^{120}Sn(^{55}Mn,4nγ) 2013Ha36

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin, E. A. Mccutchan	NDS 151, 334 (2018)	30-Jun-2018

2013Ha36: E(^{55}Mn)=257 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$ ratios using Gammasphere array consisting of 100 Compton-suppressed HPGe detectors.

^{171}Re Levels

In quasiparticle notation, A, B, C, D refer to neutrons in $i_{13/2}$ orbital; E_p, F_p to protons in $h_{11/2}$ orbital.

E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ
0.0‡	9/2−	2043.2& 5	23/2−	3587.8k 5	35/2+	5330.8‡ 4	49/2−
157.1# 2	11/2−	2072.2‡ 3	25/2−	3597.2g 5	35/2+	5361.2k 6	47/2+
189.4@ 5	5/2−	2104.4f 5	23/2+	3636.1# 4	39/2−	5368.7@ 4	49/2−
192.8 7		2129.2g 5	23/2+	3697.9e 6	37/2+	5380.5d 5	(47/2+)
231.4e 5	5/2+	2138.5h 5	25/2+	3723.3h 6	37/2+	5472.5e 6	49/2+
257.7g 7	3/2+	2228.1e 6	25/2+	3846.4i 5	37/2+	5473.1g 7	47/2+
284.8@ 5	9/2−	2343.6# 3	27/2−	3891.8a 5	(37/2−)	5480.0b 5	47/2(+)
300.7& 5	3/2−	2391.3f 6	27/2+	3937.6‡ 4	41/2−	5567.8h 6	49/2+
380.92‡ 16	13/2−	2444.7@ 5	29/2−	3958.5& 5	39/2−	5702.8c 6	(49/2+)
381.6f 5	7/2+	2480.4i 5	25/2+	4016.1f 6	39/2+	5716.5# 4	51/2−
447.3& 5	7/2−	2546.0‡ 3	29/2−	4069.1@ 5	41/2−	5740.9j 6	49/2+
513.8@ 5	13/2−	2571.1g 5	27/2+	4133.7k 5	39/2+	5794.7i 6	49/2+
531.3g 6	7/2+	2578.8& 5	27/2−	4185.4g 6	39/2+	5802.0f 6	51/2+
553.3e 5	9/2+	2592.1e 6	29/2+	4221.9b 5	39/2(+)	5924.6& 6	51/2−
614.45# 19	15/2−	2611.1h 5	29/2+	4266.8# 4	43/2−	5974.1a 6	(49/2−)
700.3& 5	11/2−	2704.9# 3	31/2−	4339.7e 6	41/2+	6027.4k 6	51/2+
757.8f 5	11/2+	2708.7k 6	27/2+	4351.5h 6	41/2+	6042.4d 6	(51/2+)
868.6@ 5	17/2−	2829.6f 6	31/2+	4433.7i 6	41/2+	6092.5‡ 4	53/2−
894.34‡ 21	17/2−	2880.6i 5	29/2+	4543.2& 5	43/2−	6114.0@ 4	53/2−
909.0g 6	11/2+	2889.2‡ 3	33/2−	4585.2a 5	(41/2−)	6159.3e 6	53/2+
960.7e 5	13/2+	3007.4@ 5	33/2−	4606.1‡ 4	45/2−	6163.6g 8	51/2+
1064.7& 5	15/2−	3007.7& 5	31/2−	4630.1f 6	43/2+	6225.2b 5	51/2(+)
1162.45# 23	19/2−	3029.3 5	31/2−	4685.8@ 4	45/2−	6234.0h 6	53/2+
1185.7f 5	15/2+	3058.0g 5	31/2+	4727.9k 6	43/2+	6403.9c 7	(53/2+)
1304.6g 6	15/2+	3062.2 6	31/2+	4804.1b 5	43/2(+)	6451.2j 6	53/2+
1326.0@ 5	21/2−	3095.9e 6	33/2+	4812.0d 5	(43/2+)	6507.3# 4	55/2−
1392.9e 5	17/2+	3106.7# 4	35/2−	4819.7g 6	43/2+	6548.0f 6	53/2+
1423.7h 5	17/2+	3111.0k 6	31/2+	4896.2e 6	45/2+	6550.5i 6	53/2+
1474.34‡ 24	21/2−	3140.7h 5	33/2+	4964.3h 6	45/2+	6698.0& 6	55/2−
1521.4& 5	19/2−	3261.8a 5	(33/2−)	4967.9# 4	47/2−	6733.2k 7	55/2+
1631.1f 5	19/2+	3315.8 6	33/2+	5059.2j 6	45/2+	6742.8a 8	(53/2−)
1704.0g 5	19/2+	3326.3i 5	33/2+	5084.1i 6	45/2+	6775.3d 7	(55/2+)
1732.8h 5	21/2+	3355.0‡ 4	37/2−	5084.6c 5	(45/2+)	6889.1‡ 4	57/2−
1758.0# 3	23/2−	3386.1f 6	35/2+	5172.4f 6	47/2+	6902.9g 10	55/2+
1861.5@ 5	25/2−	3458.2& 5	35/2−	5203.4& 6	47/2−	6921.3@ 4	57/2−
1864.2e 5	21/2+	3518.6@ 5	37/2−	5269.8a 6	(45/2−)	6950.4h 6	57/2+

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^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

^{171}Re Levels (continued)

E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ
6966.6[e] 6	57/2+	7926.2?[b] 12	(59/2+)	8879.1[j] 10	65/2+	10408.6[h] 9	73/2+
7050.2[b] 6	55/2(+)	7975.4[c] 8	(61/2+)	9047.7[i] 14	65/2+	10553.3‡ 8	73/2−
7164.4[c] 7	(57/2+)	8011.2[j] 9	61/2+	9195.5[k] 8	67/2+	10783.8[j] 12	73/2+
7204.4[j] 7	57/2+	8173.6[i] 10	61/2+	9238.4# 8	67/2−	11136.4[k] 11	75/2+
7339.7[i] 8	57/2+	8262.1# 6	63/2−	9299.0?[f] 13	(67/2+)	11407.2& 14	75/2−
7351.4# 5	59/2−	8310.9[k] 7	63/2+	9370.5& 9	67/2−	11440.3[h] 10	77/2+
7399.2[f] 6	59/2+	8328.0[f] 8	63/2+	9447.1[h] 7	69/2+	11592.2‡ 9	77/2−
7491.3[k] 7	59/2+	8399.5[d] 10	(63/2+)	9452.7[g] 16	67/2+	11820.8[j] 16	77/2+
7524.6& 7	59/2−	8408.7& 7	63/2−	9555.0‡ 6	69/2−	12175.3[k] 12	79/2+
7561.6[d] 8	(59/2+)	8549.7[g] 12	63/2+	9755.0@ 12	69/2−	12533.3?[h] 14	(81/2+)
7700.5[g] 11	59/2+	8557.6[h] 6	65/2+	9805.7[j] 11	69/2+	12632.2‡ 14	81/2−
7725.7‡ 5	61/2−	8611.8‡ 5	65/2−	10138.8[k] 9	71/2+	13234.3?[k] 16	(83/2+)
7730.9[h] 6	61/2+	8748.0@ 7	65/2−	10229.4# 13	71/2−	13698.2‡ 17	85/2−
7797.5@ 5	61/2−	8793.8[e] 12	65/2+	10372.2& 10	71/2−		
7850.8[e] 7	61/2+	8845.4[c] 11	(65/2+)	10402.7[g] 19	71/2+		

† From least-squares fit to Eγ, by evaluators.

‡ Band(A): Band 1: π9/2[514],α=+1/2. Backbend at ħω≈0.23 MeV due to neutron pair AB crossing. Another gain in alignment at ħω≈0.38 MeV due to Cd crossing. Still another alignment is observed at ħω≈0.5 MeV only in α=+1/2 signature band which may due to proton pair crossing E_pF_p.

Band(a): Band 1: π9/2[514],α=−1/2. Backbend at ħω≈0.23 MeV due to neutron pair AB crossing. Another gain in alignment at ħω≈0.38 MeV due to Cd crossing.

@ Band(B): Band 2: π1/2[541],α=+1/2. Backbend at ħω≈0.28 MeV due to neutron pair AB crossing. Another gain in alignment at higher frequency due to Cd crossing.

& Band(b): Band 2: π1/2[541],α=−1/2. Backbend at ħω≈0.24 MeV due to neutron pair AB crossing. Another gain in alignment at higher frequency due to Cd crossing. Still another alignment is observed higher up only in α=−1/2 signature band which may due to proton pair crossing E_pF_p.

[a] Band(C): Band 3 based on (33/2−). Tentative assignment: continuation of 1/2[541] band with bcad alignment.

[b] Band(D): Band 4 based on 39/2(+).

[c] Band(E): Band 5: π$h_{11/2}$⊗νAFBC,α=+1/2. Possible 5-qp band.

[d] Band(e): Band 5: π$h_{11/2}$⊗νAFBC,α=−1/2. Possible 5-qp band.

[e] Band(F): Band 6: π5/2[402],α=+1/2. Backbend at ħω≈0.20 MeV due to neutron pair AB crossing. Another gain in alignment at ħω≈0.30 MeV due to BC crossing. Thus at higher energies configuration is π5/2[402]⊗νaebc.

[f] Band(f): Band 6: π5/2[402],α=−1/2. Backbend at ħω≈0.20 MeV due to neutron pair AB crossing. Another gain in alignment at ħω≈0.30 MeV due to BC crossing. Thus at higher energies configuration is π5/2[402]⊗νaebc.

[g] Band(G): Band 7: π1/2[411],α=−1/2. Alignment at higher frequencies may be due to BC or ad crossing or due to unfavored signature π$i_{13/2}$⊗νAB.

[h] Band(H): Band 8: π1/2[660],α=+1/2. Backbend at ħω≈0.31 MeV due to neutron pair AB crossing.

[i] Band(I): Band 9 based on 25/2+. Possible configuration=(π$h_{9/2}$)ν(af); tentative Cd crossing at ħω≈0.38 MeV.

[j] Band(J): Band 10 based on 45/2+. Possible configuration=π$h_{9/2}$⊗ν(afbc) above ħω=0.33 MeV.

[k] Band(K): Band 11 based on 27/2+. Possible configuration=(π$h_{9/2}$)ν(ae); π$h_{9/2}$⊗ν(aebc) above ħω=0.33 MeV.

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$\gamma(^{171}Re)$

R(θ)=angular correlation ratio deduced from intensities of γ rays (in coincidence with two quadrupole transitions) in five forward rings and those in five rings at 90°. Expected ratios are 1.0 for stretched quadrupoles and 0.6 for stretched dipoles.

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
95.4 *2*	≈20[‡]	284.8	9/2$^-$	189.4	5/2$^-$		R(θ)=0.69 *7*; inconsistent with stretched Q from J^π assignments.
107.9 *5*	<0.5	300.7	3/2$^-$	192.8			
110.9 *5*	<0.5	300.7	3/2$^-$	189.4	5/2$^-$		
123.7 *2*	10 *1*	2228.1	25/2$^+$	2104.4	23/2$^+$	D	R(θ)=0.67 *5*.
127.8 *5*	0.7 *1*	284.8	9/2$^-$	157.1	11/2$^-$		
146.5 *2*	1.4 *1*	447.3	7/2$^-$	300.7	3/2$^-$		
150.2 *2*	≈57[‡]	381.6	7/2$^+$	231.4	5/2$^+$	D	R(θ)=0.76 *3*.
157.1 *2*	≈92[‡]	157.1	11/2$^-$	0.0	9/2$^-$	(D)	R(θ)=0.70 *2* for 157.5+158.9.
158.9 *2*	48 *4*	2704.9	31/2$^-$	2546.0	29/2$^-$	(D)	R(θ)=0.70 *2* for 157.5+158.9.
162.1 *5*	<0.5	447.3	7/2$^-$	284.8	9/2$^-$		
163.2 *2*	22 *1*	2391.3	27/2$^+$	2228.1	25/2$^+$	D	R(θ)=0.68 *3*.
171.6 *2*	56 *3*	553.3	9/2$^+$	381.6	7/2$^+$		R(θ)=0.71 *2*.
184.3 *2*	55 *3*	2889.2	33/2$^-$	2704.9	31/2$^-$	D	R(θ)=0.64 *3*.
186.8 *5*	<0.5	700.3	11/2$^-$	513.8	13/2$^-$		
200.8 *2*	19 *2*	2592.1	29/2$^+$	2391.3	27/2$^+$	D	R(θ)=0.83 *4*.
202.3 *2*	62 *3*	2546.0	29/2$^-$	2343.6	27/2$^-$	D	R(θ)=0.71 *3*.
202.9 *2*	49 *5*	960.7	13/2$^+$	757.8	11/2$^+$	D	R(θ)=0.73 *2* for 202.9+204.5.
204.5 *2*	56 *6*	757.8	11/2$^+$	553.3	9/2$^+$	D	R(θ)=0.73 *2* for 204.5+202.9.
207.3 *2*	26 *3*	1392.9	17/2$^+$	1185.7	15/2$^+$	D	R(θ)=0.75 *4*.
217.5 *2*	54 *2*	3106.7	35/2$^-$	2889.2	33/2$^-$	D	R(θ)=0.64 *3*.
223.8 *2*	≈108[‡]	380.92	13/2$^-$	157.1	11/2$^-$	D	R(θ)=0.81 *3*.
225.0 *2*	39 *2*	1185.7	15/2$^+$	960.7	13/2$^+$	D	R(θ)=0.70 *4*.
229.1 *2*	93 *5*	513.8	13/2$^-$	284.8	9/2$^-$	Q	R(θ)=0.81 *2*.
233.1 *2*	12.5 *9*	1864.2	21/2$^+$	1631.1	19/2$^+$		
233.5 *2*	93 *5*	614.45	15/2$^-$	380.92	13/2$^-$	D	R(θ)=0.79 *3*.
237.5 *2*	17 *2*	2829.6	31/2$^+$	2592.1	29/2$^+$	D	R(θ)=0.77 *4*.
238.0 *2*	19 *2*	1423.7	17/2$^+$	1185.7	15/2$^+$	D	R(θ)=0.65 *4*.
238.1 *2*	23 *1*	1631.1	19/2$^+$	1392.9	17/2$^+$		R(θ)=0.80 *4* for 238.1+240.3.
240.3 *2*	10.7 *8*	2104.4	23/2$^+$	1864.2	21/2$^+$		R(θ)=0.80 *4* for 238.1+240.3.
248.3 *2*	48 *2*	3355.0	37/2$^-$	3106.7	35/2$^-$	D	R(θ)=0.63 *3*.
253.0 *2*	6.6 *4*	700.3	11/2$^-$	447.3	7/2$^-$		R(θ)=0.68 *7*; inconsistent with stretched Q from J^π assignments.
253.6 *5*	0.8 *1*	3315.8	33/2$^+$	3062.2	31/2$^+$		
257.7 *5*	0.7 *1*	3315.8	33/2$^+$	3058.0	31/2$^+$		
258.0 *2*	3.5 *2*	447.3	7/2$^-$	189.4	5/2$^-$	D	R(θ)=0.8 *1*.
266.1 *2*	6.9 *4*	4896.2	45/2$^+$	4630.1	43/2$^+$		R(θ)=0.79 *3* for 266.1+266.2.
266.2 *2*	18 *1*	3095.9	33/2$^+$	2829.6	31/2$^+$		R(θ)=0.79 *3* for 266.2+266.1.
268.1 *2*	66 *3*	1162.45	19/2$^-$	894.34	17/2$^-$	D	R(θ)=0.76 *3*.
269.6 *2*	2.3 *2*	2880.6	29/2$^+$	2611.1	29/2$^+$	D+Q	R(θ)=1.0 *1*.
271.5 *2*	49 *3*	2343.6	27/2$^-$	2072.2	25/2$^-$	D	R(θ)=0.76 *2*.
272.5 *2*	1.1 *1*	5084.6	(45/2$^+$)	4812.0	(43/2$^+$)		
273.6 *2*	≈15[‡]	531.3	7/2$^+$	257.7	3/2$^+$		R(θ)=0.76 *3*; inconsistent with stretched Q from J^π assignments.
276.1 *2*	7.1 *4*	5172.4	47/2$^+$	4896.2	45/2$^+$	D	R(θ)=0.75 *5*.
277.0 *2*	1.0 *5*	2138.5	25/2$^+$	1861.5	25/2$^-$		
279.9 *2*	82 *5*	894.34	17/2$^-$	614.45	15/2$^-$	D	R(θ)=0.77 *5* for 279.9+281.1.
280.4 *5*	0.8 *1*	5084.6	(45/2$^+$)	4804.1	43/2$^{(+)}$		
281.1 *2*	37 *2*	3636.1	39/2$^-$	3355.0	37/2$^-$	D	R(θ)=0.77 *5* for 279.9+281.1.
281.3 *5*	0.7 *1*	3597.2	35/2$^+$	3315.8	33/2$^+$	D	R(θ)=0.78 *7*.

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^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

$\gamma(^{171}Re)$ (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
283.6 *2*	54 *3*	1758.0	23/2$^-$	1474.34	21/2$^-$	D	R(θ)=0.78 *2*.
287.4 *2*	1.0 *1*	4133.7	39/2$^+$	3846.4	37/2$^+$		
290.2 *2*	14.7 *8*	3386.1	35/2$^+$	3095.9	33/2$^+$		R(θ)=0.78 *3* for 290.2+290.4.
290.4 *2*	8.0 *5*	4630.1	43/2$^+$	4339.7	41/2$^+$		R(θ)=0.78 *3* for 290.4+290.2.
295.9 *2*	1.3 *1*	5380.5	(47/2$^+$)	5084.6	(45/2$^+$)		
300.1 *2*	5.9 *3*	5472.5	49/2$^+$	5172.4	47/2$^+$		R(θ)=0.9 *1*; inconsistent with stretched dipole from J^π assignments.
301.4 *2*	31 *2*	3937.6	41/2$^-$	3636.1	39/2$^-$	D	R(θ)=0.76 *5*.
309.1 *2*	42 *3*	1732.8	21/2$^+$	1423.7	17/2$^+$	Q	R(θ)=0.88 *3*.
311.8 *2*	11.0 *6*	3697.9	37/2$^+$	3386.1	35/2$^+$		
311.9 *2*	54 *3*	1474.34	21/2$^-$	1162.45	19/2$^-$		R(θ)=0.82 *5* for 311.9+314.2.
314.2 *2*	42 *2*	2072.2	25/2$^-$	1758.0	23/2$^-$		R(θ)=0.82 *5* for 311.9+314.2.
318.2 *2*	10.3 *6*	4016.1	39/2$^+$	3697.9	37/2$^+$	D	R(θ)=0.75 *5*.
321.9 *2*	≈21[‡]	553.3	9/2$^+$	231.4	5/2$^+$		R(θ)=0.73 *4* for 321.9+323.7.
322.3 *2*	1.0 *1*	5702.8	(49/2$^+$)	5380.5	(47/2$^+$)		
323.7 *2*	8.7 *8*	4339.7	41/2$^+$	4016.1	39/2$^+$		R(θ)=0.73 *4* for 323.7+321.9.
329.2 *2*	25 *2*	4266.8	43/2$^-$	3937.6	41/2$^-$	D	R(θ)=0.63 *4*.
329.5 *2*	6.0 *3*	5802.0	51/2$^+$	5472.5	49/2$^+$	D	R(θ)=0.65 *8*.
339.3 *2*	22 *1*	4606.1	45/2$^-$	4266.8	43/2$^-$	D	R(θ)=0.78 *5*.
339.4 *5*	0.8 *1*	6042.4	(51/2$^+$)	5702.8	(49/2$^+$)		
339.9 *2*	35 *3*	1732.8	21/2$^+$	1392.9	17/2$^+$	Q	R(θ)=0.89 *2*.
341.9 *2*	2.2 *1*	2480.4	25/2$^+$	2138.5	25/2$^+$		
343.2 *2*	13 *1*	2889.2	33/2$^-$	2546.0	29/2$^-$	Q	R(θ)=1.0 *1*.
354.8 *2*	100	868.6	17/2$^-$	513.8	13/2$^-$	Q	R(θ)=0.91 *2*.
357.3 *2*	4.1 *2*	6159.3	53/2$^+$	5802.0	51/2$^+$	D	R(θ)=0.6 *1*.
361.3 *2*	4.8 *5*	2704.9	31/2$^-$	2343.6	27/2$^-$		
361.6 *5*	0.6 *1*	6403.9	(53/2$^+$)	6042.4	(51/2$^+$)		
361.7 *2*	14 *1*	4967.9	47/2$^-$	4606.1	45/2$^-$		R(θ)=0.79 *4* for 361.7+362.9.
362.9 *2*	13 *1*	5330.8	49/2$^-$	4967.9	47/2$^-$		R(θ)=0.79 *4* for 361.7+362.9.
364.0 *2*	4.5 *8*	2592.1	29/2$^+$	2228.1	25/2$^+$	Q	R(θ)=0.8 *1*.
364.3 *2*	7.9 *4*	1064.7	15/2$^-$	700.3	11/2$^-$	Q	R(θ)=0.94 *8*.
371.3 *5*	<0.5	6775.3	(55/2$^+$)	6403.9	(53/2$^+$)		
376.0 *2*	5.9 *6*	6092.5	53/2$^-$	5716.5	51/2$^-$	D	R(θ)=0.8 *1*.
376.2 *2*	32 *2*	757.8	11/2$^+$	381.6	7/2$^+$	(Q)	R(θ)=0.69 *3*.
377.7 *2*	14.3 *7*	909.0	11/2$^+$	531.3	7/2$^+$	Q	R(θ)=0.83 *3*.
380.9 *2*	≈19[‡]	380.92	13/2$^-$	0.0	9/2$^-$	Q	R(θ)=0.81 *8*.
381.7 *2*	1.0 *1*	6889.1	57/2$^-$	6507.3	55/2$^-$		
385.7 *2*	10.0 *6*	5716.5	51/2$^-$	5330.8	49/2$^-$	D	R(θ)=0.68 *7*.
388.6 *2*	2.7 *1*	6548.0	53/2$^+$	6159.3	53/2$^+$	D+Q	R(θ)=0.5 *1*.
389.1 *5*	<0.5	7164.4	(57/2$^+$)	6775.3	(55/2$^+$)		
393.3 *5*	0.6 *1*	6507.3	55/2$^-$	6114.0	53/2$^-$		
395.6 *2*	10.3 *8*	1304.6	15/2$^+$	909.0	11/2$^+$	Q	R(θ)=0.80 *3*.
397.2 *5*	<0.5	7561.6	(59/2$^+$)	7164.4	(57/2$^+$)		
397.6 *2*	1.4 *7*	6114.0	53/2$^-$	5716.5	51/2$^-$		
399.4 *2*	8.1 *6*	1704.0	19/2$^+$	1304.6	15/2$^+$	Q	R(θ)=0.83 *4*.
400.2 *2*	1.9 *2*	2880.6	29/2$^+$	2480.4	25/2$^+$	Q	R(θ)=1.1 *1*.
400.3 *2*	1.7 *2*	2104.4	23/2$^+$	1704.0	19/2$^+$		
401.7 *2*	12 *1*	3106.7	35/2$^-$	2704.9	31/2$^-$	Q	R(θ)=1.1 *1*.
402.3 *2*	≈1.9[‡]	3111.0	31/2$^+$	2708.7	27/2$^+$		
402.3 *2*	2.0 *2*	6950.4	57/2$^+$	6548.0	53/2$^+$		
405.7 *2*	59 *6*	2138.5	25/2$^+$	1732.8	21/2$^+$		R(θ)=0.91 *2* for 405.7+406.8.
406.8 *2*	12 *1*	1732.8	21/2$^+$	1326.0	21/2$^-$		R(θ)=0.91 *2* for 406.8+405.7.
407.3 *2*	45 *4*	960.7	13/2$^+$	553.3	9/2$^+$	Q	R(θ)=0.95 *5*.
413.7 *5*	<0.5	7975.4	(61/2$^+$)	7561.6	(59/2$^+$)		
414.0 *2*	1.3 *6*	6921.3	57/2$^-$	6507.3	55/2$^-$		

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^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

γ(^{171}Re) (continued)

E_γ[†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
414.7 *2*	3.8 *2*	6507.3	55/2$^-$	6092.5	53/2$^-$		
415.5 *2*	4.9 *3*	700.3	11/2$^-$	284.8	9/2$^-$	Q	R(θ)=0.9 *1*.
418.8 *2*	1.1 *1*	6966.6	57/2$^+$	6548.0	53/2$^+$		
424 *1*	<0.5	8399.5	(63/2$^+$)	7975.4	(61/2$^+$)		
425.3 *2*	5.5 *3*	2129.2	23/2$^+$	1704.0	19/2$^+$	(Q)	R(θ)=0.76 *5*.
427.9 *2*	41 *3*	1185.7	15/2$^+$	757.8	11/2$^+$	Q	R(θ)=0.89 *5*.
428.9 *2*	2.3 *3*	3458.2	35/2$^-$	3029.3	31/2$^-$	Q	R(θ)=1.00 *5* for 428.9+429.0.
429.0 *2*	7.5 *7*	3007.7	31/2$^-$	2578.8	27/2$^-$	Q	R(θ)=1.00 *5* for 429.0+428.9.
430.4 *5*	0.7 *1*	7351.4	59/2$^-$	6921.3	57/2$^-$		
432.2 *2*	45 *2*	1392.9	17/2$^+$	960.7	13/2$^+$	Q	R(θ)=0.81 *4*.
432.9 *5*	0.7 *1*	7399.2	59/2$^+$	6966.6	57/2$^+$		
438.4 *2*	6.0 *3*	2829.6	31/2$^+$	2391.3	27/2$^+$	Q	R(θ)=0.83 *7*.
439.9 *2*	3.1 *2*	3958.5	39/2$^-$	3518.6	37/2$^-$	D	R(θ)=0.44 *5*.
441.9 *2*	6.0 *3*	2571.1	27/2$^+$	2129.2	23/2$^+$	Q	R(θ)=0.94 *5*.
445.4 *2*	28 *3*	1631.1	19/2$^+$	1185.7	15/2$^+$	Q	R(θ)=0.99 *9*.
445.7 *2*	2.7 *1*	3326.3	33/2$^+$	2880.6	29/2$^+$	Q	R(θ)=0.89 *7*.
446 *1*	<0.5	8845.4	(65/2$^+$)	8399.5	(63/2$^+$)		
446.1 *5*	0.8 *1*	7797.5	61/2$^-$	7351.4	59/2$^-$		
447.1 *2*	1.0 *1*	3587.8	35/2$^+$	3140.7	33/2$^+$		
448.8 *5*	<0.5	7399.2	59/2$^+$	6950.4	57/2$^+$		
450.5 *2*	8.3 *8*	3458.2	35/2$^-$	3007.7	31/2$^-$		R(θ)=0.73 *4* for 450.5+450.9.
450.9 *2*	4.4 *5*	3458.2	35/2$^-$	3007.4	33/2$^-$		R(θ)=0.73 *4* for 450.5+450.9. R(θ)=0.37 *4* in Table I of 2013Ha36 is probably a misprint.
456.7 *2*	6.9 *4*	1521.4	19/2$^-$	1064.7	15/2$^-$	Q	R(θ)=0.88 *4*.
457.4 *2*	55 *3*	614.45	15/2$^-$	157.1	11/2$^-$	Q	R(θ)=0.83 *5*.
457.4 *2*	86 *4*	1326.0	21/2$^-$	868.6	17/2$^-$	Q	R(θ)=0.97 *2*.
462.2 *5*	<0.5	7351.4	59/2$^-$	6889.1	57/2$^-$		
463.1 *2*	19 *1*	1423.7	17/2$^+$	960.7	13/2$^+$	Q	R(θ)=0.84 *4*.
464.6 *5*	0.5 *1*	8262.1	63/2$^-$	7797.5	61/2$^-$		
466.0 *2*	18 *1*	3355.0	37/2$^-$	2889.2	33/2$^-$	Q	R(θ)=0.82 *7*.
466.7 *2*	5.2 *3*	2571.1	27/2$^+$	2104.4	23/2$^+$		
471.3 *2*	22 *2*	1864.2	21/2$^+$	1392.9	17/2$^+$	Q	R(θ)=0.94 *2*.
472.6 *2*	42 *4*	2611.1	29/2$^+$	2138.5	25/2$^+$	Q	R(θ)=0.94 *2*.
473.4 *2*	48 *5*	2104.4	23/2$^+$	1631.1	19/2$^+$	Q	R(θ)=0.90 *7*.
473.8 *2*	27 *2*	2546.0	29/2$^-$	2072.2	25/2$^-$	Q	R(θ)=1.06 *5*.
476.9 *2*	1.9 *1*	3587.8	35/2$^+$	3111.0	31/2$^+$	(Q)	R(θ)=0.71 *5*.
486.0 *5*	0.5 *1*	3597.2	35/2$^+$	3111.0	31/2$^+$		
486.9 *2*	7.6 *4*	3058.0	31/2$^+$	2571.1	27/2$^+$	Q	R(θ)=1.09 *5*.
491.1 *2*	3.5 *1*	3062.2	31/2$^+$	2571.1	27/2$^+$		
498.1 *2*	6.0 *3*	2129.2	23/2$^+$	1631.1	19/2$^+$		
500.3 *2*	15 *1*	3958.5	39/2$^-$	3458.2	35/2$^-$	Q	R(θ)=1.02 *5*.
503.8 *2*	12.4 *7*	3095.9	33/2$^+$	2592.1	29/2$^+$	Q	R(θ)=0.96 *6*.
511.2 *2*	41 *2*	3518.6	37/2$^-$	3007.4	33/2$^-$	Q	R(θ)=0.90 *4*.
513.4 *2*	44 *3*	894.34	17/2$^-$	380.92	13/2$^-$	Q	R(θ)=0.84 *4*.
520.2 *2*	2.1 *1*	3846.4	37/2$^+$	3326.3	33/2$^+$		
521.7 *2*	7.1 *4*	2043.2	23/2$^-$	1521.4	19/2$^-$	Q	R(θ)=1.2 *1*.
529.3 *2*	17 *1*	3636.1	39/2$^-$	3106.7	35/2$^-$	Q	R(θ)=1.2 *1*.
529.5 *2*	35 *2*	3140.7	33/2$^+$	2611.1	29/2$^+$	Q	R(θ)=0.91 *3*.
529.9 *2*	3.3 *1*	3587.8	35/2$^+$	3058.0	31/2$^+$	Q	R(θ)=1.1 *1*.
534.8 *5*	0.9 *1*	3597.2	35/2$^+$	3062.2	31/2$^+$		
535.5 *2*	77 *4*	1861.5	25/2$^-$	1326.0	21/2$^-$	Q	R(θ)=1.01 *3*; possibly for 535.5+535.6 level.
535.6 *2*	7.9 *8*	2578.8	27/2$^-$	2043.2	23/2$^-$	Q	R(θ)=0.92 *6* for unresolved doublet, possibly 535.5 from 1862 level.
536.5 *2*	1.1 *1*	4133.7	39/2$^+$	3597.2	35/2$^+$		
539.1 *2*	4.5 *3*	3597.2	35/2$^+$	3058.0	31/2$^+$	(Q)	R(θ)=0.71 *5*.
542.3 *2*	3.3 *2*	5172.4	47/2$^+$	4630.1	43/2$^+$		

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^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

γ(^{171}Re) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	Comments
545.9 *2*	4.7 *2*	4133.7	39/2$^+$	3587.8	35/2$^+$		
548.0 *2*	63 *3*	1162.45	19/2$^-$	614.45	15/2$^-$	Q	R(θ)=0.99 *4*.
550.5 *2*	30 *2*	4069.1	41/2$^-$	3518.6	37/2$^-$	Q	R(θ)=1.05 *3*.
550.8 *2*	2.2 *1*	1064.7	15/2$^-$	513.8	13/2$^-$	D	R(θ)=0.3 *1*.
555.2 *2*	4.9 *3*	1423.7	17/2$^+$	868.6	17/2$^-$	D+Q	R(θ)=0.9 *1*.
556.5 *2*	8.2 *6*	3386.1	35/2$^+$	2829.6	31/2$^+$	Q	R(θ)=1.1 *1* for 556.5+556.5.
556.5 *2*	8.8 *8*	4896.2	45/2$^+$	4339.7	41/2$^+$	Q	R(θ)=1.1 *1* for 556.5+556.5.
562.7 *2*	50 *3*	3007.4	33/2$^-$	2444.7	29/2$^-$	Q	R(θ)=1.21 *4*.
562.9 *5*	0.8 *1*	3007.7	31/2$^-$	2444.7	29/2$^-$		
568.5 *5*	0.6 *1*	5380.5	(47/2$^+$)	4812.0	(43/2$^+$)		
576.3 *2*	3.5 *2*	5472.5	49/2$^+$	4896.2	45/2$^+$		
576.5 *5*	<0.5	5380.5	(47/2$^+$)	4804.1	43/2$^{(+)}$		
580.0 *2*	56 *3*	1474.34	21/2$^-$	894.34	17/2$^-$	Q	R(θ)=0.92 *4* for 580.0+582.6.
582.3 *5*	<0.5	4804.1	43/2$^{(+)}$	4221.9	39/2$^{(+)}$		
582.6 *2*	25 *2*	3937.6	41/2$^-$	3355.0	37/2$^-$	Q	R(θ)=0.92 *4* for 580.0+582.6.
582.7 *2*	30 *2*	3723.3	37/2$^+$	3140.7	33/2$^+$	Q	R(θ)=0.95 *4*.
583.2 *2*	71 *3*	2444.7	29/2$^-$	1861.5	25/2$^-$	Q	R(θ)=1.16 *3*.
584.5 *2*	2.4 *1*	3029.3	31/2$^-$	2444.7	29/2$^-$		
584.7 *2*	17 *3*	4543.2	43/2$^-$	3958.5	39/2$^-$	Q	R(θ)=0.95 *8*.
585.6 *2*	67 *4*	2343.6	27/2$^-$	1758.0	23/2$^-$	Q	R(θ)=1.06 *3*.
587.2 *2*	1.8 *1*	4433.7	41/2$^+$	3846.4	37/2$^+$	Q	R(θ)=0.96 *8*.
588.2 *2*	3.9 *2*	4185.4	39/2$^+$	3597.2	35/2$^+$	Q	R(θ)=0.9 *1*.
590.3 *5*	0.6 *1*	4812.0	(43/2$^+$)	4221.9	39/2$^{(+)}$		
594.2 *2*	6.0 *3*	4727.9	43/2$^+$	4133.7	39/2$^+$		
595.5 *2*	67 *4*	1758.0	23/2$^-$	1162.45	19/2$^-$	Q	R(θ)=0.87 *4* for 595.5+597.9.
597.9 *2*	52 *3*	2072.2	25/2$^-$	1474.34	21/2$^-$	Q	R(θ)=0.87 *4* for 595.5+597.9.
602.0 *2*	14.5 *9*	3697.9	37/2$^+$	3095.9	33/2$^+$		
603.5 *2*	6.2 *3*	5567.8	49/2$^+$	4964.3	45/2$^+$	Q	R(θ)=0.87 *3*.
612.8 *2*	9.9 *6*	4964.3	45/2$^+$	4351.5	41/2$^+$	Q	R(θ)=1.06 *3*.
614.1 *2*	8.7 *6*	4630.1	43/2$^+$	4016.1	39/2$^+$	Q	R(θ)=0.9 *1*.
616.7 *2*	23 *1*	4685.8	45/2$^-$	4069.1	41/2$^-$	Q	R(θ)=1.13 *5*.
618.2 *5*	0.9 *1*	5702.8	(49/2$^+$)	5084.6	(45/2$^+$)		
625.3 *5*	0.5 *1*	5059.2	45/2$^+$	4433.7	41/2$^+$		
628.2 *2*	20 *1*	4351.5	41/2$^+$	3723.3	37/2$^+$	Q	R(θ)=0.95 *3*.
629.7 *2*	3.4 *3*	5802.0	51/2$^+$	5172.4	47/2$^+$	Q	R(θ)=1.1 *1* for 629.7+630.0.
630.0 *2*	2.0 *1*	3891.8	(37/2$^-$)	3261.8	(33/2$^-$)		
630.0 *2*	11.6 *9*	4016.1	39/2$^+$	3386.1	35/2$^+$	Q	R(θ)=1.1 *1* for 630.0+629.7.
630.7 *2*	20 *1*	4266.8	43/2$^-$	3636.1	39/2$^-$	Q	R(θ)=1.3 *1*.
633.3 *2*	4.8 *2*	5361.2	47/2$^+$	4727.9	43/2$^+$		
634.3 *2*	2.2 *1*	4819.7	43/2$^+$	4185.4	39/2$^+$	Q	R(θ)=1.1 *1* for an unresolved doublet.
641.7 *2*	10.6 *6*	4339.7	41/2$^+$	3697.9	37/2$^+$		
650.4 *2*	1.1 *1*	5084.1	45/2$^+$	4433.7	41/2$^+$	Q	R(θ)=0.86 *9*.
652.8 *2*	1.8 *1*	1521.4	19/2$^-$	868.6	17/2$^-$	D	R(θ)=0.3 *1*.
653.4 *2*	1.1 *1*	5473.1	47/2$^+$	4819.7	43/2$^+$		
660.2 *2*	11.4 *5*	5203.4	47/2$^-$	4543.2	43/2$^-$	Q	R(θ)=1.1 *1*.
662.1 *5*	0.8 *1*	6042.4	(51/2$^+$)	5380.5	(47/2$^+$)		
666.1 *2*	5.3 *3*	6234.0	53/2$^+$	5567.8	49/2$^+$	Q	R(θ)=0.91 *4*.
666.2 *2*	4.1 *2*	6027.4	51/2$^+$	5361.2	47/2$^+$		
668.4 *2*	17 *1*	4606.1	45/2$^-$	3937.6	41/2$^-$	Q	R(θ)=1.01 *8*.
676.0 *5*	0.5 *1*	5480.0	47/2$^{(+)}$	4804.1	43/2$^{(+)}$		
681.7 *2*	1.8 *1*	5740.9	49/2$^+$	5059.2	45/2$^+$	Q	R(θ)=0.90 *8*.
682.9 *2*	14.4 *7*	5368.7	49/2$^-$	4685.8	45/2$^-$	Q	R(θ)=1.06 *5*.
684.6 *2*	1.4 *1*	5269.8	(45/2$^-$)	4585.2	(41/2$^-$)		
686.8 *2*	3.9 *2*	6159.3	53/2$^+$	5472.5	49/2$^+$		
690.5 *5*	0.7 *1*	6163.6	51/2$^+$	5473.1	47/2$^+$		

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^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

γ(^{171}Re) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	Comments
693.4 *2*	1.7 *1*	4585.2	(41/2$^-$)	3891.8	(37/2$^-$)		
701.0 *5*	0.9 *1*	6403.9	(53/2$^+$)	5702.8	(49/2$^+$)		
701.2 *2*	15 *1*	4967.9	47/2$^-$	4266.8	43/2$^-$	Q	R(θ)=1.2 *1*.
703.4 *2*	2.0 *1*	4221.9	39/2$^{(+)}$	3518.6	37/2$^-$	D	R(θ)=0.53 *6*.
704.3 *2*	1.0 *1*	5974.1	(49/2$^-$)	5269.8	(45/2$^-$)		
705.7 *2*	2.9 *2*	6733.2	55/2$^+$	6027.4	51/2$^+$		
707.7 *2*	3.5 *4*	5059.2	45/2$^+$	4351.5	41/2$^+$	Q	R(θ)=1.02 *4* for 707.7+710.3.
710.3 *2*	1.6 *3*	6451.2	53/2$^+$	5740.9	49/2$^+$	Q	R(θ)=1.02 *4* for 710.3+707.7.
710.7 *2*	1.8 *2*	5794.7	49/2$^+$	5084.1	45/2$^+$	Q	R(θ)=1.2 *2*.
716.5 *2*	1.8 *1*	6950.4	57/2$^+$	6234.0	53/2$^+$	Q	R(θ)=0.88 *7*.
717.2 *2*	1.0 *3*	2043.2	23/2$^-$	1326.0	21/2$^-$	D	R(θ)=0.34 *6* for 717.2+717.4.
717.4 *2*	1.3 *3*	2578.8	27/2$^-$	1861.5	25/2$^-$	D	R(θ)=0.34 *6* for 717.2+717.4.
721.2 *2*	7.1 *4*	5924.6	51/2$^-$	5203.4	47/2$^-$	Q	R(θ)=1.11 *8*.
723.9 *2*	2.2 *1*	6092.5	53/2$^-$	5368.7	49/2$^-$	Q	R(θ)=1.1 *2*.
724.7 *2*	12.5 *6*	5330.8	49/2$^-$	4606.1	45/2$^-$	Q	R(θ)=1.1 *1*.
732.5 *2*	1.6 *1*	6966.6	57/2$^+$	6234.0	53/2$^+$	Q	R(θ)=0.90 *4*.
732.6 *2*	2.1 *1*	5084.1	45/2$^+$	4351.5	41/2$^+$		
733.0 *5*	0.5 *1*	6775.3	(55/2$^+$)	6042.4	(51/2$^+$)		
735.0 *2*	2.3 *2*	4804.1	43/2$^{(+)}$	4069.1	41/2$^-$	D	R(θ)=0.54 *4*.
735.5 *2*	1.0 *1*	5794.7	49/2$^+$	5059.2	45/2$^+$		
739.3 *5*	<0.5	6902.9	55/2$^+$	6163.6	51/2$^+$		
742.9 *2*	1.5 *1*	4812.0	(43/2$^+$)	4069.1	41/2$^-$		
745.2 *5*	<0.5	6225.2	51/2$^{(+)}$	5480.0	47/2$^{(+)}$		
745.3 *2*	9.5 *6*	6114.0	53/2$^-$	5368.7	49/2$^-$	Q	R(θ)=0.97 *5*.
746.0 *2*	2.6 *1*	6548.0	53/2$^+$	5802.0	51/2$^+$		
748.6 *2*	11.1 *7*	5716.5	51/2$^-$	4967.9	47/2$^-$	Q	R(θ)=1.3 *2*.
753.2 *2*	1.4 *1*	7204.4	57/2$^+$	6451.2	53/2$^+$		
755.8 *2*	1.3 *1*	6550.5	53/2$^+$	5794.7	49/2$^+$		
758.1 *2*	2.5 *1*	7491.3	59/2$^+$	6733.2	55/2$^+$		
760.6 *5*	0.6 *1*	7164.4	(57/2$^+$)	6403.9	(53/2$^+$)		
761.7 *2*	9.3 *5*	6092.5	53/2$^-$	5330.8	49/2$^-$	Q	R(θ)=0.9 *1*.
764.4 *2*	1.3 *1*	7730.9	61/2$^+$	6966.6	57/2$^+$		
768.7 *5*	0.5 *1*	6742.8	(53/2$^-$)	5974.1	(49/2$^-$)		
773.4 *2*	5.0 *3*	6698.0	55/2$^-$	5924.6	51/2$^-$	Q	R(θ)=1.01 *7*.
775.1 *2*	1.6 *2*	6889.1	57/2$^-$	6114.0	53/2$^-$	Q	R(θ)=1.2 *1*.
780.5 *2*	2.5 *1*	7730.9	61/2$^+$	6950.4	57/2$^+$	Q	R(θ)=1.2 *2*.
783.3 *2*	1.1 *6*	6114.0	53/2$^-$	5330.8	49/2$^-$		
786.2 *5*	0.6 *1*	7561.6	(59/2$^+$)	6775.3	(55/2$^+$)		
789.2 *5*	0.8 *1*	7339.7	57/2$^+$	6550.5	53/2$^+$		
790.8 *2*	5.4 *3*	6507.3	55/2$^-$	5716.5	51/2$^-$		
791.0 *2*	1.6 *1*	6950.4	57/2$^+$	6159.3	53/2$^+$		
794.1 *2*	1.4 *1*	5480.0	47/2$^{(+)}$	4685.8	45/2$^-$	D	R(θ)=0.4 *1*.
796.5 *2*	5.2 *3*	6889.1	57/2$^-$	6092.5	53/2$^-$		
797.6 *5*	<0.5	7700.5	59/2$^+$	6902.9	55/2$^+$		
806.8 *5*	0.8 *1*	8011.2	61/2$^+$	7204.4	57/2$^+$		
807.2 *2*	1.2 *1*	6966.6	57/2$^+$	6159.3	53/2$^+$		
807.3 *2*	2.7 *8*	6921.3	57/2$^-$	6114.0	53/2$^-$	Q	R(θ)=1.14 *9*.
811.0 *5*	<0.5	7975.4	(61/2$^+$)	7164.4	(57/2$^+$)		
817.1 *2*	3.0 *2*	3261.8	(33/2$^-$)	2444.7	29/2$^-$	Q	R(θ)=1.8 *3*.
819.6 *2*	1.7 *1*	8310.9	63/2$^+$	7491.3	59/2$^+$		
824.9 *5*	<0.5	7050.2	55/2$^{(+)}$	6225.2	51/2$^{(+)}$		
826.6 *2*	3.3 *2*	7524.6	59/2$^-$	6698.0	55/2$^-$	Q	R(θ)=1.06 *9*.
826.7 *2*	2.6 *1*	8557.6	65/2$^+$	7730.9	61/2$^+$		
829[@] *1*	<0.5	6921.3	57/2$^-$	6092.5	53/2$^-$		
833.9 *5*	<0.5	8173.6	61/2$^+$	7339.7	57/2$^+$		

Continued on next page (footnotes at end of table)

^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)

γ(^{171}Re) (continued)

E_γ [†]	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult. [#]	Comments
836.6 *2*	3.2 *3*	7725.7	61/2$^-$	6889.1	57/2$^-$		
838 *1*	<0.5	8399.5	(63/2$^+$)	7561.6	(59/2$^+$)		
844.1 *2*	2.4 *1*	7351.4	59/2$^-$	6507.3	55/2$^-$		
849.2 *5*	<0.5	8549.7	63/2$^+$	7700.5	59/2$^+$		
851.2 *2*	1.2 *1*	7399.2	59/2$^+$	6548.0	53/2$^+$		
856.6 *5*	0.9 *1*	6225.2	51/2$^{(+)}$	5368.7	49/2$^-$		
867.9 *5*	0.7 *1*	8879.1	65/2$^+$	8011.2	61/2$^+$		
870 *1*	<0.5	8845.4	(65/2$^+$)	7975.4	(61/2$^+$)		
874 *1*	<0.5	9047.7	65/2$^+$	8173.6	61/2$^+$		
876[@] *1*	<0.5	7926.2?	(59/2$^+$)	7050.2	55/2$^{(+)}$		
876.2 *2*	1.8 *1*	7797.5	61/2$^-$	6921.3	57/2$^-$		
884.1 *2*	1.8 *1*	8408.7	63/2$^-$	7524.6	59/2$^-$	Q	R(θ)=0.84 *9*.
884.3 *5*	0.5 *1*	7850.8	61/2$^+$	6966.6	57/2$^+$		
884.5 *2*	1.8 *1*	3891.8	(37/2$^-$)	3007.4	33/2$^-$	Q	R(θ)=1.5 *2*.
884.6 *2*	1.0 *1*	9195.5	67/2$^+$	8310.9	63/2$^+$		
886.1 *2*	2.0 *1*	8611.8	65/2$^-$	7725.7	61/2$^-$		
889.5 *2*	1.4 *1*	9447.1	69/2$^+$	8557.6	65/2$^+$		
900.4 *5*	0.5 *1*	7850.8	61/2$^+$	6950.4	57/2$^+$		
903 *1*	<0.5	9452.7	67/2$^+$	8549.7	63/2$^+$		
910.7 *5*	0.8 *1*	8262.1	63/2$^-$	7351.4	59/2$^-$		
926.6 *5*	0.5 *1*	9805.7	69/2$^+$	8879.1	65/2$^+$		
928.8 *5*	0.7 *1*	8328.0	63/2$^+$	7399.2	59/2$^+$		
936.2 *5*	<0.5	7050.2	55/2$^{(+)}$	6114.0	53/2$^-$		
943 *1*	<0.5	8793.8	65/2$^+$	7850.8	61/2$^+$		
943.2 *2*	1.1 *1*	9555.0	69/2$^-$	8611.8	65/2$^-$		
943.3 *5*	0.5 *1*	10138.8	71/2$^+$	9195.5	67/2$^+$		
950 *1*	<0.5	10402.7	71/2$^+$	9452.7	67/2$^+$		
950.5 *5*	<0.5	8748.0	65/2$^-$	7797.5	61/2$^-$		
961.5 *5*	0.7 *1*	10408.6	73/2$^+$	9447.1	69/2$^+$		
961.8 *5*	0.5 *1*	9370.5	67/2$^-$	8408.7	63/2$^-$		
971[@] *1*	<0.5	9299.0?	(67/2$^+$)	8328.0	63/2$^+$		
976.3 *5*	0.5 *1*	9238.4	67/2$^-$	8262.1	63/2$^-$		
978.1 *5*	<0.5	10783.8	73/2$^+$	9805.7	69/2$^+$		
991 *1*	<0.5	10229.4	71/2$^-$	9238.4	67/2$^-$		
997.6 *5*	<0.5	11136.4	75/2$^+$	10138.8	71/2$^+$		
998.3 *5*	0.5 *1*	10553.3	73/2$^-$	9555.0	69/2$^-$		
1001.7 *5*	<0.5	10372.2	71/2$^-$	9370.5	67/2$^-$		
1007 *1*	<0.5	9755.0	69/2$^-$	8748.0	65/2$^-$		
1031.7 *5*	<0.5	11440.3	77/2$^+$	10408.6	73/2$^+$		
1035 *1*	<0.5	11407.2	75/2$^-$	10372.2	71/2$^-$		
1037 *1*	<0.5	11820.8	77/2$^+$	10783.8	73/2$^+$		
1038.9 *5*	<0.5	11592.2	77/2$^-$	10553.3	73/2$^-$		
1038.9 *5*	<0.5	12175.3	79/2$^+$	11136.4	75/2$^+$		
1040 *1*	<0.5	12632.2	81/2$^-$	11592.2	77/2$^-$		
1059[@] *1*	<0.5	13234.3?	(83/2$^+$)	12175.3	79/2$^+$		
1066 *1*	<0.5	13698.2	85/2$^-$	12632.2	81/2$^-$		
1093[@] *1*	<0.5	12533.3?	(81/2$^+$)	11440.3	77/2$^+$		

[†] Uncertainty of 0.2 keV assigned for γ rays with I$\gamma\geq$1, 0.5 keV for Iγ<1 as stated in general comment b 2013Ha36. For Eγ quoted to nearest keV, 1 keV uncertainty by evaluator.

[‡] Estimated from intensity balance alone or intensity balance and branching ratio.

[#] Deduced by evaluators based on measured R(θ) ratios and proposed J^π assignments of 2013Ha36.

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

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme

Intensities: Relative I_γ

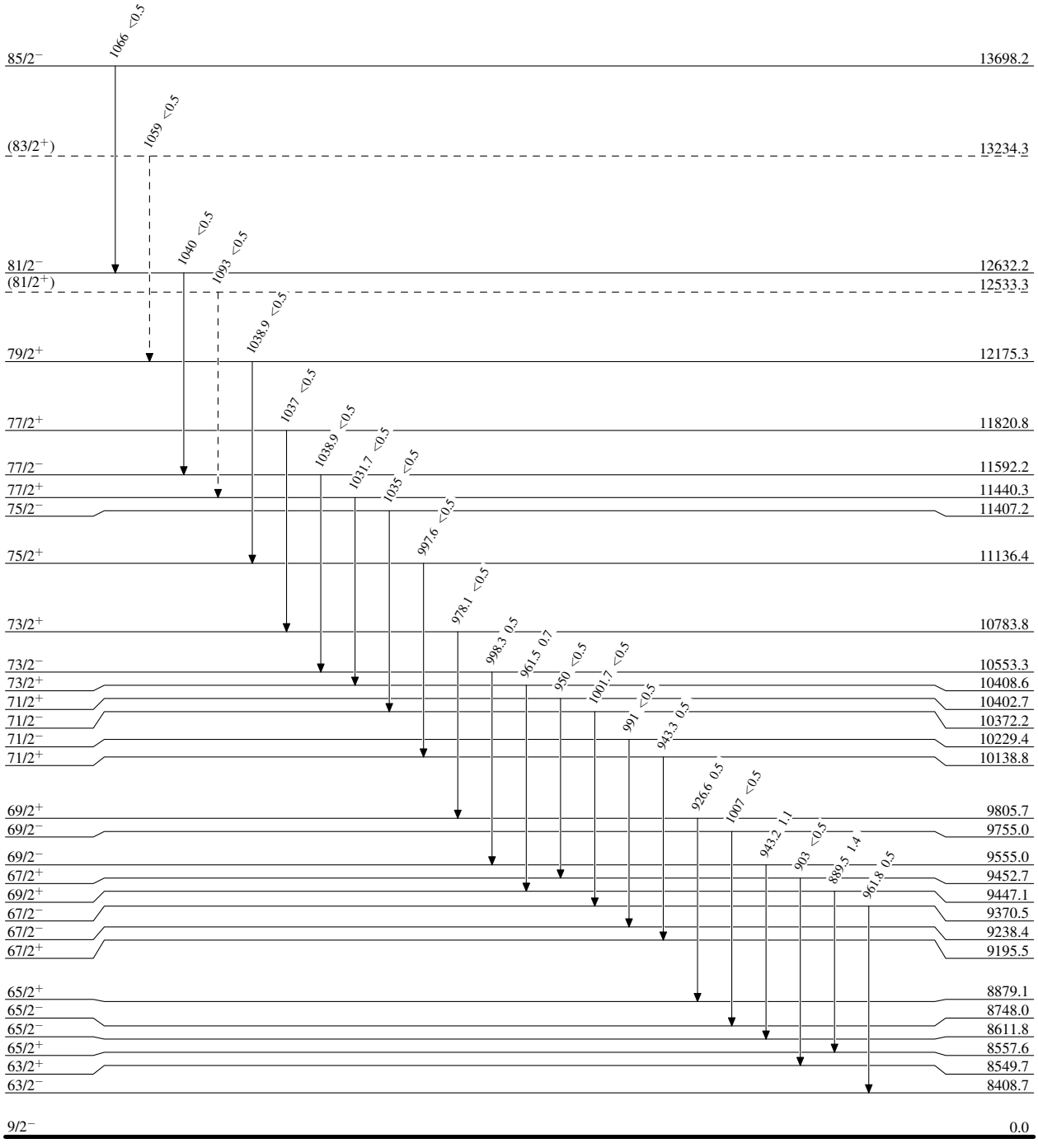
Legend

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

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

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

γ Decay (Uncertain)



$^{171}_{75}Re_{96}$

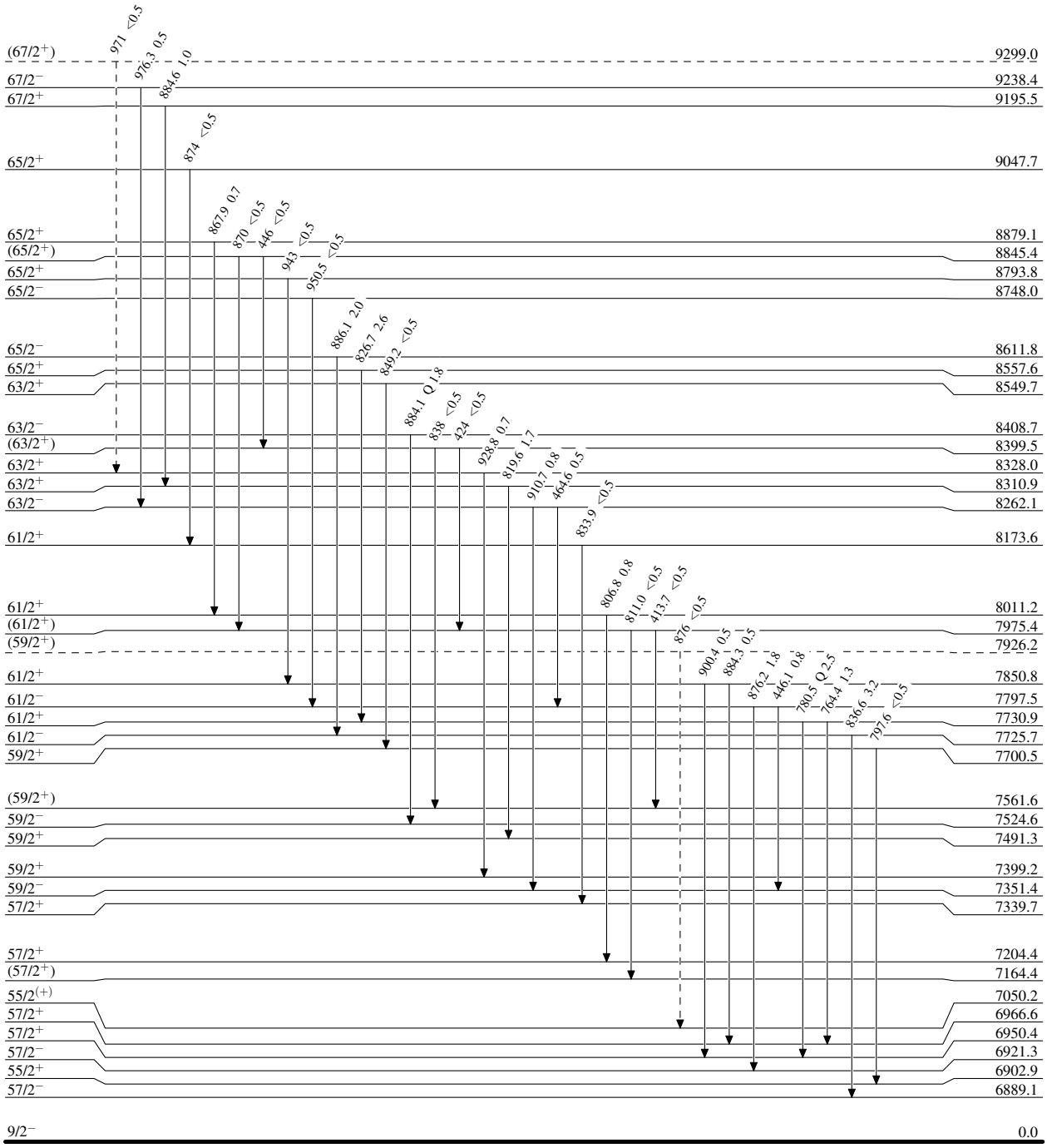
^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) **2013Ha36**

Level Scheme (continued)

Intensities: Relative I_γ

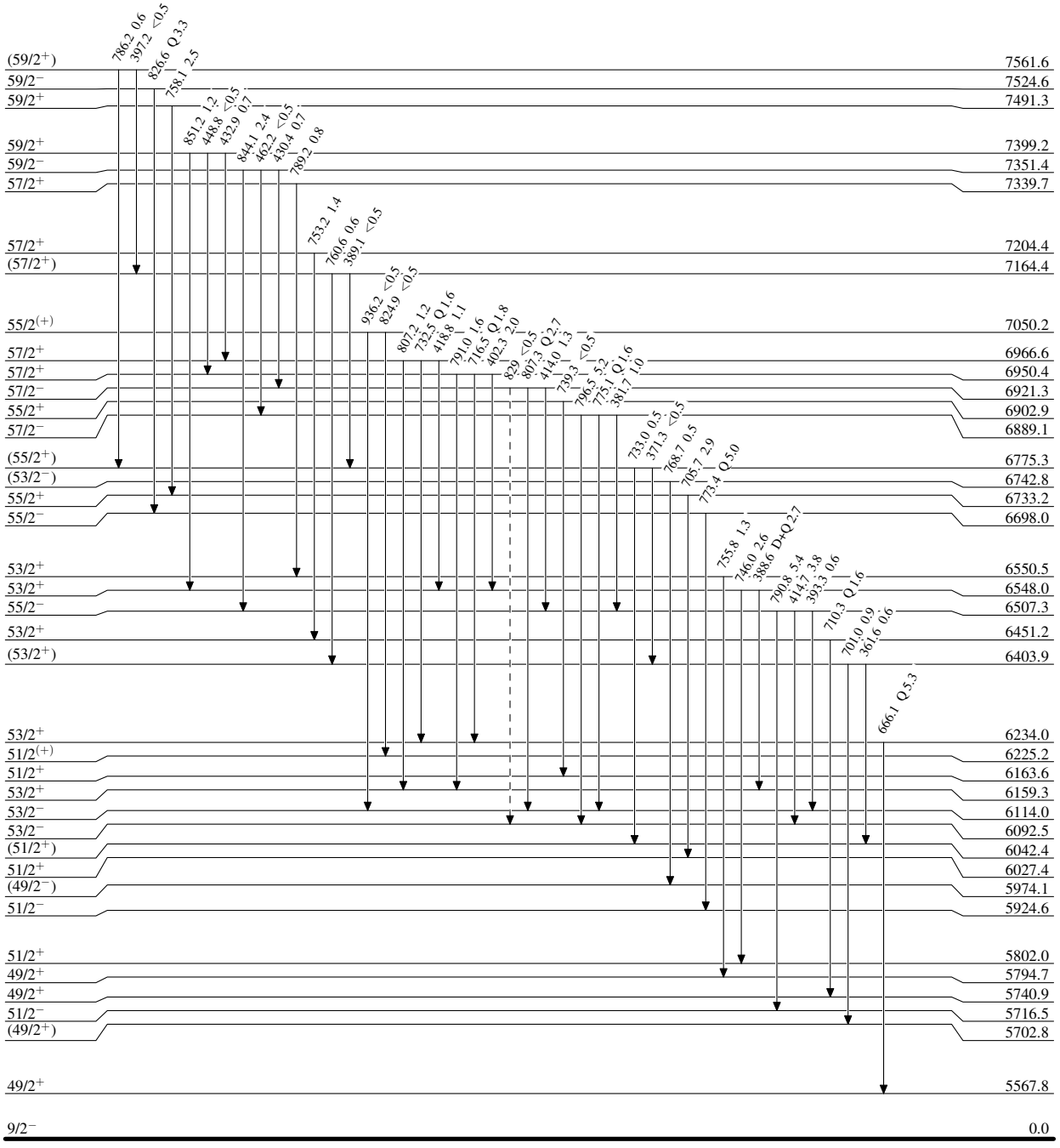
Legend

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

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

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

γ Decay (Uncertain)



$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme (continued)

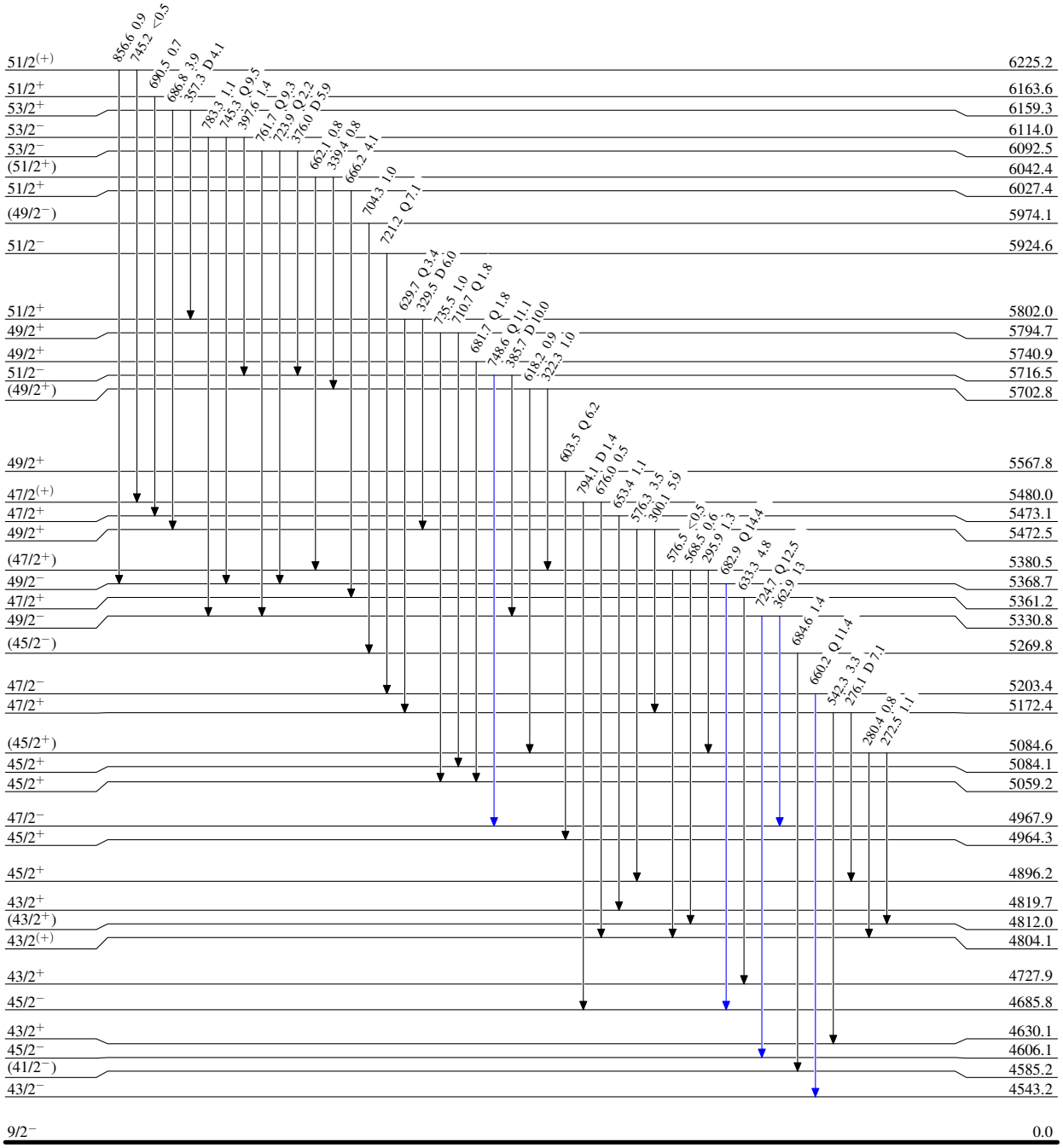
Intensities: Relative I_γ

Legend

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

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

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



$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme (continued)

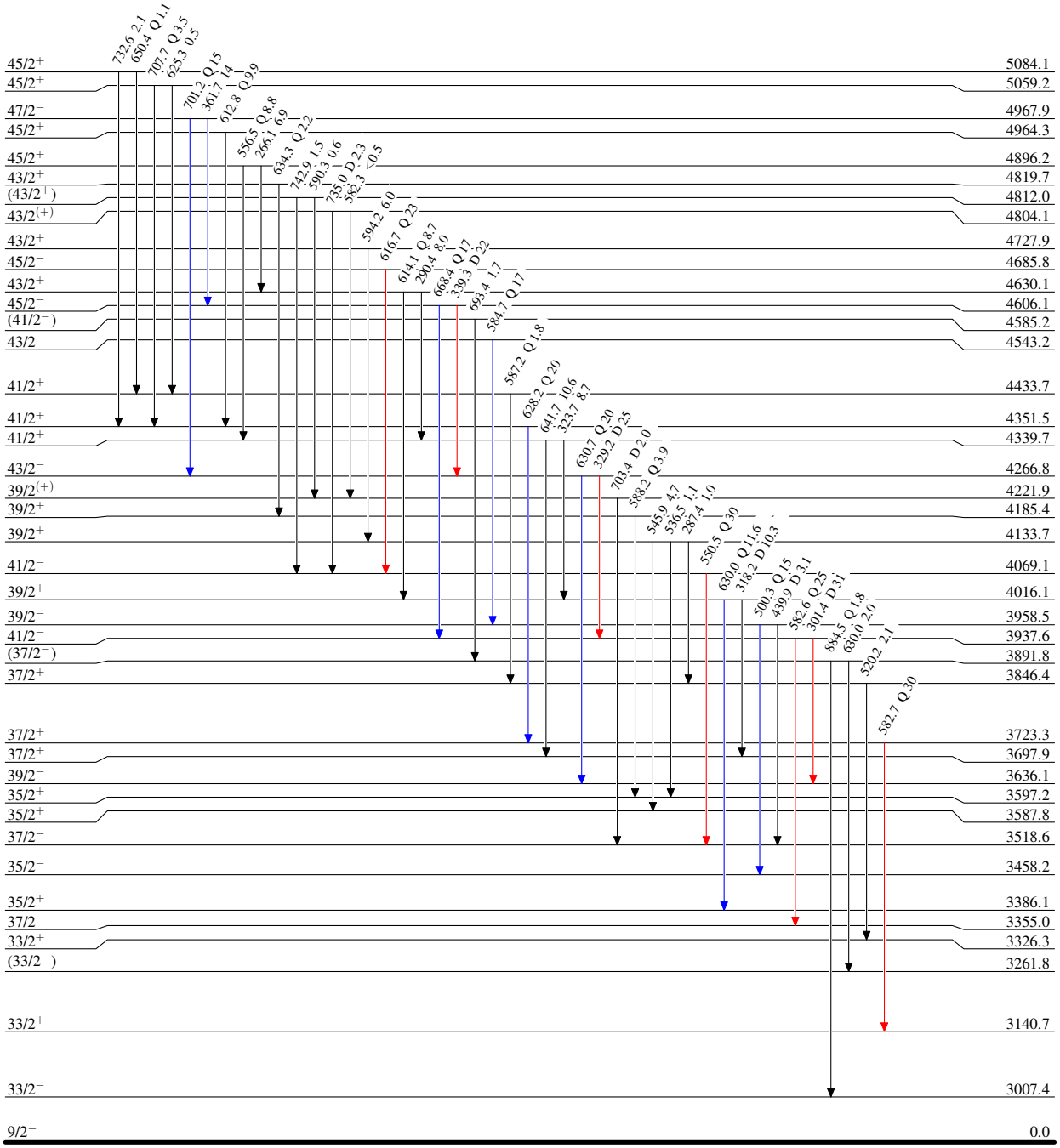
Intensities: Relative I_γ

Legend

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

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

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

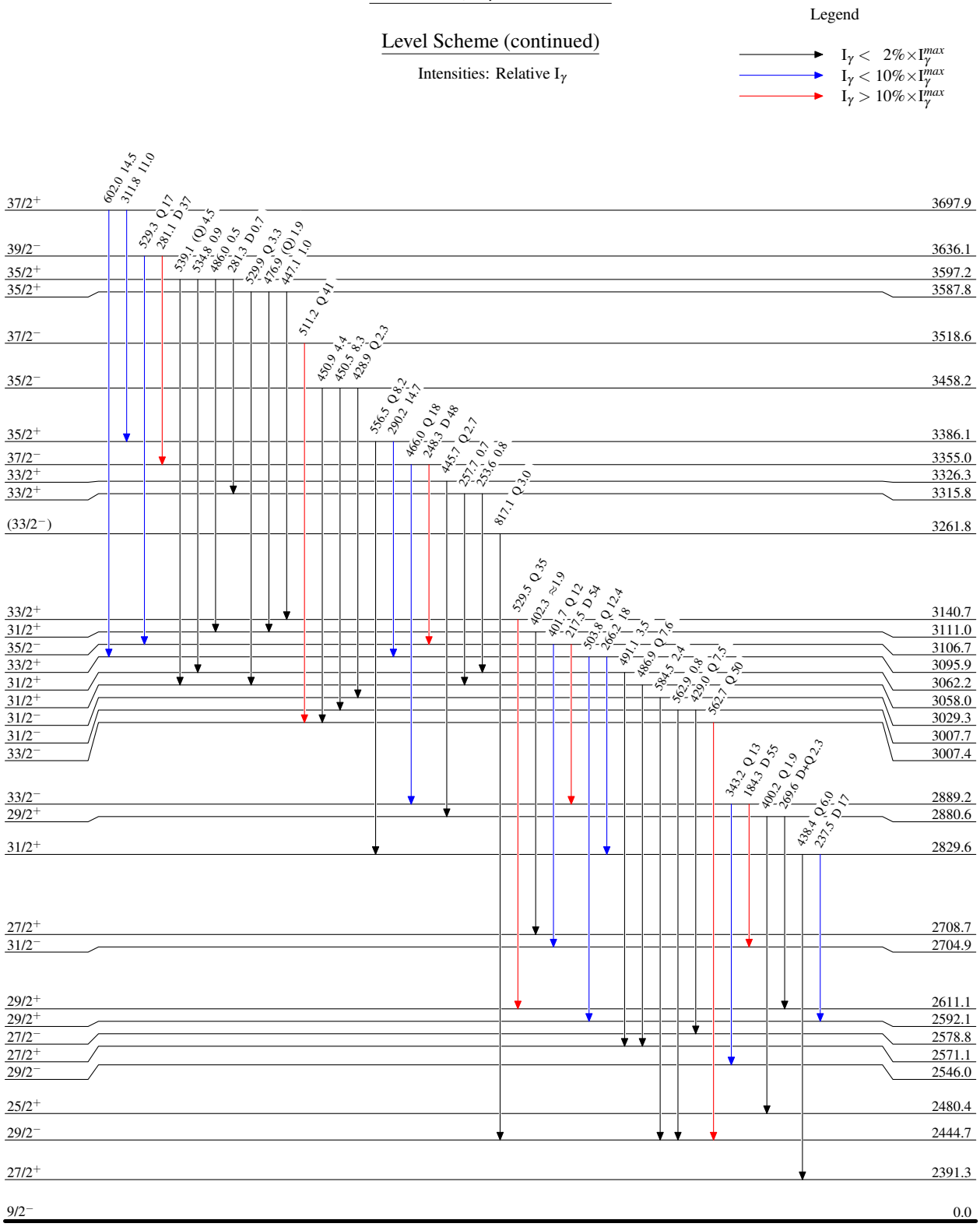


$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme (continued)

Intensities: Relative I_γ

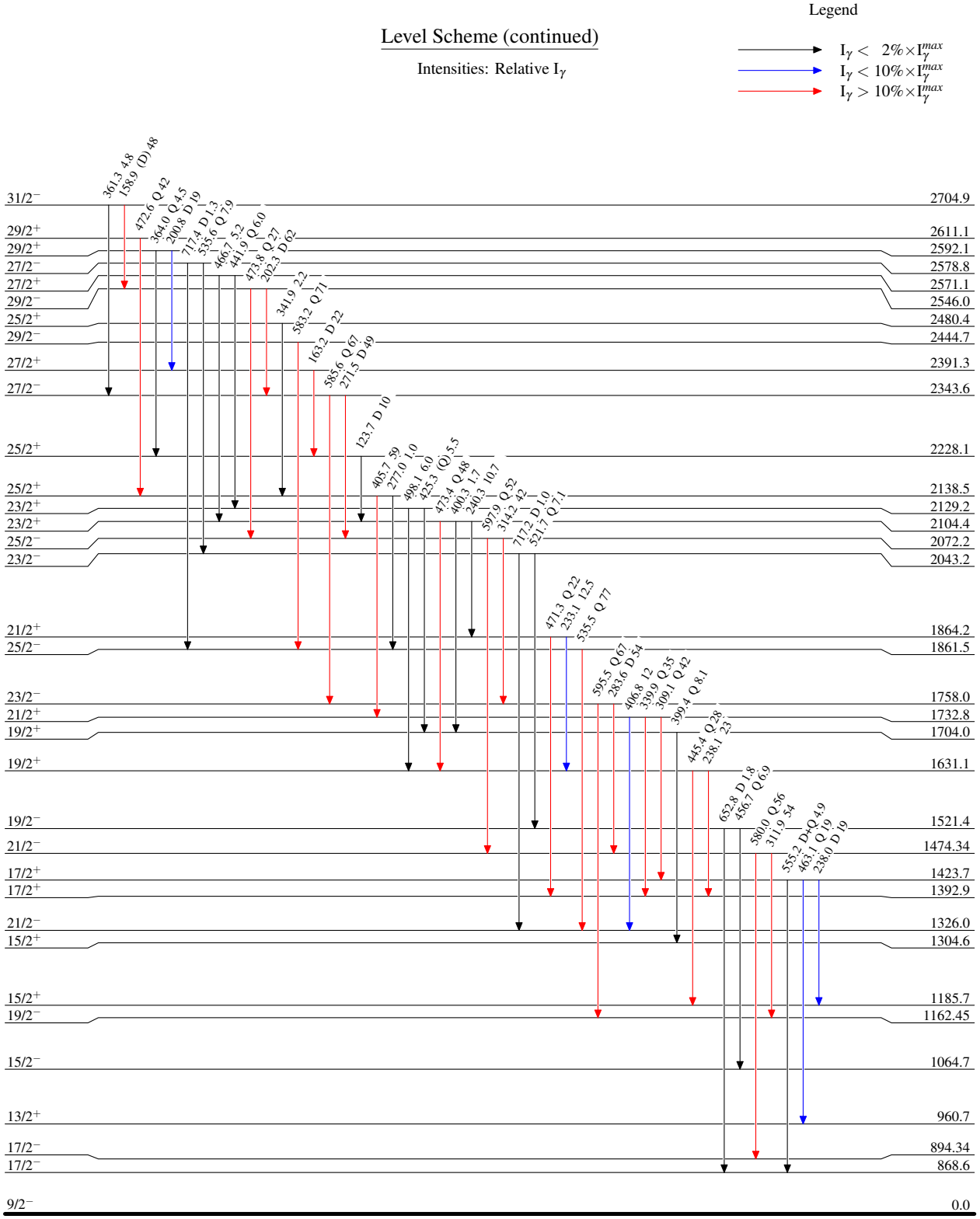


$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

Level Scheme (continued)

Intensities: Relative I_γ

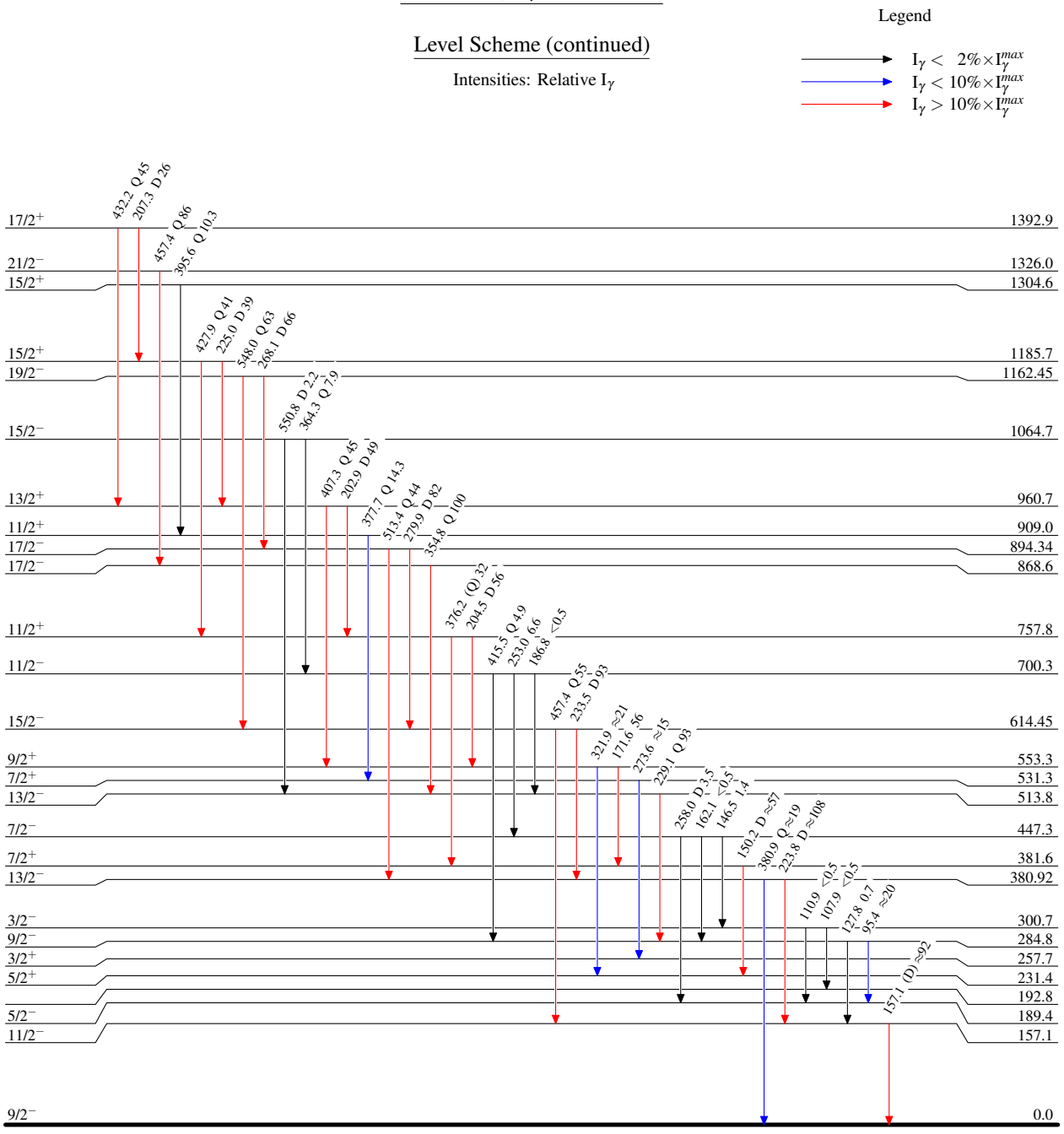


$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36

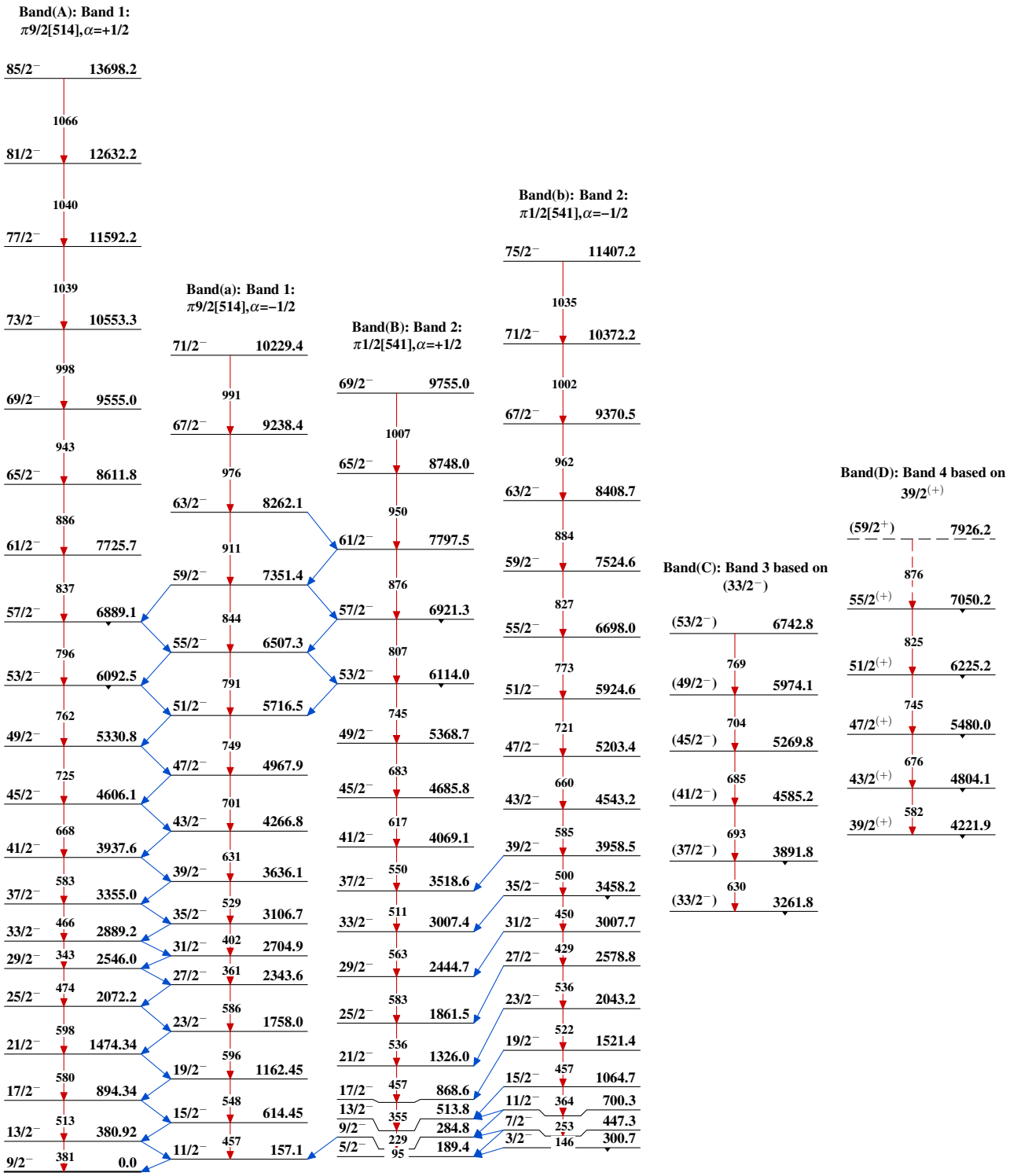
Level Scheme (continued)

Intensities: Relative I_γ



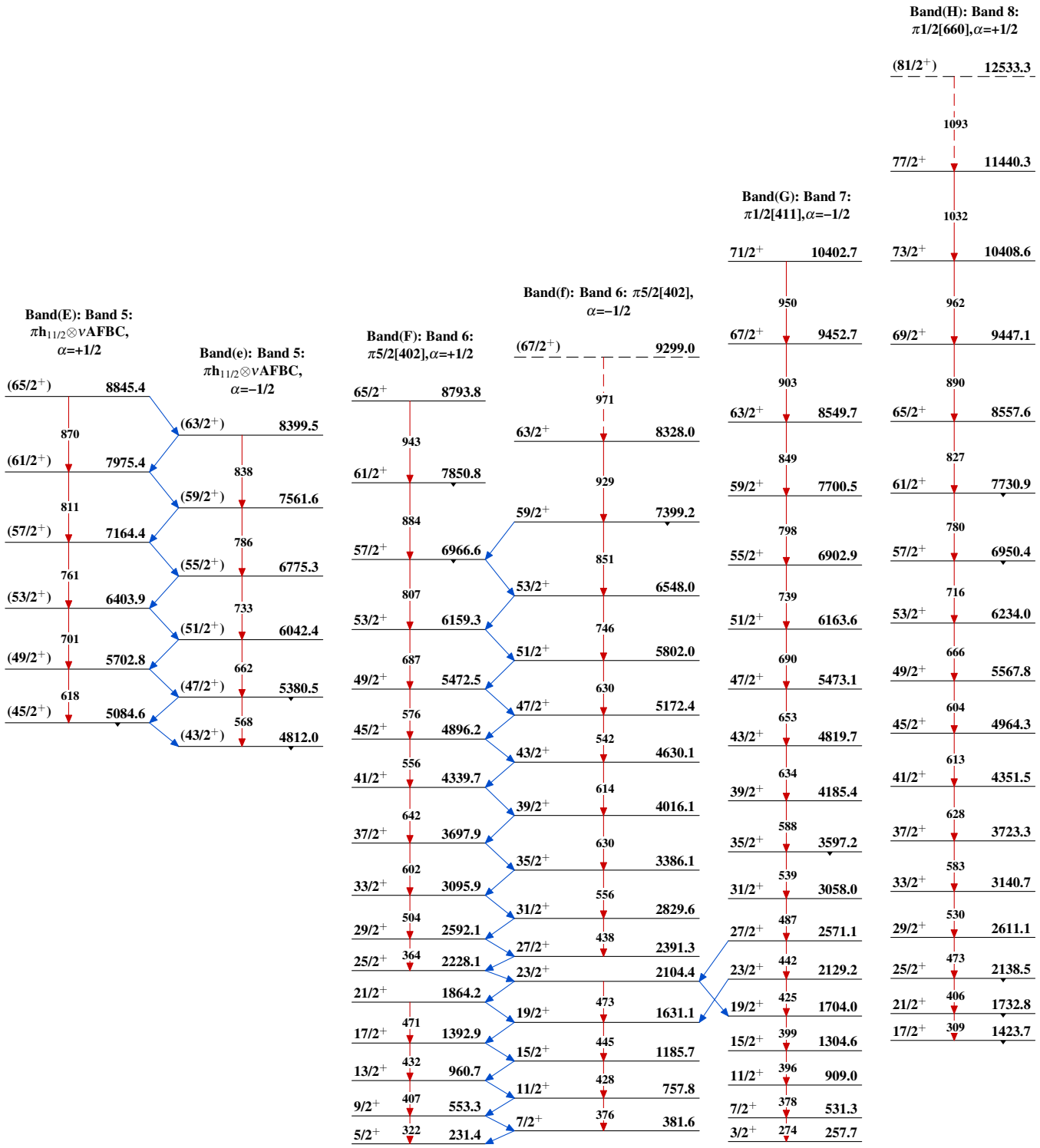
$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36



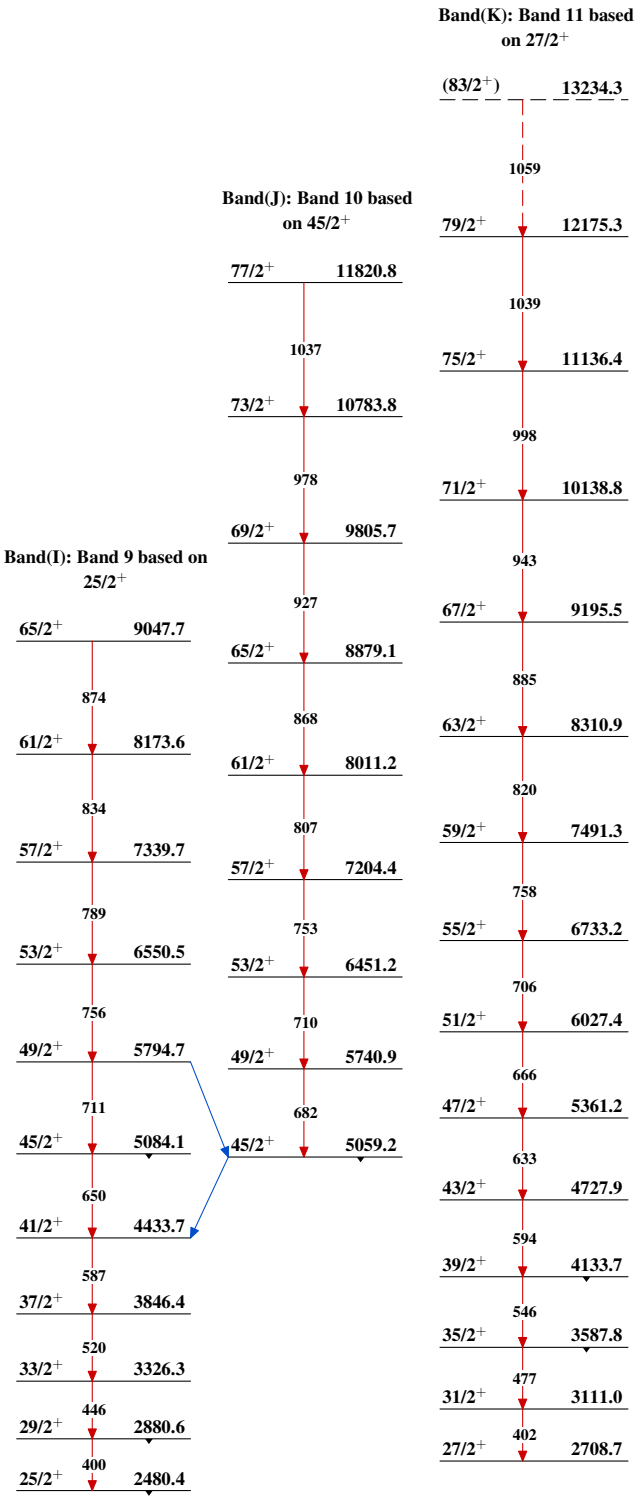
$^{171}_{75}Re_{96}$

$^{120}Sn(^{55}Mn,4n\gamma)$ 2013Ha36 (continued)



$^{171}_{75}Re_{96}$

^{120}Sn(^{55}Mn,4nγ) 2013Ha36 (continued)



$^{171}_{75}Re_{96}$