^{28}Si(^{36}Ar,3pγ) 2008An06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Kazimierz Zuber, Balraj Singh	NDS 125, 1 (2015)	25-Jan-2015

2008An06: Three experiments were performed: GS54, GSFMA42 and GSFMA138. All experiments used the GAMMASPHERE array to measure Eγ, Iγ, $\gamma\gamma$, (particle)γ coin, $\gamma\gamma(\theta)$(DCO). The protons and α particles were detected using the MICROBALL array and Si strip telescopes used for ΔE-E measurements. Comparisons with cranked Nilsson and Strutinsky model calculations for collective structures and with large-scale shell-model calculations for normal-deformed states.

Experiment	GS54	GSFMA42	GSFMA138
Beam energy	143 MeV	148 MeV	142 MeV
Target thick.	0.42 mg/cm^2	0.42 mg/cm^2	0.2 mg/cm^2
Support foil	0.9 mg/cm^2 Ta	1.0 mg/cm^2 Au	1.1 mg/cm^2 Ta
Germanium	82 detectors	86 detectors	77 detectors
Microball	95 elements	65 elements	16 elements
Si ΔE-E telescopes	--	4	8
Liquid scintillators (neutron shell)	15 detectors	20 detectors	30 detectors
Laboratory	LBNL	Argonne	Argonne

^{61}Cu Levels

E(level)[†]	J$^\pi$[‡]	E(level)[†]	J$^\pi$[‡]
0.0[@]	3/2$^-$	5532.03[g] 23	13/2$^+$
970.10[&] 14	5/2$^-$	5579.9[&] 9	17/2$^-$
1310.50[@] 15	7/2$^-$	5702.34 21	15/2$^+$
1394.28 16	5/2$^-$	5729.50[h] 21	15/2$^+$
1732.69 15	7/2$^-$	5748.4 3	17/2$^-$
1942.58 17	7/2$^-$	5853.5 4	17/2$^+$
2295.59 17	9/2$^-$	5856.3[b] 3	19/2$^+$
2336.45[&] 19	9/2$^-$	6056.08[g] 21	17/2$^+$
2612.35 18	9/2$^-$	6572.2[h] 3	19/2$^+$
2627.44[@] 19	11/2$^-$	6824.4[a] 3	21/2$^+$
2720.31[a] 19	9/2$^+$	7124.6[d] 7	19/2
3015.92 20	11/2$^-$	7306.2[g] 3	21/2$^+$
3260.60 19	11/2$^-$	7389.0[b] 5	23/2$^+$
3549.04 19	11/2$^-$	7455.2 10	21/2$^+$
3780.8[&] 3	13/2$^-$	7535.4 13	21/2$^-$
3942.61[b] 22	11/2$^+$	7606.5 19	21/2$^+$
3970.80 22	13/2$^-$	7858.6[c] 9	21/2
4052.45 23	13/2$^-$	7936.6 4	23/2$^-$
4081.44[a] 20	13/2$^+$	8030.3[h] 5	23/2$^+$
4287.74 23	13/2$^-$	8212.1 12	(21/2$^-$)
4467.67[@] 24	15/2$^-$	8333.8 8	23/2$^+$
4590.84 19	13/2$^+$	8358.1 10	
4819.57 21	15/2$^-$	8625.6[d] 10	23/2
4990.65[b] 25	15/2$^+$	8678.8[i] 7	21/2$^-$
5120.10[a] 20	17/2$^+$	8789.1[g] 5	25/2$^+$
5137.96 22	15/2$^+$	8885.1 5	25/2$^+$
5302.0 3		9138.4 24	

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^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

^{61}Cu Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
9287.1[j] 7	23/2$^-$	
9408.5 7	27/2$^-$	
9474.6[c] 11	25/2	
9643.6 16	(25/2$^-$)	
9692.7 5	(25/2$^-$)	
9725.2[h] 6	27/2$^+$	
9789.9 9	27/2$^-$	
9957.6[i] 7	25/2$^-$	
10342.6[d] 11	27/2	
10347.1 12	25/2$^+$	
10409.2[k] 10	25/2$^+$	E(level): any one of the 10409 or 10463 levels can be the bandhead of SD-1 band.
10462.6 12	25/2$^+$	E(level): see comment for 10409 level for bandhead of SD-1 band.
10687.8[j] 7	27/2$^-$	
10906.6[g] 10	29/2$^+$	
11019 4		
11132.9 8	31/2$^-$	
11144 4		
11236.9 20	27/2$^-$	
11255 4		
11301.6[i] 7	29/2$^-$	
11303.1 15	27/2$^-$	
11369.6[c] 11	29/2	
11449[m] 3	(25/2$^+$)	
11752.6[r] 19	(29/2$^-$)	
11775.7[k] 11	29/2$^+$	
12003.7[j] 7	31/2$^-$	
12086.7[h] 11	31/2$^+$	
12090[n] 3	(27/2$^+$)	
12355.6[d] 12	31/2	
12793.4[q] 17	31/2$^-$	
12839.2[i] 8	33/2$^-$	
12847.3[m] 25	(29/2$^+$)	
13146 4	31/2$^-$	
13206.0[o] 21	29/2$^+$	
13284.3[k] 18	33/2$^+$	
13419.6 18	33/2$^+$	
13678[n] 3	(31/2$^+$)	
13823[l] 5	(29/2$^+$)	
13874.2[p] 20	31/2$^+$	
13983.5[e] 13	33/2	
14020.7[c] 13	33/2	
14023.9[j] 13	35/2$^-$	
14068[r] 3	(33/2$^-$)	
14163 4		
14563[m] 3	(33/2$^+$)	
14587.2[o] 20	33/2$^+$	
14628.0[q] 25	35/2$^-$	
14800.5[f] 12	35/2	
15201.8[i] 16	37/2$^-$	
15231.9[k] 20	37/2$^+$	
15311[l] 5	(33/2$^+$)	

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^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

^{61}Cu Levels (continued)

E(level)[†]	Jπ[‡]	E(level)[†]	Jπ[‡]	E(level)[†]	Jπ[‡]
15434.6[p] *21*	35/2+	20285[n] *5*	(43/2+)	28885[p] *7*	(55/2+)
15524[n] *3*	(35/2+)	20550.7[e] *24*	(45/2)	x[s]	J1+1
15742.4[e] *14*	37/2	20723[o] *4*	(45/2+)	339+x *3*	
16302.3[o] *22*	37/2+	20913.3 *25*	(45/2)	790+x[t] *6*	J1
16571.3[f] *16*	39/2	21536[l] *4*	45/2+	2037.0+x[s] *20*	J1+3
16588[m] *4*	(37/2+)	21839[m] *5*	(45/2+)	2520+x[t] *5*	J1+2
16615[r] *5*	(37/2−)	22212[p] *4*	47/2+	4288+x[s] *3*	J1+5
16921[q] *4*	(39/2−)	22284 *6*	(45/2+)[#]	4465+x[t] *5*	J1+4
17039[q] *4*	(39/2−)	22718[r] *6*	(45/2−)	6674+x[t] *4*	J1+6
17067[l] *5*	(37/2+)	22984[k] *4*	49/2+	6735+x[s] *4*	J1+7
17310.6[p] *23*	39/2+	23376[q] *6*	(47/2−)	9261+x[t] *5*	J1+8
17431[k] *3*	41/2+	23418[n] *6*	(47/2+)	9434+x[s] *5*	J1+9
17618.1[e] *17*	41/2	23662[o] *4*	(49/2+)	12369+x[t] *6*	J1+10
17750[n] *4*	(39/2+)	24337[l] *4*	49/2+	12482+x[s] *6*	J1+11
18353.0[o] *24*	(41/2+)	24612 *6*	(49/2+)	15897+x[s] *7*	J1+13
18857.4[f] *19*	43/2	25121[m] *6*	(49/2+)	y[u]	J2
18995[m] *4*	(41/2+)	25325[p] *5*	(51/2+)	1833+y *4*	J2+2
19134[l] *4*	41/2+	26577[k] *6*	53/2+	1846.1+y[u] *18*	J2+2
19472[r] *6*	(41/2−)	26842 *6*	53/2+	3998+y[u] *3*	J2+4
19562[p] *3*	(43/2+)	26928[n] *7*	(51/2+)	6459+y[u] *4*	J2+6
19878[q] *4*	(43/2−)	27023[o] *4*	(53/2+)	9258+y[u] *5*	J2+8
19970[k] *4*	45/2+	27525[l] *5*	(53/2+)	12432+y[u] *6*	J2+10

† From least-squares fit to Eγ data.

‡ Spin-parities of high-spin states (>9/2) are assigned from $\gamma\gamma(\theta)$ and band structure (2008An06). Assignments of low-spin levels are from Adopted Levels.

From Fig. 1 of 2008An06, not given in authors′ table 2.

@ Band(A): Band based on 3/2− g.s.,α=−1/2. Normal-deformed structure.

& Band(a): Band based on 5/2−,α=+1/2. Normal-deformed structure.

a Band(B): Band based on 9/2+,α=+1/2. Normal-deformed structure.

b Band(b): Band based on 11/2+,α=−1/2. Normal-deformed structure.

c Band(C): Band based on 21/2,α=+1/2. Dipole dominated structure. Population intensity=1% of the reaction channel.

d Band(c): Band based on 19/2,α=−1/2. Dipole dominated structure. Population intensity=1% of the reaction channel.

e Band(D): Band based on 33/2,α=+1/2. Continuation of band based on 19/2. Dipole dominated structure. Population intensity=1% of the reaction channel.

f Band(d): Band based on 35/2,α=−1/2. Continuation of band based on 19/2. Dipole dominated structure. Population intensity=1% of the reaction channel.

g Band(E): Band based on 13/2+,α=+1/2. Dipole dominated structure. Population intensity=20% of the reaction channel.

h Band(e): Band based on 15/2+,α=−1/2. Dipole dominated structure. Population intensity=20% of the reaction channel.

i Band(F): Band based on 21/2−,α=+1/2. Dipole dominated structure. Population intensity=5% of the reaction channel.

j Band(f): Band based on 23/2−,α=−1/2. Dipole dominated structure. Population intensity=5% of the reaction channel.

k Band(G): SD-1 band. Band based on 25/2+. Population intensity=7% of the reaction channel.

l Band(H): SD-2 band. Band based on 29/2+. Population intensity=1% of the reaction channel.

m Band(I): SD-3 band,α=+1/2. Band based on (25/2+). Population intensity=1% of the reaction channel.

n Band(i): SD-3 band,α=−1/2. Band based on (27/2+). Population intensity=1% of the reaction channel.

o Band(J): SD-4 band,α=+1/2. Band based on 29/2+. Population intensity=2% of the reaction channel.

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^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

^{61}Cu Levels (continued)

[p] Band(j): SD-4 band,α=−1/2. Band based on 31/2$^+$. Population intensity=2% of the reaction channel.
[q] Band(K): SD-5 band. Band based on 31/2$^-$. Population intensity=1% of the reaction channel.
[r] Band(L): SD-6 band. Band based on (29/2$^-$). Population intensity=1% of the reaction channel.
[s] Band(M): SD-7 band. SD-7 and SD-8 are Signature partners. Population intensity≈0.5% of the reaction channel.
[t] Band(m): SD-8 band. SD-7 and SD-8 are Signature partners. Population intensity≈0.5% of the reaction channel.
[u] Band(N): SD-9 band. Population intensity≈0.5% of the reaction channel.

γ(^{61}Cu)

DCO values are for 30°−83° geometry with gates on ΔJ=2, quadrupole and ΔJ=1, dipole transitions. Expected values of DCOs are: 1. for gate on ΔJ=2, quadrupole: 1.0 for ΔJ=2, quadrupole; ≤1.0 for ΔJ=0 and ≈0.6 for ΔJ=1 transitions. 2. for gate on ΔJ=1, dipole transitions: ≈1.0 for ΔJ=1, dipole; 1.7 for ΔJ=2, quadrupole or ΔJ=0, dipole.

DCO(1) corresponds to value for gate on ΔJ=2, quadrupole.

DCO(2) corresponds to value for gate on ΔJ=1, dipole, except for one case where the value is for gate on ΔJ=0 transition, as indicated.

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
170.3 *2*	0.4 *1*	5702.34	15/2$^+$	5532.03	13/2$^+$	D	DCO(2)=0.99 *19*
197.4 *2*	0.2 *1*	5729.50	15/2$^+$	5532.03	13/2$^+$	D	DCO(2)=0.91 *7*
210.1 *2*	2.6 *5*	1942.58	7/2$^-$	1732.69	7/2$^-$	D	DCO(1)=0.96 *11* Mult.: ΔJ=0 transition.
300.4 *2*	3.7 *4*	5120.10	17/2$^+$	4819.57	15/2$^-$	D	DCO(1)=0.57 *4*
326.6 *1*	5.3 *5*	6056.08	17/2$^+$	5729.50	15/2$^+$	D	DCO(1)=0.63 *3*
338.6 *2*	3.8 *3*	1732.69	7/2$^-$	1394.28	5/2$^-$	D	DCO(2)=1.03 *6*
340.8 *2*	6.2 *4*	1310.50	7/2$^-$	970.10	5/2$^-$	D	DCO(1)=0.63 *4*; DCO(2)=1.24 *12*
353.6 *4*	11.0 *11*	6056.08	17/2$^+$	5702.34	15/2$^+$	D	DCO(1)=0.61 *1*; DCO(2)=1.04 *14*
400.3 *2*	0.2 *1*	5702.34	15/2$^+$	5302.0			
422.2 *2*	17.0 *10*	1732.69	7/2$^-$	1310.50	7/2$^-$	D	DCO(1)=1.11 *2*; DCO(2)=1.68 *4* Mult.: ΔJ=0 transition.
424.2 *2*	0.6 *2*	1394.28	5/2$^-$	970.10	5/2$^-$		Mult.: ΔJ=0 transition.
509.7 *2*	1.0 *2*	4590.84	13/2$^+$	4081.44	13/2$^+$		Mult.: ΔJ=0 transition.
515.9 *3*	20.5 *25*	6572.2	19/2$^+$	6056.08	17/2$^+$	D	DCO(1)=0.50 *6*; DCO(2)=0.97 *3*
529.2 *2*	41.3 *25*	5120.10	17/2$^+$	4590.84	13/2$^+$	Q	DCO(1)=1.05 *4*
547.1 *2*	2.2 *3*	5137.96	15/2$^+$	4590.84	13/2$^+$	D+Q	DCO(1)=0.32 *4*
563.1[#] *2*	4.8 *4*	2295.59	9/2$^-$	1732.69	7/2$^-$	D+Q	DCO(2)=0.98 *8*
564.2 *2*	2.4 *3*	5702.34	15/2$^+$	5137.96	15/2$^+$	D	DCO(2)=1.67 *3* Mult.: ΔJ=0 transition.
564.4[#] *4*	3.0 *5*	7389.0	23/2$^+$	6824.4	21/2$^+$	D+Q	DCO(1)=0.56 *10*; DCO(2)=1.17 *22*
582.2 *2*	0.7 *1*	5702.34	15/2$^+$	5120.10	17/2$^+$	D+Q	DCO(1)=0.76 *17*; DCO(2)=0.92 *10*
591.6 *2*	0.7 *2*	5729.50	15/2$^+$	5137.96	15/2$^+$	D	DCO(2)=1.27 *7* Mult.: ΔJ=0 transition.
608.2 *3*	5.8 *6*	9287.1	23/2$^-$	8678.8	21/2$^-$	D	DCO(1)=0.64 *5*; DCO(2)=0.99 *7*
613.8 *3*	7.5 *8*	11301.6	29/2$^-$	10687.8	27/2$^-$	D+Q	DCO(1)=0.46 *3*; DCO(2)=1.03 *4*
632.3 *2*	3.1 *6*	1942.58	7/2$^-$	1310.50	7/2$^-$	D	DCO(1)=1.07 *5* Mult.: ΔJ=0 transition.
633.1[#] *2*	3.8 *3*	3260.60	11/2$^-$	2627.44	11/2$^-$	D	DCO(1)=1.08 *3* Mult.: ΔJ=0 transition.
648.1[#] *2*	3.2 *3*	4590.84	13/2$^+$	3942.61	11/2$^+$	D+Q	DCO(1)=0.45 *2*
648.4 *2*	6.2 *8*	3260.60	11/2$^-$	2612.35	9/2$^-$	D+Q	DCO(1)=0.77 *4*; DCO(2)=0.97 *4*
652.6 *2*	3.8 *5*	5120.10	17/2$^+$	4467.67	15/2$^-$	D	DCO(1)=0.58 *2*
668.2 *7*	0.7 *1*	13874.2	31/2$^+$	13206.0	29/2$^+$	D+Q	DCO(1)=0.62 *3*
670.0 *2*	11.6 *10*	2612.35	9/2$^-$	1942.58	7/2$^-$	D+Q	DCO(1)=0.73 *4*

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$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)

$\gamma(^{61}Cu)$ (continued)

E_γ	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[‡]	Comments
670.3 *3*	5.4 *6*	9957.6	25/2⁻	9287.1	23/2⁻	D	DCO(2)=1.02 *2*
679.3 *2*	3.5 *4*	3015.92	11/2⁻	2336.45	9/2⁻	D+Q	DCO(1)=0.53 *9*
686.8 *6*	0.3 *1*	4467.67	15/2⁻	3780.8	13/2⁻		
702.2 *4*	7.4 *7*	12003.7	31/2⁻	11301.6	29/2⁻	D+Q	DCO(1)=0.57 *14*; DCO(2)=1.09 *2*
710.4 *2*	3.3 *3*	3970.80	13/2⁻	3260.60	11/2⁻	D+Q	DCO(1)=0.78 *4*
713.1 *7*	0.3 *1*	14587.2	33/2⁺	13874.2	31/2⁺	D+Q	DCO(2)=0.94 *5*
718.7 *3*	1.2 *1*	6572.2	19/2⁺	5853.5	17/2⁺	D+Q	DCO(1)=0.41 *2*
719.2 *7*	0.8 *1*	5856.3	19/2⁺	5137.96	15/2⁺		
720.6 *2*	3.4 *4*	3015.92	11/2⁻	2295.59	9/2⁻	D+Q	DCO(1)=0.88 *7*
723.9 *7*	17.4 *17*	8030.3	23/2⁺	7306.2	21/2⁺	D	DCO(1)=0.66 *8*; DCO(2)=1.21 *6*
730.1 *4*	8.7 *9*	10687.8	27/2⁻	9957.6	25/2⁻	D+Q	DCO(2)=1.09 *4*
733.1 *4*	23.1 *23*	7306.2	21/2⁺	6572.2	19/2⁺	D	DCO(2)=1.13 *8*
734.0 *7*	1.6 *1*	7858.6	21/2	7124.6	19/2	D+Q	DCO=0.41 *2*
736.2 *2*	27.4 *15*	5856.3	19/2⁺	5120.10	17/2⁺	D+Q	DCO(1)=0.49 *2*
757.2 *8*	0.5 *1*	12847.3	(29/2⁺)	12090	(27/2⁺)		
758.7 *4*	8.7 *9*	8789.1	25/2⁺	8030.3	23/2⁺	D+Q	DCO(2)=1.11 *9*
762.8 *2*	7.6 *6*	1732.69	7/2⁻	970.10	5/2⁻	D+Q	DCO(1)=0.47 *6*
767.0 *8*	1.3 *1*	8625.6	23/2	7858.6	21/2	D+Q	DCO(1)=0.76 *13*
767.2 *3*	1.8 *2*	4819.57	15/2⁻	4052.45	13/2⁻	D+Q	DCO(1)=0.72 *7*
780.0 *10*	0.3 *1*	14800.5	35/2	14020.7	33/2	D+Q	DCO(2)=1.22 *10*
791.7 *4*	2.5 *3*	4052.45	13/2⁻	3260.60	11/2⁻	D+Q	DCO(1)=0.90 *7*
817.0 *10*	1.8 *2*	14800.5	35/2	13983.5	33/2	D	DCO(1)=0.7 *3*; DCO(2)=1.06 *5*
829.0 *10*	1.4 *1*	16571.3	39/2	15742.4	37/2	D	DCO(2)=0.91 *5*
830.6 *8*	0.2 *1*	13678	(31/2⁺)	12847.3	(29/2⁺)		
835.5 *4*	7.6 *8*	12839.2	33/2⁻	12003.7	31/2⁻	D+Q	DCO(2)=1.02 *2*
840.1 *4*	3.8 *4*	9725.2	27/2⁺	8885.1	25/2⁺		DCO(2)=0.84 *4*
848.0 *10*	0.8 *1*	15434.6	35/2⁺	14587.2	33/2⁺	D+Q	DCO(1)=0.42 *3*
848.6 *4*	1.8 *2*	4819.57	15/2⁻	3970.80	13/2⁻		
849.0 *9*	1.1 *1*	9474.6	25/2	8625.6	23/2	D+Q	DCO(2)=0.88 *3*
850.0 *6*	3.5 *4*	5137.96	15/2⁺	4287.74	13/2⁻	D	DCO(1)=0.64 *5*; DCO(2)=1.11 *10*
854.9 *4*	5.2 *5*	8885.1	25/2⁺	8030.3	23/2⁺	D+Q	DCO(2)=1.02 *4*
868.0 *9*	1.0 *1*	10342.6	27/2	9474.6	25/2	D+Q	DCO(2)=1.28 *9*
868.0 *10*	0.8 *1*	16302.3	37/2⁺	15434.6	35/2⁺	D+Q	DCO(1)=0.53 *2*
870.2 *9*	2.3 *2*	12003.7	31/2⁻	11132.9	31/2⁻	D	DCO(2)=1.24 *4* Mult.: ΔJ=0 transition.
879.4 *2*	13.0 *11*	2612.35	9/2⁻	1732.69	7/2⁻	D+Q	DCO(1)=0.78 *7*
885.4 *10*	0.3 *1*	14563	(33/2⁺)	13678	(31/2⁺)		
897.6 *9*	0.4 *1*	10687.8	27/2⁻	9789.9	27/2⁻		Mult.: ΔJ=0 transition.
901.2 *2*	3.6 *4*	2295.59	9/2⁻	1394.28	5/2⁻		
909.2 *2*	3.5 *3*	4990.65	15/2⁺	4081.44	13/2⁺	D+Q	DCO(1)=0.27 *6*
921.7 *2*	3.9 *7*	3549.04	11/2⁻	2627.44	11/2⁻	D	DCO(1)=1.09 *4* Mult.: ΔJ=0 transition.
928.8 *3*	2.1 *1*	5748.4	17/2⁻	4819.57	15/2⁻	D+Q	DCO(1)=0.74 *8*
929.0 *8*	0.2 *1*	9287.1	23/2⁻	8358.1			Mult.: E2/M1 assigned in table 2 of 2008An06 based only on J^π assignments.
935.9 *5*	5.8 *5*	9725.2	27/2⁺	8789.1	25/2⁺	D	DCO(2)=1.03 *3*
936.5[#] *2*	5.4 *8*	3549.04	11/2⁻	2612.35	9/2⁻	D+Q	DCO(1)=0.92 *7*
942.0 *10*	2.0 *1*	15742.4	37/2	14800.5	35/2	D	DCO(2)=1.09 *4*
960.3 *10*	0.2 *1*	15524	(35/2⁺)	14563	(33/2⁺)		
967.6 *3*	3.0 *3*	6824.4	21/2⁺	5856.3	19/2⁺	D+Q	DCO(2)=0.75 *1*
970.2 *2*	49.6 *24*	970.10	5/2⁻	0.0	3/2⁻	D+Q	DCO(1)=0.45 *1*
972.2[#] *2*	10.0 *15*	1942.58	7/2⁻	970.10	5/2⁻	D+Q	DCO(1)=0.39 *2*
985.7 *2*	9.8 *9*	2295.59	9/2⁻	1310.50	7/2⁻	D+Q	DCO(2)=0.82 *5* E_γ: level-energy difference=985.1 *2*.
986.0[#] *10*	0.8 *1*	12355.6	31/2	11369.6	29/2	D+Q	DCO(2)=0.92 *6*

Continued on next page (footnotes at end of table)

^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

γ(^{61}Cu) (continued)

E_γ	I_γ†	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	Comments
987.7 2	27.8 16	2720.31	9/2+	1732.69	7/2−	D	DCO(1)=0.56 6; DCO(2)=1.24 7
1008.4 10	0.3 1	17310.6	39/2+	16302.3	37/2+		
1025.9 2	6.3 2	2336.45	9/2−	1310.50	7/2−	D+Q	DCO(1)=0.40 3
1027.0 10	1.0 1	11369.6	29/2	10342.6	27/2	D+Q	DCO(1)=0.54 4; DCO(2)=0.92 4
1038.6 2	44.1 15	5120.10	17/2+	4081.44	13/2+	Q	DCO(1)=0.92 1; DCO(2)=1.81 8
1041.9 2	8.8 8	4590.84	13/2+	3549.04	11/2−	D	DCO(1)=0.49 2
1042.3 10	0.1 1	18353.0	(41/2+)	17310.6	39/2+		
1047.0 10	1.8 1	17618.1	41/2	16571.3	39/2	D+Q	DCO(1)=0.44 2; DCO(2)=1.10 4
1048.0 5	1.5 2	4990.65	15/2+	3942.61	11/2+		
1065.4 4	0.7 1	6056.08	17/2+	4990.65	15/2+	D+Q	DCO(1)=0.52 8
1065.6 2	17.1 5	4081.44	13/2+	3015.92	11/2−	D	DCO(1)=0.68 3; DCO(2)=1.38 12
1075.0 11	0.2 1	9287.1	23/2−	8212.1	(21/2−)		
1111.5 3	0.4 1	5702.34	15/2+	4590.84	13/2+		
1112.2 2	34.7 9	7936.6	23/2−	6824.4	21/2+	D	DCO(1)=0.47 1; DCO(2)=0.97 3
1139.0 4	0.2 1	5729.50	15/2+	4590.84	13/2+	D+Q	DCO(2)=1.14 12
1153.5 6	2.0 2	3780.8	13/2−	2627.44	11/2−	D+Q	DCO(1)=0.31 5
1177.4 13	2.2 2	15201.8	37/2−	14023.9	35/2−	D+Q	
1180.0# 12	2.5 5	12086.7	31/2+	10906.6	29/2+	D+Q	DCO(2)=1.03 9
1181.0# 12	7.7 8	10906.6	29/2+	9725.2	27/2+	D+Q	DCO(2)=1.03 9
1183.6 13	5.2 5	14023.9	35/2−	12839.2	33/2−	D+Q	DCO(2)=0.96 4
1206.0 12	4.9 5	8030.3	23/2+	6824.4	21/2+	D+Q	DCO(1)=0.94 18
1209.0 12	1.0 1	19562	(43/2+)	18353.0	(41/2+)		
1212.6 4	0.9 1	3549.04	11/2−	2336.45	9/2−		
1222.2 2	5.5 5	3942.61	11/2+	2720.31	9/2+	D+Q	DCO(2)=0.53 4
1236.5 2	3.1 4	6056.08	17/2+	4819.57	15/2−	D	DCO(2)=1.03 7
1239.0 12	1.7 1	18857.4	43/2	17618.1	41/2	D+Q	DCO(2)=1.20 10
1244.3 4	0.5 2	5532.03	13/2+	4287.74	13/2−		Mult.: ΔJ=0 transition.
1250.0 6	4.0 4	7306.2	21/2+	6056.08	17/2+	Q	DCO(2)=1.52 18
1253.9 3	1.5 3	3549.04	11/2−	2295.59	9/2−	D+Q	DCO(1)=1.35 8
1268.3 7	0.9 1	7124.6	19/2	5856.3	19/2+	D	DCO(1)=1.08 15 Mult.: ΔJ=0 transition.
1279.5 6	2.1 2	9957.6	25/2−	8678.8	21/2−		
1280.7 3	0.8 1	5748.4	17/2−	4467.67	15/2−		
1301.7 6	3.0 3	2612.35	9/2−	1310.50	7/2−		
1310.4 3	100 3	1310.50	7/2−	0.0	3/2−	Q	DCO(1)=1.00 2; DCO(2)=1.57 2
1313.0 15	4.0 10	11775.7	29/2+	10462.6	25/2+		
1315.0 5	0.5 1	3942.61	11/2+	2627.44	11/2−		Mult.: ΔJ=0 transition.
1316.6# 3	26.2 15	2627.44	11/2−	1310.50	7/2−	Q	DCO(1)=1.15 14
1316.8 13	4.5 5	12003.7	31/2−	10687.8	27/2−		
1317.8 5	6.0 6	3260.60	11/2−	1942.58	7/2−		
1325.2 3	4.8 5	2295.59	9/2−	970.10	5/2−		
1329.8# 3	9.0 4	4590.84	13/2+	3260.60	11/2−	D	DCO(1)=0.55 7
1330.2 6	1.0 1	3942.61	11/2+	2612.35	9/2−		
1343.2 3	2.5 2	3970.80	13/2−	2627.44	11/2−	D+Q	DCO(1)=0.67 5
1343.4 13	0.6 1	11132.9	31/2−	9789.9	27/2−	Q	DCO(2)=1.44 23
1344.4 7	2.2 2	11301.6	29/2−	9957.6	25/2−	Q	DCO(2)=1.28 6
1358.4 7	1.9 1	3970.80	13/2−	2612.35	9/2−		
1361.1# 3	40.9 12	4081.44	13/2+	2720.31	9/2+	Q	DCO(1)=0.98 2; DCO(2)=1.83 9
1366.0 16	6.0 6	11775.7	29/2+	10409.2	25/2+		
1366.1 3	19.0 10	2336.45	9/2−	970.10	5/2−	Q	DCO(1)=0.95 5
1381.0 14	1.0 1	14587.2	33/2+	13206.0	29/2+	Q	DCO(2)=1.62 16
1394.4 3	9.1 3	1394.28	5/2−	0.0	3/2−	D+Q	DCO(1)=0.60 2
1398.0 14	0.5 1	12847.3	(29/2+)	11449	(25/2+)		
1400.9 7	3.7 4	10687.8	27/2−	9287.1	23/2−	Q	DCO(2)=1.40 11

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^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

γ(^{61}Cu) (continued)

Eγ	Iγ†	Ei(level)	Jπi	Ef	Jπf	Mult.‡	Comments
1409.1 3	34.0 10	2720.31	9/2+	1310.50	7/2−	E1	DCO(1)=0.62 3; DCO(2)=1.00 6
1414.6# 3	0.5 1	5702.34	15/2+	4287.74	13/2−	D	DCO(2)=0.96 9
1424.9@ 7	1.5 2	4052.45	13/2−	2627.44	11/2−	D+Q	DCO(1)=1.44 13
1428.6 14	1.5 2	11775.7	29/2+	10347.1	25/2+	Q	DCO(1)=0.97 8
1429.9 14	1.1 1	8885.1	25/2+	7455.2	21/2+		
1441.9 3	0.5 1	5729.50	15/2+	4287.74	13/2−	D	DCO(2)=1.02 6
1444.4 3	8.9 3	3780.8	13/2−	2336.45	9/2−	Q	DCO(1)=1.25 17
1450.4 3	1.0 1	7306.2	21/2+	5856.3	19/2+	D+Q	DCO(2)=1.43 6
1451.7 12	0.8 1	4467.67	15/2−	3015.92	11/2−		
1451.7# 3	12.5 8	6572.2	19/2+	5120.10	17/2+	D+Q	DCO(1)=1.24 4
1458.3 7	6.7 7	8030.3	23/2+	6572.2	19/2+	Q	DCO(2)=1.42 13
1471.4 7	23.5 23	9408.5	27/2−	7936.6	23/2−	Q	DCO(1)=1.02 2; DCO(2)=1.87 3
1483.2 7	3.5 4	8789.1	25/2+	7306.2	21/2+	Q	DCO(2)=1.33 8
1488.0 15	0.3 1	15311	(33/2+)	13823	(29/2+)		
1490.0 15	0.7 1	12793.4	31/2−	11303.1	27/2−		
1495.8 15	2.1 1	8885.1	25/2+	7389.0	23/2+	D+Q	DCO(1)=1.04 10
1501.0 15	0.3 1	8625.6	23/2	7124.6	19/2		
1509.3# 8	5.9 6	8333.8	23/2+	6824.4	21/2+	D+Q	DCO(1)=1.06 7
1509.4# 15	15.5 16	13284.3	33/2+	11775.7	29/2+	Q	DCO(1)=0.96 2; DCO(2)=1.59 16
1527.8# 3	9.2 8	3260.60	11/2−	1732.69	7/2−	Q	DCO(1)=1.17 7
1533.5 8	7.6 8	7389.0	23/2+	5856.3	19/2+	Q	DCO(1)=1.00 12; DCO(2)=1.92 4
1537.3 8	2.4 3	12839.2	33/2−	11301.6	29/2−	Q	DCO(2)=1.47 8
1556.5 16	0.1 1	12793.4	31/2−	11236.9	27/2−		
1559.3 3	3.6 3	4819.57	15/2−	3260.60	11/2−	Q	DCO(1)=0.97 5
1559.8 16	2.2 4	15434.6	35/2+	13874.2	31/2+	Q	DCO(1)=1.02 4
1578.9 16	1.6 1	8885.1	25/2+	7306.2	21/2+	Q	DCO(2)=1.69 36
1587.8 16	1.2 2	13678	(31/2+)	12090	(27/2+)	Q	DCO(1)=0.93 7
1599.0 16	4.1 2	7455.2	21/2+	5856.3	19/2+	D+Q	DCO(2)=1.28 14
1606.4 6	1.4 1	3549.04	11/2−	1942.58	7/2−		
1616.0 16	0.3 1	9474.6	25/2	7858.6	21/2		
1628.0 16	0.5 1	13983.5	33/2	12355.6	31/2	D+Q	DCO(2)=1.31 7
1642.2 8	1.0 1	2612.35	9/2−	970.10	5/2−		
1642.9 16	2.0 3	13419.6	33/2+	11775.7	29/2+		
1644.4 16	0.5 1	11369.6	29/2	9725.2	27/2+		Mult.: ΔJ=1 transition.
1647.9 3	0.4 1	5729.50	15/2+	4081.44	13/2+	D+Q	DCO(2)=1.39 9
1665.0 17	0.5 1	14020.7	33/2	12355.6	31/2	D+Q	DCO(2)=1.13 24
1692.8 17	0.4 1	20550.7	(45/2)	18857.4	43/2		
1695.0 8	3.9 4	9725.2	27/2+	8030.3	23/2+	Q	DCO(2)=1.43 8
1698.0 17	0.3 1	2037.0+x	J1+3	339+x			
1704.5 3	49.3 16	6824.4	21/2+	5120.10	17/2+	Q	DCO(1)=1.05 2; DCO(2)=1.96 6
1705.3# 6	11.5 8	3015.92	11/2−	1310.50	7/2−	Q	DCO(1)=1.14 2
1707.0# 17	0.6 1	9643.6	(25/2−)	7936.6	23/2−	D	DCO(1)=0.58 3
1714.3 17	1.2 5	16302.3	37/2+	14587.2	33/2+		
1715.9 3	4.0 4	4052.45	13/2−	2336.45	9/2−		
1716.0 17	1.1 2	14563	(33/2+)	12847.3	(29/2+)		
1717.0 17	0.4 1	10342.6	27/2	8625.6	23/2	Q	DCO(2)=1.55 6
1721.0 17	0.3 1	15742.4	37/2	14020.7	33/2		
1723.7 9	6.2 6	11132.9	31/2−	9408.5	27/2−	Q	DCO(1)=1.25 9
1730.0 17	0.3 1	2520+x	J1+2	790+x	J1		
1731.9 3	2.4 3	5702.34	15/2+	3970.80	13/2−		
1732.3 3	38.3 12	1732.69	7/2−	0.0	3/2−	Q	DCO(1)=1.00 7
1753.0 5	0.9 3	5302.0		3549.04	11/2−		
1753.0 18	2.0 1	7606.5	21/2+	5853.5	17/2+	Q	DCO(1)=1.01 7
1756.0 18	0.6 1	17067	(37/2+)	15311	(33/2+)		

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^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

γ(^{61}Cu) (continued)

E_γ	I_γ †	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	Comments
1757.3 *4*	3.3 *4*	4052.45	13/2⁻	2295.59	9/2⁻		
1758.7 *5*	0.1 *1*	5729.50	15/2⁺	3970.80	13/2⁻		
1759.0 *18*	1.0 *1*	15742.4	37/2	13983.5	33/2	Q	DCO(1)=1.07 *10*
1771.0 *18*	2.2 *1*	16571.3	39/2	14800.5	35/2	Q	DCO(2)=1.60 *8*
1772.0 *4*	5.8 *4*	5853.5	17/2⁺	4081.44	13/2⁺	Q	DCO(1)=1.08 *6*
1787.0 *18*	1.2 *1*	7535.4	21/2⁻	5748.4	17/2⁻		
1800 *1*	3.8 *4*	5579.9	17/2⁻	3780.8	13/2⁻	Q	DCO(1)=1.13 *7*
1802.5 *18*	1.0 *1*	10687.8	27/2⁻	8885.1	25/2⁺		
1811.0 *18*	1.6 *3*	15231.9	37/2⁺	13419.6	33/2⁺	Q	DCO(1)=1.12 *9*
1834.6 *18*	1.4 *1*	14628.0	35/2⁻	12793.4	31/2⁻	Q	DCO(1)=0.95 *7*
1840.9 *4*	5.2 *2*	4467.67	15/2⁻	2627.44	11/2⁻	Q	DCO(1)=0.99 *8*; DCO(2)=1.71 *6*
1845.7 *19*	1.0 *2*	15524	(35/2⁺)	13678	(31/2⁺)	Q	DCO(1)=1.05 *9*
1846.1 *18*	0.3 *1*	1846.1+y	J2+2	y	J2		
1853.0 *19*	2.3 *2*	9789.9	27/2⁻	7936.6	23/2⁻	Q	DCO(2)=1.71 *13*
1870.1 *4*	13.5 *9*	4590.84	13/2⁺	2720.31	9/2⁺	Q	DCO(1)=1.09 *5*
1875.0 *19*	1.0 *1*	17618.1	41/2	15742.4	37/2	Q	DCO(2)=1.60 *8*
1875.9 *19*	2.0 *4*	17310.6	39/2⁺	15434.6	35/2⁺	Q	DCO(1)=1.06 *9*
1893.1 *19*	0.4 *1*	11301.6	29/2⁻	9408.5	27/2⁻		
1894.0 *19*	0.4 *1*	11303.1	27/2⁻	9408.5	27/2⁻	D	DCO(1)=0.71 *9* Mult.: ΔJ=0 transition.
1895.0 *19*	0.3 *1*	11369.6	29/2	9474.6	25/2		
1897.0 *19*	1.4 *1*	13983.5	33/2	12086.7	31/2⁺	D	DCO(2)=1.10 *6*
1928.0 *19*	1.3 *1*	9957.6	25/2⁻	8030.3	23/2⁺	D	DCO(2)=0.89 *6*
1934.0 *19*	0.9 *1*	14020.7	33/2	12086.7	31/2⁺		Mult.: ΔJ=1 transition.
1943.0 *8*	3.4 *8*	1942.58	7/2⁻	0.0	3/2⁻	Q	DCO(2)=1.49 *12*
1945.0 *19*	0.3 *1*	4465+x	J1+4	2520+x	J1+2		
1948.9 *20*	12.0 *12*	15231.9	37/2⁺	13284.3	33/2⁺	Q	DCO(1)=0.97 *7*
1951.4 *4*	6.1 *6*	4287.74	13/2⁻	2336.45	9/2⁻	Q	DCO(1)=1.14 *6*
1955.4 *20*	0.5 *1*	7535.4	21/2⁻	5579.9	17/2⁻	Q	DCO(1)=1.03 *9*
1961.0 *20*	2.8 *2*	14800.5	35/2	12839.2	33/2⁻	D	DCO(1)=0.47 *5*; DCO(2)=0.80 *11*
1974.1 *4*	2.3 *3*	6056.08	17/2⁺	4081.44	13/2⁺	Q	DCO(1)=0.96 *11*
1980.6 *20*	1.4 *2*	9287.1	23/2⁻	7306.2	21/2⁺	D	DCO(2)=0.87 *10*
1992.2 *4*	1.6 *1*	4287.74	13/2⁻	2295.59	9/2⁻		
2004.0 *20*	1.0 *1*	7124.6	19/2	5120.10	17/2⁺	D	DCO(1)=1.33 *22*
2013.0 *20*	0.4 *1*	10347.1	25/2⁺	8333.8	23/2⁺		
2013.0 *20*	0.3 *1*	12355.6	31/2	10342.6	27/2		
2021.3 *20*	1.4 *1*	14023.9	35/2⁻	12003.7	31/2⁻	Q	DCO(2)=1.39 *8*
2025.0 *20*	1.1 *2*	16588	(37/2⁺)	14563	(33/2⁺)	Q	DCO(1)=1.05 *11*
2037.0 *20*	0.3 *1*	2037.0+x	J1+3	x	J1+1		
2050.7 *21*	1.8 *3*	18353.0	(41/2⁺)	16302.3	37/2⁺		
2055.9 *21*	0.6 *1*	20913.3	(45/2)	18857.4	43/2		
2060.0 *21*	0.3 *1*	11752.6	(29/2⁻)	9692.7	(25/2⁻)	Q	DCO(1)=0.98 *22*
2067.0 *21*	0.6 *1*	19134	41/2⁺	17067	(37/2⁺)		
2106.6 *11*	1.2 *2*	8678.8	21/2⁻	6572.2	19/2⁺	D	DCO(2)=1.06 *9* Mult.: assigned by the evaluators, consistent with DCO ratio. Mult=E2/M1 in table 2 of 2008An06 seems a misprint since it is inconsistent with J^π values of levelS involved.
2109.0 *21*	0.3 *1*	11752.6	(29/2⁻)	9643.6	(25/2⁻)	(Q)	DCO(1)=0.81 *12*
2118.0 *14*	1.0 *1*	10906.6	29/2⁺	8789.1	25/2⁺	Q	DCO(2)=1.27 *7*
2127.9 *21*	1.0 *1*	10462.6	25/2⁺	8333.8	23/2⁺	D+Q	DCO(1)=0.65 *3*
2152.2 *22*	0.6 *1*	3998+y	J2+4	1846.1+y	J2+2		
2165.0 *22*	0.2 *1*	3998+y	J2+4	1833+y	J2+2		
2191.0 *4*	2.8 *3*	4819.57	15/2⁻	2627.44	11/2⁻		
2198.7 *22*	10.0 *10*	17431	41/2⁺	15231.9	37/2⁺	Q	DCO(1)=1.03 *2*; DCO(2)=1.37 *17*
2209.0 *22*	0.5 *1*	6674+x	J1+6	4465+x	J1+4		

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$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)

$\gamma(^{61}Cu)$ (continued)

E_γ	I_γ†	E_i(level)	J^π_i	E_f	J^π_f	Mult.‡	Comments
2226.7 *22*	0.8 *1*	17750	(39/2+)	15524	(35/2+)	(Q)	DCO(1)=0.87 *9*
2238.5 *4*	1.0 *1*	3549.04	11/2−	1310.50	7/2−		
2251.0 *23*	0.7 *1*	4288+x	J1+5	2037.0+x	J1+3		
2252.1 *23*	1.7 *3*	19562	(43/2+)	17310.6	39/2+	Q	DCO(1)=1.05 *6*
2270.5 *6*	0.6 *2*	5532.03	13/2+	3260.60	11/2−		
2286.0 *23*	0.8 *1*	18857.4	43/2	16571.3	39/2		
2293.0 *23*	0.3 *1*	16921	(39/2−)	14628.0	35/2−		
2314.0 *23*	1.1 *1*	9138.4		6824.4	21/2+		
2315.0 *23*	1.0 *1*	14068	(33/2−)	11752.6	(29/2−)	Q	DCO(1)=1.16 *14*
2317.1 *23*	0.2 *1*	10347.1	25/2+	8030.3	23/2+	D+Q	DCO(2)=1.08 *18*
2344.0 *23*	0.5 *1*	11752.6	(29/2−)	9408.5	27/2−	(D+Q)	DCO(1)=1.3 *3*
2362.0 *24*	2.0 *1*	12086.7	31/2+	9725.2	27/2+	Q	DCO(2)=1.93 *21*
2364.3 *24*	1.8 *2*	15201.8	37/2−	12839.2	33/2−	Q	DCO(2)=1.35 *17*
2367.9 *24*	3.0 *3*	11775.7	29/2+	9408.5	27/2−	D	DCO(1)=0.60 *6*; DCO(2)=1.16 *6*
2370.0 *24*	1.3 *1*	20723	(45/2+)	18353.0	(41/2+)		
2385.6 *24*	0.2 *1*	6674+x	J1+6	4288+x	J1+5		
2402.0 *24*	0.5 *1*	21536	45/2+	19134	41/2+	Q	DCO(1)=1.23 *17*
2407.0 *24*	0.8 *3*	18995	(41/2+)	16588	(37/2+)	Q	DCO(1)=0.93 *9*
2411.0 *24*	0.5 *1*	17039	(39/2−)	14628.0	35/2−		
2422.0 *24*	0.7 *1*	9957.6	25/2−	7535.4	21/2−	Q	DCO(2)=2.0 *3*
2447.2 *24*	0.4 *1*	6735+x	J1+7	4288+x	J1+5		
2460.3 *25*	0.7 *1*	6459+y	J2+6	3998+y	J2+4		
2472.4 *12*	1.1 *1*	10409.2	25/2+	7936.6	23/2−	D	DCO(1)=0.69 *7*
2500.5@ *25*	0.1 *1*	14587.2	33/2+	12086.7	31/2+	D+Q	
2534.8 *25*	0.6 *1*	20285	(43/2+)	17750	(39/2+)	Q	DCO(1)=0.92 *7*
2538.9 *25*	6.0 *6*	19970	45/2+	17431	41/2+	Q	DCO(1)=1.11 *7*
2547 *3*	0.8 *1*	16615	(37/2−)	14068	(33/2−)	Q	DCO(1)=1.00 *10*
2568 *3*	0.8 *1*	9957.6	25/2−	7389.0	23/2+		
2587 *3*	0.6 *1*	9261+x	J1+8	6674+x	J1+6		
2614 *3*	0.7 *1*	13983.5	33/2	11369.6	29/2	Q	DCO(2)=1.70 *11*
2632 *3*	0.5 *1*	8212.1	(21/2−)	5579.9	17/2−	(Q)	DCO(1)=1.3 *3*
2650 *3*	1.3 *2*	22212	47/2+	19562	(43/2+)	Q	DCO(1)=1.03 *7*
2651 *3*	0.4 *1*	14020.7	33/2	11369.6	29/2		
2699 *3*	0.3 *1*	9434+x	J1+9	6735+x	J1+7		
2778 *3*	0.3 *1*	8358.1		5579.9	17/2−		
2799 *3*	0.5 *1*	9258+y	J2+8	6459+y	J2+6		
2801 *3*	0.3 *1*	24337	49/2+	21536	45/2+		
2839 *3*	0.3 *1*	19878	(43/2−)	17039	(39/2−)		
2844 *3*	0.4 *1*	21839	(45/2+)	18995	(41/2+)	(Q)	DCO(1)=0.88 *6*
2857 *3*	0.3 *1*	19472	(41/2−)	16615	(37/2−)	Q	DCO(1)=0.90 *12*
2934 *3*	0.3 *1*	20550.7	(45/2)	17618.1	41/2		
2939 *3*	0.4 *1*	23662	(49/2+)	20723	(45/2+)		
2954 *3*	0.3 *1*	10409.2	25/2+	7455.2	21/2+		
2957 *3*	0.2 *1*	19878	(43/2−)	16921	(39/2−)		
2958 *3*	0.3 *1*	10347.1	25/2+	7389.0	23/2+		
3008 *3*	0.2 *1*	10462.6	25/2+	7455.2	21/2+		
3014 *3*	2.4 *3*	22984	49/2+	19970	45/2+	(Q)	DCO(1)=0.89 *3*
3030 *3*	0.4 *1*	14163		11132.9	31/2−		
3048 *3*	0.1 *1*	12482+x	J1+11	9434+x	J1+9		
3074 *3*	1.3 *1*	10462.6	25/2+	7389.0	23/2+	D+Q	DCO(1)=1.36 *13*
3101.2 *16*	0.6 *1*	8678.8	21/2−	5579.9	17/2−	Q	DCO(1)=1.08 *16*
3108 *3*	0.2 *1*	12369+x	J1+10	9261+x	J1+8		
3113 *3*	0.4 *1*	25325	(51/2+)	22212	47/2+	(Q)	DCO(1)=0.87 *8*
3122@ *3*	0.3 *1*	12847.3	(29/2+)	9725.2	27/2+		
3133 *3*	0.2 *1*	23418	(47/2+)	20285	(43/2+)		

Continued on next page (footnotes at end of table)

^{28}Si(^{36}Ar,3pγ) 2008An06 (continued)

γ(^{61}Cu) (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	Comments
3174 *3*	0.2 *1*	12432+y	J2+10	9258+y	J2+8		
3188 *3*	0.1 *1*	27525	$(53/2^+)$	24337	$49/2^+$		
3246 *3*	0.1 *1*	22718	$(45/2^-)$	19472	$(41/2^-)$		
3281 *3*	0.1 *1*	25121	$(49/2^+)$	21839	$(45/2^+)$		
3295 *3*	0.5 *1*	20913.3	(45/2)	17618.1	41/2		
3300 *3*	0.8 *1*	11236.9	$27/2^-$	7936.6	$23/2^-$		
3362 *3*	0.1 *1*	27023	$(53/2^+)$	23662	$(49/2^+)$		
3367 *3*	0.6 *1*	11303.1	$27/2^-$	7936.6	$23/2^-$	Q	DCO(2)>1
3386 *3*	1.7 *2*	12793.4	$31/2^-$	9408.5	$27/2^-$	Q	DCO(1)=0.95 *7*
3414 *3*	0.1 *1*	15897+x	J1+13	12482+x	J1+11		
3480 *4*	0.2 *1*	13206.0	$29/2^+$	9725.2	$27/2^+$		
3498 *4*	0.1 *1*	23376	$(47/2^-)$	19878	$(43/2^-)$		
3510 *4*	0.1 *1*	26928	$(51/2^+)$	23418	$(47/2^+)$		
3523 *4*	0.2 *1*	10347.1	$25/2^+$	6824.4	$21/2^+$		
3560 *4*	0.1 *1*	28885	$(55/2^+)$	25325	$(51/2^+)$		
3584 *4*	1.7 *2*	10409.2	$25/2^+$	6824.4	$21/2^+$	Q	DCO(1)=1.25 *15*
3592 *4*	0.1 *1*	26577	$53/2^+$	22984	$49/2^+$	Q	DCO(1)=0.91 *8*
3630 *4*	0.4 *1*	11019		7389.0	$23/2^+$		
3638 *4*	0.9 *2*	10462.6	$25/2^+$	6824.4	$21/2^+$	Q	DCO(1)=0.87 *14*
3737 *4*	0.8 *1*	13146	$31/2^-$	9408.5	$27/2^-$	Q	DCO(1)=1.00 *15*
3755 *4*	0.4 *1*	11144		7389.0	$23/2^+$		
3857 *4*	0.3 *1*	26842	$53/2^+$	22984	$49/2^+$	(Q)	DCO(1)=0.87 *10*
3866 *4*	0.6 *1*	11255		7389.0	$23/2^+$		
3902 *4*	0.3 *1*	19134	$41/2^+$	15231.9	$37/2^+$	Q	DCO(1)=0.91 *20*
4038 *4*	0.1 *1*	27023	$(53/2^+)$	22984	$49/2^+$		
4058@ *4*	0.2 *1*	12847.3	$(29/2^+)$	8789.1	$25/2^+$		
4105 *4*	0.2 *1*	21536	$45/2^+$	17431	$41/2^+$	Q	DCO(1)=0.98 *18*
4150 *4*	0.4 *1*	13874.2	$31/2^+$	9725.2	$27/2^+$	Q	DCO(1)=0.89 *19*; DCO(2)=1.8 *4*
4367 *4*	0.1 *1*	24337	$49/2^+$	19970	$45/2^+$	(Q)	DCO(1)=0.87 *21*
4642 *5*	0.1 *1*	24612	$(49/2^+)$	19970	$45/2^+$		
4853 *5*	0.1 *1*	22284	$(45/2^+)$	17431	$41/2^+$		

† Relative to 100 for 1310.4γ measured in the ^{28}Si(^{36}Ar,3pγ) reaction (2008An06).

‡ Deduced from DCO measurements in 2008An06. In the absence of polarization or other confirming data, the evaluators assign Mult=Q for ΔJ=2,quadrupole transitions, mult=D or D+Q for ΔJ=1 or 0 dipole or dipole+quadrupole transitions. From systematics and band assignments, 2008An06 assign E2 for all ΔJ=2 transitions and M1+E2, M1 or E1 for ΔJ=1 or 0 transitions.

DCO value is for an unresolved doublet.

@ Placement of transition in the level scheme is uncertain.

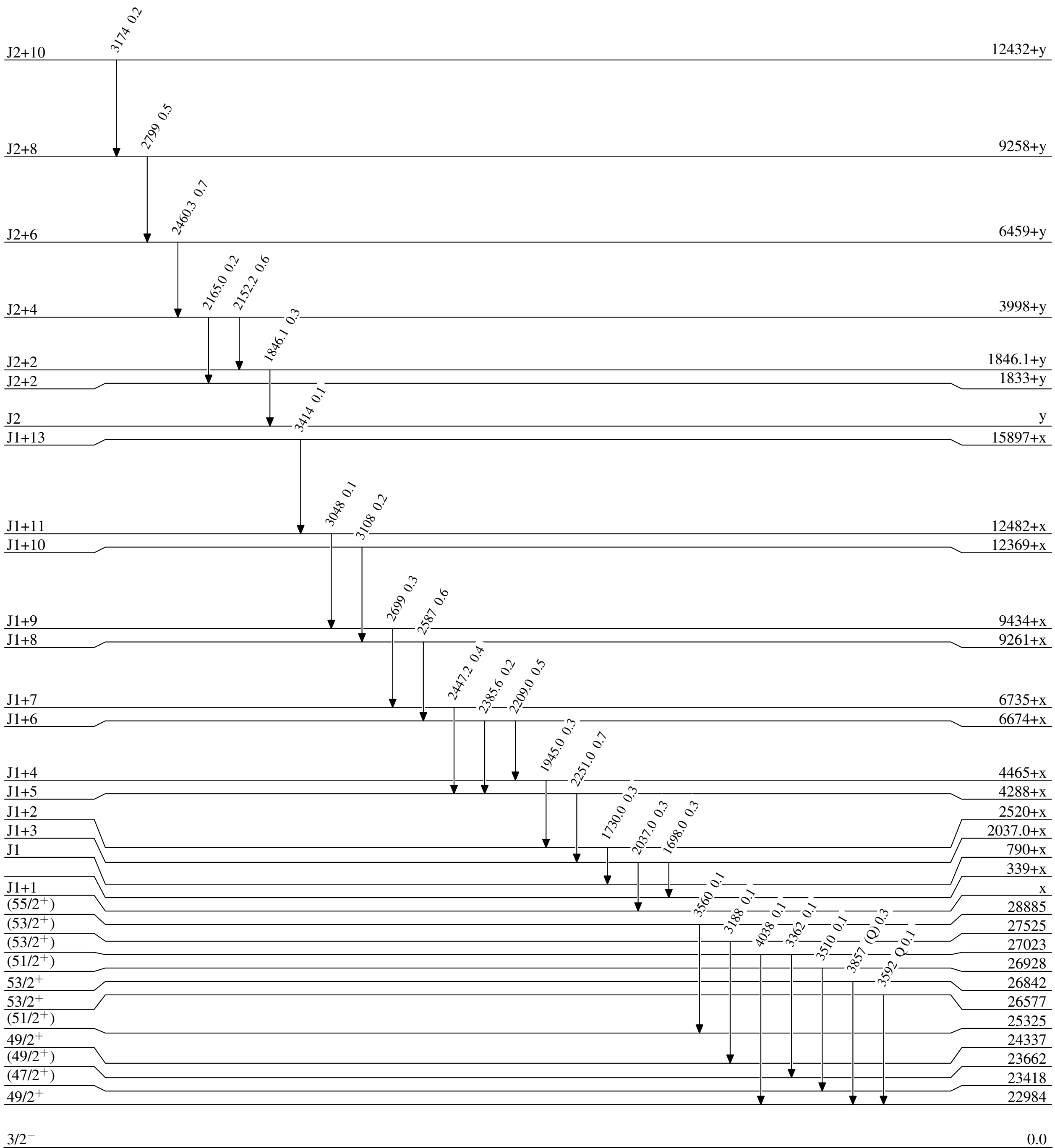
$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme

Intensities: Relative I_γ

Legend

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

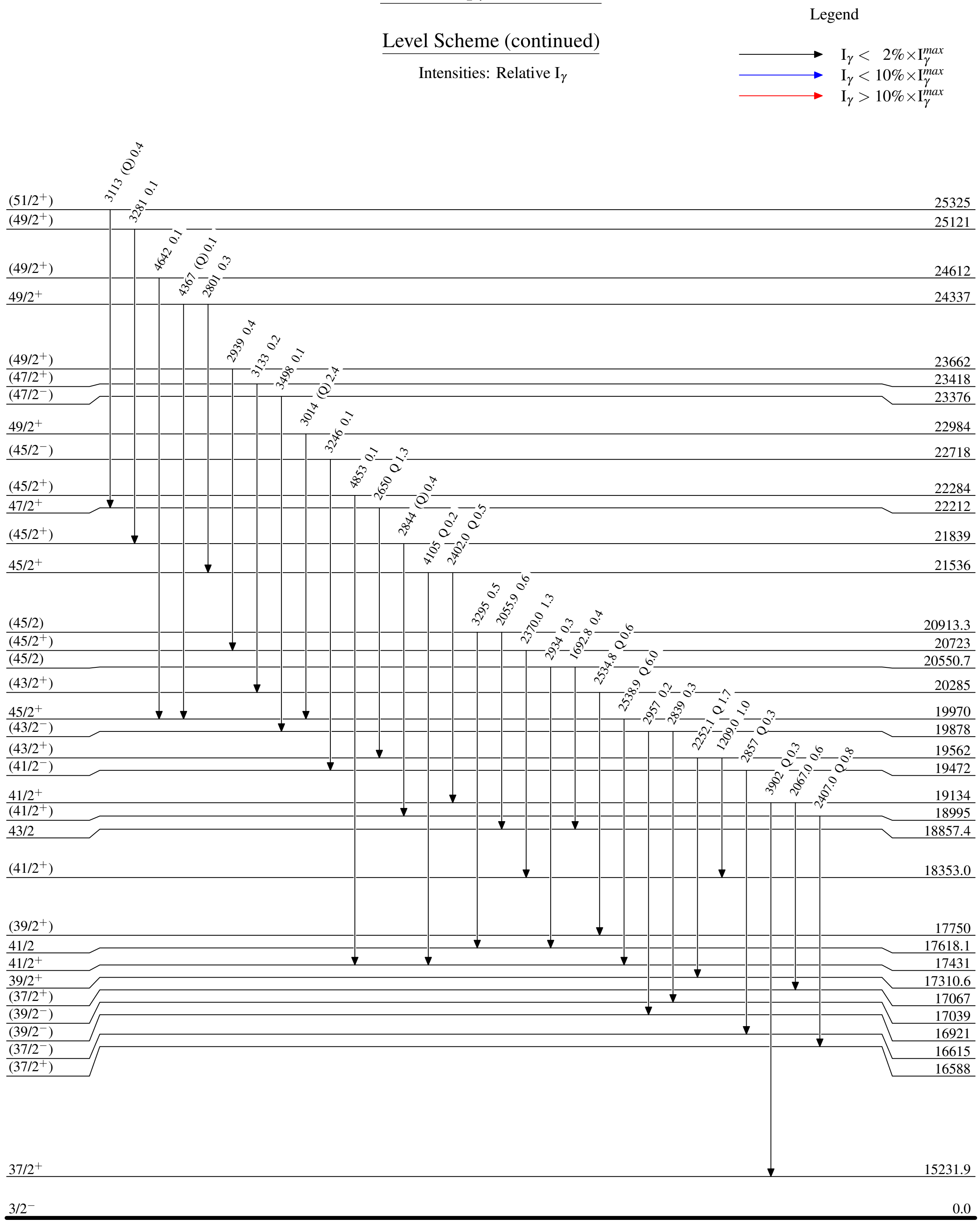


$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme (continued)

Intensities: Relative I_γ

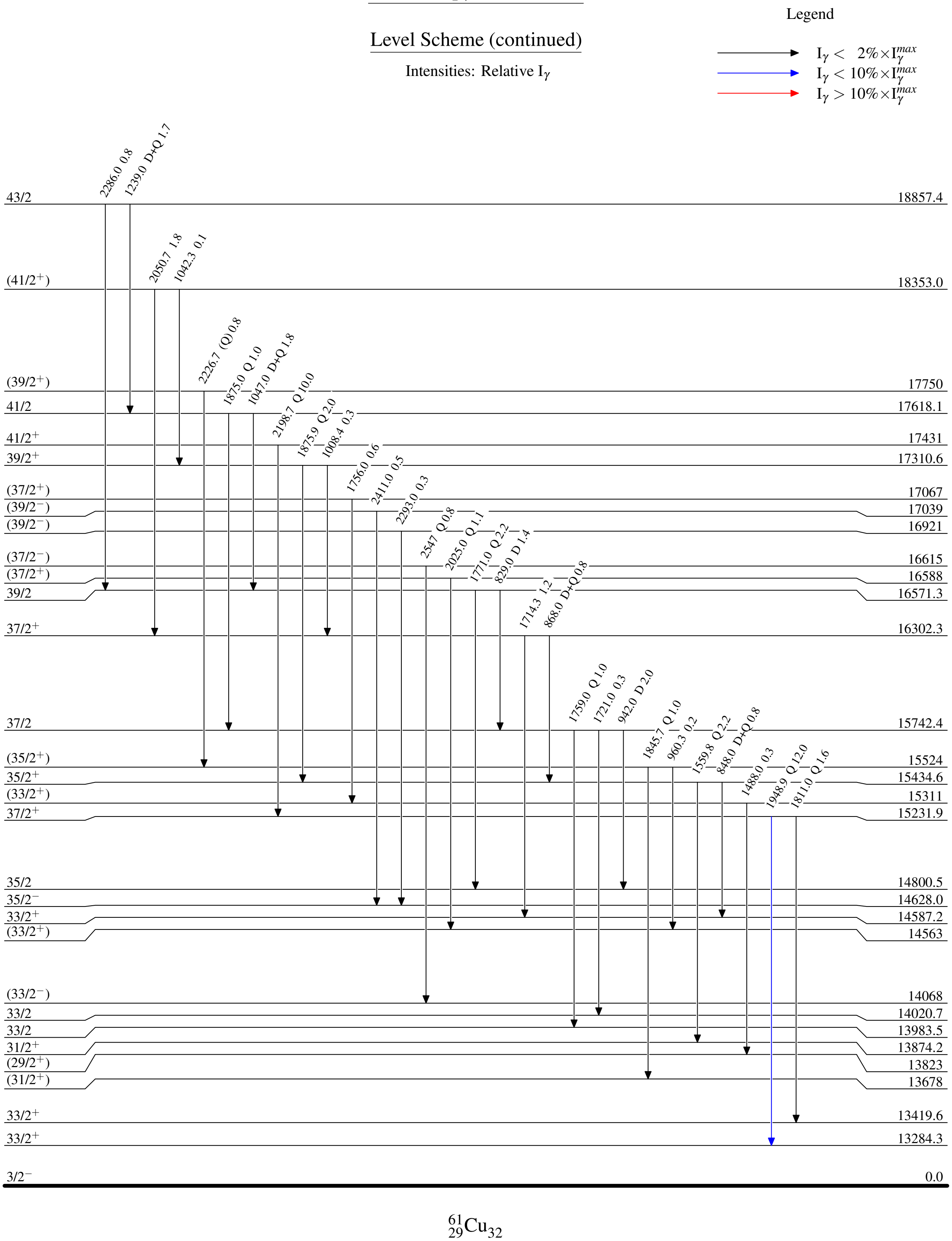


$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme (continued)

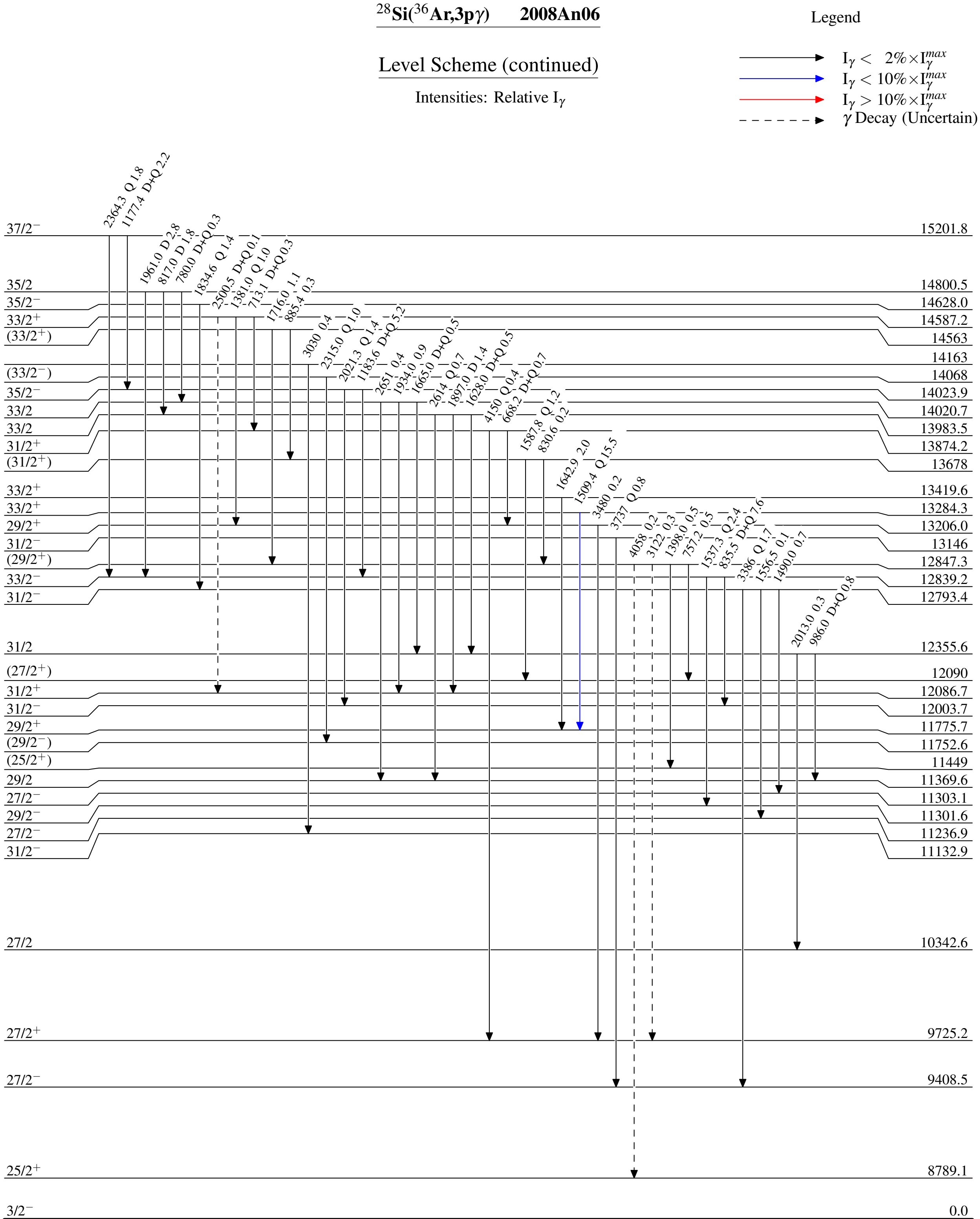
Intensities: Relative I_γ



^{28}Si(^{36}Ar,3pγ) 2008An06

Level Scheme (continued)

Intensities: Relative I_γ

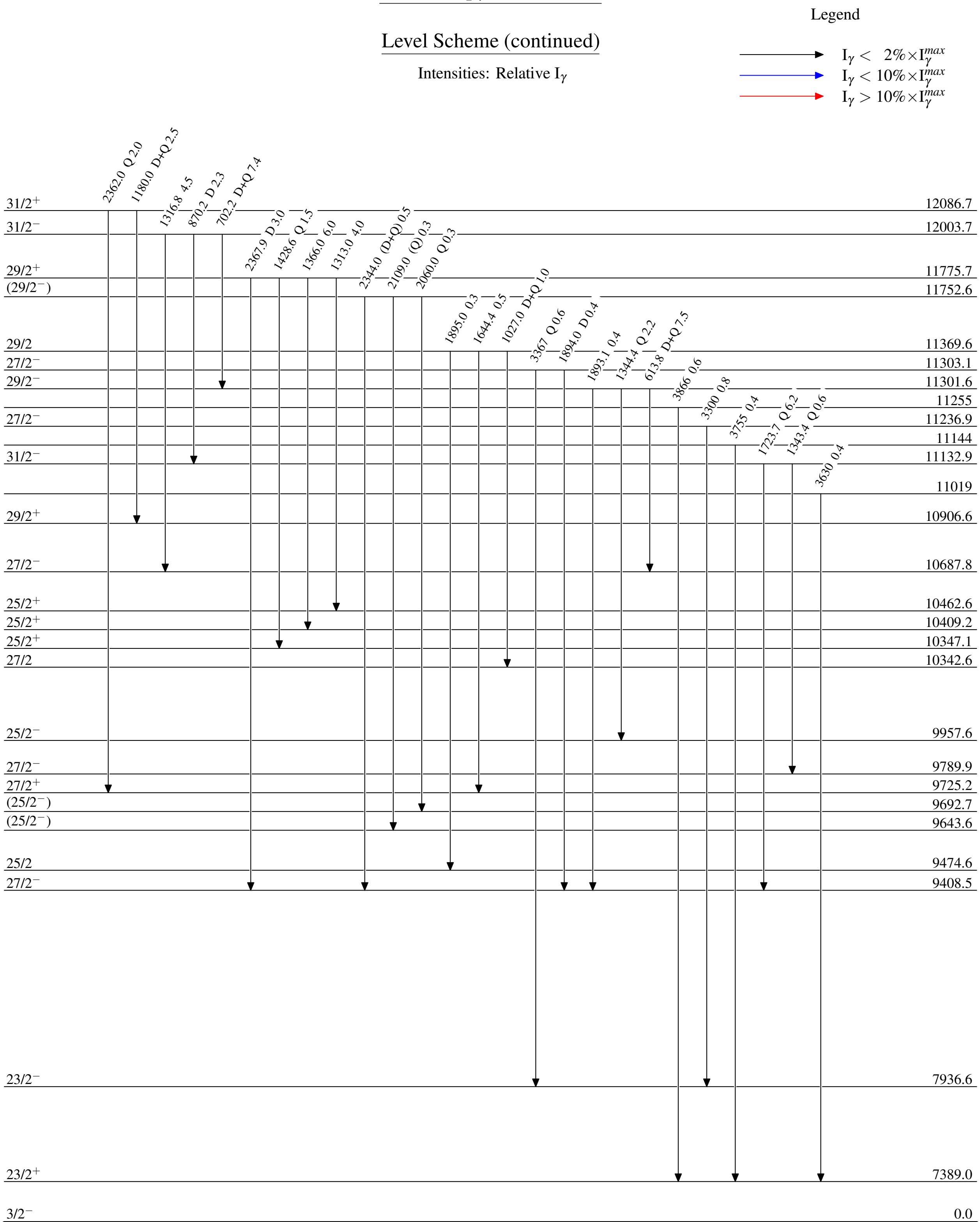


$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme (continued)

Intensities: Relative I_γ

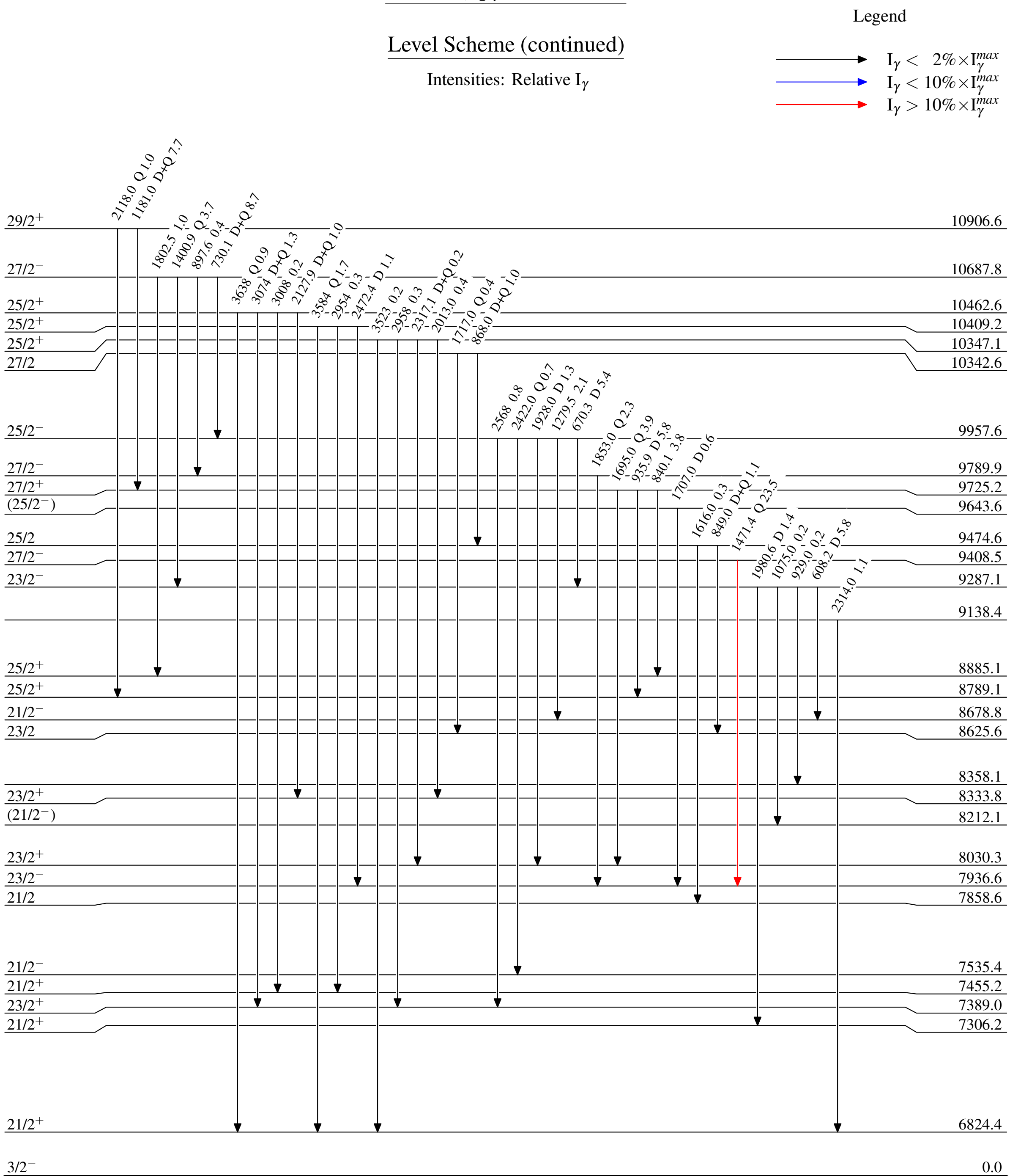


$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme (continued)

Intensities: Relative I_γ

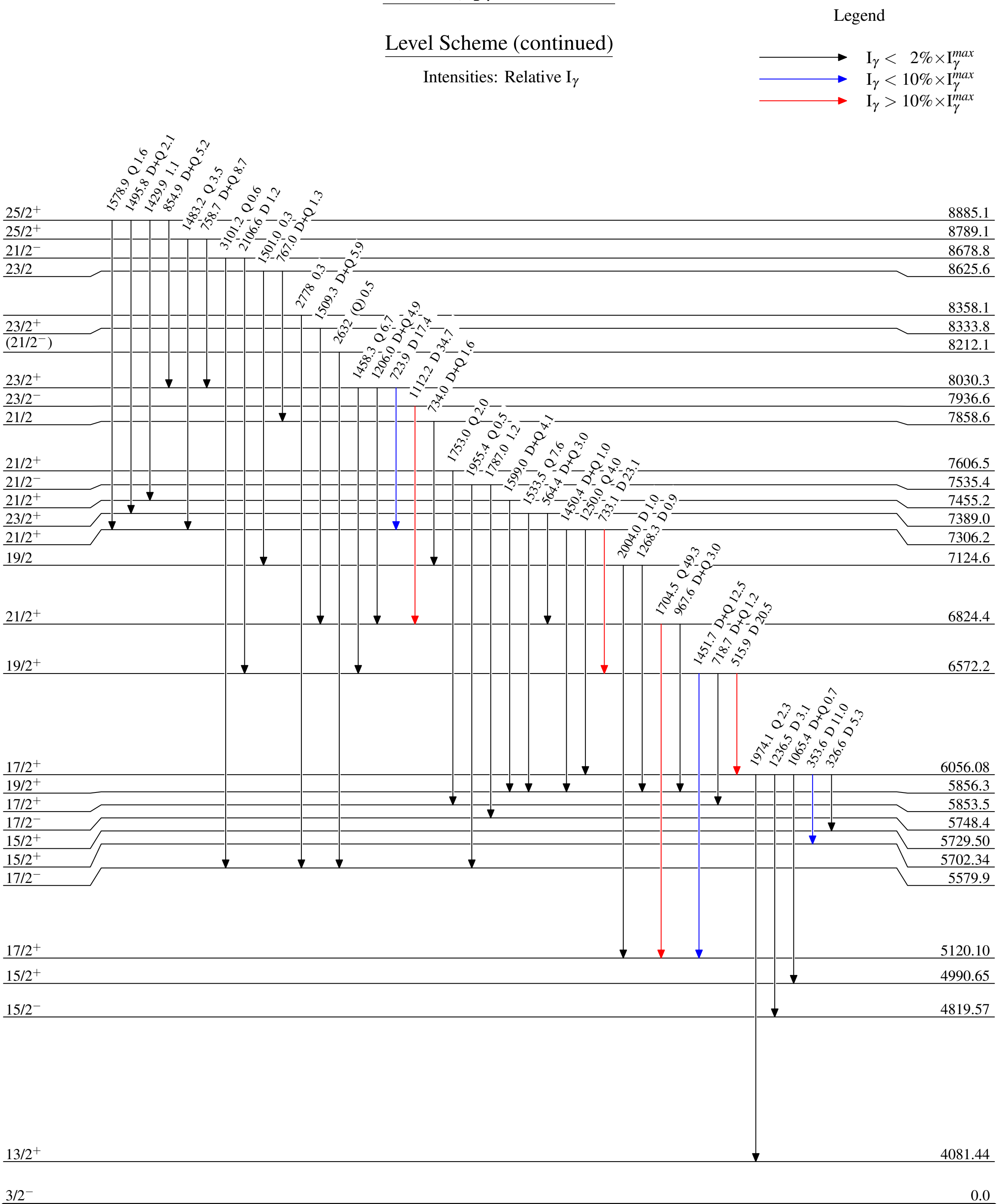


$^{61}_{29}Cu_{32}$

^{28}Si(^{36}Ar,3pγ) 2008An06

Level Scheme (continued)

Intensities: Relative I_γ

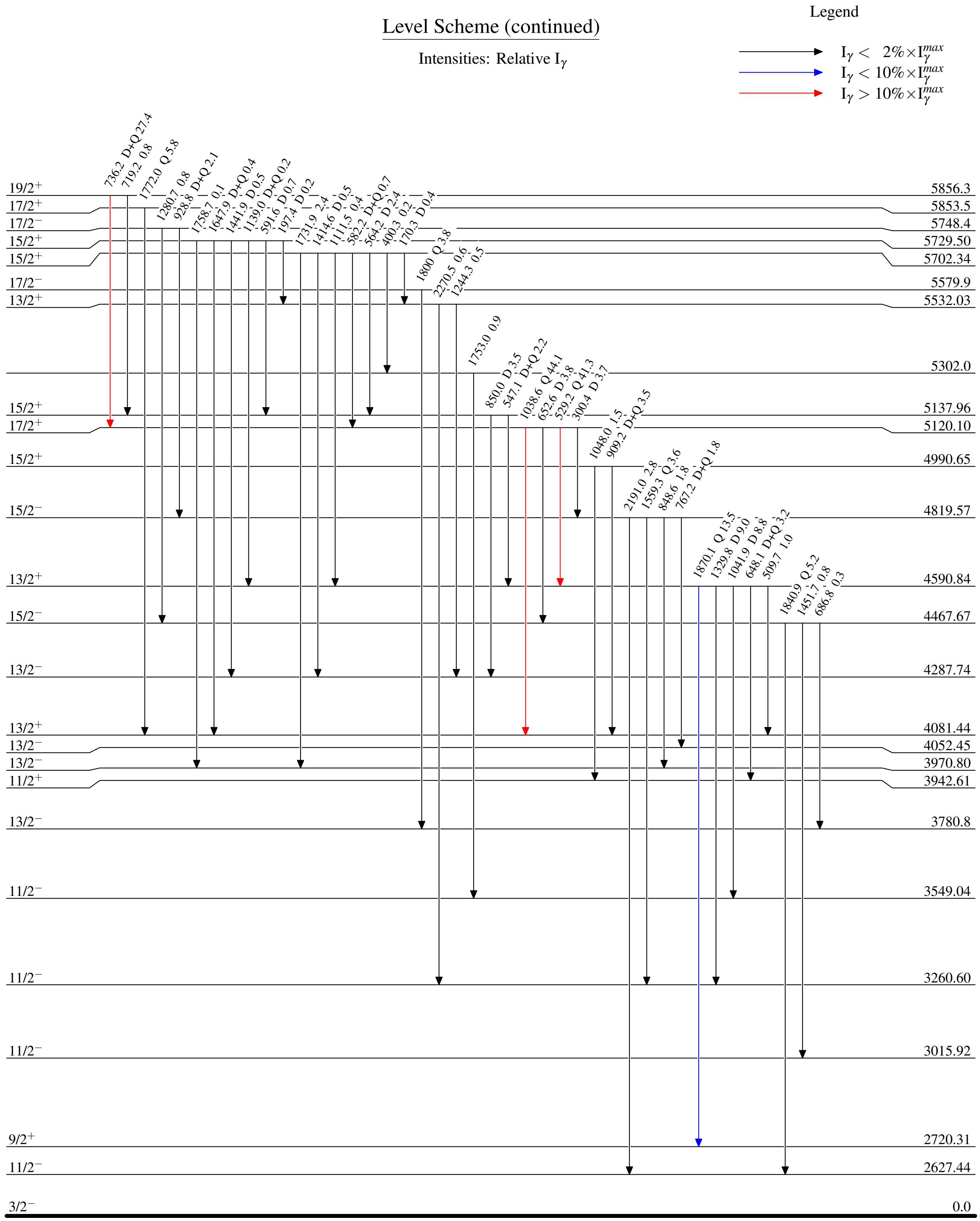


$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Level Scheme (continued)

Intensities: Relative I_γ



$^{61}_{29}Cu_{32}$

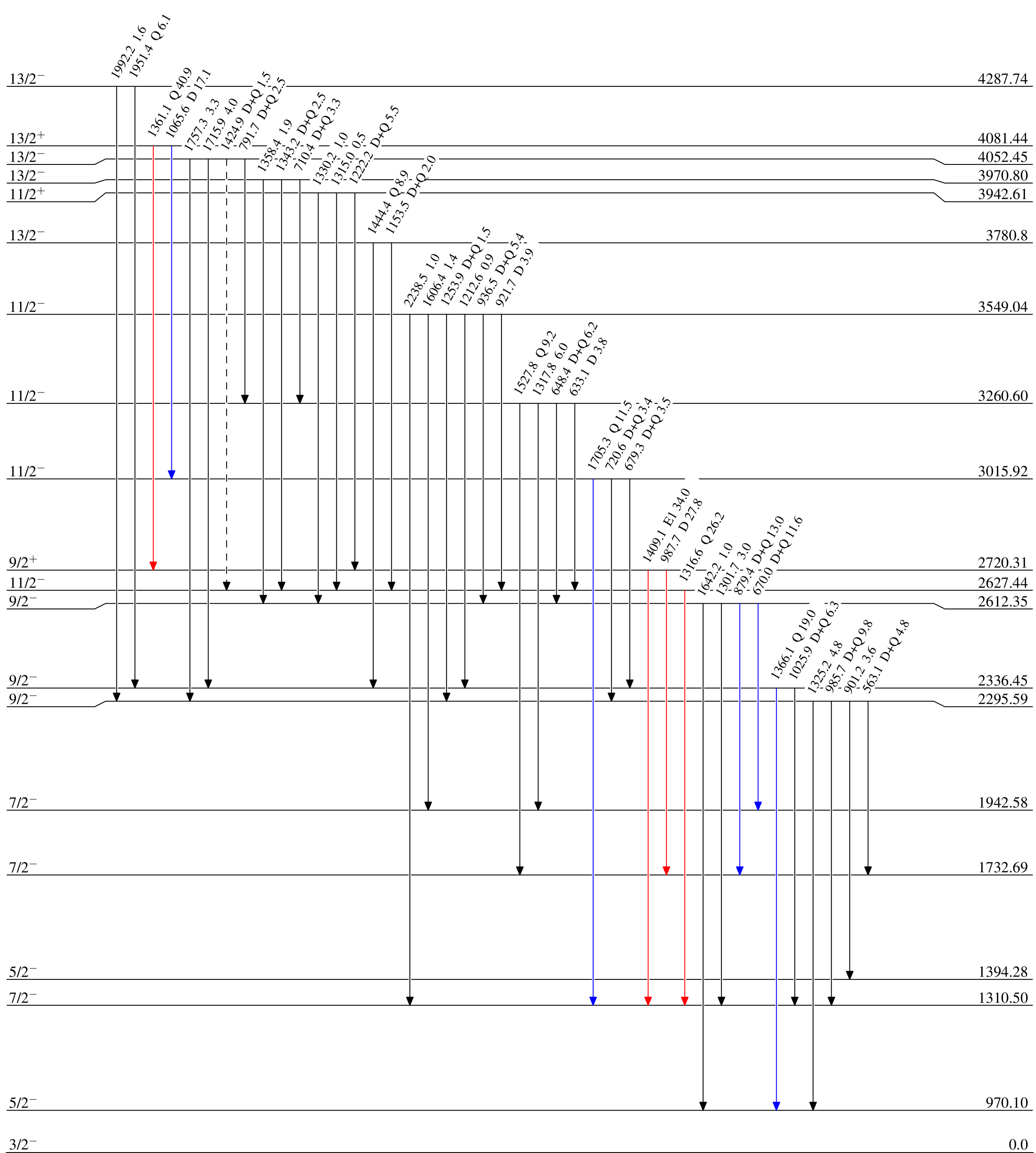
^{28}Si(^{36}Ar,3pγ) 2008An06

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)



$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06

Legend

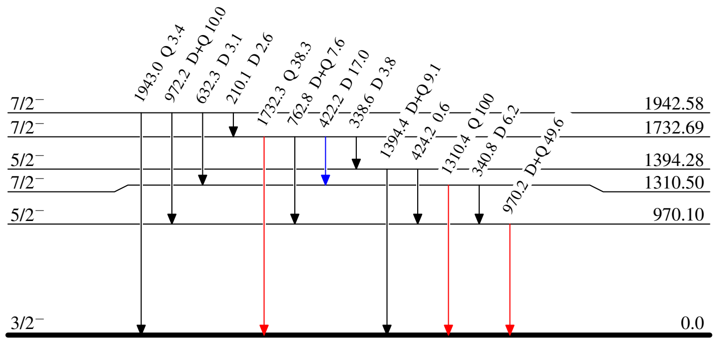
$I_\gamma < 2\% \times I_\gamma^{max}$

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

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

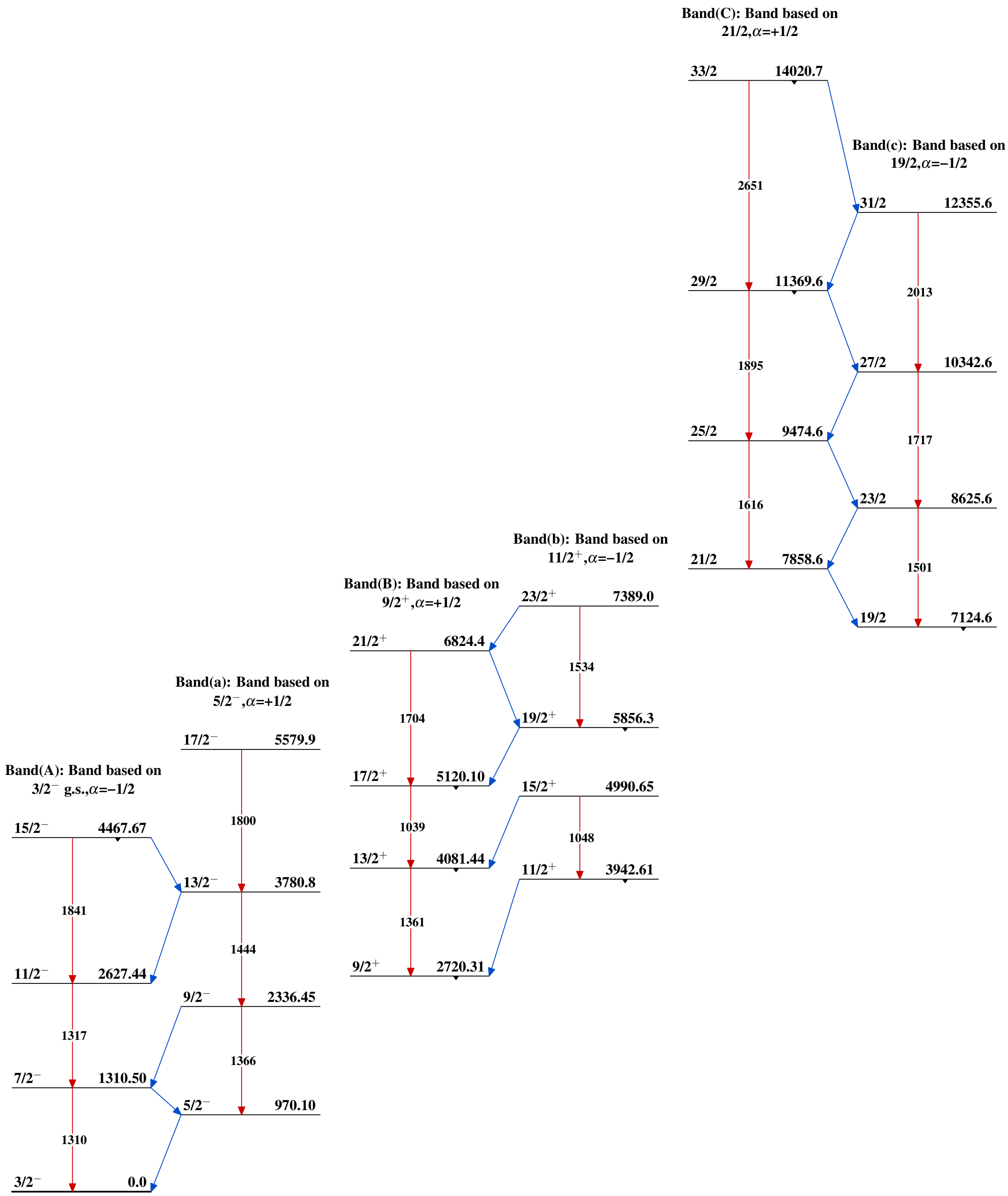
Level Scheme (continued)

Intensities: Relative I_γ



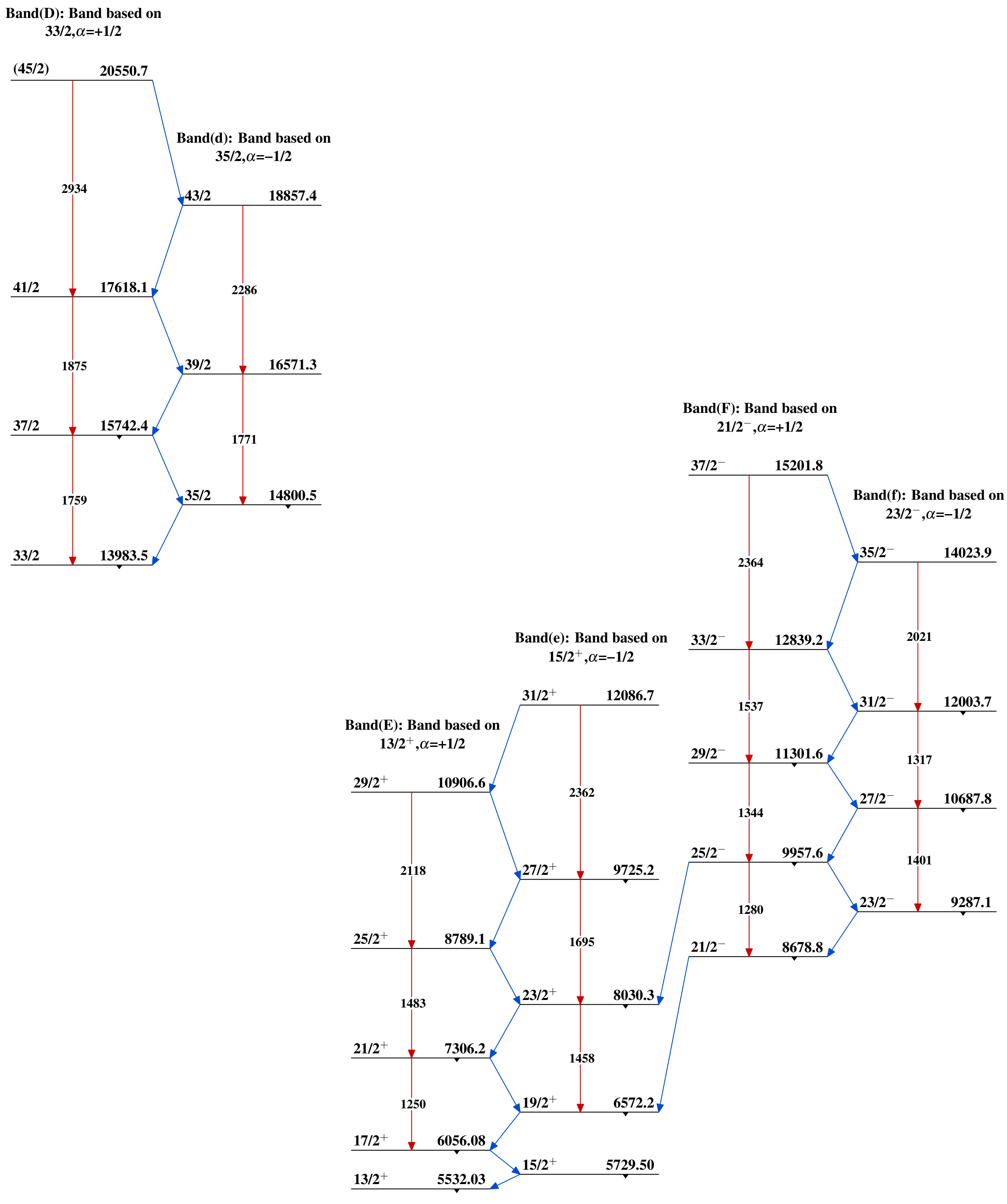
$^{61}_{29}Cu_{32}$

^{28}Si(^{36}Ar,3pγ) 2008An06



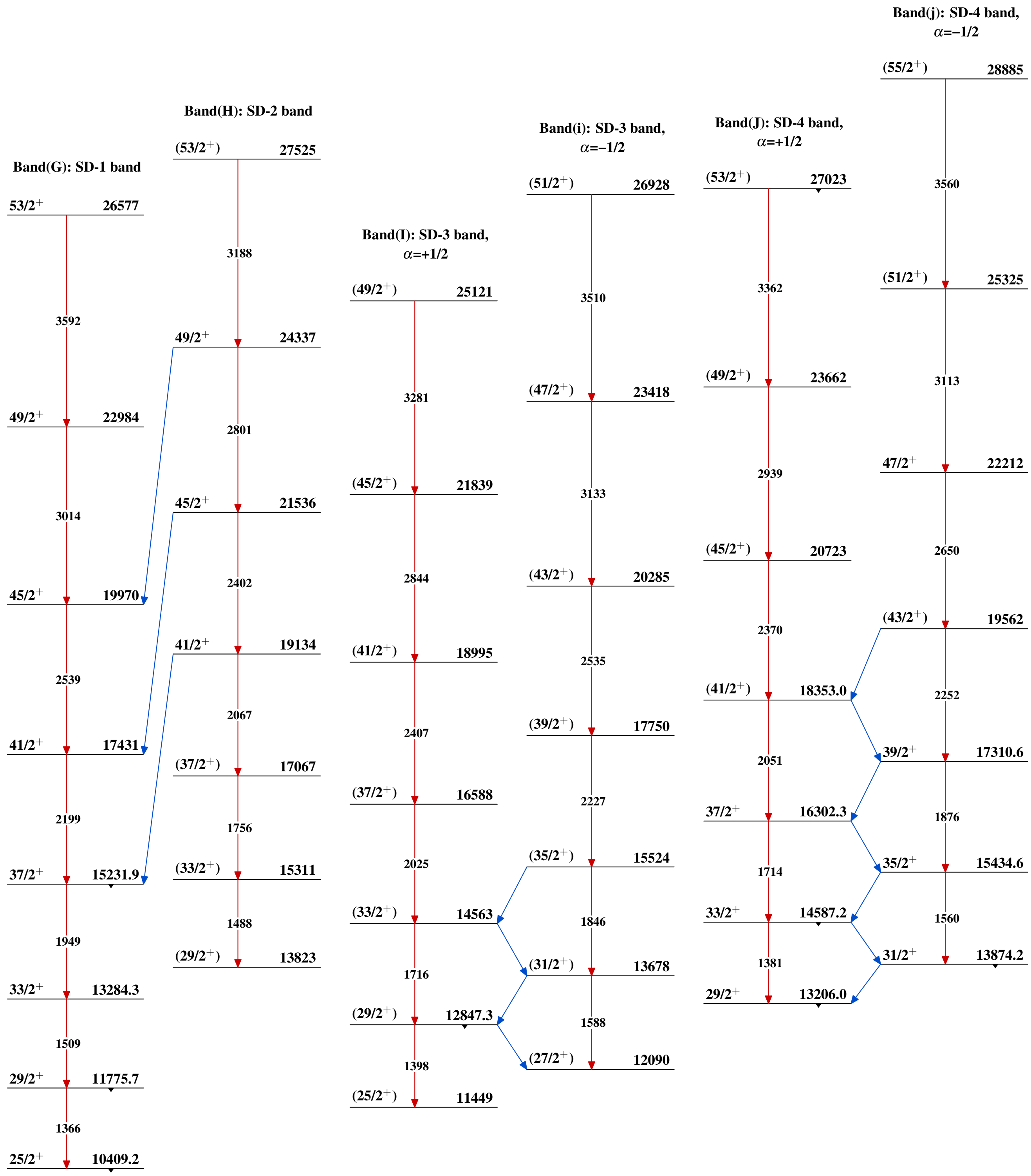
$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)



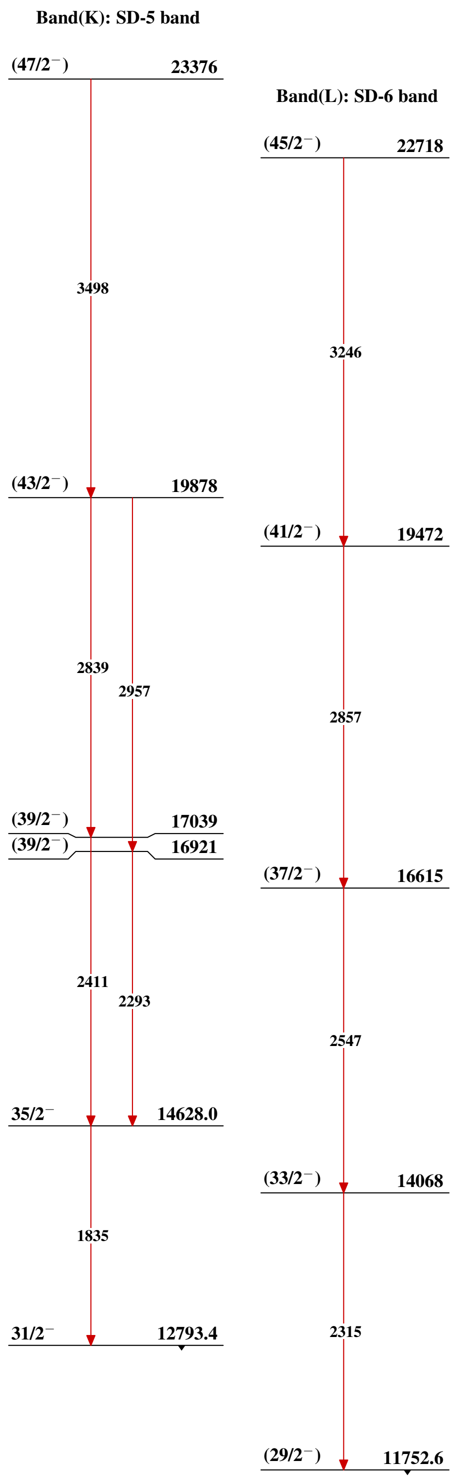
$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)



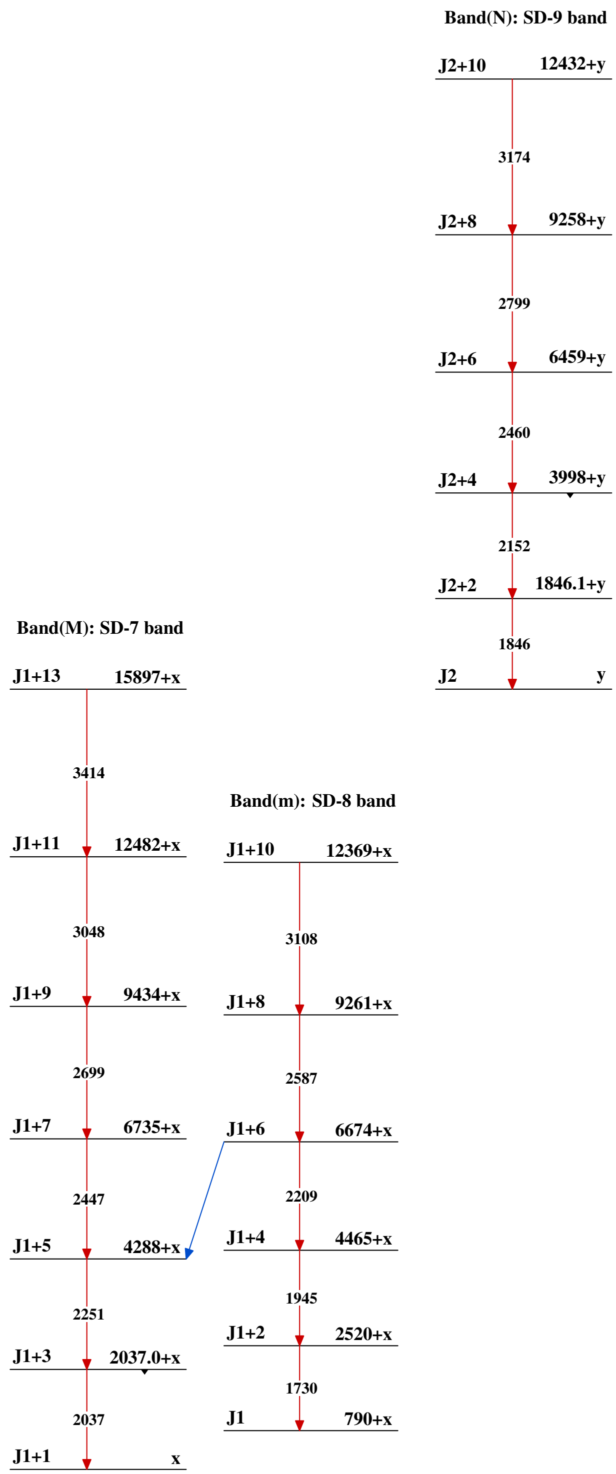
$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)



$^{61}_{29}Cu_{32}$

$^{28}Si(^{36}Ar,3p\gamma)$ 2008An06 (continued)



$^{61}_{29}Cu_{32}$