355.9	20 ⁻	635.5 4	83 42	9720.6	19 ⁻	
		1183.8 10	100 42	9170.5	18 ⁻	
10571.4	22 ⁻	509.4 8		10062.3	21 ⁻	
		992 1		9579.1	20 ⁻	
10836.60+x	(22 ⁻)	929.1 2	100	9907.5+x	(20 ⁻)	

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Adopted Levels, Gammas (continued)

$\gamma(^{108}\text{Sn})$ (continued)						
$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\dagger$	E_f	J_f^π	Mult. [‡]
10954.4	21 ⁻	901.2 2		10053.2	19 ⁻	
		1044 @		9907.5	20 ⁺	
		1180.7 3		9773.9	19 ⁻	
11004.5	21 ⁻	1230.4 3	100	9773.9	19 ⁻	
11026.6	22 ⁺	1119.1 4	100	9907.5	20 ⁺	E2
11865.5+x	(24 ⁻)	1028.9 5	100	10836.60+x	(22 ⁻)	
11902.6	23 ⁻	898.0 2		11004.5	21 ⁻	
		948.4 3		10954.4	21 ⁻	
12251.8	24 ⁺	1225.2 4	100	11026.6	22 ⁺	E2
12944.5	25 ⁻	1041.9 4	100	11902.6	23 ⁻	
13061.5+x	(26 ⁻)	1196 1	100	11865.5+x	(24 ⁻)	
13607.8	26 ⁺	1356.0 4	100	12251.8	24 ⁺	E2
14123.5	27 ⁻	1179 1	100	12944.5	25 ⁻	
14447.5+x	(28 ⁻)	1386.0 4	100	13061.5+x	(26 ⁻)	
15121.6	28 ⁺	1513.8 4	100	13607.8	26 ⁺	E2
15479.8	29 ⁻	1356.3 4	100	14123.5	27 ⁻	
16024.1+x	(30 ⁻)	1576.6 5	100	14447.5+x	(28 ⁻)	
16826.7	30 ⁺	1705.1 4	100	15121.6	28 ⁺	E2
17022.7	31 ⁻	1542.8 4	100	15479.8	29 ⁻	
17801.5+x	(32 ⁻)	1777.3 5	100	16024.1+x	(30 ⁻)	
18722.0	(32 ⁺)	1895.4 5	100	16826.7	30 ⁺	E2
18764.2	33 ⁻	1741.5 4	100	17022.7	31 ⁻	
18801.0	(32 ⁺)	1974.0 6		16826.7	30 ⁺	
19802.8+x	(34 ⁻)	2001.3 6	100	17801.5+x	(32 ⁻)	
20340.6	(34 ⁺)	1539.5 5	80 30	18801.0	(32 ⁺)	
		1618.8 5	100 30	18722.0	(32 ⁺)	
20746.2	(35 ⁻)	1982.0 6	100	18764.2	33 ⁻	
22063.4	(36 ⁺)	1722.7 4	100	20340.6	(34 ⁺)	
22087.9+x	(36 ⁻)	2285.1 8	100	19802.8+x	(34 ⁻)	
22987.0	(37 ⁻)	2240.8 6	100	20746.2	(35 ⁻)	
23935.5	(38 ⁺)	1872.1 5	100	22063.4	(36 ⁺)	
25559.6	(39 ⁻)	2569 @	100	22987.0	(37 ⁻)	

[†] Weighted average from 1993Wa16, 1997Ju01, and 1997JeZZ in (HI,xn γ).

[‡] From $\gamma(\theta)$ and linear polarization in (HI,xn γ) (1989Az02) and DCO (1993Wa13,1997Ju01).

[#] From $\gamma(\theta)$ in (HI,xn γ) (1981An06) for adopted J^π values. Phase convention not stated so only relative phases are significant.

@ Placement of transition in the level scheme is uncertain.

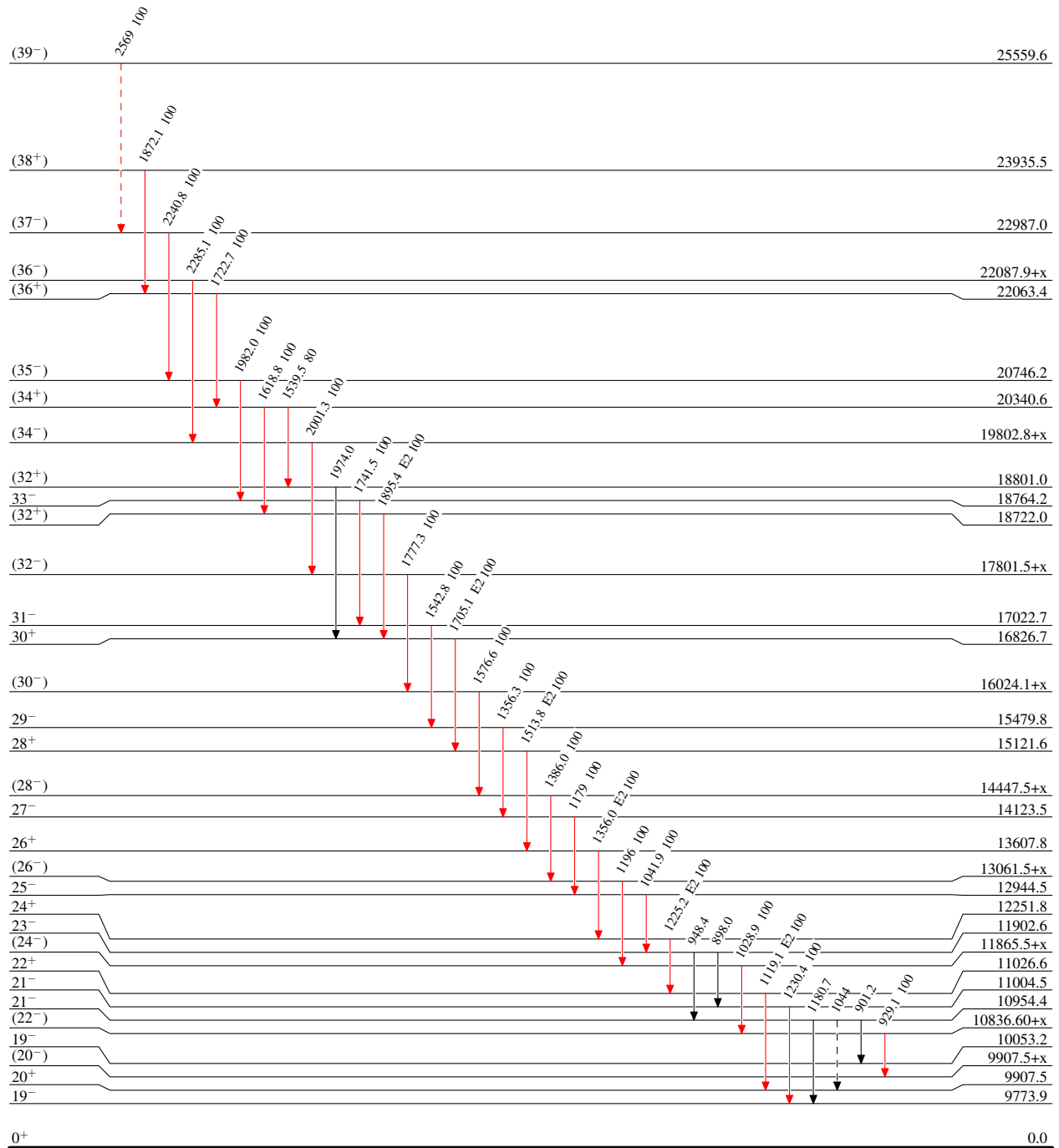
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Type not specified

- $I_\gamma < 2\% \times I_\gamma^{\max}$
 —→ $I_\gamma < 10\% \times I_\gamma^{\max}$
 —→ $I_\gamma > 10\% \times I_\gamma^{\max}$
 - - - - -→ γ Decay (Uncertain)



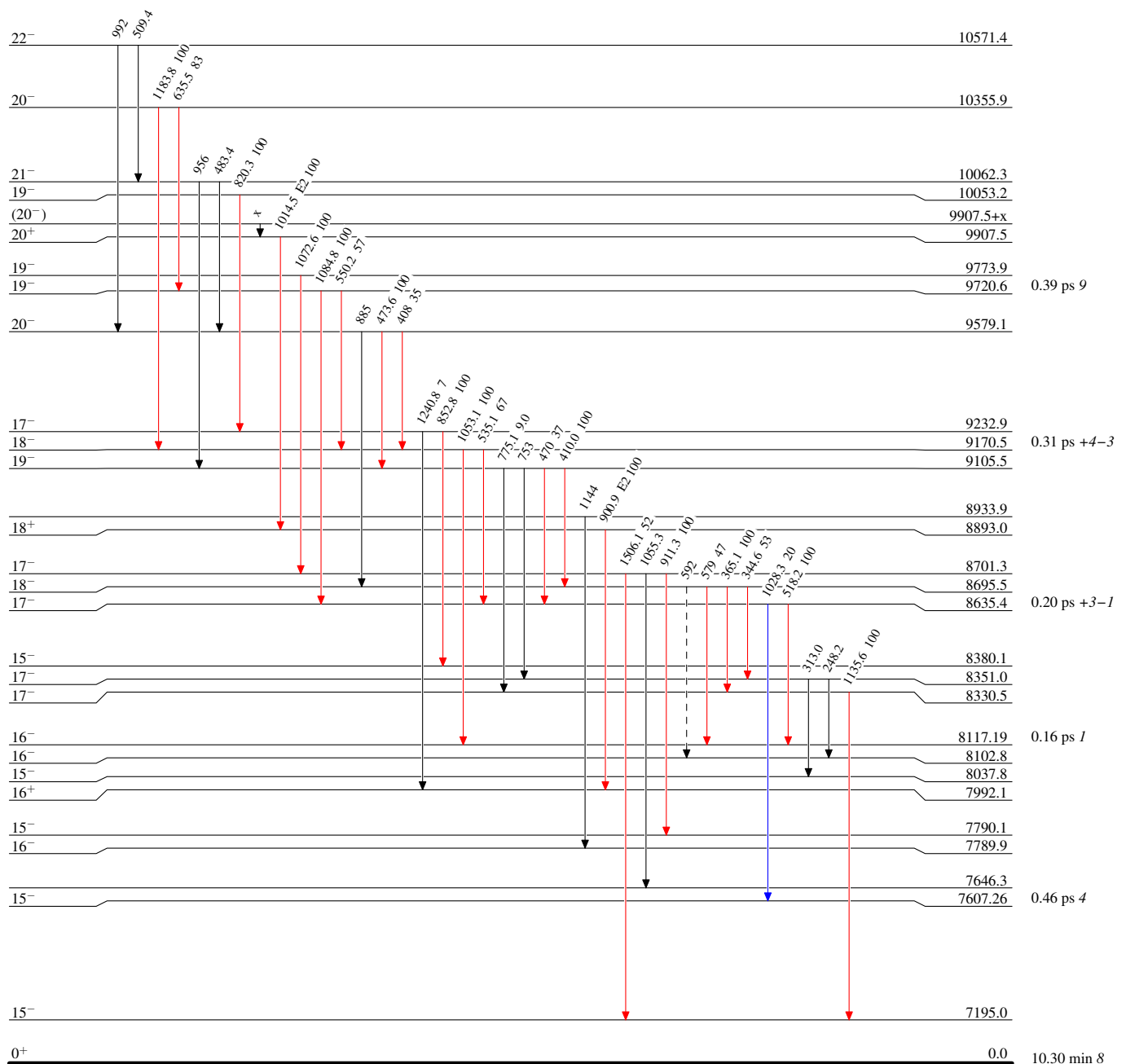
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Type not specified

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ γ Decay (Uncertain)

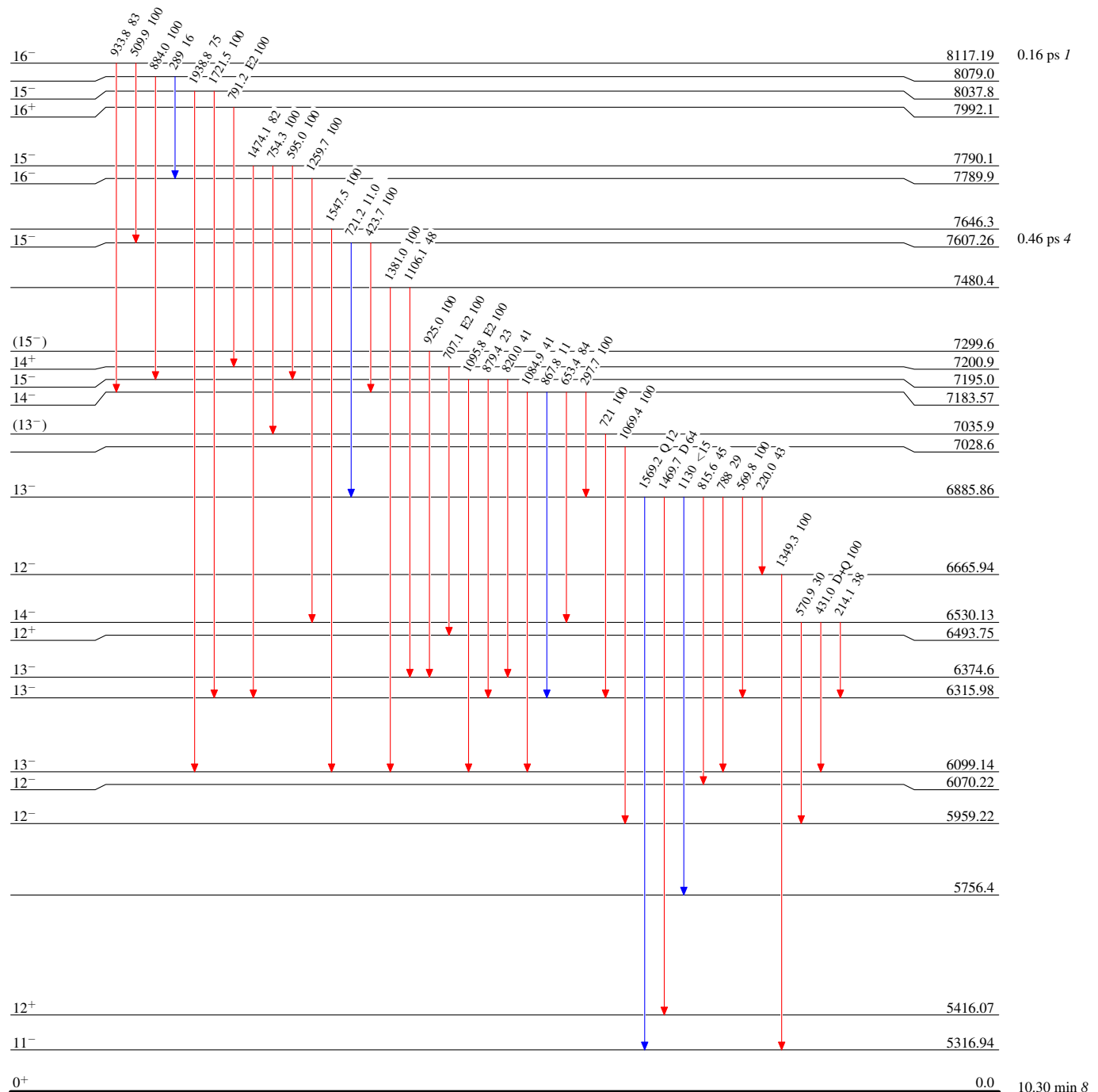


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

-  $I_\gamma < 2\% \times I_\gamma^{\max}$
 $I_\gamma < 10\% \times I_\gamma^{\max}$
 $I_\gamma > 10\% \times I_\gamma^{\max}$

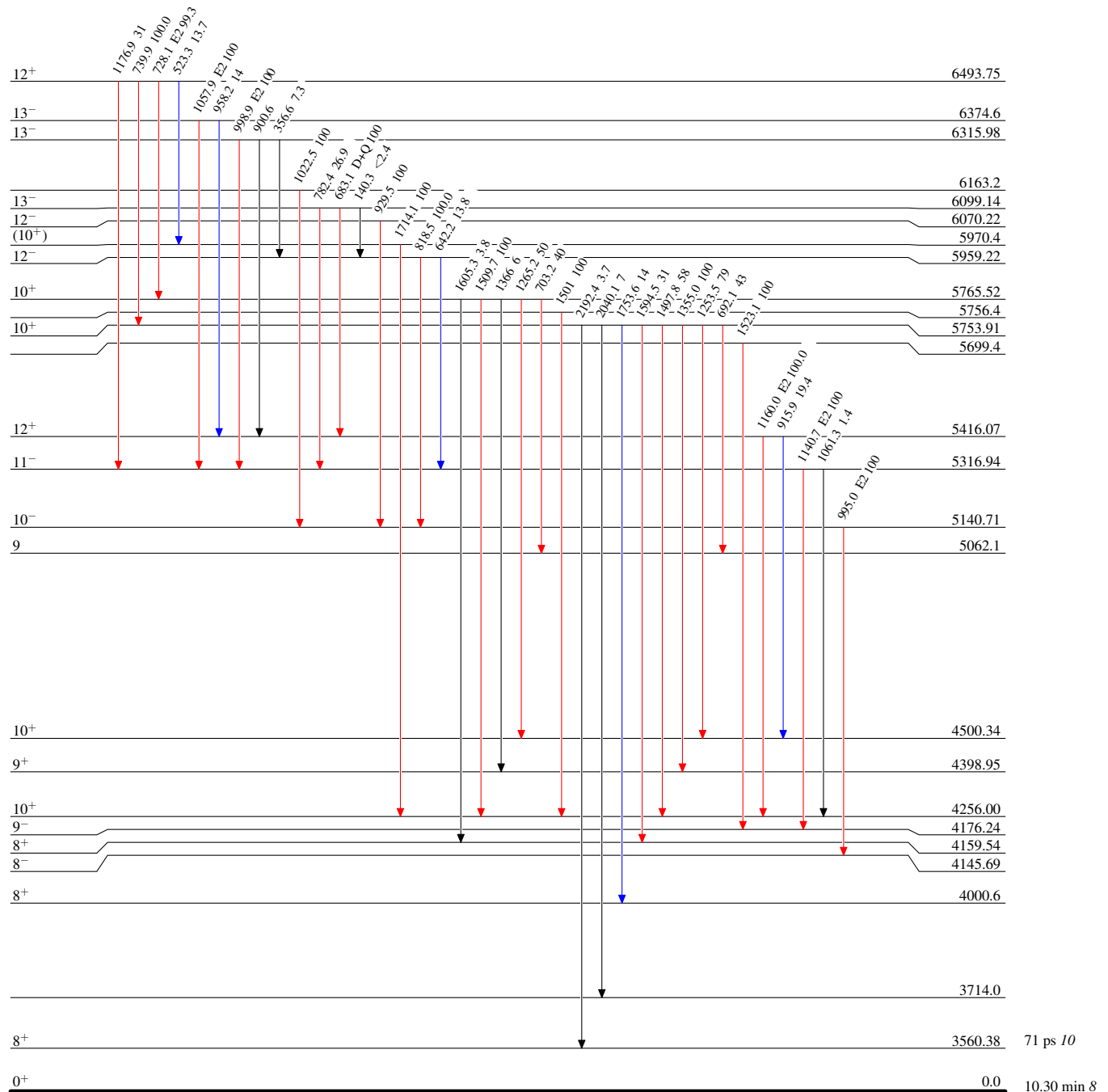


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\max}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\max}$

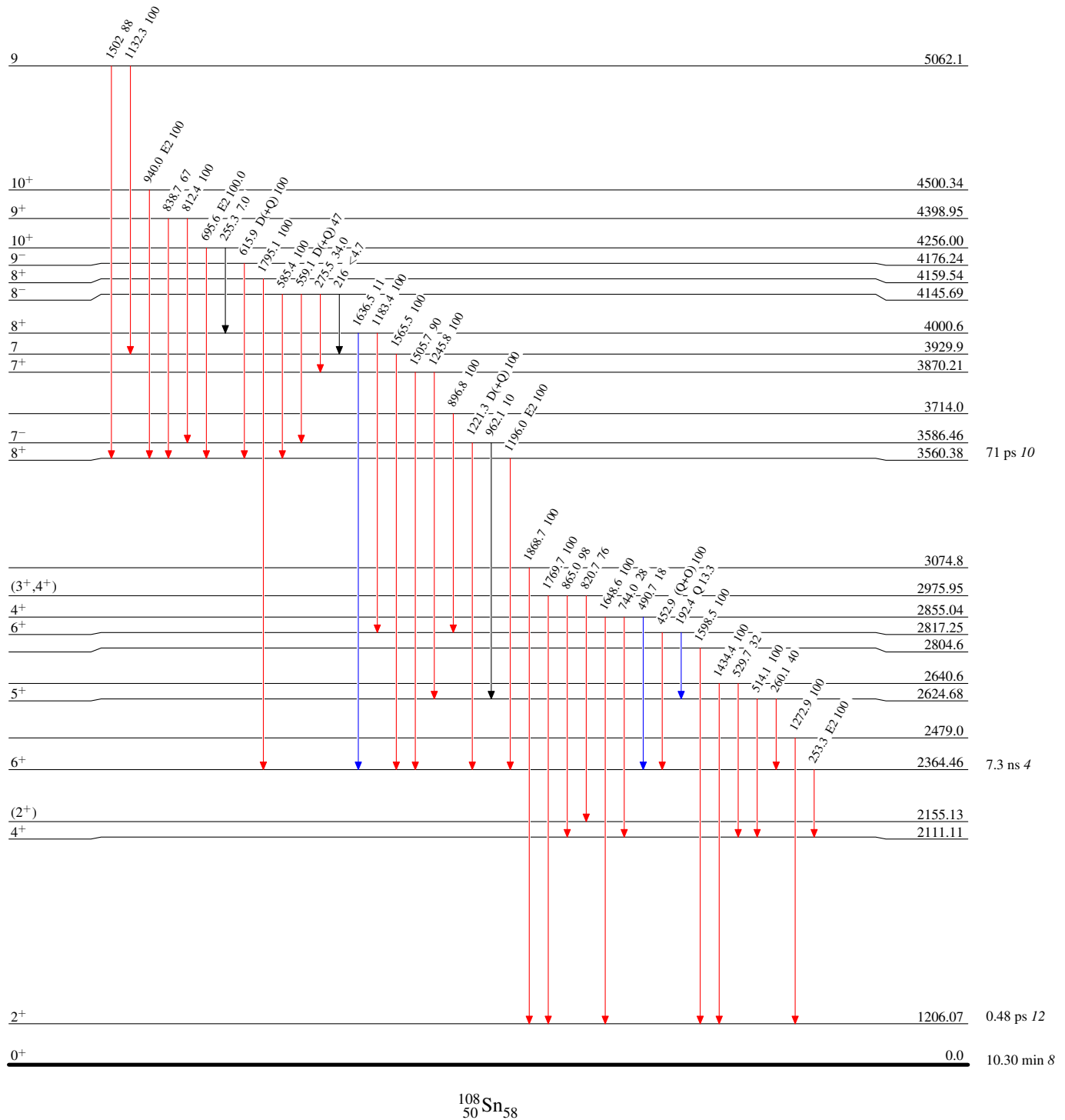


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$



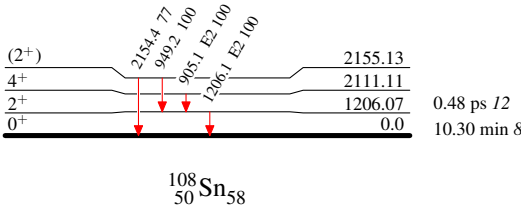
Adopted Levels, Gammas

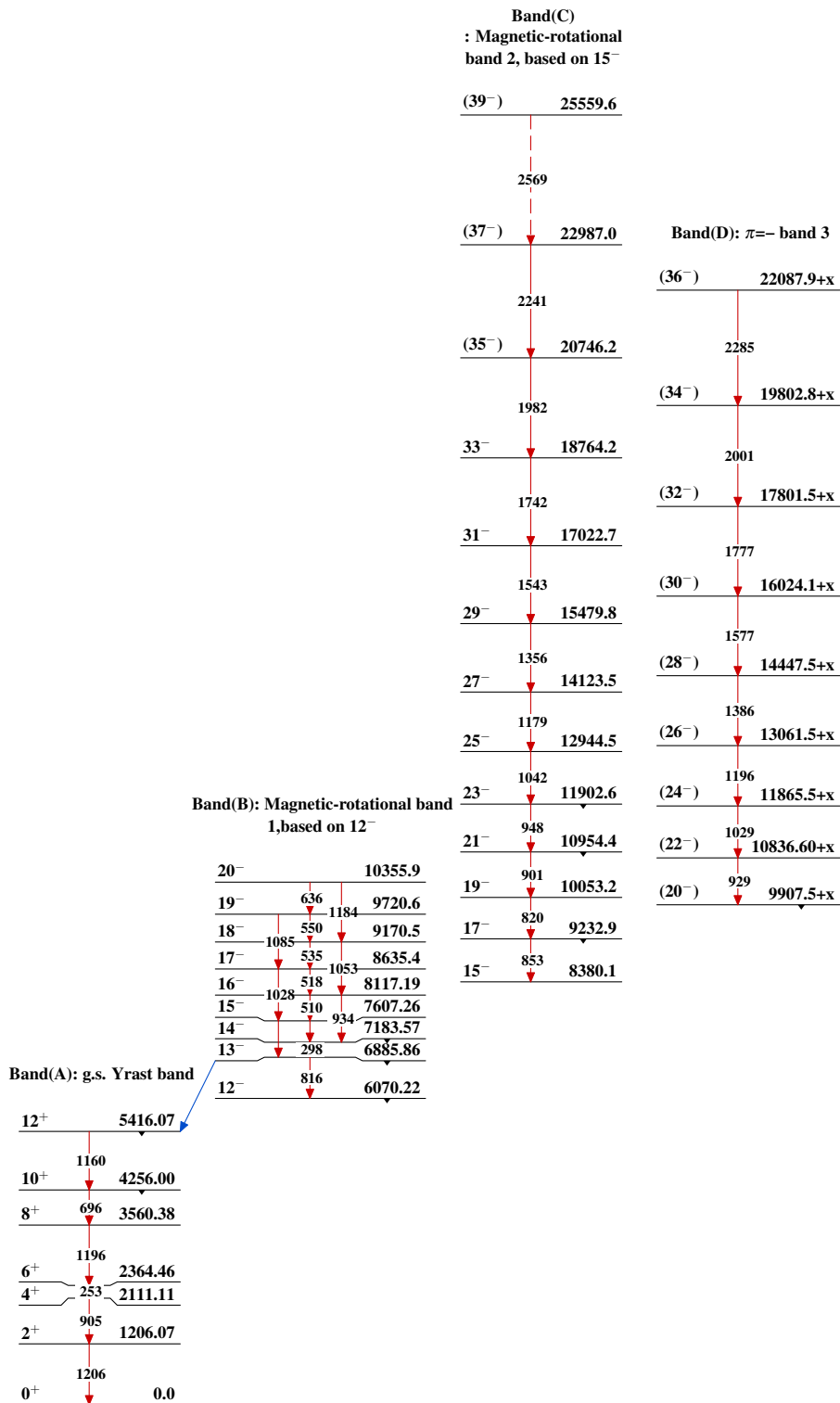
Level Scheme (continued)

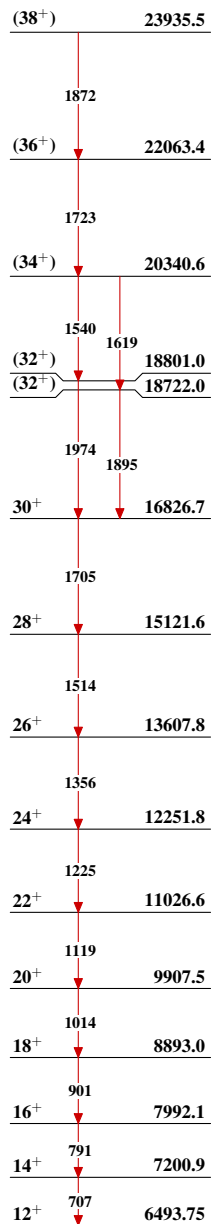
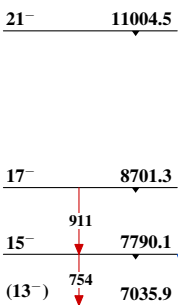
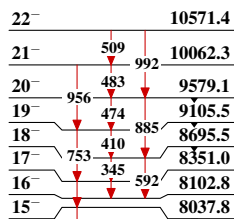
Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



Adopted Levels, Gammas

Adopted Levels, Gammas (continued)Band(E): $\pi=+$ bandBand(F): $\pi=-$ band 4Band(G): $\pi=-$ band 5Band(H): $\pi=-$ band 6