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Thermal-Neutron Capture for A = 36-44

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*Research carried out under the IAEA Contract No. 10693/CPR
**Research carried out under the IAEA Contract No. 10696/USA and supported by the US DOE under contract No DE-AC03-76SF00098

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Abstract:

A new evaluation has been undertaken of the level properties, prompt gamma rays and decay scheme properties of thermal neutron capture for nuclides with mass number A=36-44. The cutoff date is indicated below. This evaluation is effectively an update of the data table of the Prompt Gamma Rays from Thermal Neutron Capture as published in Atomic Data and Nuclear Data Tables 26, 511, (1981).

Cutoff date:
March 2002. All references from Nuclear Science References File (NSRF) and private communications have been considered

(Manuscript received May 2002)

$^{37}_{18}Ar_{19}$

^{36}Ar(n,γ) E=thermal 1970Ha56

Target Jπ=0+.
Measured Eγ, Iγ with Ge(Li)–NaI(Tl) in nether a Compton–suppressed or a pair spectrometer.

^{37}Ar Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	3/2+	35.04 d *4*	%ε=100.
1409.82 *10*	1/2+	660 fs *140*	
1611.27 *7*	7/2–	4.37 ns *9*	
2490.6 *3*	3/2–	560 fs *100*	
3518.3 *3*	3/2–	38 fs *20*	
8788.9 *4*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s–wave neutron capture. Observed deexcitation intensity is 77% of g.s. feeding.

† From adopted levels, exceprt as noted.

γ(^{37}Ar)

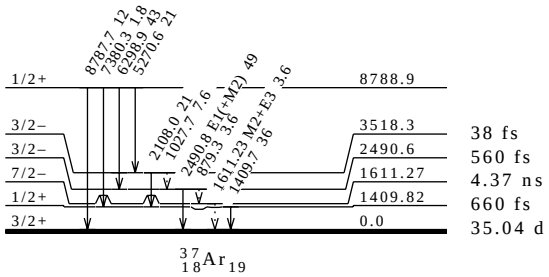
Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=5.2 b *5*.

Eγ	E(level)	Iγ†#	Mult.‡	δ‡
(879.3‡)	2490.6	0.08‡		
(1027.7‡)	3518.3	0.17‡		
1409.7 *10*	1409.82	0.8		
(1611.23‡)	1611.27	0.08§	M2+E3	–0.12 *1*
2108.0 *15*	3518.3	0.48		
2490.8 *8*	2490.6	1.1	E1(+M2)	–0.08 *9*
5270.6 *12*	8788.9	0.47		
6298.9 *10*	8788.9	0.96		
7380.3 *20*	8788.9	0.04		
8787.7 *20*	8788.9	0.26		

† Relative γ–ray intensity per 100 neutron captures. No uncertainty given by authors. Errors ≥10% estimated by evaluators.
‡ From adopted gammas.
§ From intensity balance.
# For intensity per 100 neutron captures, multiply by 44.6.

Level Scheme

Intensities: I(γ+ce) per 100 parent decays



$^{37}_{18}Ar_{19}$

^{36}S(n,γ) E=thermal 1984Ra09,1997Be42

Target Jπ=0+.
Measured Eγ, Iγ with Ge(Li)–NaI(Tl) in either a Compton–suppressed or a pair spectrometer mode.

^{37}S Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	7/2–	5.05 min *2*	%β⁻=100.
646.18 *1*	3/2–		
1397.51 *18*	(3/2+,5/2+)		
1991.93 *5*	3/2–		
2022.87 *10*	(5/2–,7/2–)		
2637.86 *3*	1/2–		
3261.90 *5*	3/2–		
3492.71 *8*	3/2–		
4303.58 *9*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s–wave neutron capture. Observed deexcitation intensity is 105% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{37}S)

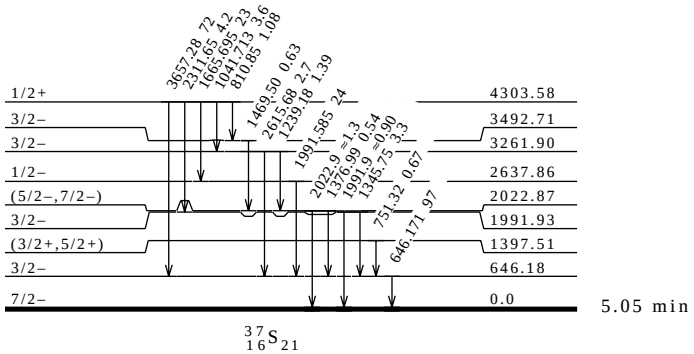
Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=0.15 b *3*.

Eγ	E(level)	Iγ†§	Eγ	E(level)	Iγ†§
646.171 *14*	646.18	215 *23*	1665.695 *22*	4303.58	52 *7*
751.32 *18*	1397.51	1.5 *3*	1991.585 *36*	2637.86	54 *7*
810.85 *7*	4303.58	2.4 *3*	1991.9 *5*	1991.93	≈2
1041.713 *35*	4303.58	8.1 *10*	2022.9 *5*	2022.87	≈3
1239.18 *11*	3261.90	3.1 *5*	2311.65 *8*	4303.58	9.4 *12*
1345.75 *5*	1991.93	7.3 *8*	2615.68 *12*	3261.90	6.0 *10*
1376.99 *21*	2022.87	1.2 *3*	3657.28 *7*	4303.58	161 *18*
1469.50 *22*	3492.71	1.4 *3*			

† Relative γ–ray intensity per 100 neutron captures.
§ For intensity per 100 neutron captures, multiply by 0.45.

Level Scheme

Intensities: I(γ+ce) per 100 parent decays



$^{37}_{16}S_{21}$

^{37}Cl(n,γ) E=thermal 1973Sp06

Target Jπ=3/2+.
Measured Eγ, Iγ with Ge(Li) spectrometer.

^{38}Cl Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	2−	37.24 min *5*	%β⁻=100.
671.361 *8*	5−	715 ms *3*	%IT=100.
755.424 *10*	3−	220 fs *30*	
1309.047 *14*	4−	370 fs *55*	
1617.411 *15*	3−	1.5 ps *2*	
1692.461 *18*	(1,2)−	0.9 ps *2*	
1745.81 *4*	(0,1)−	0.7 ps *3*	
1784.81 *17*	(2,3,4)−	66 fs *14*	
1941.998 *14*	1+		
1981.190 *16*	(2,3)−	350 fs *55*	
2742.88 *12*	3−	<20 fs	
2894.9 *4*	(0 to 3)−		
3093			
3538.1 *6*	(0 to 3)−		
3564.8 *5*	(0 to 3)−		
3685.2 *2*	(0 to 3)−		
3756.2 *4*	(0 to 3)−		
3821.57 *17*	(1,2,3)−		
3862.4 *5*	(1,2,3)−		
3893.39 *11*	(1,2,3)−		
3974.10 *19*	(0 to 3)−		
4010.8 *3*	(0 to 3)−		
4073			
4287.0 *4*	(0 to 3)−		
4406			
4834.6 *3*	(0 to 3)−		
6107.78 *10*	1+,2+		E(level): from evaluated s(n)(95Au04). Jπ: from s−wave neutron capture. Observed deexcitation intensity is 92% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{38}Cl)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=0.433 b *6*.

Eγ	E(level)	Iγ†#	Mult.‡
(196.186‡)	1941.998	0.0007‡ *2*	
288.60@ *20*	1981.190	2.4@ *2*	(M1)
	3974.10	2.4@ *2*	
308.40 *8*	1617.411	12.1 *4*	(M1)
363.90 *12*	1981.190	5.0 *2*	(M1)
554.0 *10*	1309.047	2.7 *2*	(M1)
637.5 *3*	1309.047	11.5 *2*	(M1)
671.29@ *15*	671.361	12.4@ *3*	M3
	3564.8	12.4@ *3*	
723.2@ *3*	4287.0	0.5@ *2*	
	4406	0.5@ *2*	
755.46 *15*	755.424	29.0 *6*	(M1)
862.4 *3*	1617.411	6.7 *7*	
936.8 *3*	1692.461	1.7 *3*	
945.89 *20*	1617.411	0.8 *2*	(E2)
958.20 *17*	2742.88	2.0 *2*	(M1)
1029.57 *15*	1784.81	2.2 *2*	(M1)
1125.68 *20*	2742.88	1.1 *2*	(M1)
1225.67 *11*	1981.190	5.4 *2*	
1273.08 *20*	6107.78	0.7 *2*	
1308.8 *4*	1309.047	1.0 *2*	(E2)
1433.98 *16*	2742.88	2.6 *2*	
x1469.5 *5*		0.5 *2*	
1617.12 *14*	1617.411	4.5 *2*	
x1654.28 *20*		1.6 *2*	
1692.11 *14*	1692.461	21.1 *5*	
1701 *3*	6107.78	0.5 *4*	
1745.31 *17*	1745.81	6.0 *2*	
1818.7 *9*	3564.8	≈0.2	
1820.8 *3*	6107.78	0.9 *2*	
x1869.6 *5*		0.5 *2*	
1912.25 *20*	3893.39	1.0 *2*	
x1936.9 *3*		0.8 *3*	
1941.6 *3*	1941.998	0.7 *2*	
1971.8 *6*	3756.2	≈0.3	
1980.87 *17*	1981.190	9.9 *2*	
1987.5 *3*	2742.88	0.7 *2*	
1992.8@ *5*	3685.2	1.6@ *2*	
	3974.10	1.6@ *2*	
2030.04 *20*	4010.8	0.5 *2*	
2034.54 *20*	6107.78	1.0 *5*	
2092.2@ *6*	4073	0.4@ *2*	

Continued on next page (footnotes at end of table)

^{37}Cl(n,γ) E=thermal (continued)

γ(^{38}Cl) (continued)

Eγ	E(level)	Iγ†#	Eγ	E(level)	Iγ†#
2092.2@& *6*	4834.6	0.4@ *2*	2895.1@ *5*	2894.9	1.7@ *2*
2096.24 *20*	6107.78	1.8 *2*		3564.8	1.7@ *2*
2133.44 *20*	6107.78	2.9 *2*	3050.9 *20*	4834.6	0.8 *2*
(2200.72‡)	3893.39	0.4‡ *2*	3137.9 *4*	3893.39	2.3 *2*
2201.0 *4*	3093	0.4 *2*	x3202.0 *6*		0.5 *2*
2205.1 *4*	3821.57	1.2 *2*	3213.0 *8*	6107.78	1.0 *2*
2214.48 *17*	6107.78	5.8 *2*	3364.74 *20*	6107.78	8.5 *13*
2245.1@ *5*	3862.4	1.2@ *2*	3538.2 *6*	3538.1	1.5 *6*
	6107.78	1.2@ *2*	3566.2 *10*	3564.8	0.9 *2*
x2248.8 *19*		≈0.1	x3635.1 *15*		1.6 *5*
2276.3 *3*	3893.39	0.5 *2*	3683.7 *18*	3685.2	2.1 *2*
2285.63 *20*	6107.78	2.3 *2*	3892.8 *20*	3893.39	1.4 *7*
x2289.9 *4*		0.5 *2*	3974.5 *6*	3974.10	2.0 *10*
2351.4 *3*	6107.78	1.1 *3*	(4010.1‡)	4010.8	1.3§
2422.8@& *3*	4406	1.9@ *2*	4126.7 *3*	6107.78	16.8 *17*
	6107.78	1.9@ *2*	4165.3 *4*	6107.78	1.0 *2*
2544.3@ *10*	4287.0	0.4@ *2*	4361.8 *3*	6107.78	4.7 *5*
	6107.78	0.4@ *2*	4405.1 *10*	4406	1.0 *2*
2569 *3*	6107.78	0.4 *2*	4415.1 *3*	6107.78	12.8 *19*
x2705.3 *3*		1.4 *2*	x4422.4 *7*		2.2 *6*
x2733.5 *18*		≈0.1	4490.3 *4*	6107.78	15.1 *12*
2743.1 *5*	2742.88	1.5 *2*	x4734.8 *7*		0.9 *3*
x2813.5 *8*		0.9 *3*	5351.9 *4*	6107.78	7.6 *4*
x2830.9 *20*		≈0.2	6107 *4*	6107.78	3.3 *23*
x2854.9 *7*		1.3 *5*			

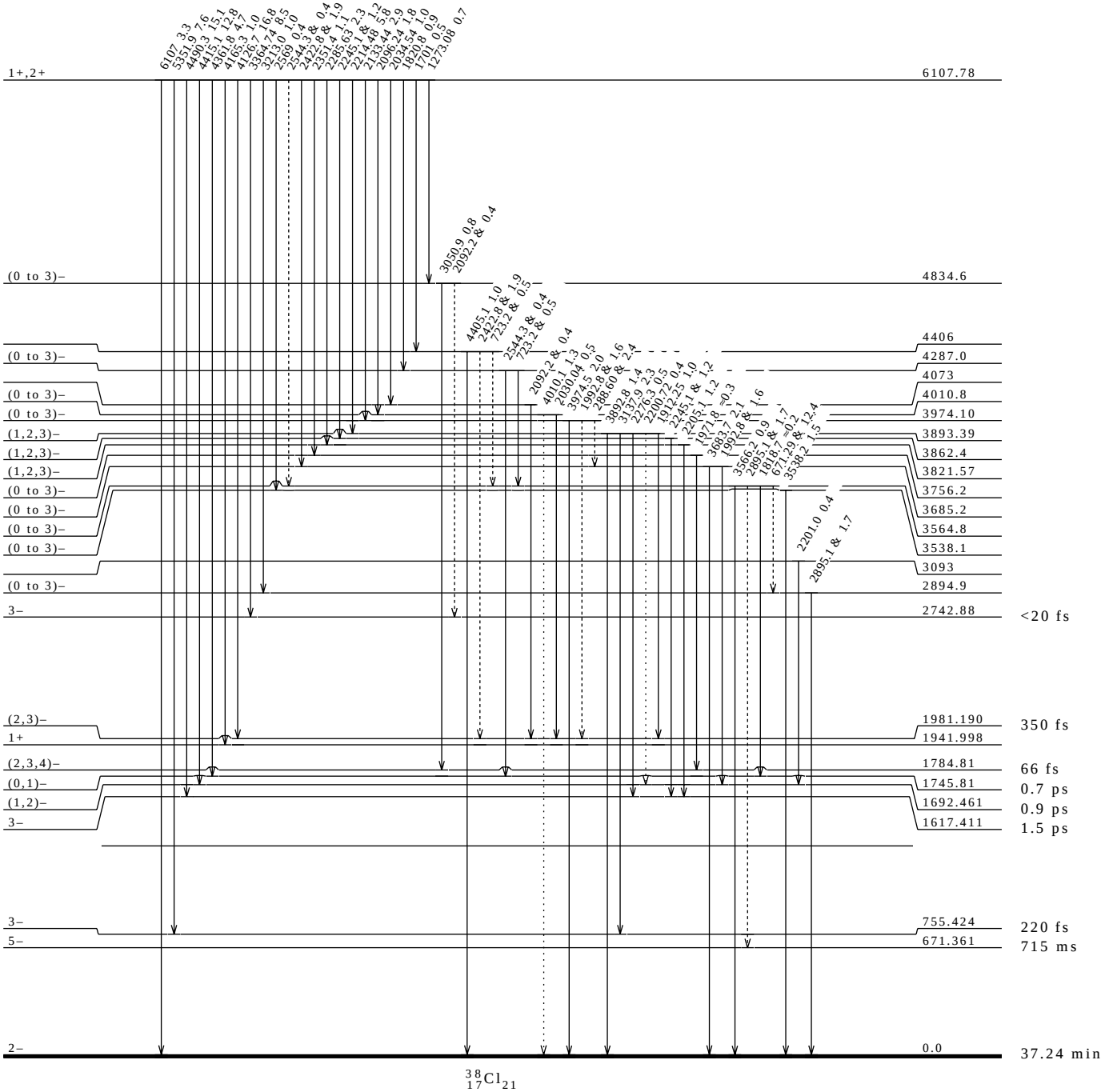
† Absolute γ–ray intensity per 100 neutron captures.
‡ From adopted gammas.
§ From intensity balance.
# For intensity per 100 neutron captures, multiply by 1.
@ Multiply placed; undivided intensity given.
& Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

$^{38}_{17}Cl_{21}$

^{37}Cl(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

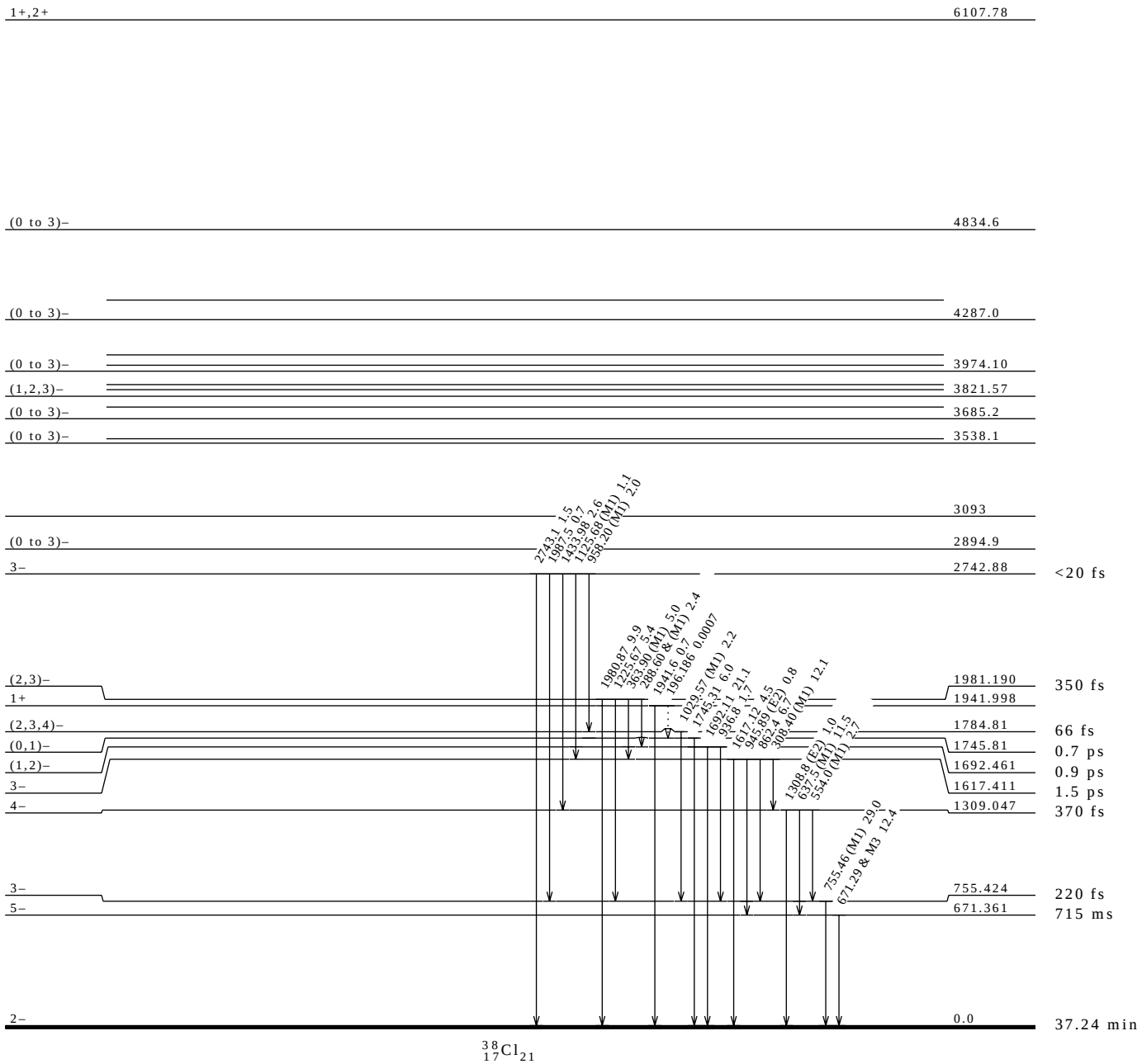


$^{38}_{17}Cl_{21}$

^{37}Cl(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{38}_{17}Cl_{21}$

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal 1984Vo01

Target Jπ=3/2+.

Measured Eγ, Iγ with grenoble ILL curved crystal spectrometer GAMS, a large–volume Ge(Li) detctor, and pair spectrometer.

^{40}K Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	4–	1.277×10^{9} y *8*	%β⁻=89.28 *13*; %ε+%β⁺=10.72 *13*.
29.8299 *6*	3–	4.24 ns *9*	
800.143 *2*	2–	280 fs *40*	
891.40 *3*	5–	0.87 ps *14*	
1643.65 *2*	0+	335 ns *10*	
1959.08 *2*	2+	0.59 ps *10*	
2047.35 *3*	2–	340 fs *40*	
2069.81 *3*	3–	0.47 ps *10*	
2103.67 *4*	1–	0.52 ps *10*	
2260.40 *6*	3+	60 fs *10*	
2289.88 *3*	1+	85 fs *15*	
2290.50 *4*	3–	155 fs *20*	
2397.17 *4*	4–	35 fs *15*	
2419.18 *4*	2–	0.55 ps *14*	
2575.95 *5*	2+	130 fs *20*	
2626.00 *4*	0–	215 fs *35*	
2730.38 *4*	1	<30 fs	
2746.92 *6*	(2,3)–	130 fs *35*	
2756.73 *4*	2+	<20 fs	
2786.65 *4*	3+	<30 fs	
2787.1 *5*	(3,4)–	<40 fs	
2807.89 *4*	(1,2)–	140 fs *40*	
2985.87 *5*	(2–,3+)	70 fs *30*	
3027.97 *5*	2–	<50 fs	
3109.75 *4*	(1,2)+	<100 fs	
3128.38 *8*	2–	<20 fs	
3146.44 *9*	1		
3153.82 *7*	(2,3)–	<20 fs	
3228.68 *9*	2–	30 fs *20*	
3368.04 *11*	(2,3)–		
3393.64 *7*	2–		
3414.36 *5*	2+		
3439.16 *4*	(1–,2+)		
3486.17 *5*	2–		
3556.97 *5*	(1– to 4+)		
3599.24 *5*	2–		
3629.94 *6*	3–	<70 fs	
3663.75 *5*	(3,4)+		
3738.50 *5*	1+		
3767.87 *14*	(0 to 3)–		
3797.58 *6*	1+		
3821.43 *5*	2–		
3840.25 *5*	(1,2+)		
3868.67 *6*	2–		
3887.93 *6*	(1– to 3)		
3923.8 *4*	(1– to 4+)		
4020.35 *6*	(0 to 3)–		
4104.47 *7*	(1– to 3–)		
4110.86 *5*	(1– to 3)		
4149.01 *6*	(2–,3)		
4180.04 *8*	3–		
4213.07 *15*	(2–,3+)		
4253.63 *7*	1–		
4280.54 *10*	(2–,3)		
4395.90 *6*	(0,1,2)–		
4419.38 *8*	(2– to 4+)		
4473.00 *8*	(2,3)–		
4537.08 *8*	2–		
4744.11 *6*	2+		

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^{39}K(n,γ) E=thermal (continued)

^{40}K Levels (continued)

E(level)†	Jπ†	Comments
4788.65 *17*	1+	
4872.56 *9*	(2,3)−	
4992.96 *11*	(2−,3+)	
5063.49 *7*	(2−,3+)	
7799.50 *8*	1+,2+	E(level): from 95Au04. Jπ: from s−wave neutron capture. Observed deexcitation intensity is 84% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{40}K)

σ_n=2.1 b *2*.
Iγ normalization: normalized from assuming Iγ(to g.s.)=100.

Eγ§	E(level)	Iγ‡#	Mult.†	δ†	α	Comments
29.8299 *5*	29.8299	66 *5*	(M1)		0.308	Iγ: from I(γ+ce)=86.2 *7*, calculated from total intensity feeding the level, and corrected for internal conversion.
185.97@ *10*	2289.88	0.118@ *19*				
	3414.36	0.118@ *19*				
	3923.8	0.118@ *19*				
311.13 *4*	2730.38	0.133 *5*				
315.52@ *8*	2419.18	0.062@ *8*				
	2575.95	0.062@ *8*				
	4788.65	0.062@ *8*				
320.9 *6*	3128.38	0.009 *5*				
327.23 *8*	2397.17	0.062 *8*	(M1)			
330.797 *7*	2289.88	0.33 *3*	(M1)			
335.44@ *14*	3821.43	0.040@ *6*				
	4872.56	0.040@ *6*				
337.75 *12*	2756.73	0.036 *6*	(E1)			
349.33 *3*	2419.18	0.053 *7*				
371.79@ *1*	2419.18	0.172@ *18*				
	3128.38	0.172@ *18*				
376.53 *3*	3486.17	0.031 *4*				
383.01 *18*	3797.58	0.020 *4*				
397.28 *17*	3153.82	0.030 *7*	(E1)			
440.77 *7*	4104.47	0.047 *7*				
x444.43 *8*		0.037 *5*				
454.19 *8*	3868.67	0.038 *5*				
460.089@ *14*	2103.67	0.136@ *15*				
	2419.18	0.136@ *15*				
496.06 *4*	2786.65	0.047 *5*	(E1)			
(496.6†)	2787.1	0.14†	(M1)			
504.5 *5*	4104.47	0.062 *18*				
522.315 *7*	2626.00	1.53 *16*	M1			
528.76@ *14*	2575.95	0.017@ *3*				
	3556.97	0.017@ *3*				
534.3@ *3*	3109.75	0.009@ *3*				
	3663.75	0.009@ *3*				
	4020.35	0.009@ *3*				
	4788.65	0.009@ *3*				
x554.74 *23*		0.133 *17*				
x558.73 *10*		0.044 *7*				
563.86 *6*	4744.11	0.073 *9*				
x569.98 *7*		0.062 *8*				
602.26 *17*	3629.94	0.034 *6*				
613.379 *24*	3599.24	0.203 *23*				
x616.42 *6*		0.096 *11*				
620.95@ *7*	3368.04	0.070@ *8*				
	3767.87	0.070@ *8*				

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^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]	δ[†]
626.1[@] *3*	2730.38	0.010[@] *3*		
	4020.35	0.010[@] *3*		
627.65 *3*	3414.36	0.095 *10*		
640.4[@] *6*	3767.87	0.044[@] *22*		
	3868.67	0.044[@] *22*		
	4744.11	0.044[@] *22*		
	4788.65	0.044[@] *22*		
646.217 *5*	2289.88	2.10 *12*	M1	
657.38 *3*	4395.90	0.078 *8*		
[x]666.90 *5*		0.057 *6*		
678.12[@] *20*	3486.17	0.027[@] *5*		
	3663.75	0.027[@] *5*		
	4788.65	0.027[@] *5*		
695.30[@] *8*	2985.87	0.042[@] *6*		
	3923.8	0.042[@] *6*		
727.1[@] *3*	3146.44	0.014[@] *3*		
	4213.07	0.014[@] *3*		
730.47 *15*	3840.25	0.024 *4*		
737.44 *3*	3027.97	0.146 *15*	(E1)	
740.88 *6*	4180.04	0.26 *3*		
756.4[@] *6*	3153.82	0.08[@] *4*		
	3486.17	0.08[@] *4*		
	4149.01	0.08[@] *4*		
	4419.38	0.08[@] *4*		
760.6 *4*	2807.89	0.12 *4*		
770.2973 *18*	800.143	42.9 *39*	M1(+E2)	0.00 *1*
(771.27[†])	2730.38	0.37[†]		
[x]783.81 *4*		0.103 *11*		
(787.81[†])	2746.92	0.0033[†]	(E1)	
[x]791.05 *4*		0.50 *5*		
798.8[@] *3*	4213.07	0.062[@] *7*		
	4537.08	0.062[@] *7*		
800.3[@] *3*	800.143	0.063[@] *7*		
	3556.97	0.063[@] *7*		
811.38 *13*	3797.58	0.023 *4*		
813.11[@] *7*	3439.16	0.046[@] *6*		
	4992.96	0.046[@] *6*		
827.543 *15*	2786.65	0.45 *5*	M1+E2	−0.09 *7*
838.8 *5*	3128.38	0.066 *17*	(E1)	
843.468 *16*	1643.65	1.57 *16*	M2	
848.7[@] *3*	2807.89	0.104[@] *19*		
	3109.75	0.104[@] *19*		
862.2[@] *3*	891.40	0.012[@] *3*		
	4419.38	0.012[@] *3*		
[x]869.96 *4*		0.143 *15*		
891.361 *21*	891.40	0.90 *9*	M1+E2	+0.099 *8*
903.867 *23*	4744.11	0.150 *15*		
[x]915.37 *16*		0.017 *3*		
920.11[@] *18*	4149.01	0.017[@] *3*		
	4788.65	0.017[@] *3*		
[x]926.23 *15*		0.019 *4*		
938.71 *6*	3228.68	0.098 *11*	(E1)	
946.28 *8*	4744.11	0.037 *4*		
951.15 *7*	4180.04	0.043 *5*		
958.34 *9*	3027.97	0.026 *3*		
[x]971.73 *19*		0.028 *5*		
[x]976.84 *6*		0.109 *12*		
981.02[@] *7*	3556.97	0.103[@] *12*		
	3767.87	0.103[@] *12*		
1001.04 *5*	4110.86	0.081 *9*		
[x]1018.10 *4*		0.141 *15*		
1023.20 *4*	3599.24	0.26 *3*		
1027.08 *24*	2985.87	0.036 *8*		

Continued on next page (footnotes at end of table)

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]	δ[†]
x1031.1 *3*		0.020 *5*		
1034.27[@] *20*	3821.43	0.038[@] *6*		
	4020.35	0.038[@] *6*		
	4473.00	0.038[@] *6*		
x1043.57 *12*		0.023 *3*		
x1058.01 *4*		0.112 *12*		
1062.18 *8*	3109.75	0.052 *6*	(E1)	
1068.85[@] *3*	3027.97	0.40[@] *4*	(E1)	
	4992.96	0.40[@] *4*		
1074.37 *9*	3821.43	0.144 *17*		
1079.42 *13*	4473.00	0.100 *13*		
1082.90 *7*	4110.86	0.200 *22*		
1086.691 *19*	2730.38	1.11 *11*	D	
1090.9 *3*	3821.43	0.037 *9*		
x1096.70 *7*		0.101 *11*		
1100.11 *18*	4253.63	0.042 *6*		
x1110.48 *7*		0.114 *12*		
1113.3 *3*	2756.73	0.029 *5*	E2	
1118.36 *13*	4104.47	0.054 *7*		
1121.75 *7*	3868.67	0.111 *12*		
1124.89[@] *6*	3228.68	0.120[@] *13*		
	4253.63	0.120[@] *13*		
1124.9[@] *6*	4110.86	0.120[@] *13*		
	4788.65	0.120[@] *13*		
1131.15 *5*	3887.93	0.103 *11*		
1144.7 *5*	4744.11	0.08 *3*		
1150.56 *18*	3109.75	0.23 *4*		
1158.88 *20*	1959.08	7.8 *8*	E1(+M2)	0.00 *2*
1162.57[@] *24*	3738.50	0.31[@] *5*		
	4149.01	0.31[@] *5*		
x1172.18 *11*		0.042 *5*		
1178.36 *4*	2069.81	0.36 *4*	E2(+M3)	≈0.0
1187.43 *8*	3146.44	0.062 *7*		
1195.79 *7*	3486.17	0.055 *6*		
x1201.84 *5*		0.106 *11*		
x1204.34 *10*		0.046 *6*		
x1213.51 *8*		0.047 *5*		
x1219.45 *11*		0.041 *5*		
1221.69 *7*	3797.58	0.067 *7*		
x1226.29 *5*		0.071 *8*		
1232.72 *3*	3629.94	0.134 *14*		
1247.152 *24*	2047.35	3.8 *4*	M1+E2	+0.10 *3*
x1255.27 *9*		0.107 *12*		
1265.52 *9*	4419.38	0.199 *23*		
1267.5[@] *3*	3556.97	0.105[@] *21*		
	4253.63	0.105[@] *21*		
	4395.90	0.105[@] *21*		
1269.54 *5*	2069.81	0.47 *5*	M1+E2	−0.15 *8*
x1283.3 *3*		0.051 *16*		
1303.51 *7*	2103.67	2.7 *3*	M1+E2	+0.35 *16*
1308.9[@] *4*	3599.24	0.043[@] *17*		
	4419.38	0.043[@] *17*		
	4537.08	0.043[@] *17*		
1320.9 *4*	3368.04	0.30 *3*		
x1331.56 *4*		0.152 *16*		
1335.46 *18*	3439.16	0.033 *6*		
1348.04[@] *14*	3767.87	0.035[@] *4*		
	3923.8	0.035[@] *4*		
	4104.47	0.035[@] *4*		
1354.10 *3*	4110.86	0.161 *7*		
x1365.03 *24*		0.066 *12*		
(1369.27[†])	3439.16	0.03[†]		
1373.202 *21*	3663.75	1.29 *13*		

Continued on next page (footnotes at end of table)

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]	δ[†]
x1377.13 *11*		0.122 *16*		
1393.13 *8*	4180.04	0.126 *14*		
1399.00 *4*	2290.50	0.53 *5*	(E2)	
x1402.70 *9*		0.125 *14*		
x1416.64 *9*		0.048 *6*		
x1418.98 *3*		0.233 *24*		
1424.202 *23*	3821.43	0.36 *4*		
1427.42 *18*	4537.08	0.022 *3*		
1434.47 *6*	3393.64	0.140 *15*		
1438.69 *4*	3486.17	0.218 *23*		
x1449.95 *6*		0.047 *5*		
x1452.36 *12*		0.0200 *20*		
x1454.87 *10*		0.025 *3*		
x1460.78 *10*		0.049 *6*		
1466.08 *3*	3109.75	0.26 *3*		
x1473.63 *16*		0.036 *5*		
1477.98 *6*	3738.50	0.32 *3*		
1480.06 *4*	3439.16	1.54 *16*		
x1483.83 *8*		0.077 *9*		
1487.39[@] *9*	3556.97	0.097[@] *12*		
	4473.00	0.097[@] *12*		
1489.74 *5*	2289.88	1.21 *12*	E1(+M2)	0.00 *5*
1502.97 *10*	3146.44	0.41 *4*	D	
1509.9[@] *3*	3153.82	0.022[@] *4*		
	3556.97	0.022[@] *4*		
x1517.07 *9*		0.122 *14*		
x1520.99 *21*		0.059 *9*		
1530.7 *3*	3821.43	0.058 *14*		
x1536.81 *5*		0.26 *3*		
1551.74 *9*	3599.24	0.102 *12*		
1560.41 *19*	3629.94	0.175 *21*		
x1562.75 *7*		0.31 *3*		
x1566.18 *7*		0.155 *17*		
1578.94 *12*	3868.67	0.035 *4*		
1597.85 *4*	3556.97	0.29 *3*		
1613.81 *4*	1643.65	5.7 *6*	E3	
1618.96 *4*	2419.18	6.2 *6*	M1+E2	+0.24 *6*
x1625.63 *14*		0.32 *4*		
1665.39 *4*	4395.90	0.143 *15*		
x1667.65 *5*		0.102 *11*		
x1680.8 *4*		0.010 *3*		
1691.22 *6*	3738.50	0.111 *12*		
1695.40 *8*	5063.49	0.100 *11*		
x1702.31 *3*		0.33 *3*		
1704.66 *20*	4280.54	0.31 *16*		
1704.69 *9*	3663.75	0.94 *12*		
x1710.15 *24*		0.023 *4*		
1718.64 *4*	4872.56	0.166 *7*		
1725.64[@] *17*	4473.00	0.033[@] *5*		
	4872.56	0.033[@] *5*		
1751.72 *5*	4149.01	0.225 *23*		
x1754.68 *17*		0.036 *5*		
1761.06[@] *7*	4180.04	0.030[@] *4*		
1761.06[@] *17*	4788.65	0.030[@] *4*		
1765.20 *15*	3868.67	0.224 *23*		
1771.4[@] *5*	3414.36	0.031[@] *9*	E2	
	3840.25	0.031[@] *9*		
1795.41 *4*	3439.16	1.34 *14*		
x1811.2 *3*		0.032 *6*		
1813.90 *14*	4104.47	0.072 *9*		
1820.31[@] *5*	3923.8	0.27[@] *3*		
	4110.86	0.27[@] *3*		
1825.73 *5*	2626.00	0.65 *7*	E2	

Continued on next page (footnotes at end of table)

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]	δ[†]
x1831.96 *5*		0.117 *12*		
1838.56 *8*	3797.58	0.44 *4*		
1843.28 *9*	4419.38	0.065 *7*		
1846.67[@] *6*	4473.00	0.105[@] *11*		
	4992.96	0.105[@] *11*		
x1854.94 *5*		0.202 *21*		
1858.46 *5*	4149.01	0.54 *5*		
1881.15 *5*	3840.25	0.50 *5*		
1888.38 *8*	4149.01	0.098 *11*		
x1892.0 *3*		0.037 *5*		
(1895.6[†])	2787.1	0.06[†]		
x1901.6 *4*		0.029 *5*		
x1910.65 *6*		0.171 *18*		
1916.46 *6*	4020.35	0.26 *3*		
1929.29 *10*	1959.08	1.8 *3*	E1+M2	+0.11 *2*
1930.2 *3*	2730.38	0.5 *3*		
1935.6 *3*	4744.11	0.125 *22*		
1946.38 *17*	2746.92	0.040 *6*		
1953.69 *6*	5063.49	0.31 *3*		
1956.53 *5*	2756.73	1.84 *18*	E1(+M2)	0.00 *7*
1961.06 *6*	4537.08	0.154 *16*		
1964.22 *23*	3923.8	0.037 *6*		
1972.95 *4*	4020.35	0.32 *3*		
x1994.03 *15*		0.188 *24*		
2001.19 *20*	4104.47	0.137 *20*		
2007.66 *4*	2807.89	2.5 *3*		
2013.85 *20*	4744.11	0.17 *3*		
x2014.19 *11*		0.201 *23*		
2017.48 *4*	2047.35	2.7 *3*	M1+E2	+0.02 *1*
2022.27 *17*	4419.38	0.165 *23*		
2031.5 *3*	4788.65	0.26 *4*		
2039.88 *4*	2069.81	2.7 *3*	M1+E2	+0.25 *8*
2047.22 *4*	2047.35	2.7 *3*	E2(+M3)	≈0.0
2057.01 *5*	4104.47	0.141 *16*		
x2067.47 *11*		0.28 *3*		
2070.02 *15*	2069.81	2.01 *20*	M1(+E2)	−0.04 *6*
2073.68 *10*	2103.67	6.5 *7*	E2(+M3)	≈0.0
2094.55 *10*	3738.50	0.048 *5*	M1	
2115.71 *14*	4872.56	0.031 *4*		
x2121.96 *5*		0.121 *13*		
x2131.60 *17*		0.036 *5*		
2143.31 *11*	4213.07	0.139 *16*		
2149.87 *5*	4253.63	0.43 *4*		
2153.75 *4*	3797.58	0.79 *8*	M1	
2162.10 *17*	4788.65	0.041 *5*		
2168.10 *4*	4744.11	0.179 *19*		
x2173.61 *8*		0.094 *10*		
2183.64 *20*	4253.63	0.47 *24*		
2185.64 *20*	2985.87	0.47 *24*		
2196.55 *5*	3840.25	0.34 *4*		
x2204.01 *10*		0.34 *4*		
2206.28[@] *10*	4253.63	0.75[@] *8*		
	4992.96	0.75[@] *8*		
2221.20 *11*	4180.04	0.183 *24*		
2230.47 *5*	2260.40	0.81 *8*	(E1)	
2232.9 *4*	4280.54	0.16 *16*		
2260.04 *10*	2260.40	0.31 *3*	(E1)	
x2271.12 *12*		0.085 *10*		
2290.51 *7*	2290.50	2.8 *3*	M1+E2	−0.8 *3*
x2310.63 *5*		0.51 *5*		
x2322.68 *13*		0.127 *14*		
x2330.09 *10*		0.28 *3*		
2345.98 *10*	3146.44	0.69 *7*	D(+Q)	+0.1 *2*

Continued on next page (footnotes at end of table)

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]	δ[†]
2348.65 *9*	4395.90	0.24 *3*		
2367.09 *5*	2397.17	0.58 *6*	M1+E2	+0.25 *3*
x2373.66 *5*		0.102 *11*		
x2375.77 *5*		0.113 *12*		
x2384.91 *11*		0.141 *15*		
2389.10 *5*	2419.18	1.34 *13*	M1+E2	−1.4 *6*
x2393.76 *12*		0.108 *12*		
2397.04 *6*	2397.17	0.224 *23*	M1+E2	
2402.96 *9*	4473.00	0.119 *13*		
x2415.98 *11*		0.194 *23*		
2418.61 *15*	2419.18	0.63 *6*	E2(+M3)	+0.1 *2*
x2424.58 *5*		0.54 *6*		
2428.20 *9*	3228.68	0.25 *3*		
x2448.03 *17*		0.045 *6*		
x2450.4 *3*		0.031 *5*		
2454.6 *3*	4744.11	0.025 *4*		
x2459.40 *5*		0.191 *20*		
2467.23[@] *10*	4110.86	0.067[@] *7*		
	4537.08	0.067[@] *7*		
x2471.4 *3*		0.025 *4*		
2483.7 *3*	4744.11	0.029 *8*		
x2518.7 *3*		0.045 *7*		
2528.35 *11*	4788.65	0.139 *15*		
x2539.78 *7*		0.27 *3*		
x2542.83 *6*		0.77 *8*		
2545.74 *10*	2575.95	2.8 *3*	E1+M2	+0.04 *2*
x2552.55 *17*		0.020 *3*		
x2556.94 *13*		0.027 *4*		
x2564.80 *19*		0.055 *7*		
2568.7[@] *4*	3368.04	0.033[@] *6*		
	4213.07	0.033[@] *6*		
x2571.99 *11*		0.113 *13*		
2577.54 *10*	4537.08	0.32 *3*		
x2585.97 *14*		0.094 *11*		
x2589.14 *11*		0.146 *16*		
2593.23 *10*	3393.64	0.50 *5*		
x2603.9 *4*		0.12 *3*		
2609.89 *9*	4253.63	1.40 *9*	E1	
2614.12 *9*	3414.36	1.16 *7*		
x2627.6 *3*		0.18 *3*		
2638.84 *11*	3439.16	1.04 *7*		
2643.9 *3*	5063.49	0.26 *4*		
x2659.6 *4*		0.098 *20*		
x2668.7 *4*		0.107 *20*		
x2680.3 *5*		0.073 *19*		
2685.5[@] *3*	3486.17	0.24[@] *5*		
	4788.65	0.24[@] *5*		
x2688.0 *4*		0.19 *5*		
x2697.5 *3*		0.144 *22*		
2702.50 *16*	4992.96	0.28 *3*		
2716.85 *11*	2746.92	0.50 *4*		
2726.52 *7*	2756.73	1.58 *9*	E1(+M2)	0.00 *3*
2735.99 *9*	7799.50	0.83 *5*		
2746.90 *18*	2746.92	0.26 *3*		
2756.71 *7*	2786.65	1.93 *10*	E1(+M2)	+0.09 *11*
x2775.11 *17*		0.27 *3*		
2784.3 *4*	4744.11	0.21 *5*		
(2786.34[†])	2786.65	0.14[†]	(E1)	
2786.9 *6*	2787.1	0.14 *5*		
2799.19 *18*	3599.24	0.95 *10*		
2806.42 *12*	7799.50	1.76 *13*		
x2839.60 *7*		1.87 *10*		
x2857.04 *15*		0.29 *3*		

Continued on next page (footnotes at end of table)

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]	Mult.[†]
x2892.08 *15*		0.36 *3*	
x2897.8 *7*		0.061 *20*	
2912.5 *3*	4872.56	0.145 *21*	
x2917.70 *9*		0.89 *5*	
2922.80 *20*	4992.96	0.33 *3*	
2926.74 *10*	7799.50	0.73 *5*	
2938.20 *9*	3738.50	0.67 *4*	
x2949.11 *15*		0.63 *4*	
2955.82 *16*	2985.87	0.41 *3*	
2967.7 *3*	3767.87	0.163 *19*	
x2992.48 *14*		0.50 *3*	
x3000.3 *3*		0.133 *17*	
3010.43 *14*	7799.50	0.50 *3*	
3027.6 *3*	3027.97	0.139 *18*	
x3034.31 *17*		0.293 *24*	
3040.12 *13*	3840.25	0.62 *4*	
3055.45 *12*	7799.50	2.86 *17*	
3068.6 *4*	3868.67	0.25 *4*	
3088.2 *5*	3887.93	0.19 *4*	
3098.43 *20*	3128.38	0.37 *14*	
3100.29 *20*	4744.11	0.37 *14*	E2
3127.93 *13*	3128.38	0.61 *4*	
x3133.36 *14*		0.51 *4*	
3144.17 *19*	4788.65	0.28 *3*	M1
3153.4 *3*	3153.82	0.38 *3*	
3198.5 *3*	3228.68	0.146 *22*	
x3204.6 *4*		0.101 *20*	
x3213.98 *24*		0.223 *24*	
3219.94 *21*	4020.35	0.24 *3*	
3229.3 *4*	3228.68	0.128 *21*	(E2)
x3255.8 *4*		0.37 *7*	
3262.42 *12*	7799.50	2.43 *17*	
3286.3 *8*	4180.04	0.15 *5*	
3304.09 *11*	4104.47	0.99 *7*	
3310.8 *5*	4110.86	0.12 *3*	
3326.29 *12*	7799.50	0.79 *6*	
3336.2 *10*	3368.04	1.7 *8*	
3348.76 *10*	4149.01	1.12 *7*	
3368.7 *6*	3368.04	0.10 *3*	
3380.1 *4*	7799.50	0.22 *4*	
3384.51 *24*	3414.36	0.40 *5*	
3403.43 *11*	7799.50	1.00 *7*	
x3429.6 *7*		0.09 *3*	
3452 *1*	4253.63	1.71 *10*	
3480.4 *5*	4280.54	0.13 *3*	
3518.68 *10*	7799.50	1.05 *7*	
3526.82 *10*	3556.97	1.02 *7*	
3545.78 *6*	7799.50	4.7 *3*	
3569.13 *8*	3599.24	0.45 *3*	
x3578.0 *3*		0.070 *12*	
3586.36 *13*	7799.50	0.217 *17*	
3599.45 *20*	3629.94	0.185 *19*	
3619.22 *6*	7799.50	0.77 *4*	
3629.76 *15*	3629.94	0.33 *3*	
3633.70 *9*	3663.75	0.63 *4*	
3650.16 *5*	7799.50	2.22 *11*	
3663.14 *9*	3663.75	0.44 *3*	
3688.49 *15*	7799.50	1.49 *12*	
3694.97 *11*	7799.50	1.43 *10*	
3736.82 *10*	4537.08	1.14 *7*	
x3743.0 *3*		0.21 *3*	
x3764.65 *19*		0.180 *17*	
3778.8 *1*	7799.50	0.93 *6*	
3791.7 *3*	3821.43	0.18 *3*	
x3821.97 *13*		0.264 *19*	
3838.30 *7*	3868.67	0.62 *4*	
3857.77 *11*	3887.93	0.305 *21*	
3868.1 *10*	3868.67	0.12 *5*	
3874.5 *3*	7799.50	0.28 *6*	
3895.5 *11*	3923.8	0.21 *11*	
x3898.8 *7*		0.32 *11*	
3911.28 *18*	7799.50	0.96 *9*	
3930.43 *5*	7799.50	1.56 *8*	
3943.60 *6*	4744.11	0.98 *5*	
3958.98 *5*	7799.50	1.48 *8*	
3977.62 *5*	7799.50	1.29 *7*	
x3988.86 *14*		0.242 *19*	
4001.57 *5*	7799.50	1.61 *9*	
x4007.9 *3*		0.139 *15*	
4031.36 *14*	7799.50	0.221 *17*	
4060.70 *5*	7799.50	1.53 *8*	
4080.47 *12*	4110.86	0.325 *22*	
x4085.91 *9*		0.46 *3*	
4135.35 *5*	7799.50	3.41 *18*	
4148.2 *3*	4149.01	0.134 *18*	
4169.08 *9*	7799.50	0.71 *4*	
4199.80 *5*	7799.50	2.23 *12*	
4223.42 *7*	4253.63	0.83 *5*	
4242.23 *11*	7799.50	0.45 *3*	
4249.3 *4*	4280.54	0.119 *16*	
4280.10 *22*	4280.54	0.37 *4*	
4312.6 *3*	7799.50	0.28 *4*	
4359.93 *6*	7799.50	4.33 *24*	
4384.69 *7*	7799.50	1.47 *8*	
4389.06 *18*	4419.38	0.37 *3*	
4405.10 *11*	7799.50	0.42 *3*	
x4420.89 *14*		0.294 *22*	
4430.91 *16*	7799.50	0.59 *5*	
4472.53 *11*	4473.00	0.40 *3*	
4506.69 *7*	4537.08	0.77 *5*	
4652.65 *8*	7799.50	0.52 *3*	
x4666.7 *4*		0.110 *21*	
4670.55 *10*	7799.50	0.66 *4*	
4688.6 *5*	7799.50	0.052 *11*	
4842.5 *4*	4872.56	0.076 *12*	
x4850.84 *25*		0.120 *13*	
4872.15 *14*	4872.56	0.252 *19*	
x4912.2 *7*		0.044 *11*	
x4929.0 *3*		0.183 *21*	
4961.9 *4*	4992.96	0.107 *19*	
4991.05 *5*	7799.50	2.18 *11*	
5012.13 *6*	7799.50	1.17 *6*	
5042.09 *6*	7799.50	1.78 *9*	
5062.6 *4*	5063.49	0.070 *9*	
5068.31 *6*	7799.50	1.25 *7*	
5072.84 *5*	7799.50	2.30 *12*	
x5188.4 *3*		0.053 *6*	
x5216.5 *6*		0.020 *4*	
5222.77 *7*	7799.50	0.377 *20*	
x5228.49 *24*		0.057 *5*	
5379.45 *6*	7799.50	7.9 *4*	
5508.71 *7*	7799.50	3.17 *16*	
5694.94 *7*	7799.50	5.6 *3*	
5728.8 *7*	7799.50	2.28 *12*	
5751.16 *7*	7799.50	5.5 *3*	
x6067.1 *3*		0.050 *5*	

Continued on next page (footnotes at end of table)

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

γ(^{40}K) (continued)

Eγ[§]	E(level)	Iγ[‡#]
6998.11 *10*	7799.50	2.15 *11*
7767.94 *19*	7799.50	5.6 *3*

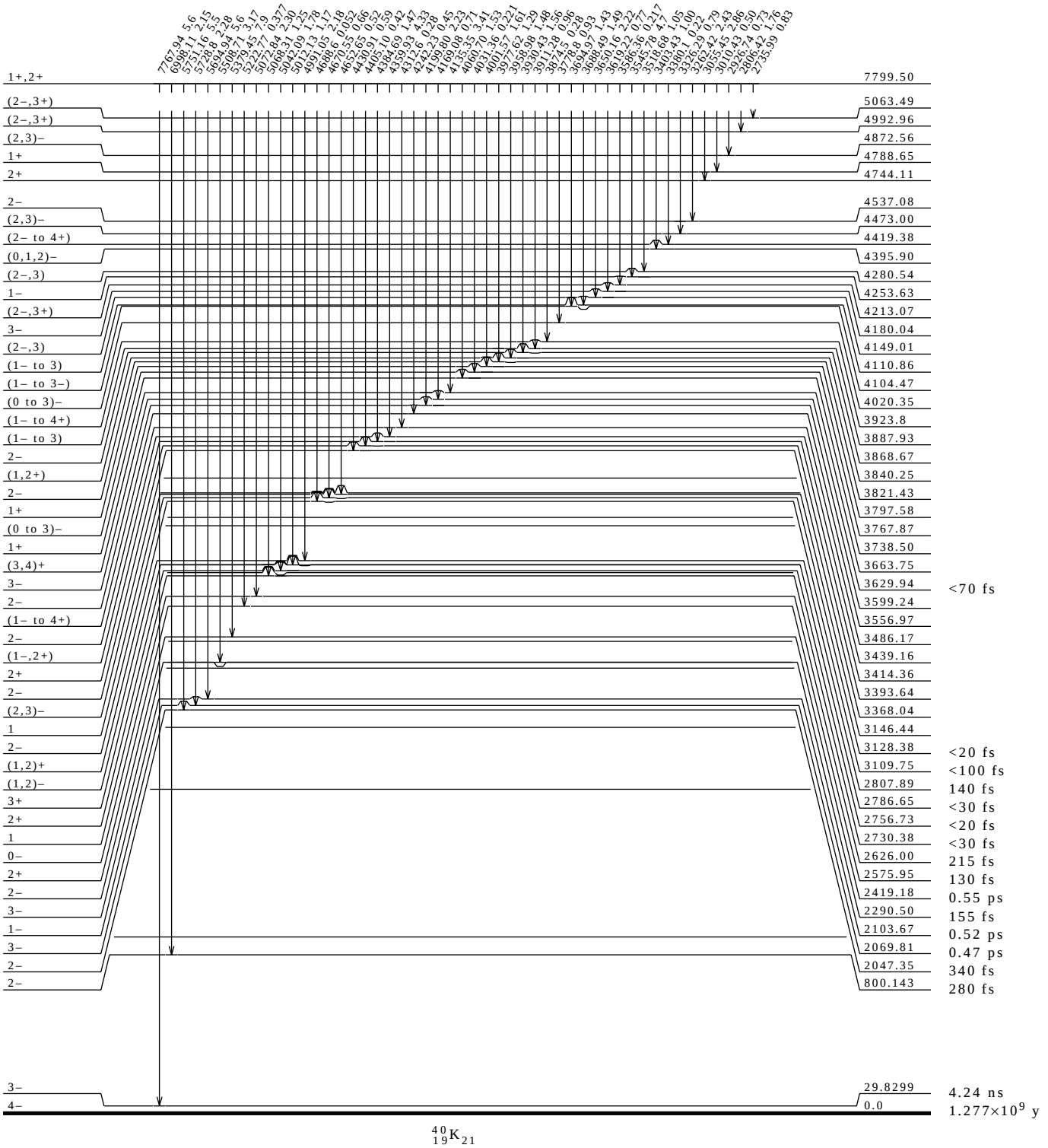
† From adopted gammas.
‡ Absolute γ–ray intensity per 100 neutron captures.
§ Literature recoil correction removed by evaluator.
# For intensity per 100 neutron captures, multiply by 1.0.
@ Multiply placed; undivided intensity given.
x γ ray not placed in level scheme.

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

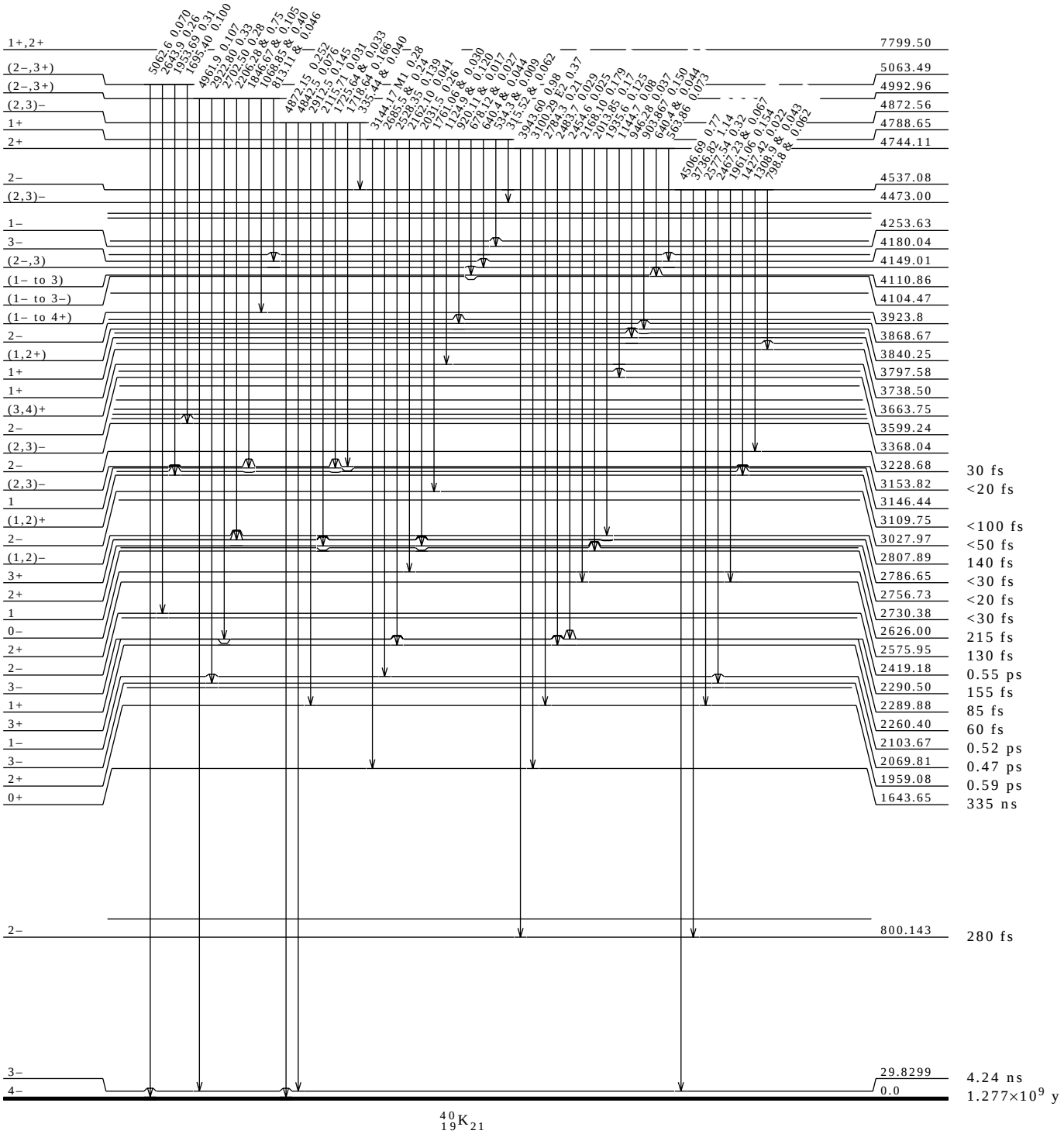


$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



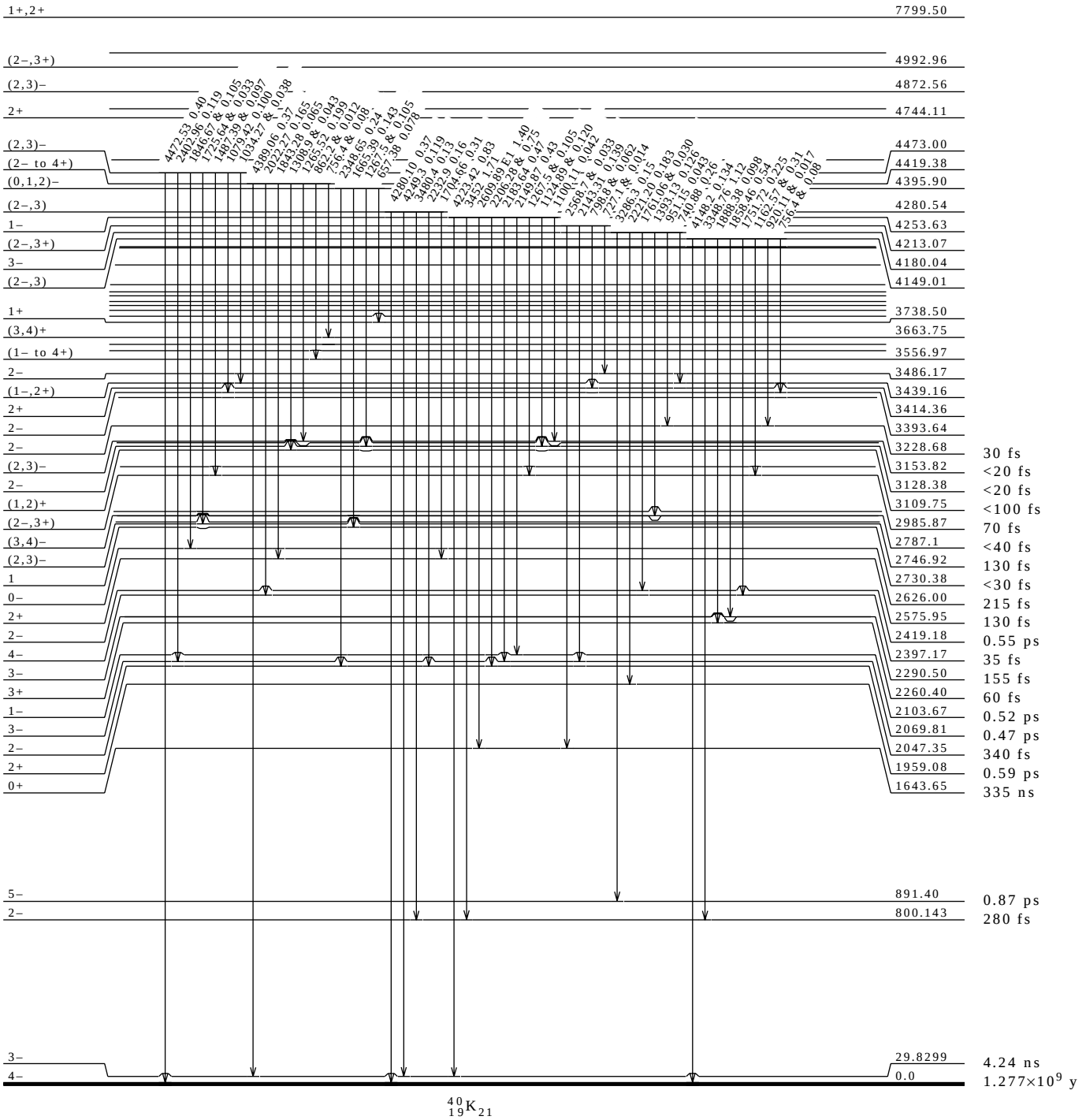
$^{40}_{19}K_{21}$

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

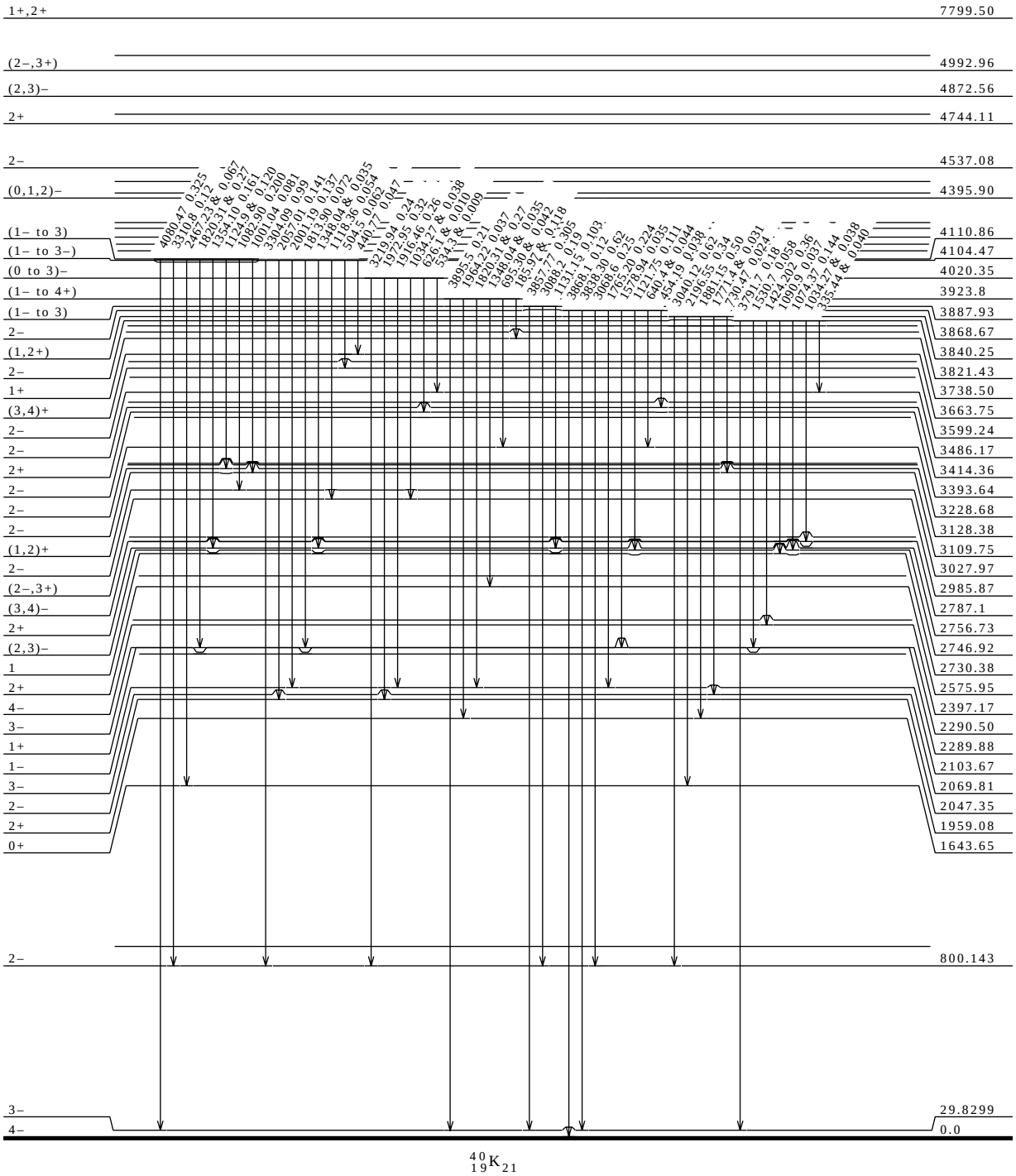


$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

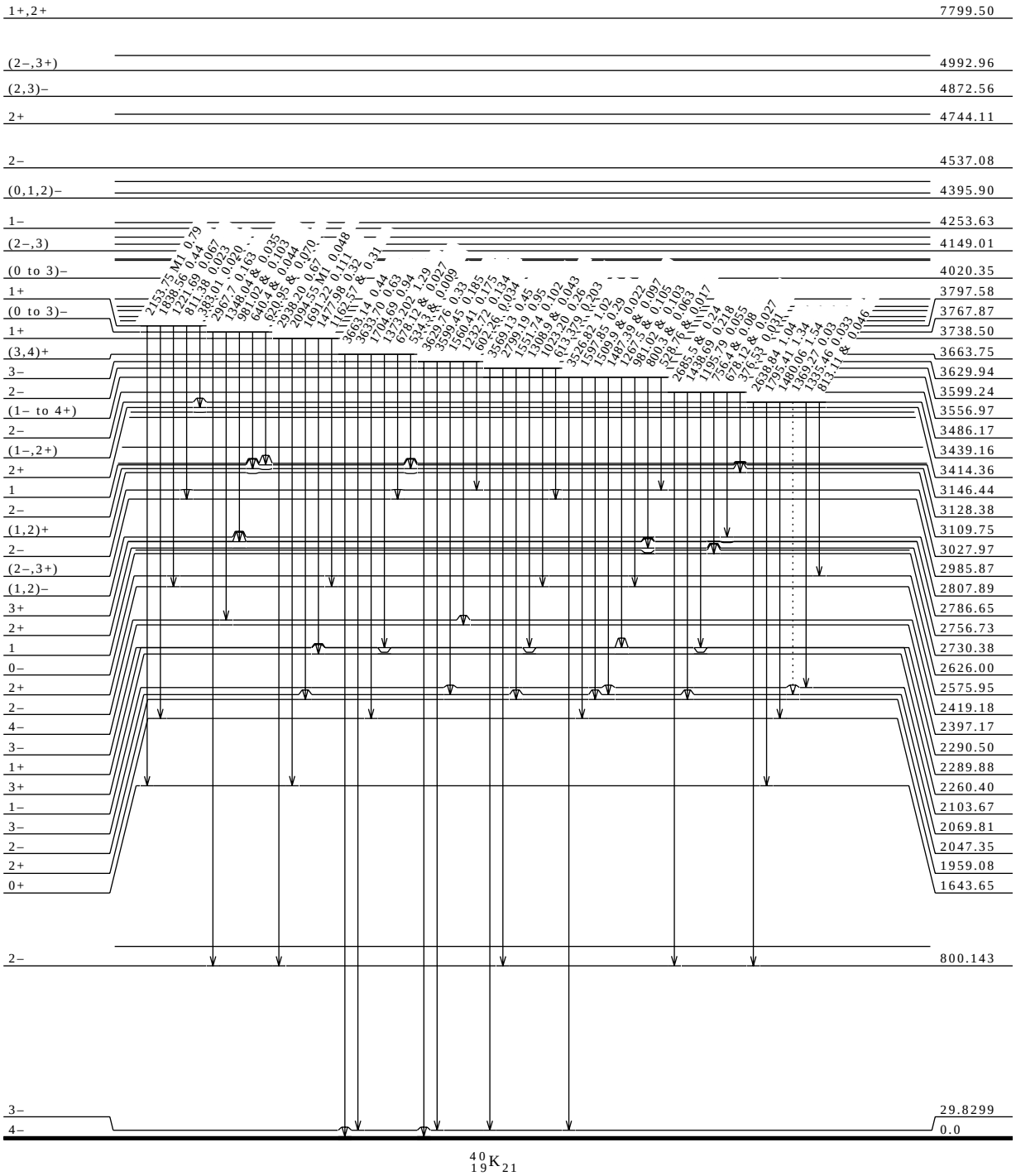
Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



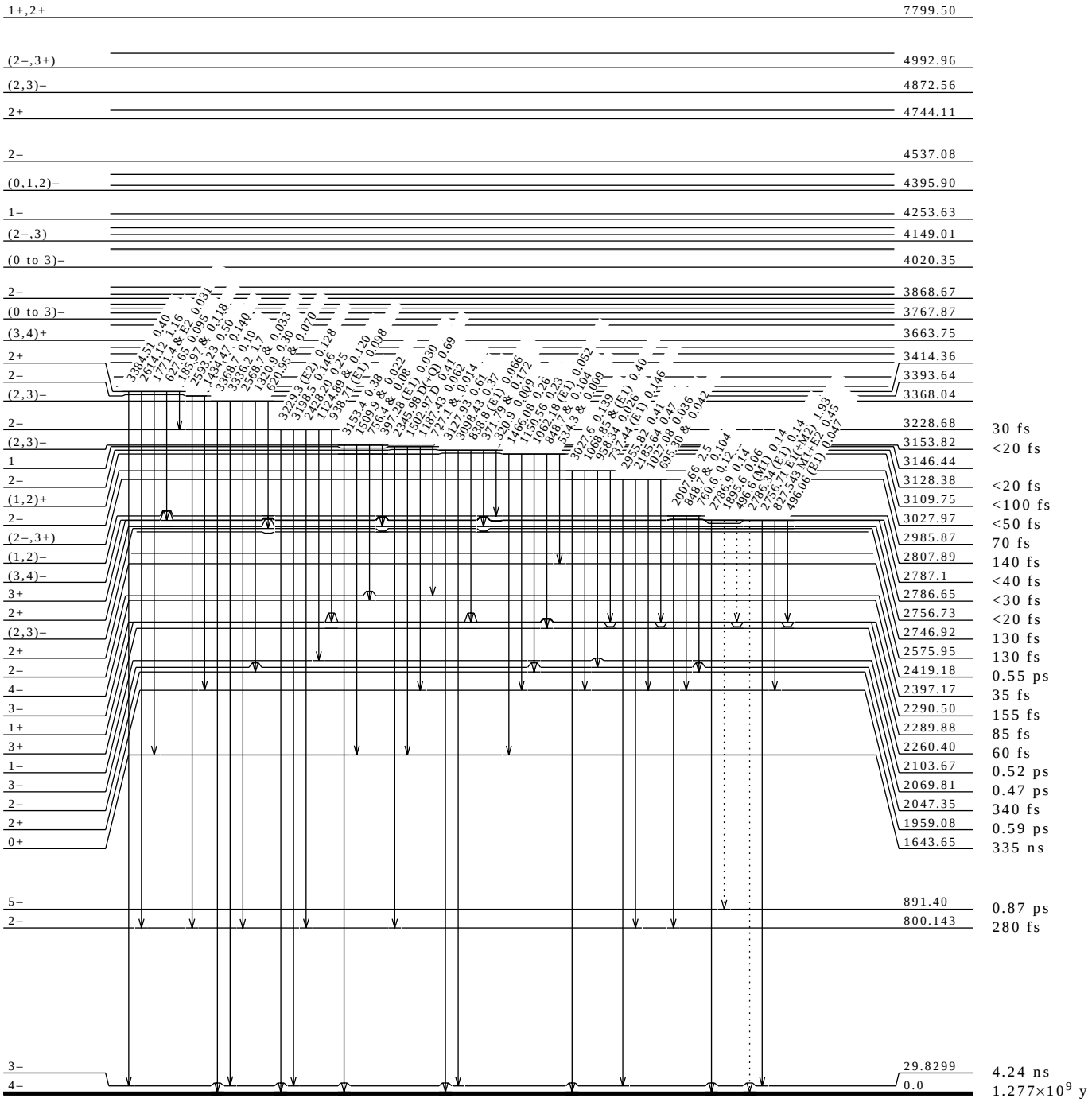
$^{40}_{19}K_{21}$

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



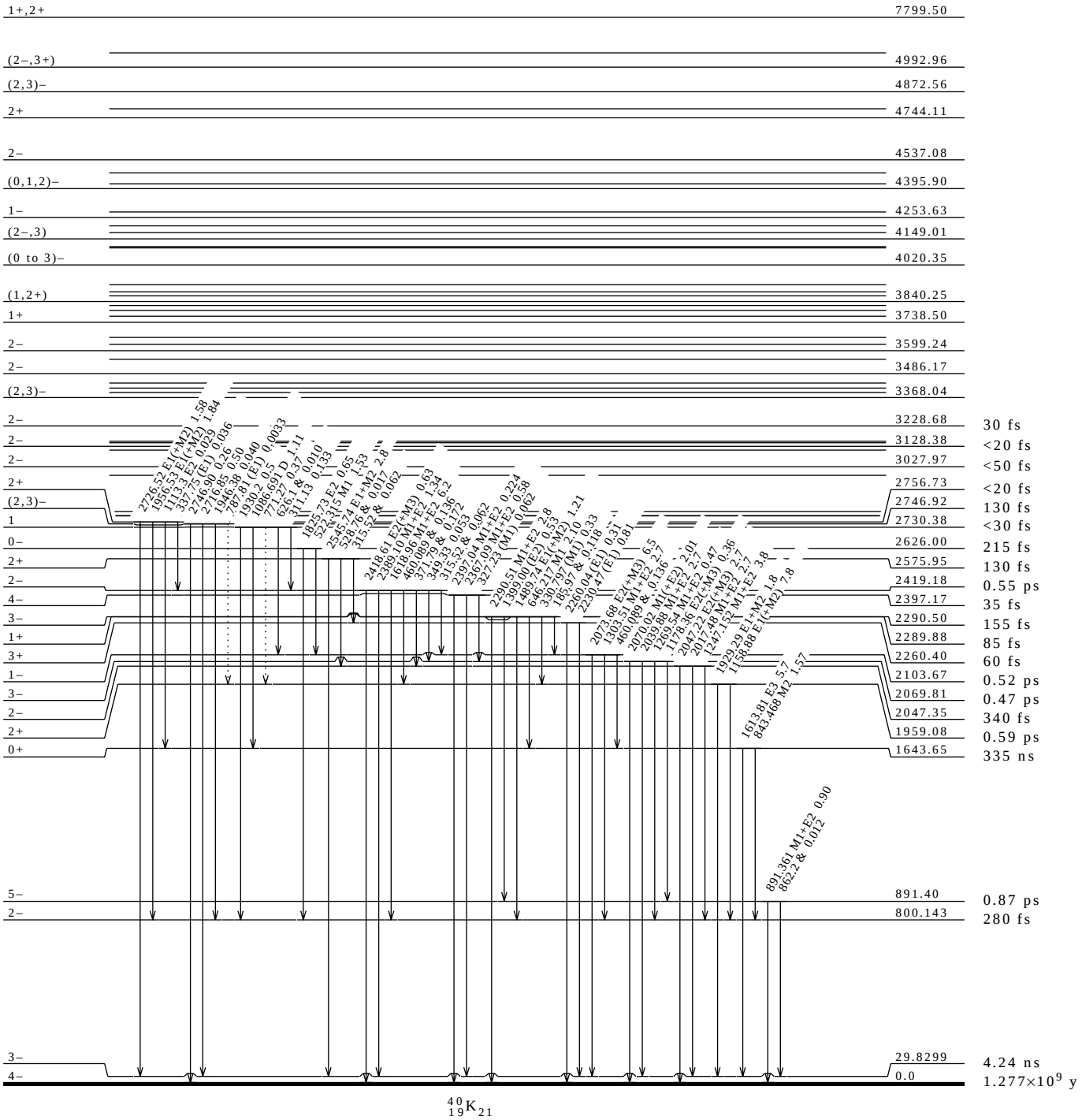
$^{40}_{19}K_{21}$

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



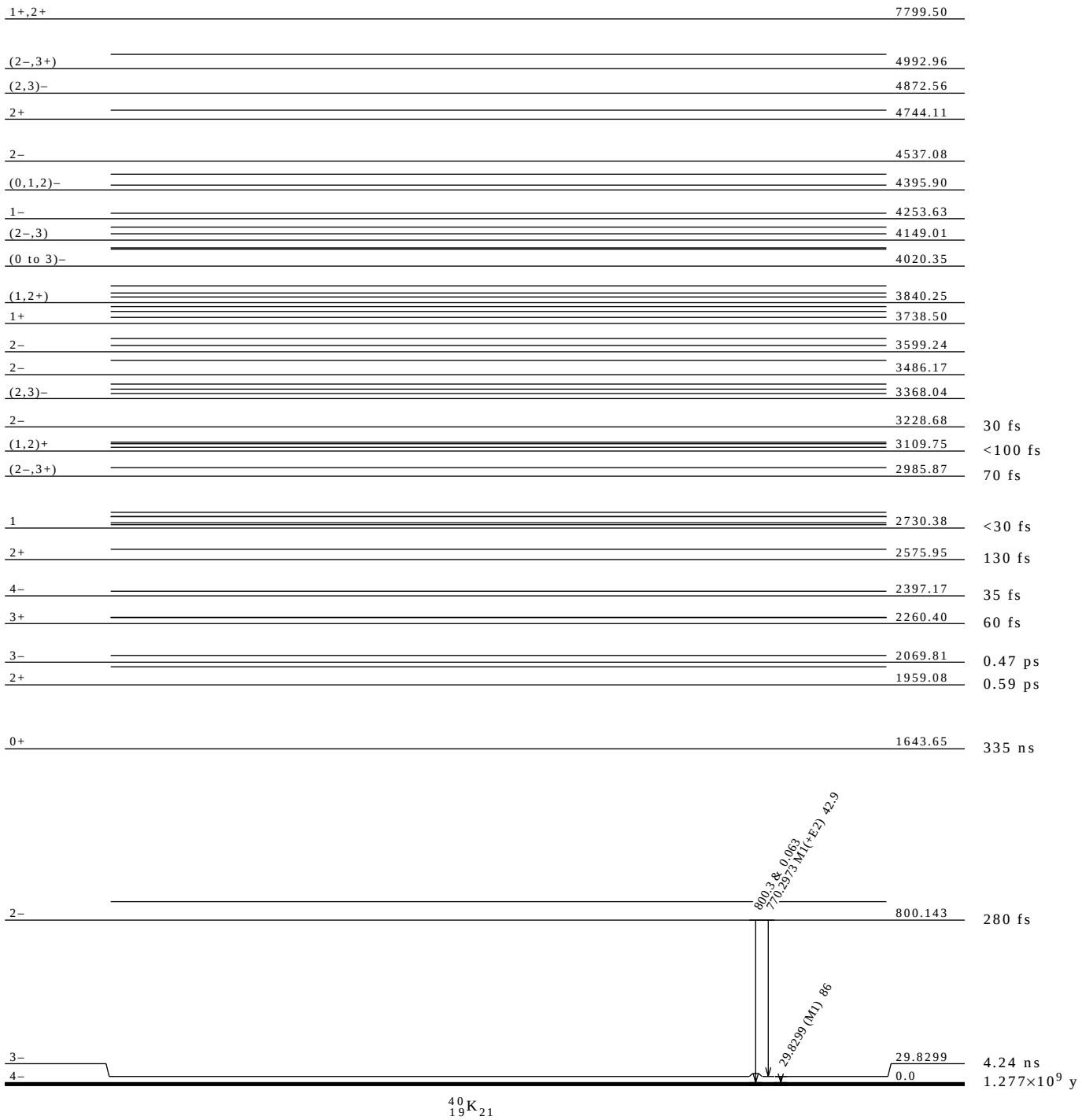
$^{40}_{19}K_{21}$

$^{40}_{19}K_{21}$

^{39}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{41}_{18}Ar_{23}$

^{40}Ar(n,γ) E=thermal 1970Ha56

Target Jπ=0+.
Measured Eγ, Iγ with Ge(Li) and pair spectrometer.

^{41}Ar Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	7/2−	109.34 min *12*	%β⁻=100.
167.3 *2*	5/2−	420 ps *30*	
516.0 *3*	3/2−	330 ps *20*	
1034.7 *6*	3/2+	5 ps *3*	
1354.0 *4*	3/2−	400 ps *50*	
1869 *2*	1/2+		
2398.3 *6*	1/2−	120 fs *35*	
2694?			
2733.4 *7*	3/2−	<30 fs	
2948.5 *7*	3/2−	<65 fs	
3009.7 *8*	(1/2,3/2)−	<110 fs	
3111?			
3278?			
3326.7 *8*	1/2−	<17 fs	
3431?			
3565?			
3573?			
3703?			
3732?			
3968.2 *7*	1/2−	21 fs *12*	
4270.1 *10*	3/2−		
6098.7 *6*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s−wave neutron capture. Observed deexcitation intensity is 94% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{41}Ar)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=0.66 b *1*.

Eγ	E(level)	Iγ‡§	Mult.†	α
167.3 *2*	167.3	79.6	(M1)	0.00257
348.7 *3*	516.0	6.6		
(515†)	1869	0.03†		
516.0 *3*	516.0	25.3	(M1)	
(518.7†)	1034.7	0.9†	(E1)	
(834†)	1869	0.01†		
837.7 *3*	1354.0	9.6		
867.3 *6*	1034.7	1.1	(E1)	
1044.3 *4*	2398.3	6.0	(M1)	
1186.8 *3*	1354.0	52.2		
(1353†)	1869	0.02†		
1354.0 *4*	1354.0	2.3	(E2)	
(1379.4†)	2733.4	0.25†		
(1457.7†)	3326.7	0.06†	E1	
1828.8 *12*	6098.7	1.0		
1881.5 *10*	2398.3	1.4		
1972.7 *12*	3326.7	0.54		
2130.8 *8*	6098.7	4.4		
2229.5 *20*	2398.3	0.29	(E2)	
2291.7 *20*	3326.7	0.20		
2432.5 *8*	2948.5	0.84		
2566.1 *8*	2733.4	2.8		
2614.4 *8*	3968.2	2.9		
2668.2# *20*	3703?	0.51#		
	6098.7	0.51#		
2771.9 *8*	6098.7	8.6		
2781.8 *15*	2948.5	1.7		
2810.6 *8*	3326.7	5.9		
2842.6 *10*	3009.7	0.88		
3089.5 *10*	6098.7	1.1		
3111.4# *22*	3111?	0.40#		
	3278?	0.40#		
3150.3 *10*	6098.7	4.0		
3365.6 *10*	6098.7	4.2		
3405.5# *25*	3573?	0.08#		
	6098.7	0.08#		
3452.0 *10*	3968.2	2.0		
3564.7# *25*	3565?	0.13#		
	3732?	0.13#		
x3658.7 *18*		0.25		
3700.6 *8*	6098.7	9.8		
4102.7 *15*	4270.1	0.3		
4745.3 *8*	6098.7	55.0		
x4917.1 *20*		0.07		
5064.0 *10*	6098.7	0.26		
x5449.0 *25*		0.05		
5582.4 *8*	6098.7	11.6		
x5960.7 *25*		0.01		
x6063.1 *25*		0.04		
x6082.8 *25*		0.02		
x6093.3 *25*		0.03		
x6142.5 *25*		0.02		

Footnotes continued on next page

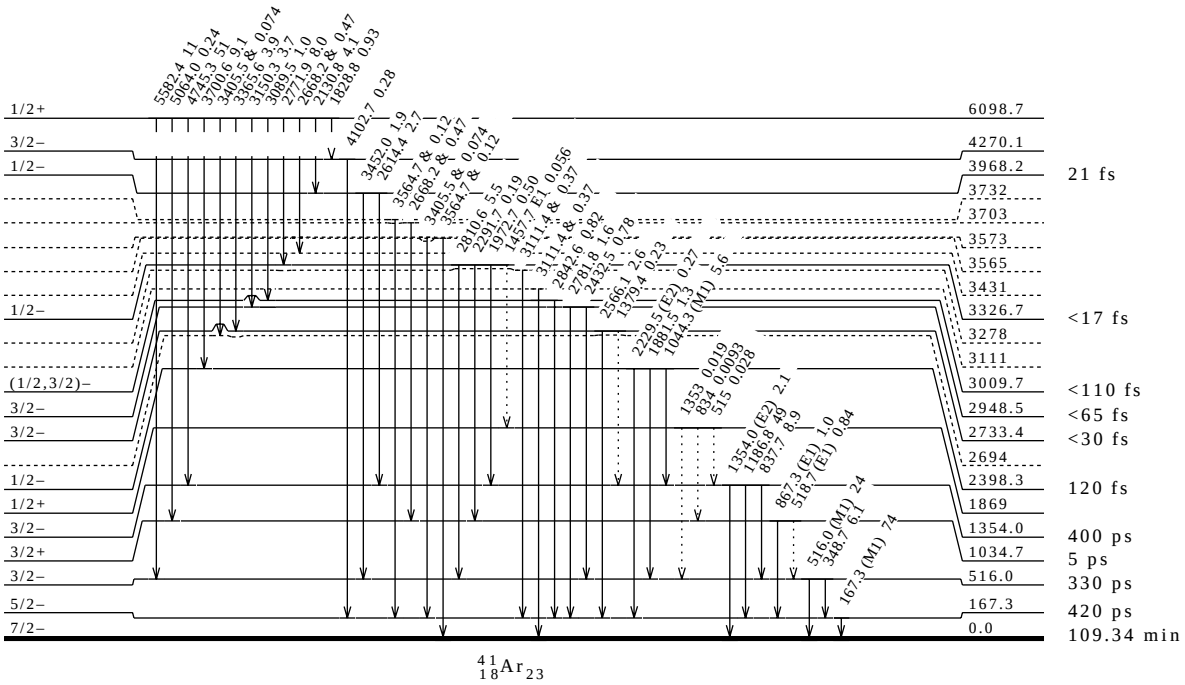
^{40}Ar(n,γ) E=thermal (continued)

γ(^{41}Ar) (continued)

† From adopted gammas.
‡ Relative γ–ray intensity per 100 neutron captures. No uncertainty given by authors. Errors ≥10% estimated by evaluators.
§ For intensity per 100 neutron captures, multiply by 0.93.
# Multiply placed; undivided intensity given.
x γ ray not placed in level scheme.

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{41}_{18}Ar_{23}$

^{40}Ca(n,γ) E=thermal 1967Gr16,1970Cr04

Target Jπ=0+.
Measured Eγ,Iγ with Ge(Li) (67Gr16); Eγ with pair spectrometer (70Cr04).

^{41}Ca Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	7/2−	1.03×10^5 y *4*	%ε=100.
1942.61 *11*	3/2−	415 fs *40*	
2009.8 *2*	3/2+	505 ps *12*	
2462.2 *2*	3/2−	3.7 ps *8*	
2669.9 *2*	1/2+	2.2 ps *4*	
3049.7 *3*	3/2(+)	0.7 ps *2*	
3399.9 *2*	1/2+	85 fs *20*	
3525.7 *4*	3/2+	50 fs *17*	
3613.5 *2*	1/2−	100 fs *40*	
3845.4 *5*	1/2+	110 fs *30*	
3944.1 *2*	1/2−	<14 fs	
4603.1 *2*	3/2−	<40 fs	
4752.6 *2*	1/2−	<25 fs	
4778.1 *4*	(3/2,5/2)+	<14 fs	
5011.6 *8*	1/2+		
8362.7 *3*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s−wave neutron capture. Observed deexcitation intensity is 86% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{41}Ca)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=0.41 b *2*.

Eγ‡#	E(level)	Iγ§@	Mult.†	δ†
x182				
(379.8†)	3049.7	0.03†		
444.5 *4*	3845.4	0.5		
519.50 *13*	2462.2	13.4	M1+E2	+0.03 *1*
660.2 *6*	2669.9	0.8		
727.3 *4*	2669.9	2.1	(E1)	
(855.8†)	3525.7	0.05†	M1+E2	+0.22
(943.6†)	3613.5	0.4†	E1	
1040.1 *15*	3049.7	0.3		
(1107.1†)	3049.7	0.2†		
1151.22 *20*	3613.5	1.1		
1390.13 *20*	3399.9	2.2		
1482.0 *3*	3944.1	1.3		
(1515.9†)	3525.7	0.18†		
(1583.1†)	3525.7	0.27†		
(1611.6†)	5011.6		M1	
1670.67 *20*	3613.5	1.3		
(1835.5†)	3845.4	0.2†		
(1902.6†)	3845.4	0.05†	(E1)	
1942.61 *17*	1942.61	88.5	E2(+M3)	≈0.0
2001.6 *3*	3944.1	18.9		
2009.8 *3*	2009.8	11.5	M2+E3	+0.13 *3*
2290.3 *3*	4752.6	1.6		
x2606.5 *5*		1.6		
2660.3 *20*	4603.1	1.3		
2768.8 *20*	4778.1	2.8		
2809.8 *5*	4752.6	3.8		
(3001.5†)	5011.6			
3067.3 *20*	5011.6	0.7		
3351.0 *15*	8362.7	0.4		
3585.2 *6*	8362.7	1.6		
3610.2 *3*	8362.7	6.0		
3759.2 *4*	8362.7	3.1		
x3947 *3*		0.4		
4418.6 *5*	8362.7	17.1		
4518 *3*	8362.7	0.7		
x4560 *3*		0.1		
4749.1 *6*	8362.7	2.6		
4839& *3*	8362.7	0.5		
x4944 *3*		0.8		
4962.4 *6*	8362.7	1.8		
5314 *3*	8362.7	0.3		
5692.5 *7*	8362.7	1.1		
5900.1 *6*	8362.7	7.0		
6352 *3*	8362.7	0.2		
6420.7 *10*	8362.7	43.5		

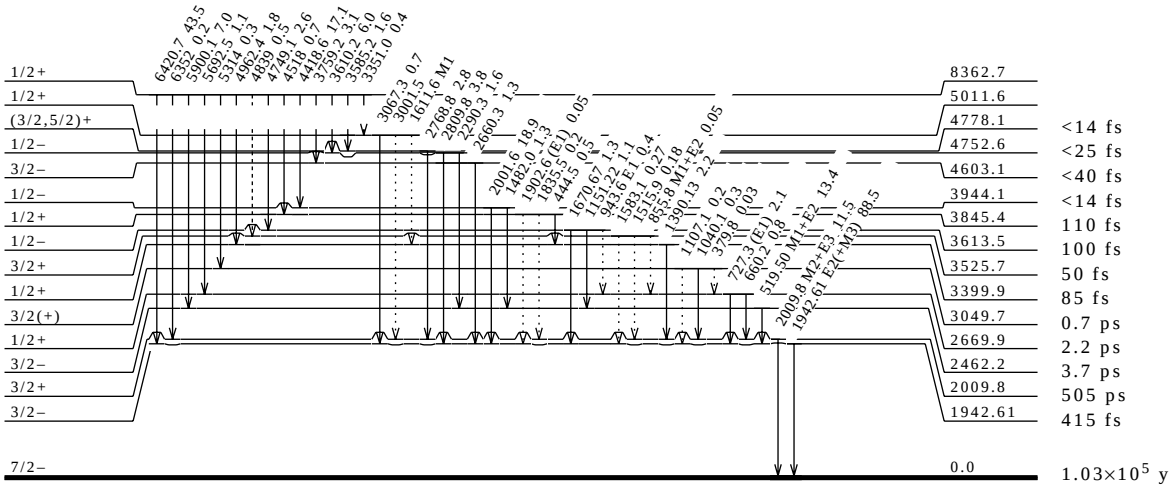
† From adopted gammas.
‡ Weighted average of values from 67Gr16 and 70Cr04.
§ Absolute γ−ray intensity per 100 neutron captures from 67Gr16. No nucertainty given by authors. Errors ≥10% estimated by evaluators. Systematic values derived from adoped gammas.
# Literature recoil correction removed by evaluator.
@ For intensity per 100 neutron captures, multiply by 1.0.
& Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

$^{41}_{20}Ca_{21}$

^{40}Ca(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays



$^{41}_{20}Ca_{21}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal 1984Kr05

Target Jπ=4−.
Measured Eγ, Iγ with ILL curved crystal bragg spectrometer and pair spectrometer.

^{41}K Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	3/2+	stable	
980.476 *8*	1/2+	290 fs *75*	
1293.609 *8*	7/2−	7.2 ns *2*	
1559.903 *12*	3/2+	375 fs *40*	
1582.001 *11*	3/2−	9.3 ps *3*	
1593.107 *12*	1/2+	95 fs *20*	
1677.235 *11*	7/2+	14 ps *3*	
1698.005 *15*	5/2+	0.8 ps *2*	
2143.82 *2*	5/2+	140 fs *55*	
2166.70 *2*	3/2−	1.9 ps *2*	
2316.70 *2*	5/2−	570 fs *95*	
2447.83 *7*	(1/2− to 7/2+)		
2494.91 *3*	9/2+	>3.1 ps	
2507.93 *3*	7/2+	150 fs *35*	
2527.66 *3*	11/2+	150 ps *3*	
2593.97 *3*	3/2−		
2712.57 *3*	(3/2−)	535 fs *130*	
2756.73 *3*	5/2+	50 fs *20*	
2761.73 *3*	11/2−	480 fs *50*	
2774.25 *3*	13/2+	51 ps *2*	
3048.22 *5*	3/2−		
3141.84 *3*	7/2−		
3142.43 *3*	5/2−	145 fs *45*	
3213.61 *4*	5/2−	125 fs *55*	
3235.57 *4*	(3/2− to 7/2)	50 fs *20*	
3240.65 *4*	(5/2+,7/2)		
3431.84 *4*	9/2−,(7/2−)		
3488.5 *3*	5/2+		
3489.30? *15*	(5/2,7/2)−		
3521.38? *9*	(5/2,7/2)+		
3534.45 *4*	(7/2+ to 11/2+)		
3560.61 *5*	(3/2− to 7/2+)		
3612.77 *5*	(3/2−,5/2)		
3651.46 *5*	(5/2,7/2,9/2)		
3761.54 *5*	(3/2− to 7/2+)		
3774.66 *5*	5/2−		
3826.90 *10*	(5/2+,7/2)		
3870.52? *6*	(5/2,7/2)−		
3990.40 *5*	(7/2− to 13/2−)		
3996.49 *4*	5/2+		
4026.94 *7*	5/2+		
4146.15 *6*	(5/2,7/2)−		
4164.57 *4*	(5/2 to 9/2+)		
4220.62 *5*	(5/2,7/2+)		
4228.99 *5*	5/2−		
4244.22 *5*	3/2−		
4260.36 *13*	(3/2−,5/2)		
4274.96 *5*	(7/2−,9/2+)		
4303.01 *5*	(5/2,7/2)+		
4345.66 *5*	(5/2,7/2−)		
4459.72 *5*	3/2−		
4525.37 *5*	(3/2− to 7/2)		
4568.75 *5*	(9/2+,11/2)		
4609.48 *7*	(5/2+ to 9/2+)		
4730.70 *5*	3/2−		
4735.86 *6*	(5/2,7/2)+		
4745.49 *10*	5/2+		
4749.47 *8*	(3/2− to 7/2+)		
4823.33 *5*	(7/2,9/2)+		
4862.43 *6*	5/2		

Continued on next page (footnotes at end of table)

^{40}K(n,γ) E=thermal (continued)

^{41}K Levels (continued)

E(level)†	Jπ†	$T_{1/2}$†	Comments
4927.83 *6*	5/2+		
4948.94 *6*	(3/2− to 7/2−)		
4982.9 *2*	19/2−	75 ps *6*	
5021.23 *8*	(3/2−,5/2+)		
5096.20 *8*	(3/2+ to 9/2−)		
5185.27 *6*	(5/2,7/2−)		
5298.86 *6*	(3/2− to 7/2−)		
5497			
5548			
5557			
5575			
5605			
5611			
5656			
5659			
5801			
5827			
5887			
5912			
5952			
5969			
6041			
6071			
6079			
6186			
6212			
6230			
6256			
6290			
6394			
6435			
6450			
6497			
6528			
6770			
6783			
6791			
6835			
6996			
7021			
7035			
7361			
7593			
7655			
7939			
8190			
8200			
9741			
10095.18 *10*	7/2−,9/2−		E(level): from evaluated s(n) (95Au04). Jπ: from s−wave neutron capture. Observed deexcitation intensity is 70% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{41}K)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=30 b *8*.

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
191.240 *60*	2507.93	0.008 *2*	(E1)	
193.73 *11*	4220.62	0.003 *2*		

Continued on next page (footnotes at end of table)

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
246.587 *3*	2774.25	0.543 *82*	M1(+E2)	+0.013 *14*
258.534 *51*	5557	0.015 *3*		
266.841 *19*	2761.73	0.009 *3*	(E1)	
288.388 *6*	1582.001	0.035 *12*	(E2)	
293.786# *10*	3534.45	0.023# *5*		
	4568.75	0.023# *5*		
296.340 *23*	4525.37	0.008 *2*		
304.763 *36*	4525.37	0.006 *2*		
x314.73 *11*		0.007 *3*		
x327.766 *2*		0.028 *6*		
x336.627 *6*		0.079 *13*		
338.468 *57*	6835	0.004 *2*		
339.412 *37*	4948.94	0.008 *2*		
344.793 *79*	3996.49	0.143 *22*		
354.541 *7*	10095.18	0.113 *17*		
358.465 *13*	4228.99	0.147 *42*		
361.993 *32*	5185.27	0.011 *2*		
364.089 *7*	2507.93	0.192 *29*	(M1)	
371.512 *57*	4146.15	0.048 *8*		
380.132 *70*	3141.84	0.005 *2*		
380.696 *8*	3142.43	0.067 *10*		
383.617 *6*	1677.235	0.142 *21*	(E1)	
385.107 *7*	3141.84	0.099 *19*		
395.945 *2*	2712.57	0.62 *13*	(M1)	
402.081 *30*	4228.99	0.018 *5*		
403.031 *31*	4164.57	0.018 *4*		
x417.190 *5*		0.037 *8*		
418.804 *36*	3560.61	0.006 *2*		
419.308# *26*	5605	0.007# *2*		
	6079	0.007# *2*		
429.790 *10*	3990.40	0.114 *22*		
445.814 *5*	2143.82	0.233 *50*	(M1)	
454.557 *7*	5185.27	0.022 *5*		
x476.623 *36*		0.008 *2*		
x481.242 *20*		0.013 *3*		
x487.991 *23*		0.009 *2*		
492.821 *23*	7021	0.009 *2*		
539.086 *27*	3774.66	0.018 *4*		
x541.828 *32*		0.035 *7*		
545.876 *7*	2712.57	0.072 *17*		
548.365 *10*	4823.33	0.043 *11*		
550.727 *29*	2143.82	0.009 *3*	(E2)	
561.047 *41*	3774.66	0.011 *3*		
561.842 *22*	2143.82	0.014 *3*	(E1)	
x564.011 *31*		0.013 *3*		
x565.729 *30*		0.016 *14*		
x566.650 *17*		0.087 *18*		
568.170 *17*	5298.86	0.098 *19*		
573.597 *9*	2166.70	0.052 *12*	(E1)	
579.418 *7*	1559.903	0.89 *17*	M1+E2	0.12 *4*
583.900 *15*	2143.82	1.43 *26*	(M1)	
584.685 *11*	2166.70	0.219 *48*		
586.264 *35*	3826.90	0.009 *4*		
592.777 *25*	4244.22	0.016 *5*		
601.517 *12*	1582.001	0.76 *18*	E1(+M2)	−0.06 *+9−3*
606.824 *18*	2166.70	0.027 *8*	(E1)	
607.846# *9*	4220.62	0.089# *21*		
	6435	0.089# *21*		
612.637 *8*	1593.107	0.262 *79*	M1	
612.925 *8*	2756.73	0.313 *71*		
614.766 *7*	3142.43	0.091 *23*		
620.337 *31*	5548	0.012 *3*		
623.486 *14*	6450	0.049 *13*		

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$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
633.891 *8*	3141.84	0.72 *17*		
x635.073 *18*		0.061 *17*		
639.345 *11*	2316.70	0.031 *17*	(E1)	
645.168 *56*	6256	0.015 *3*		
646.924 *4*	3141.84	0.403 *90*		
655.597 *34*	5605	0.011 *3*		
x657.927 *50*		0.006 *3*		
659.921# *94*	4220.62	0.025# *6*		
	5185.27	0.025# *6*		
x660.935 *11*		0.045 *14*		
x661.225 *39*		0.057 *15*		
670.112 *8*	3431.84	0.383 *98*		
x672.039 *13*		0.064 *17*		
x676.088 *30*		0.023 *5*		
685.056# *8*	3826.90	0.083# *20*		
	4459.72	0.083# *20*		
694.199 *10*	4345.66	0.203 *43*		
(708.4‡)	4982.9	‡	(E2)	
712.800# *17*	5575	0.034# *8*		
	6791	0.034# *8*		
719.272 *12*	3431.84	0.297 *61*		
732.714# *6*	3240.65	0.51# *12*		
	4164.57	0.51# *12*		
734.605 *8*	2316.70	0.45 *11*	M1+E2	−0.14 *7*
740.505 *37*	4274.96	0.032 *9*		
742.142 *13*	5605	0.100 *21*		
745.733 *13*	3240.65	0.179 *38*		
768.531 *19*	4303.01	0.079 *21*		
773.471 *19*	5298.86	0.111 *31*		
796.926 *20*	2494.91	0.88 *22*	E2(+M3)	≈0.0
817.659 *9*	2494.91	2.31 *50*	M1+E2	+0.38 *2*
825.193 *27*	3141.84	0.038 *8*		
x827.328 *76*		0.018 *5*		
830.679 *9*	2507.93	2.68 *57*	M1+E2	+0.4 *3*
846.967 *23*	4459.72	0.067 *15*		
850.417 *7*	2527.66	3.10 *70*	E2(+M3)	≈0.0
854.043 *20*	3996.49	0.242 *68*		
854.642 *20*	3996.49	0.148 *62*		
880.139 *26*	5611	0.074 *15*		
887.125# *49*	5497	0.070# *21*		
	6186	0.070# *21*		
891.260 *20*	5912	0.081 *16*		
895.955 *10*	2593.97	0.330 *69*		
904.383# *26*	3048.22	0.063# *13*		
	6791	0.063# *13*		
918.949 *13*	3235.57	0.86 *20*		
948.001 *13*	2507.93	0.51 *11*	E2(+M3)	≈0.0
974.665 *65*	4749.47	0.079 *17*		
980.461 *16*	980.476	3.44 *74*	M1+E2	0.15 *2*
988.474 *59*	4228.99	0.065 *14*		
993.207 *75*	4228.99	0.036 *9*		
998.448 *69*	3142.43	0.043 *10*	(E1)	
1004.869 *33*	3761.54	0.091 *19*		
1006.811 *34*	3534.45	0.441 *89*		
1011.89 *21*	2593.97	0.114 *27*		
1014.498 *18*	2712.57	0.329 *71*	(E1)	
1022.996 *7*	2316.70	11.2 *25*	M1+E2	−0.08 *1*
1026.484# *58*	3521.38?	0.084# *22*		
	3534.45	0.084# *22*		
1039.532 *12*	3534.45	0.61 *13*		
1041.512 *53*	3489.30?	0.108 *25*		
1051.268 *36*	5801	0.064 *14*		
1058.708 *15*	2756.73	0.405 *79*		

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$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
x1062.550 55		0.057 13		
1064.926# 20	5801	0.287# 62		
	7593	0.287# 62		
1079.440 42	2756.73	0.066 17		
1090.735 53	5827	0.117 25		
1096.832 17	3240.65	0.236 48		
1101.713 34	4244.22	0.150 32		
1110.083 14	4345.66	0.78 16		
1115.198 26	3431.84	0.190 39		
1130.76 20	2712.57	0.64 11		
1156.32 12	5887	0.135 38		
(1163.33‡)	2143.82	0.30‡ 6	(E2)	
1186.170 17	2166.70	0.60 16	E1(+M2)	−0.14 14
1196.785 17	2756.73	0.50 10		
1201.303 17	2494.91	1.51 35	E1+M2	+0.06 2
1203.205 51	4345.66	0.170 42		
1214.327 22	2507.93	0.69 14	(E1)	
1228.587 47	3990.40	0.213 44		
x1231.46 16		0.154 62		
1247.401 35	6071	0.240 51		
x1250.850 95		0.084 20		
x1255.711 65		0.175 74		
1266.45# 22	3761.54	0.144# 33		
	3774.66	0.144# 33		
1286.029 95	6783	0.168 47		
1293.586 7	1293.609	40.5 86	M2+E3	0.118 12
1321.333 89	5096.20	0.087 22		
1355.98 28	5659	0.051 14		
1368.47 12	4609.48	0.119 30		
x1373.020 45		0.313 66		
1418.975 15	2712.57	3.22 82		
(1455.09‡)	3048.22	‡		
1463.35 12	2756.73	0.69 23		
1465.097 49	3142.43	1.19 29	(E1)	
1468.090 12	2761.73	3.29 73	E2(+M3)	≈0.0
1470.99 17	6770	0.176 81		
x1481.59 16		0.084 30		
1488.542 38	3996.49	0.338 67		
1499.78 13	5497	0.254 54		
1513.313 78	4274.96	0.396 41		
1529.97 25	5557	0.057 7		
1534.15 48	7361	0.030 5		
1542.19 21	3240.65	0.066 8		
1557.67 18	5548	0.211 25		
1559.890 34	1559.903	4.14 41	M1+E2	0.27 2
x1563.96 11		0.167 17		
1581.980 40	1582.001	3.68 37	E1+M2	−0.08 2
1588.68 11	4730.70	0.133 14		
1593.40 45	1593.107	0.311 31		
1606.053# 75	5827	0.194# 20		
	6791	0.194# 20		
1624.76 16	5185.27	0.116 13		
1631.47 40	3213.61	0.255 69		
1649.96# 14	4244.22	0.157# 17		
	6835	0.157# 17		
1666.51 15	4260.36	0.101 12		
1677.233 40	1677.235	19.7 20	E2(+M3)	≈0.0
1697.934 40	1698.005	8.13 81	M1+E2	−2.1 2
(1710.20‡)	4026.94	‡		
1716.19 51	4164.57	0.032 7		
1721.021 40	4228.99	0.505 51		
1727.24# 24	3870.52?	0.123# 15		
	7939	0.123# 15		

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$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
1739.140 *74*	6835	0.270 *28*		
1747.88 *16*	5912	0.098 *11*		
1753.64 *18*	5185.27	0.088 *10*		
x1763.72 *31*		0.051 *7*		
1770.55# *22*	6230	0.072# *8*		
	6791	0.072# *8*		
1790.26 *27*	3488.5	0.069 *8*		
(1791.25‡)	3489.30?	0.068‡ *7*		
1794.59 *93*	4568.75	0.199 *20*		
1804.72 *28*	5969	0.033 *8*		
1808.66# *30*	4303.01	0.064# *26*		
	5298.86	0.064# *26*		
1840.93 *15*	6450	0.111 *12*		
1848.815 *40*	3142.43	3.48 *35*		
1852.845 *64*	4609.48	0.400 *40*		
1857.896 *98*	6079	0.191 *20*		
1867.45# *25*	5298.86	0.069# *8*		
	7939	0.069# *8*		
1895.093 *40*	10095.18	1.11 *11*		
(1895.3‡)	3488.5	0.023‡ *6*		
1904.965 *66*	10095.18	0.320 *32*		
1909.74 *14*	8200	0.284 *30*		
1919.951 *40*	3213.61	2.07 *21*		
1941.912 *40*	3235.57	1.91 *19*		
1946.946 *40*	3240.65	0.974 *98*		
1952.97 *28*	5605	0.102 *12*		
x1965.91 *13*		0.146 *15*		
1974.221 *40*	3651.46	1.08 *11*		
1986.36# *23*	4303.01	0.081# *9*		
	7939	0.081# *9*		
x1998.94 *35*		0.173 *29*		
2011.67 *89*	6256	0.222 *23*		
(2019.61‡)	3612.77	0.08‡ *2*		
2026.35 *30*	5801	0.089 *27*		
2030.51 *20*	3612.77	0.122 *13*		
2041.016 *74*	4568.75	0.374 *38*		
2046.31 *16*	6290	0.168 *18*		
2059.77 *32*	5887	0.120 *16*		
2062.66 *27*	4228.99	0.197 *22*		
2066.09 *44*	4823.33	0.070 *10*		
(2067.69‡)	3048.22	‡		
2077.55 *12*	4244.22	0.279 *29*		
2083.644 *67*	6230	0.330 *33*		
2089.12 *24*	6435	0.085 *10*		
x2100.717 *54*		0.426 *43*		
2106.50 *19*	7655	0.112 *12*		
2114.10 *25*	4609.48	0.829 *83*		
2121.40 *25*	8200	0.105 *12*		
2128.60 *29*	3826.90	0.118 *14*		
2138.116 *40*	3431.84	1.01 *10*		
2143.705 *40*	2143.82	4.67 *47*	M1+E2	−0.15 *6*
2149.732 *54*	3826.90	0.429 *43*		
2156.166 *57*	10095.18	1.26 *13*		
2158.925 *84*	6186	0.535 *55*		
2166.717 *54*	2166.70	0.486 *49*		
2171.006 *56*	4927.83	0.473 *48*		
2192.21 *12*	3774.66	0.276 *29*		
(2194.8‡)	3488.5	0.021‡ *7*		
2195.58 *14*	3489.30?	0.251 *26*		
2201.526# *89*	3761.54	0.258# *26*		
	4345.66	0.258# *26*		
2211.93 *19*	7035	0.177 *19*		
2215.33 *21*	4927.83	0.156 *17*		

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$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
2240.952 66	4735.86	0.681 69		
2250.38 15	4745.49	0.213 22		
2268.13 19	4862.43	0.125 14		
2278.47 58	6041	0.047 8		
2295.92 30	4823.33	0.196 25		
2298.55 12	3996.49	0.457 48		
2304.83 17	5827	0.138 15		
2315.33 20	4823.33	0.509 81		
2316.55 20	2316.70	0.382 74		
2319.272 52	3996.49	1.37 14		
2328.34 15	4823.33	0.156 17		
2355.91 60	7655	0.093 19		
2358.46 23	3651.46	0.240 29		
2375.65 31	4823.33	0.083 10		
2381.08 40	4525.37	0.163 26		
2383.43 37	5096.20	0.180 28		
2405.64 21	5548	0.117 14		
2414.923 73	5656	0.484 49		
2419.029 79	4735.86	0.474 48		
2428.92 18	4745.49	0.231 24		
2433.16 21	7361	0.291 31		
2436.614 94	3996.49	0.984 99		
2440.275 64	10095.18	0.856 86		
2447.765 61	2447.83	0.454 46		
2458.48 29	6071	0.090 10		
2466.900 66	4026.94	0.728 73		
2480.917 49	3774.66	0.628 63		
2487.270 41	4164.57	1.53 15		
2502.123 50	10095.18	0.732 74		
2507.884 41	2507.93	3.22 32	E2(+M3)	≈0.0
(2507.9‡)	3488.5	0.037‡ 8		
2513.88 12	5656	0.250 26		
2521.84# 24	4220.62	0.111# 13		
	6783	0.111# 13		
2531.48 12	6528	0.443 46		
2534.44 38	8190	0.161 21		
2543.49 19	4220.62	0.210 22		
2559.89 34	6835	0.189 27		
2562.55 11	4260.36	0.724 75		
2567.41 36	6394	0.096 12		
2576.48# 25	3870.52?	0.107# 13		
	4274.96	0.107# 13		
x2583.8 14		0.028 10		
2588.31 54	5096.20	0.188 35		
2590.61 67	5827	0.130 34		
(2593.88‡)	2593.97	0.03‡ 1		
x2599.437 83		0.381 39		
2605.076 74	4303.01	0.449 45		
2611.15 12	4927.83	0.332 34		
2615.48 25	7361	0.198 21		
2619.41 19	6394	0.214 23		
2647.83# 25	4345.66	0.114# 13		
	5096.20	0.114# 13		
x2658.8 18		0.039 26		
2668.551 99	4345.66	1.19 12		
2671.12 35	5912	0.231 33		
2677.266 99	5185.27	0.426 43		
x2681.54 13		0.302 31		
2688.19 12	6450	0.342 35		
2692.14 22	6996	0.198 22		
2702.641 65	3996.49	0.489 50		
x2710.41 16		0.188 20		
x2719.22 17		0.181 19		

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$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
2727.07 *18*	7655	0.173 *18*		
(2733.23‡)	4026.94	‡		
2733.904 *66*	10095.18	0.556 *56*		
2756.681 *42*	2756.73	2.72 *27*	M1+E2	−32 *+17−18*
2763.398 *59*	4345.66	0.584 *59*		
x2780.15 *15*		0.296 *31*		
2784.08 *17*	5497	0.260 *27*		
2794.04 *20*	3774.66	0.255 *69*		
2805.21 *13*	6041	0.289 *30*		
2809.89 *38*	5952	0.099 *12*		
x2817.10 *13*		0.237 *25*		
2827.06 *24*	6041	0.136 *16*		
2833.70 *31*	6394	0.136 *16*		
2838.08 *34*	6079	0.120 *14*		
2850.18 *40*	5298.86	0.289 *57*		
2852.25 *17*	4146.15	0.830 *96*		
2862.57 *15*	5575	0.435 *46*		
x2865.82 *30*		0.301 *33*		
x2869.69 *29*		0.188 *22*		
2875.73 *29*	6528	0.122 *15*		
x2887.179 *61*		0.573 *58*		
2899.774 *60*	4459.72	0.785 *79*		
2919.06 *13*	7655	0.251 *26*		
2926.964 *63*	4220.62	0.580 *58*		
2935.074 *51*	4228.99	0.955 *96*		
2945.08 *12*	6186	0.326 *33*		
2950.546 *52*	4244.22	1.63 *16*		
2963.01 *43*	5557	0.086 *13*		
2968.61# *18*	5497	0.217# *23*		
	6996	0.217# *23*		
2981.255 *51*	4274.96	2.55 *25*		
2988.20 *99*	5497	0.034 *8*		
x2995.81 *19*		0.186 *20*		
3001.38 *27*	5497	0.133 *16*		
3015.81 *44*	3996.49	0.132 *25*		
3024.88 *21*	7021	0.312 *31*		
3038.40 *29*	4735.86	0.317 *39*		
3042.81 *20*	6186	0.621 *50*		
3047.83 *29*	3048.22	0.471 *49*		
3051.70 *29*	4345.66	0.368 *48*		
3059.75 *10*	10095.18	0.874 *56*		
3067.79 *20*	4745.49	0.367 *34*		
3073.974 *90*	10095.18	1.154 *70*		
3086.74 *67*	6230	0.092 *29*		
x3089.97 *83*		0.072 *29*		
3099.57 *10*	10095.18	1.413 *28*		
3124.48 *70*	4823.33	0.049 *15*		
3129.59 *15*	5887	0.258 *22*		
3138.25 *14*	5912	0.251 *22*		
3146.19 *13*	4823.33	0.443 *32*		
3150.58 *29*	5912	0.223 *25*		
3154.96 *31*	5298.86	0.154 *22*		
3163.668 *99*	4745.49	0.614 *39*		
3179.67 *10*	5497	0.654 *41*		
3185.19 *32*	4862.43	0.177 *22*		
3191.19 *27*	5952	0.333 *37*		
3194.82 *64*	5969	0.120 *32*		
x3201.88 *35*		0.156 *21*		
3206.73 *27*	5969	0.201 *23*		
3213.74 *35*	3213.61	0.122 *18*		
3229.62 *47*	4927.83	0.44 *11*		
x3244.14 *28*		0.377 *47*		
3253.10 *94*	4927.83	0.31 *16*		

Continued on next page (footnotes at end of table)

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§
3259.52 *14*	10095.18	1.082 *79*
3282.81 *49*	6041	0.197 *46*
3292.64 *19*	5801	0.266 *25*
3304.17 *15*	10095.18	0.377 *29*
3312.70 *14*	10095.18	0.510 *37*
3317.59 *22*	7593	0.311 *29*
3325.40 *12*	10095.18	0.497 *35*
3334.58 *28*	4927.83	0.169 *21*
x3362.07 *35*		0.105 *14*
3366.78 *13*	4948.94	0.336 *23*
3379.76 *12*	7655	0.304 *20*
3385.88 *10*	6435	0.379 *24*
x3399.66 *45*		0.177 *20*
3404.78 *15*	5912	0.450 *32*
3410.75 *21*	7655	0.285 *25*
3416.76 *28*	5912	0.249 *26*
3421.20 *47*	7035	0.128 *23*
3437.10 *12*	4730.70	0.448 *31*
3455.859 *88*	4749.47	0.792 *47*
3479.77 *33*	4459.72	0.188 *26*
(3488.3‡)	3488.5	0.55‡ *2*
3488.59 *21*	5656	0.820 *97*
x3499.81 *79*		0.071 *22*
x3508.2 *10*		0.126 *64*
x3511.30 *84*		0.157 *65*
3520.84 *15*	3521.38?	0.473 *38*
3529.40 *39*	4823.33	0.149 *24*
3540.77 *92*	6783	0.099 *35*
3560.99 *50*	3560.61	0.45 *12*
3565.41 *67*	10095.18	0.46 *12*
x3578.95 *24*		0.108 *11*
x3585.54 *16*		0.165 *13*
3597.88 *15*	10095.18	0.229 *17*
3612.91 *11*	3612.77	0.268 *17*
x3620.27 *10*		0.294 *18*
3627.74 *14*	6770	0.209 *15*
3634.14 *34*	4927.83	0.073 *10*
3644.24 *26*	10095.18	0.233 *26*
3655.04 *31*	4948.94	0.226 *27*
3660.75 *13*	10095.18	0.641 *45*
x3670.55 *25*		0.152 *17*
3683.710 *71*	6212	0.905 *51*
3693.22 *33*	6835	0.116 *15*
3700.848 *99*	10095.18	0.527 *32*
3715.89# *38*	5298.86	0.095# *15*
	6212	0.095# *15*
3723.86 *31*	6041	0.118 *15*
3740.45 *23*	8200	0.252 *26*
3747.94# *56*	6256	0.095# *20*
	7361	0.095# *20*
3761.210 *67*	3761.54	1.689 *93*
3774.74 *12*	3774.66	0.598 *41*
3785.64 *31*	7021	0.179 *23*
3792.64 *28*	7939	0.201 *24*
3805.04 *11*	10095.18	0.693 *44*
3815.21 *10*	6528	0.671 *43*
3826.55 *15*	3826.90	0.400 *31*
3839.07 *11*	10095.18	0.575 *38*
3865.20 *12*	10095.18	0.327 *21*
3870.84 *11*	5548	0.364 *22*
3883.571 *59*	10095.18	1.037 *55*
x3889.75 *18*		0.229 *17*
3894.98 *41*	6212	0.078 *11*
3908.840 *66*	10095.18	1.560 *85*
x3925.352 *91*		0.797 *48*
3932.66 *51*	5611	0.098 *18*
3939.92 *28*	8200	0.247 *26*
3944.80 *46*	8190	0.141 *23*
x3973.74 *16*		0.403 *31*
3996.246 *55*	3996.49	2.50 *13*
x4004.50 *18*		0.296 *24*
4016.40 *14*	10095.18	0.422 *29*
4024.41 *13*	10095.18	0.427 *29*
4041.04 *61*	5021.23	0.068 *16*
4054.409 *90*	10095.18	0.750 *44*
4063.04 *31*	5656	0.143 *18*
x4088.529 *61*		0.449 *24*
4099.69 *24*	5659	0.084 *8*
x4105.165 *89*		0.335 *19*
4117.868 *77*	6435	0.318 *18*
4126.137 *66*	10095.18	0.392 *21*
4142.628 *57*	10095.18	0.610 *32*
x4150.83 *13*		0.131 *9*
x4167.05 *13*		0.149 *10*
4175.64 *23*	6770	0.089 *8*
4182.538 *62*	10095.18	0.861 *45*
x4187.79 *10*		0.317 *19*
x4200.512 *92*		0.227 *13*
4208.053 *56*	10095.18	0.742 *38*
x4215.831 *94*		0.343 *20*
4220.63 *12*	4220.62	0.251 *15*
4227.37 *30*	6394	0.089 *13*
4228.75 *30*	4228.99	0.109 *14*
4238.51 *20*	6996	0.165 *14*
x4251.80 *18*		0.205 *16*
4259.73 *11*	4260.36	0.376 *23*
4268.336 *72*	10095.18	0.729 *40*
x4283.906 *83*		0.540 *31*
4294.092 *83*	10095.18	0.547 *31*
4302.67 *29*	4303.01	0.101 *12*
4322.00 *18*	7035	0.121 *10*
x4332.02 *23*		0.097 *9*
x4339.534 *91*		0.329 *19*
x4350.62 *24*		0.089 *9*
4372.61# *51*	6071	0.108# *13*
	8200	0.108# *13*
4380.2 *10*	6079	0.062 *12*
4429.02 *46*	8190	0.065 *10*
4434.99 *59*	10095.18	0.543 *35*
4439.368 *74*	10095.18	1.204 *65*
x4446.47 *17*		0.179 *13*
4458.97 *59*	4459.72	0.589 *32*
4465.68 *40*	6783	0.063 *9*
4474.04 *67*	6791	0.032 *7*
4484.24 *11*	10095.18	0.333 *20*
4489.92 *11*	10095.18	0.388 *23*
4496.02 *39*	6079	0.067 *9*
4509.56 *34*	6186	0.142 *18*
4519.62 *13*	10095.18	0.473 *33*
4532.68 *28*	5827	0.374 *45*
4536.67 *39*	10095.18	0.260 *41*
4546.791 *81*	10095.18	1.146 *65*
4576.65 *11*	5557	0.200 *12*
x4582.88 *32*		0.101 *10*
x4587.18 *76*		0.034 *9*
4598.255 *63*	10095.18	0.874 *45*

Continued on next page (footnotes at end of table)

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

Eγ	E(level)	Iγ†§
4639.50 *19*	8200	0.087 *7*
4647.89 *17*	7361	0.105 *8*
x4657.352 *65*		0.532 *28*
4668.25# *24*	6835	0.099# *9*
	8190	0.099# *9*
4673.52 *11*	6256	0.270 *16*
4696.38# *17*	6290	0.280# *20*
	6394	0.280# *20*
4701.28 *46*	8190	0.145 *16*
4705.79 *75*	6290	0.056 *15*
x4723.261 *93*		0.369 *21*
4735.89 *32*	4735.86	0.076 *9*
4744.57 *59*	4745.49	0.435 *27*
4749.05 *11*	4749.47	0.510 *32*
4776.65 *22*	6071	0.110 *10*
4796.104 *67*	10095.18	0.812 *43*
4820.08 *18*	5801	0.167 *12*
x4832.468 *89*		0.542 *30*
x4855.30 *17*		0.085 *6*
4862.429 *95*	4862.43	0.186 *11*
x4875.66 *16*		0.122 *8*
4880.75 *62*	7593	0.027 *5*
4891.12 *14*	7035	0.098 *7*
4905.32 *86*	5887	0.150 *45*
4910.05 *25*	10095.18	0.626 *61*
x4926.15 *26*		0.333 *35*
x4978.63 *37*		0.150 *21*
4998.635 *78*	10095.18	0.603 *33*
x5012.68 *11*		0.315 *19*
5021.19 *17*	5021.23	0.165 *12*
5073.43 *47*	10095.18	0.096 *16*
x5083.40 *20*		0.275 *23*
5114.53 *35*	6791	0.153 *18*
5146.00 *21*	10095.18	0.365 *30*
5151.74 *31*	8200	0.290 *27*
5157.84 *71*	6835	0.085 *18*
5167.18 *10*	10095.18	0.812 *48*
5203.22 *32*	6497	0.134 *16*
5225.90 *44*	7939	0.117 *17*
5232.14 *25*	10095.18	0.223 *20*
x5249.91 *19*		0.262 *21*
x5260.2 *10*		0.039 *13*
5271.538 *71*	10095.18	1.878 *99*
x5278.87 *29*		0.111 *12*
x5288.18 *38*		0.065 *10*
x5299.95 *21*		0.127 *12*
5309.31 *47*	6290	0.053 *9*
5319.46 *85*	6996	0.028 *9*
5345.65 *12*	10095.18	1.133 *78*
5349.57 *10*	10095.18	1.558 *94*
5357.74 *30*	7035	0.433 *44*
5358.99 *30*	10095.18	0.528 *46*
5364.03 *12*	10095.18	0.600 *36*
x5420.46 *18*		0.244 *18*
x5440.87 *14*		0.359 *24*
5476.01# *34*	6770	0.116# *14*
	7035	0.116# *14*
5485.423 *73*	10095.18	1.611 *85*
x5495.880 *76*		1.320 *70*
5510.82 *15*	7655	0.297 *20*
5526.14 *13*	10095.18	0.369 *23*
5541.64 *17*	6835	0.329 *23*
5547.91 *12*	5548	0.563 *34*
5568.78 *37*	10095.18	0.149 *19*
5573.90 *31*	5575	0.183 *20*
5604.26 *18*	5605	0.262 *19*
5610.25 *51*	5611	0.080 *12*
5635.263 *76*	10095.18	1.453 *76*
x5646.31 *44*		0.071 *10*
5658.90 *15*	5659	0.257 *17*
x5676.90 *18*		0.203 *15*
5727.03 *22*	7021	0.748 *65*
5749.311 *92*	10095.18	4.06 *23*
5776.8 *10*	7361	0.099 *32*
5791.75 *25*	10095.18	0.549 *54*
x5806.03 *82*		0.110 *29*
5819.99 *11*	10095.18	2.16 *13*
5834.25 *15*	10095.18	1.044 *73*
5850.46 *13*	10095.18	1.356 *88*
5865.66 *13*	10095.18	1.516 *97*
5873.60 *23*	10095.18	0.653 *56*
5930.190 *87*	10095.18	1.234 *67*
5948.69 *11*	10095.18	0.649 *39*
6068.06 *25*	10095.18	0.174 *16*
6098.226 *70*	10095.18	5.44 *28*
6104.24 *30*	10095.18	0.376 *36*
6224.86 *31*	10095.18	0.152 *16*
6267.86 *11*	10095.18	0.850 *50*
6289.24 *21*	6290	0.272 *22*
6308.79 *84*	9741	0.049 *12*
6319.70 *59*	10095.18	0.877 *51*
6333.239 *85*	10095.18	1.803 *97*
x6357.85 *45*		0.097 *14*
6443.17 *11*	10095.18	0.382 *22*
6450.61 *40*	6450	0.069 *8*
6481.45 *21*	10095.18	0.120 *10*
6522.43 *56*	8200	0.030 *5*
6534.26 *22*	10095.18	0.093 *7*
6560.219 *84*	10095.18	0.635 *33*
6573.41 *13*	10095.18	0.203 *12*
x6588.10 *77*		0.022 *5*
6606.06 *33*	10095.18	0.085 *7*
6644.90 *15*	7939	0.306 *20*
6662.849 *97*	10095.18	0.821 *45*
6853.89 *30*	10095.18	0.372 *38*
6859.39 *46*	10095.18	0.224 *33*
6881.05 *10*	10095.18	1.628 *91*
6952.258 *96*	10095.18	1.97 *11*
7028.03 *25*	9741	0.044 *4*
7046.71 *19*	10095.18	0.062 *5*
7337.71 *12*	10095.18	2.04 *12*
7381.97 *11*	10095.18	2.33 *13*
7586.57 *10*	10095.18	0.525 *28*
7599.37 *14*	10095.18	0.244 *15*
7777.89 *14*	10095.18	9.05 *57*
7950.70 *13*	10095.18	2.78 *17*
8396.41 *12*	10095.18	0.183 *10*
8417.05 *19*	10095.18	0.112 *9*
8445.48 *74*	9741	0.009 *2*
x8469.49 *69*		0.010 *2*
8512.31 *14*	10095.18	0.202 *21*
8800.55 *13*	10095.18	1.021 *68*

Footnotes continued on next page

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

γ(^{41}K) (continued)

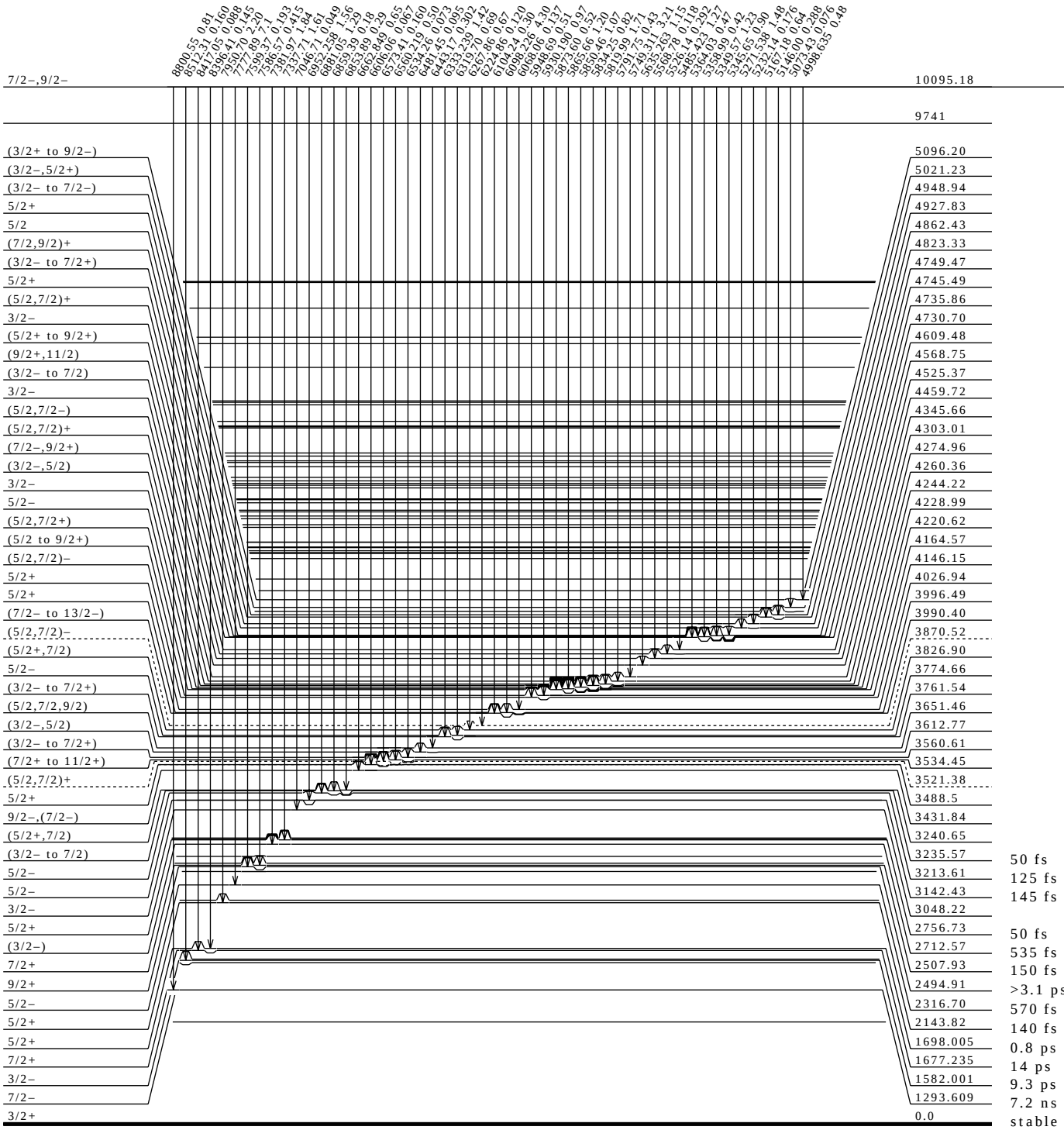
† Relative γ–ray intensity per 100 neutron captures.
‡ From adopted gammas.
§ For intensity per 100 neutron captures, multiply by 0.79.
# Multiply placed; undivided intensity given.
x γ ray not placed in level scheme.

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



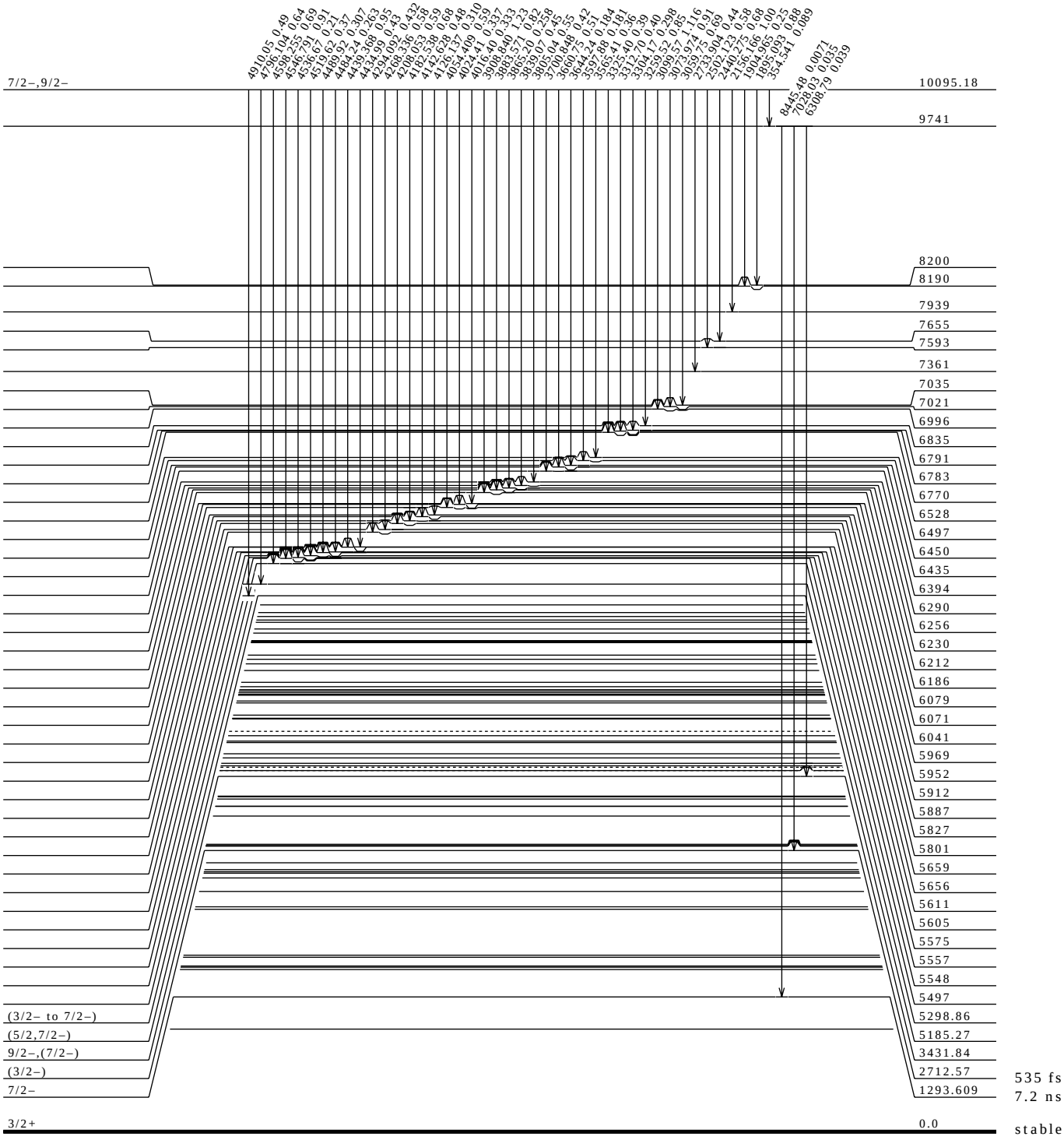
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



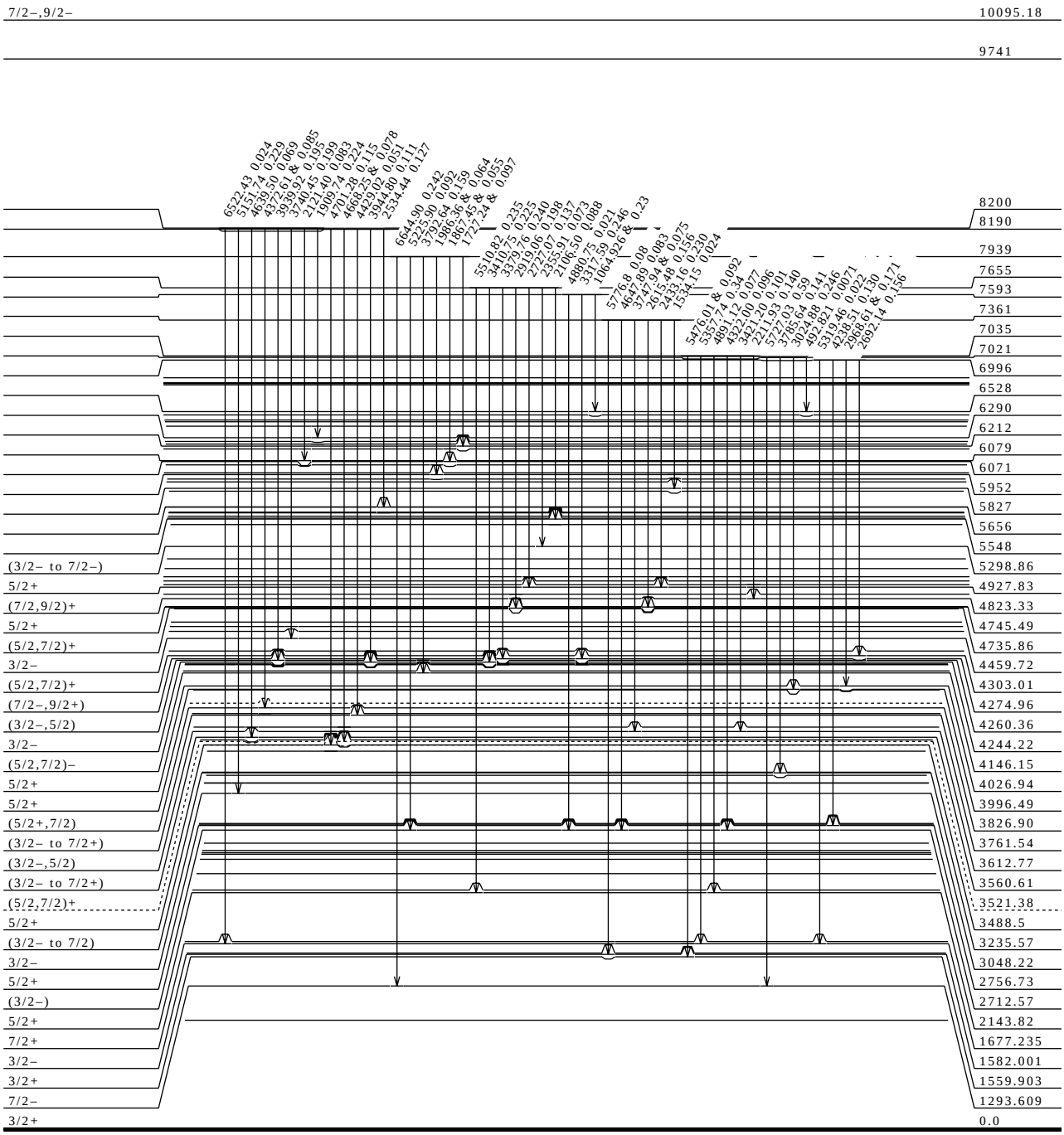
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



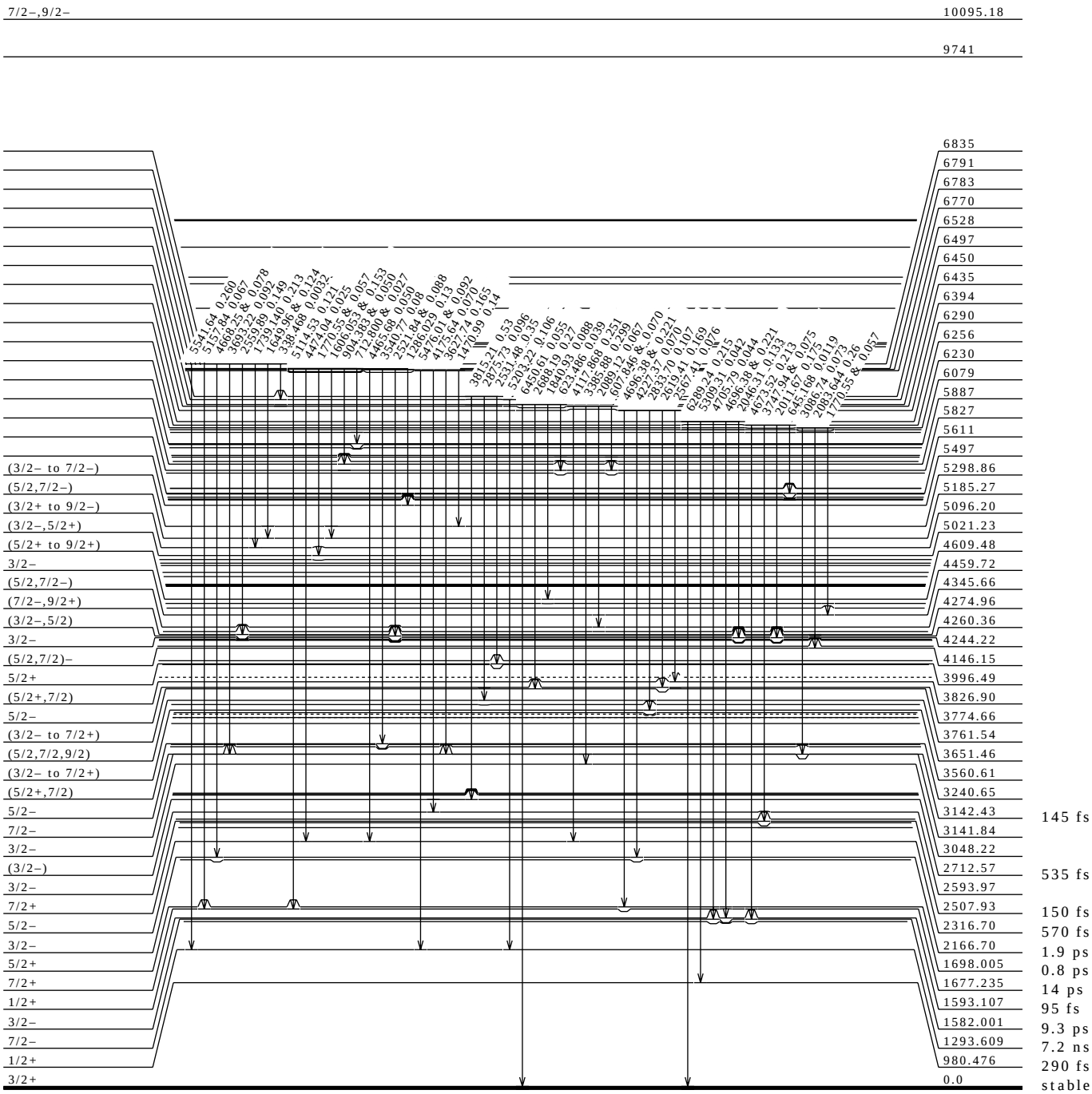
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



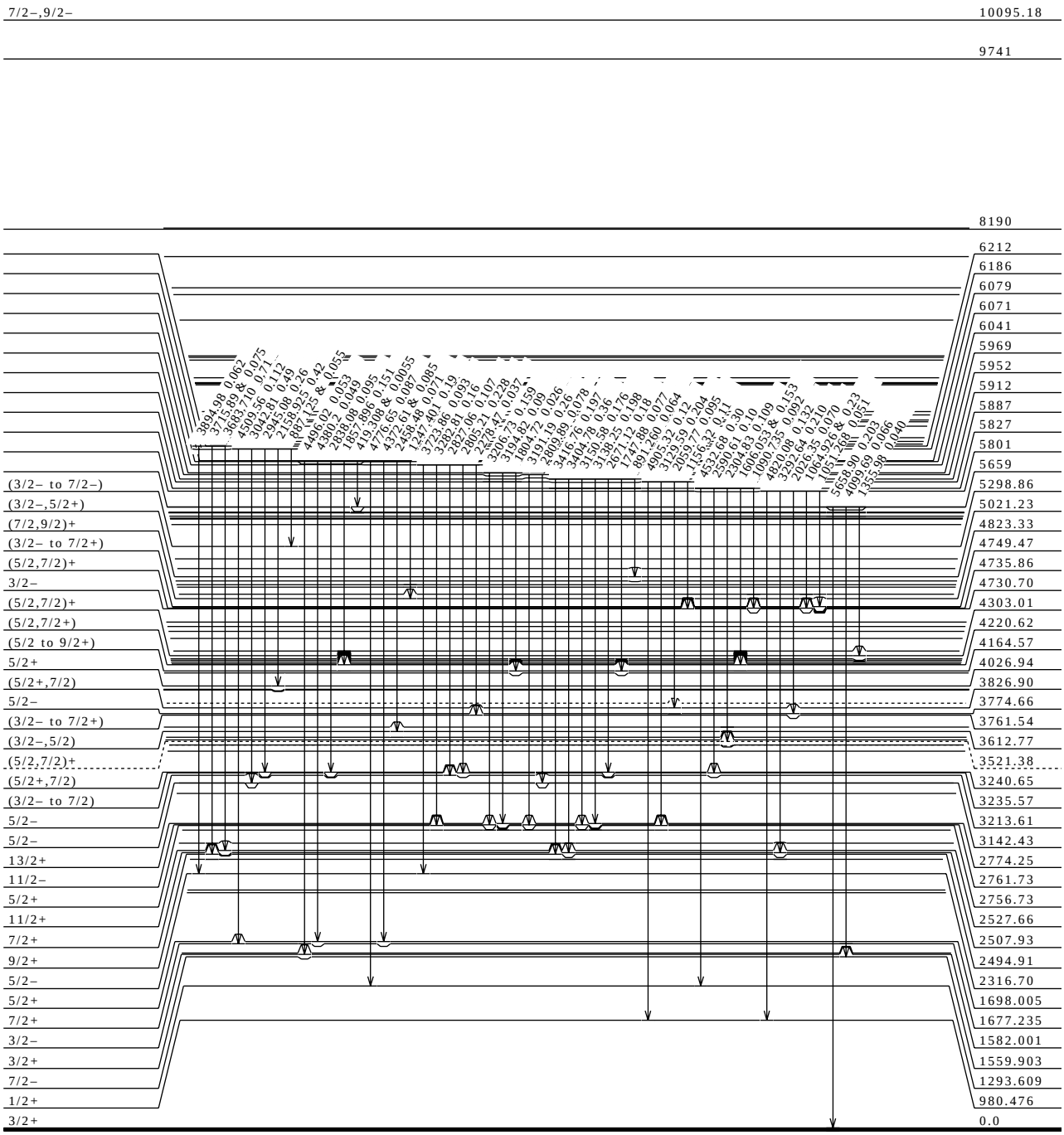
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



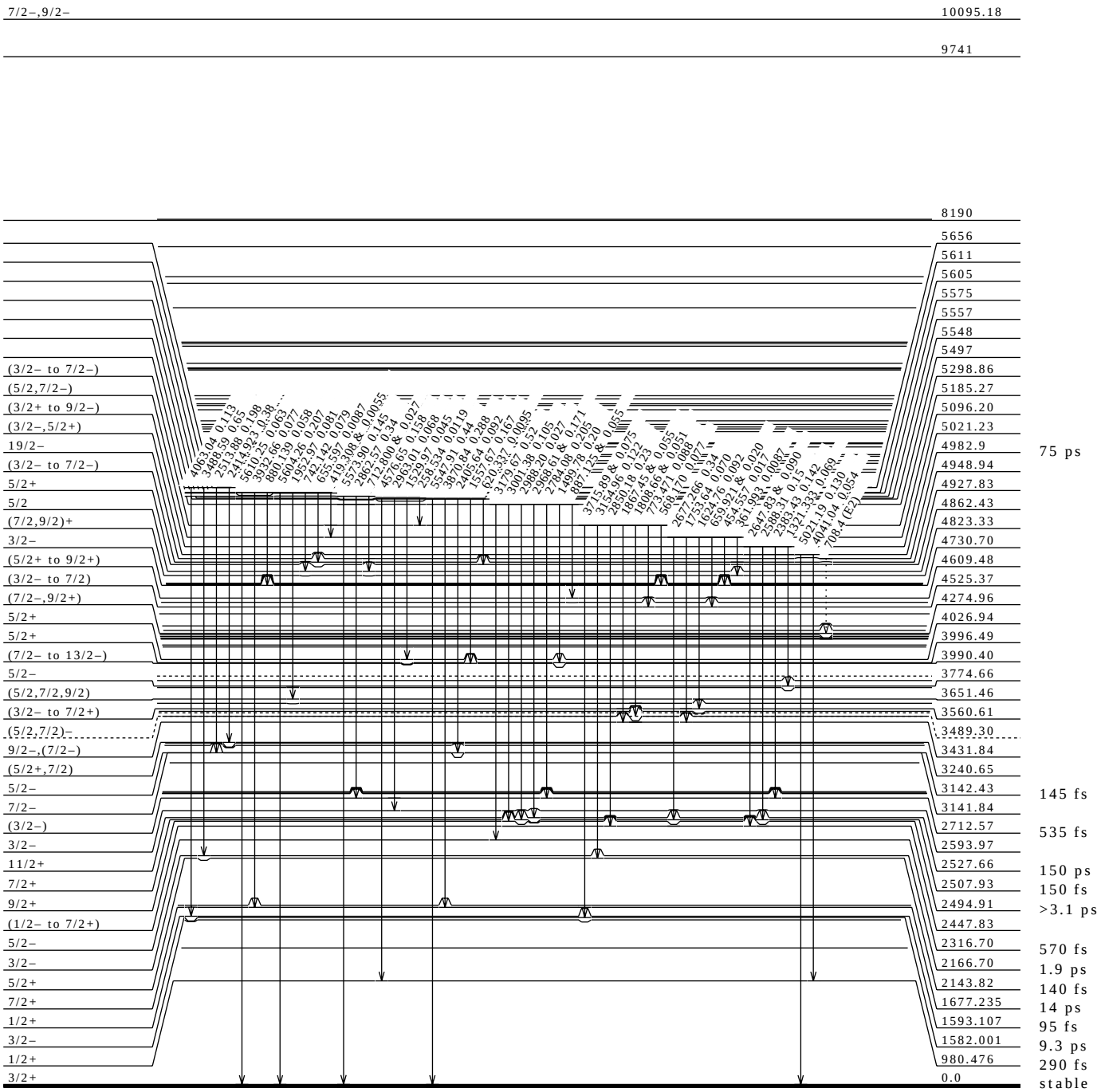
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



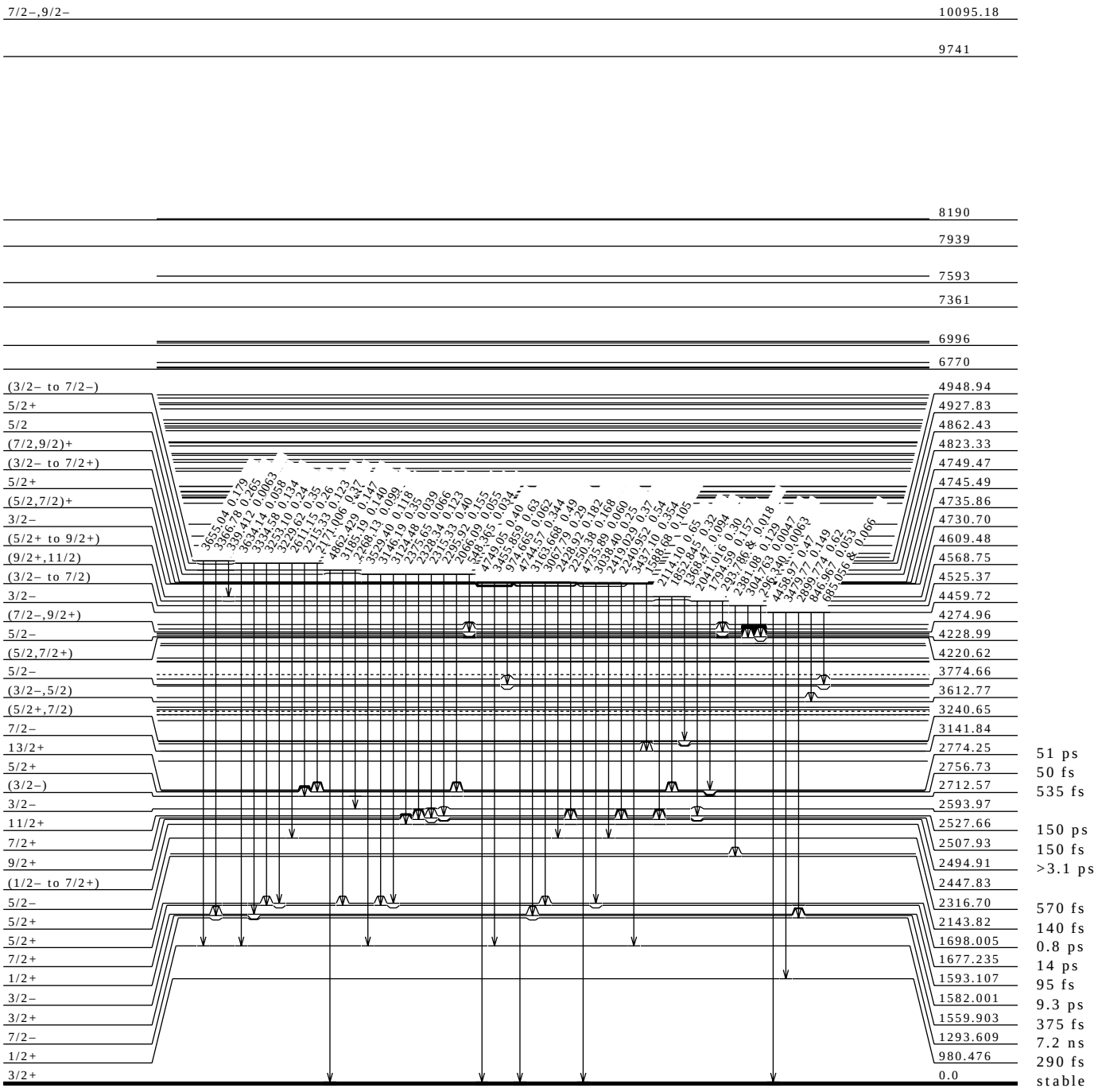
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

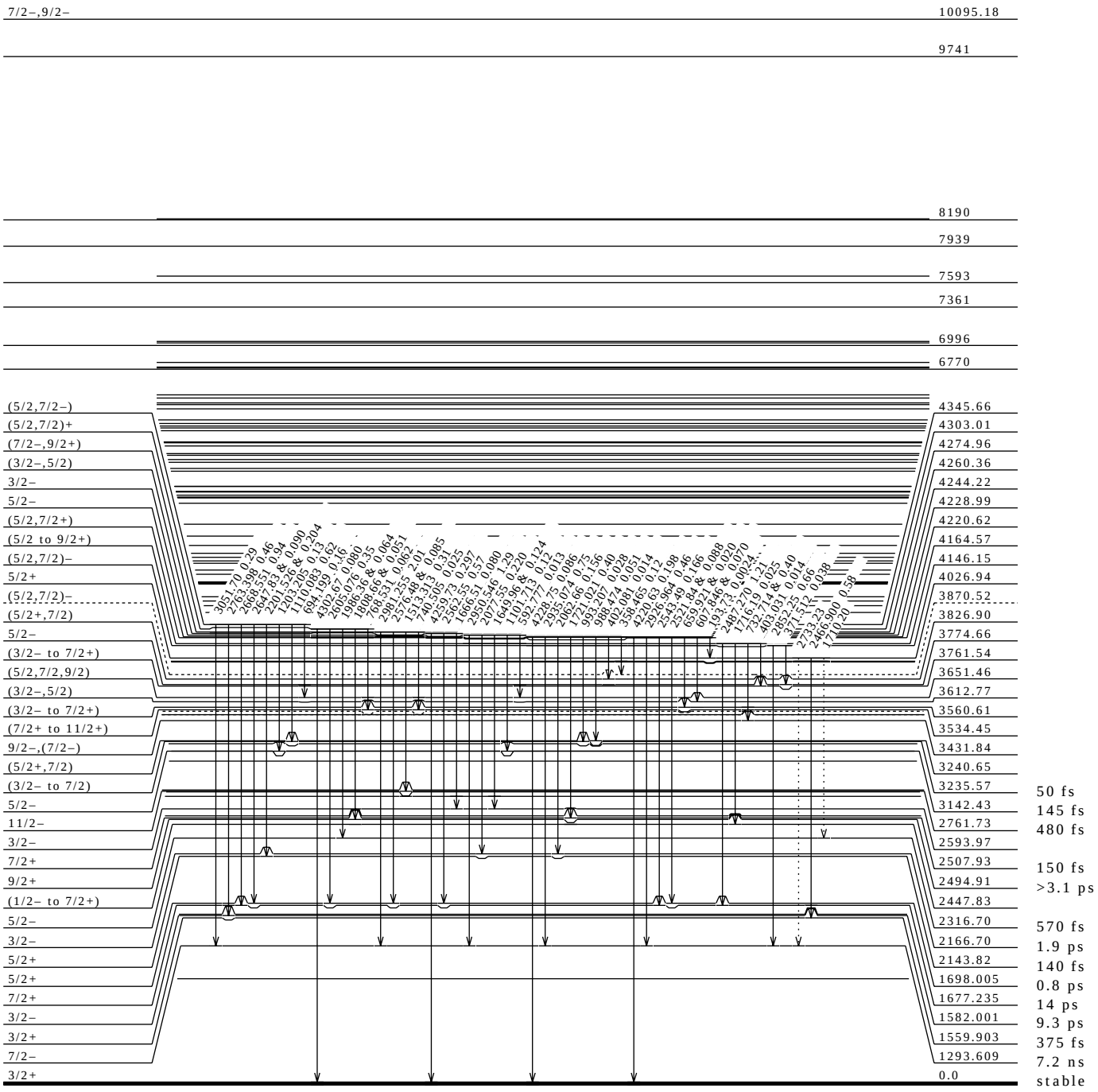


$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

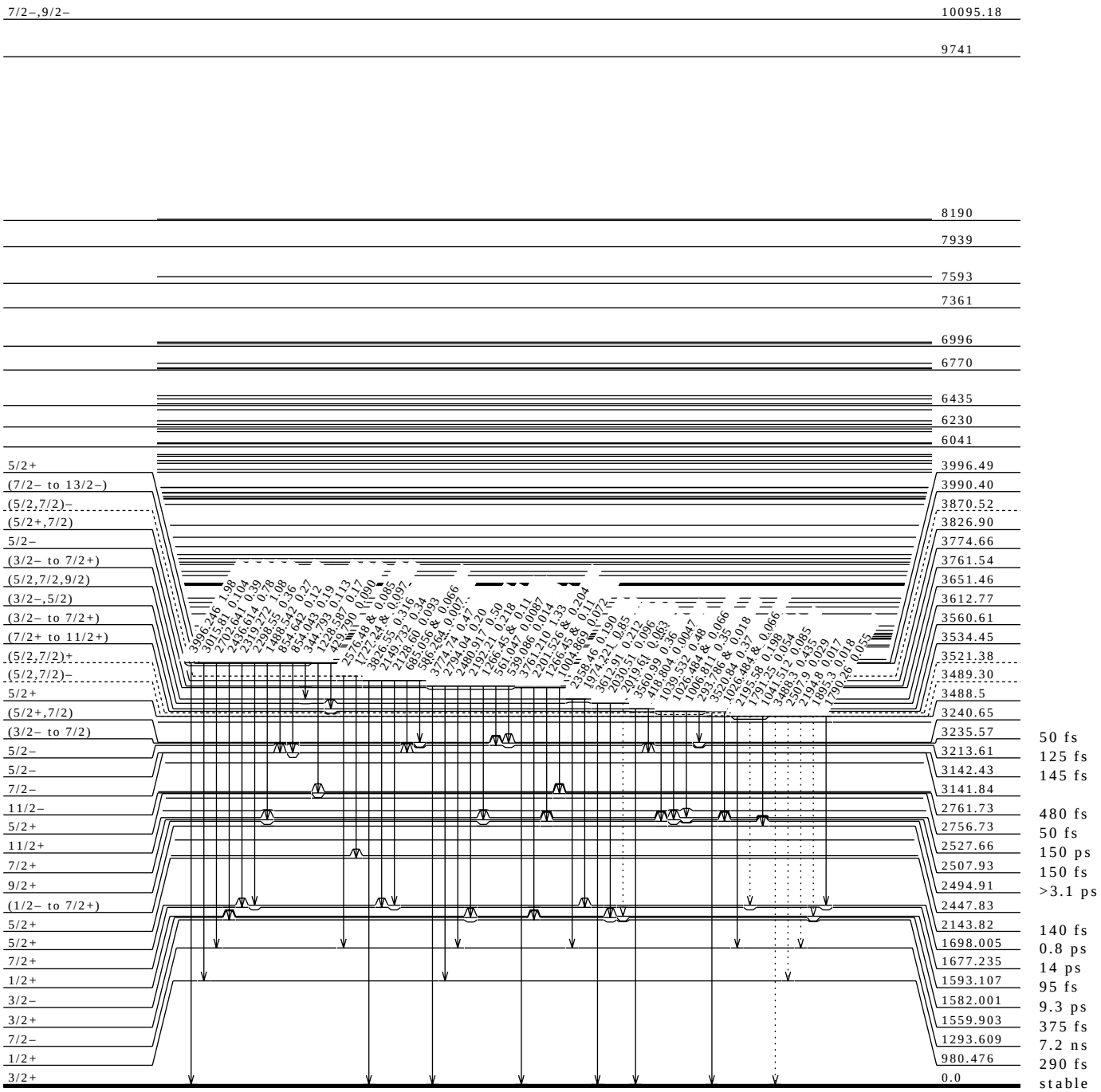


$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



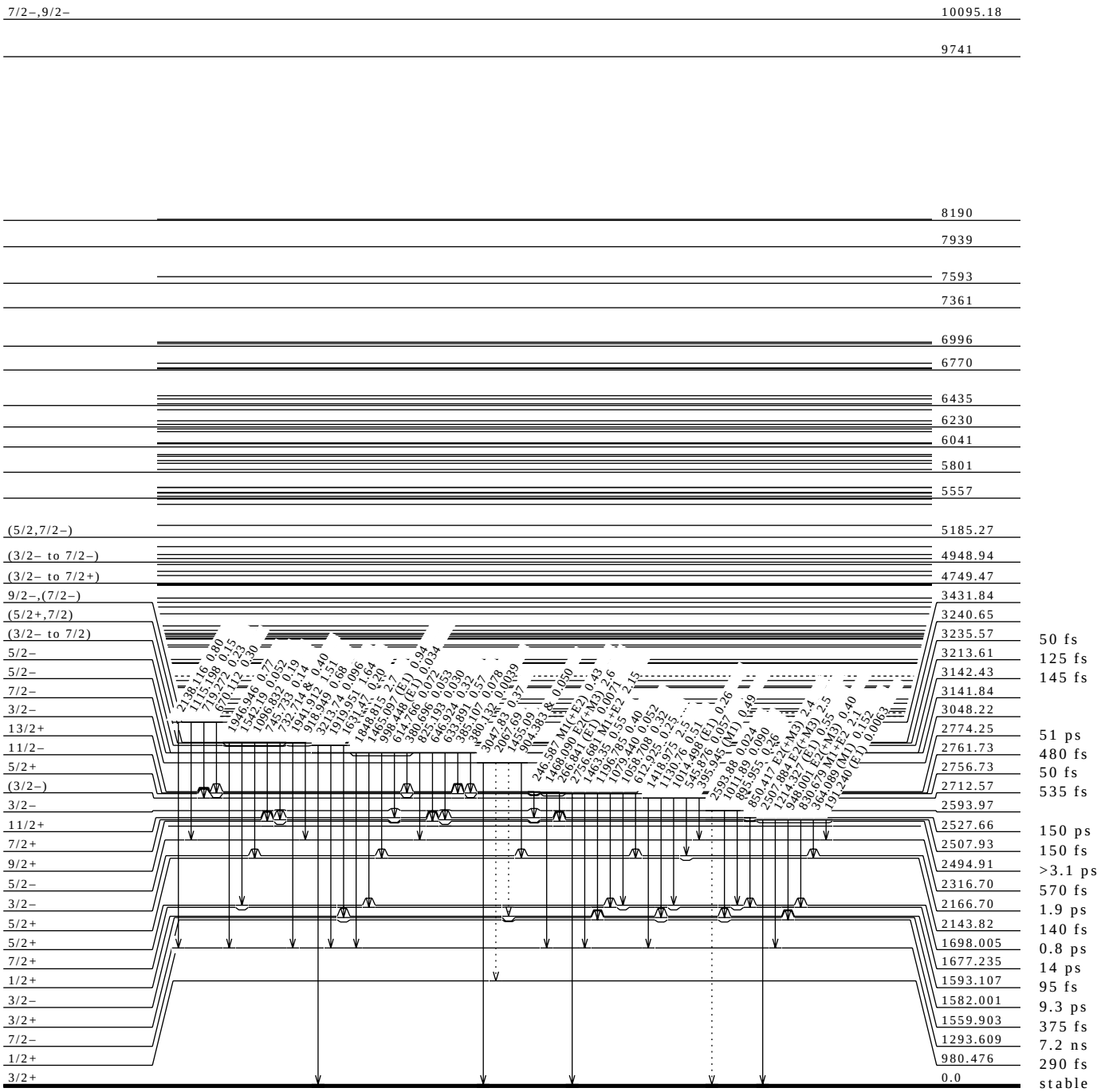
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



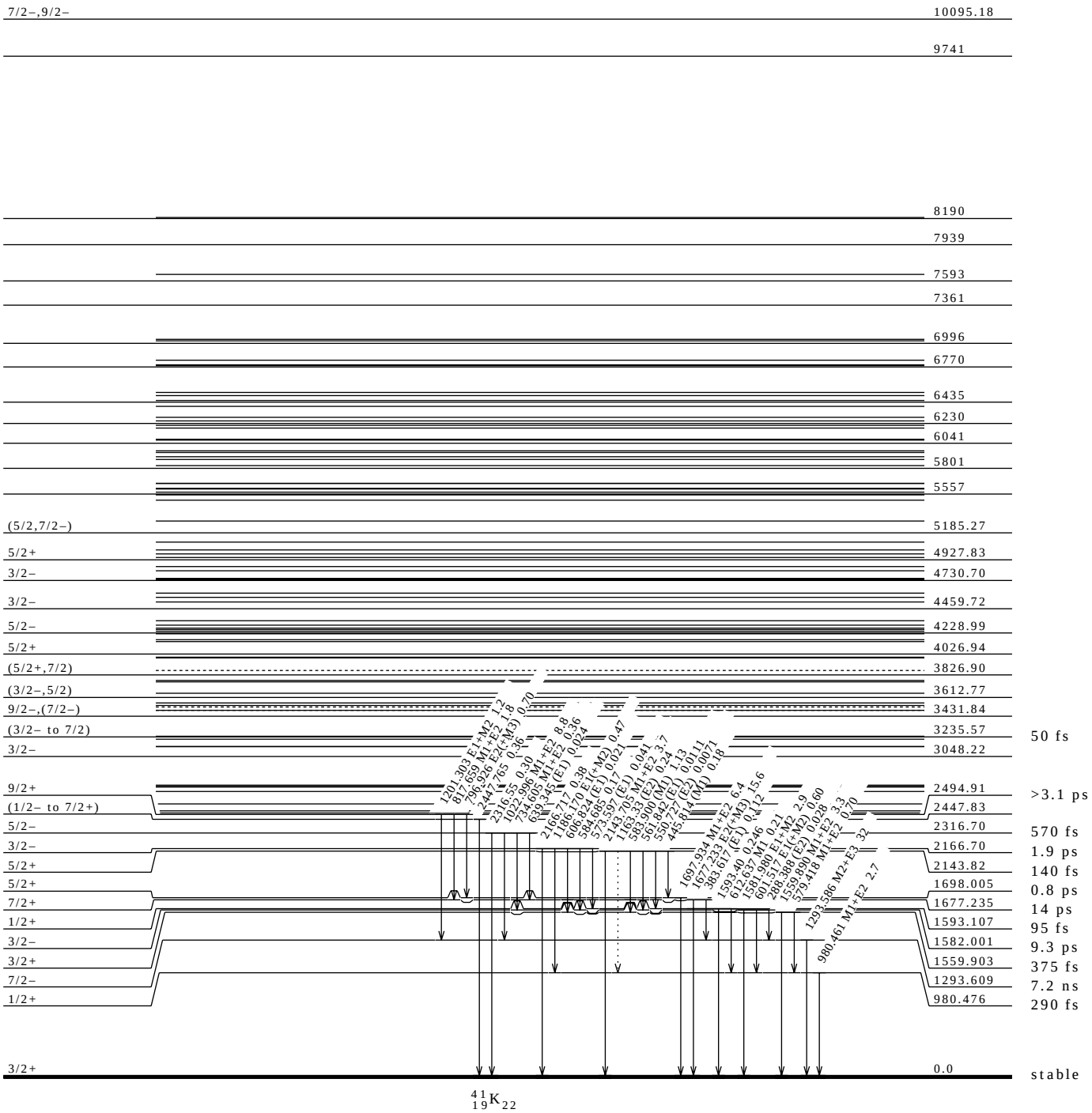
$^{41}_{19}K_{22}$

$^{41}_{19}K_{22}$

^{40}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{41}_{19}K_{22}$

^{41}K(n,γ) E=thermal 1985Kr06

Target Jπ=3/2+.
Measured Eγ, Iγ with ILL curved crystal bragg spectrometer and pair spectrometer.

^{42}K Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	0+	12.360 h *3*	%β⁻=100.
106.828 *7*	3−	285 ps *40*	
258.261 *8*	4−	130 ps *8*	
638.726 *12*	3−	<1.4 ns	
681.943 *11*	(2,3)		
699.08 *3*	5−	41 ps *8*	
783.87 *2*	2−		
841.940 *12*	3−		
1110.747 *17*	3+		
1143.590 *19*	4+	<1.4 ns	
1197.90 *2*	4−		
1254.820 *19*	(2,3)−		
1266.305 *18*	2−		
1273.54 *2*	(2− to 4+)		
1375.96 *10*	6+	1.1 ns *2*	
1377.12 *2*	(1,2,3)−		
1400.04 *5*	(2,3)		
1407.922 *19*	3+		
1453.07 *5*	(2− to 4−)		
1463.65 *2*	(1− to 3)		
1489.27 *9*			
1513.08 *4*			
1538.73 *7*	(3,5)+	<3 ps	
1692.00 *4*			
1723.42 *4*	(2 to 4+)		
1745.61 *3*	(2+ to 4+)		
1816.87 *3*	(2+ to 4+)		
1842.98 *3*	(1− to 3)		
1861.90 *2*	2−		
1913.48 *2*	(2−,3)		
1937.50 *2*	(1,2,3)−		
1987.97 *3*			
2049.32 *4*	3+		
2072.00 *4*	(2,3)−		
2161.62 *6*	(2+ to 4+)		
2187.20 *7*	3+		
2204.03 *6*	(2− to 4+)		
2238.62 *5*	(1,2,3)−		
2251.09 *5*			
2366.19 *5*	(2,3)−		
2388.83 *6*	3+		
2401.82 *5*	(2,3)−		
2422.13 *5*	(1− to 3)		
2482.16 *5*	(1,2,3)−		
2573.63 *6*	(2,3)		
2607.02 *6*	(1− to 3)		
2627.85 *6*	(2−,3)		
2644.31 *6*	3−		
2653.79 *11*	(2−,3)		
2718.12 *6*	(2−,3)		
2765.96 *6*	(2−,3)		
2862.71 *7*	(2−,3)		
2877.98 *6*	3−		
2917.02 *8*	(1− to 4+)		
2926.09 *6*	(2,3)−		
2938.59 *7*	(1− to 3)		
3008.35 *7*	3		
3014.46 *7*	(1− to 4+)		
3021.10 *7*	(2−,3)		
3040.15 *8*	3−		

Continued on next page (footnotes at end of table)

^{41}K(n,γ) E=thermal (continued)

^{42}K Levels (continued)

E(level)†	Jπ†	Comments
3195.82 *7*	(2−,3)	
3210.64 *7*	(2,3)−	
3233.92 *7*	(3,4+)	
3284.40 *7*	(2,3)−	
3287.19? *7*	(2− to 4+)	
3295.32? *9*	(2,3)	
3304.34 *9*		
3323.74? *8*	3−	
3367.34 *8*		
3418.45 *8*	(2,3)−	
3421.28 *8*		
3502.90 *8*	(2+ to 4+)	
3528.95 *17*		
3621.24 *9*	(2,3)	
3658.59 *8*	(2−,3)	
3674.15 *8*	(1− to 3)	
3696.44 *10*	(3−,4+)	
3770.64 *10*		
3794.64 *9*		
3798.15? *10*	(2− to 4+)	
3831.71? *10*	(1+ to 3)	
3861.99 *9*		
3876.98 *8*		
3888.34 *10*	(2,3)−	
3890.13? *9*		
3934.64 *10*	(2,3)	
4013.92 *9*		
4036.93 *11*	3−	
4039.95 *8*	(1+ to 3)	
4053.90 *9*	(2,3)−	
4103.77 *10*		
4105.3? *4*		
4128.34 *9*	3−	
4152.39 *9*	(2− to 4+)	
4155.67? *11*	(1− to 3)	
4179.44 *10*	(2− to 4+)	
4259.12? *10*	(1− to 3)	
4389.78 *15*	(2− to 4+)	
4416.61 *9*	(2,3)−	
4428.25 *9*	(1+ to 3)	
4443.15 *10*		
4481.05 *10*	(2,3)−	
4556.67 *10*	(1− to 3)	
4576.26 *10*	(2,3)−	
4590.59 *10*	(2− to 4+)	
4612.78? *11*	(2+,3)	
4660.73? *13*	(2−,3)	
4715.41? *17*	(2−,3)	
4748.54 *13*	(2,3)−	
4778.04 *12*		
4806.84 *10*	(1,2,3)−	
4853.60 *10*	(0 to 3)−	
4877		
4904		
4939		
4943		
4960		
5003		
5064		
5081		
5097		
5179		
5247		

Continued on next page (footnotes at end of table)

^{41}K(n,γ) E=thermal (continued)

^{42}K Levels (continued)

E(level)†	Jπ†	Comments
5319		
5477		
5630		
5697		
5711		
5760		
5790		
5847		
5954		
5978		
7533.77 *15*	1+,2+	E(level): from evaluated s(n) (95Au04). Jπ: from s–wave neutron capture. Observed deexcitation intensity is 89% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{42}K)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=1.46 b *3*.

Eγ	E(level)	Iγ†§	Mult.‡	δ‡	α
106.817 *7*	106.828	32.9 *66*	M1(+E2)	+0.01 *3*	0.00961
151.431 *3*	258.261	10.7 *22*	M1(+E2)	−0.008 *16*	0.00398
198.330 *86*	1453.07	0.366 *97*			
(232.37‡)	1375.96	0.0086‡ *6*	E2+M3	−0.04 *3*	
268.793 *8*	1110.747	1.76 *36*			
275.93 *12*	3934.64	0.177 *49*			
283.78 *12*	2765.96	0.167 *43*			
289.207 *89*	1400.04	0.223 *52*			
301.50 *14*	1143.590	0.126 *34*	(E1)		
376.708 *50*	2238.62	0.61 *14*			
378.198 *50*	2366.19	0.146 *38*			
380.473 *13*	638.726	2.50 *50*			
395.20 *38*	1538.73	0.135 *30*			
408.87 *15*	1861.90	0.067 *18*			
413.16 *16*	1254.820	0.059 *17*			
428.712 *47*	1110.747	0.203 *42*			
431.566 *16*	1273.54	2.89 *58*			
437.24 *18*	1692.00	0.048 *14*			
440.854 *18*	699.08	1.26 *25*	M1+E2	+0.102 *8*	
444.525 *19*	1143.590	0.92 *19*	(E1)		
450.97 *12*	2388.83	0.069 *17*			
454.009 *33*	1861.90	0.275 *56*			
504.828 *16*	1143.590	2.43 *36*	(E1)		
531.908 *15*	638.726	5.72 *86*			
537.17 *14*	2926.09	0.044 *10*			
544.68 *21*	2482.16	0.030 *8*			
550.297 *98*	1816.87	0.062 *12*			
559.225 *28*	1197.90	0.260 *40*			
562.072 *39*	1816.87	0.166 *26*			
569.475 *20*	1842.98	0.601 *90*			
571.847 *50*	2388.83	0.127 *20*			
575.041 *52*	681.943	0.117 *19*			
579.299 *57*	2422.13	0.104 *17*			
584.404 *42*	1266.305	0.470 *78*			
(592.25‡)	699.08	0.047‡ *12*	(E2)		
595.618 *17*	1861.90	0.83 *12*			
602.046 *22*	1745.61	0.375 *57*			
612.635 *50*	3014.46	0.201 *33*			
612.645 *50*	1723.42	0.81 *14*			
616.118 *14*	1254.820	2.32 *35*			

Continued on next page (footnotes at end of table)

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§	Mult.‡	δ‡
618.201 *80*	3040.15	0.095 *16*		
620.244 *16*	2482.16	1.05 *16*		
621.727 *16*	1463.65	1.34 *20*		
627.551 *15*	1266.305	1.56 *23*		
634.652 *57*	1273.54	0.094 *15*		
638.717 *14*	638.726	3.37 *51*		
663.24 *46*	1937.50	0.037 *8*		
671.149 *23*	1513.08	0.297 *45*		
676.87 *11*	1375.96	0.075 *14*	E1+M2	+0.025 *11*
678.341 *63*	2401.82	0.128 *21*		
681.932 *12*	681.943	15.5 *23*		
695.189 *17*	1377.12	0.92 *14*		
706.982 *81*	2644.31	0.059 *10*		
721.66 *16*	1987.97	0.030 *7*		
725.963 *33*	1407.922	0.157 *24*		
735.099 *14*	841.940	2.13 *32*		
761.312 *77*	1400.04	0.058 *10*		
766.205 *91*	2627.85	0.049 *9*		
783.903 *14*	783.87	2.75 *41*		
805.996# *28*	2877.98	0.178# *27*		
	4039.95	0.178# *27*		
811.492 *85*	3418.45	0.050 *9*		
817.047 *48*	3021.10	0.093 *15*		
828.462 *16*	2765.96	1.22 *18*		
830.892 *90*	1513.08	0.052 *9*		
841.895 *13*	841.940	13.2 *20*		
846.594 *47*	3008.35	0.095 *15*		
851.01 *20*	1489.27	0.021 *6*		
856.198 *32*	2718.12	0.147 *23*		
861.338 *64*	2607.02	0.067 *11*		
874.088 *19*	2072.00	0.520 *78*		
881.33 *11*	1723.42	0.038 *7*		
903.635 *21*	1745.61	0.426 *64*		
905.712 *19*	2049.32	0.611 *92*		
912.69 *23*	2401.82	0.019 *5*		
920.811 *62*	2644.31	0.072 *12*		
923.66 *19*	3861.99	0.028 *6*		
925.71 *24*	4428.25	0.129 *20*		
x934.486 *25*		0.236 *36*		
939.605 *17*	1197.90	1.15 *17*		
949.60 *20*	2204.03	0.036 *9*		
951.11 *14*	3890.13?	0.051 *10*		
958.215 *21*	2366.19	0.430 *65*		
964.496 *89*	2877.98	0.047 *8*		
972.200 *41*	2238.62	0.108 *17*		
977.524 *18*	2251.09	0.78 *12*		
986.453 *76*	4660.73?	0.059 *10*		
989.065 *21*	2366.19	0.375 *56*		
993.863 *23*	2401.82	0.297 *45*		
996.511 *16*	1254.820	1.43 *21*		
1001.005 *16*	1842.98	1.49 *22*		
1011.623 *30*	2388.83	0.210 *32*		
1015.233 *24*	1273.54	0.608 *92*		
1018.032 *21*	2161.62	0.404 *61*		
1027.03 *16*	3890.13?	0.025 *5*		
1034.900 *70*	2573.63	0.081 *13*		
1036.826 *31*	1143.590	0.204 *31*		
1043.78 *13*	2187.20	0.068 *14*		
1052.881 *34*	4943	0.162 *25*		
1071.509 *20*	1913.48	0.533 *80*		
1076.51 *12*	2187.20	0.041 *8*		
1080.17 *10*	3284.40	0.041 *7*		
1084.48 *12*	1723.42	0.039 *7*		

Continued on next page (footnotes at end of table)

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§
1091.088 *18*	1197.90	0.77 *12*
1110.767 *16*	1110.747	2.04 *31*
1121.704 *50*	2938.59	0.244 *71*
1122.744 *50*	2388.83	0.439 *90*
1128.202 *34*	2401.82	0.133 *20*
1135.398 *66*	2401.82	0.063 *10*
1147.24 *22*	2401.82	0.416 *63*
1153.606 *29*	1937.50	0.192 *29*
1155.987 *77*	4443.15	0.066 *11*
1166.808 *25*	1273.54	0.302 *46*
1179.921 *16*	1861.90	1.64 *25*
1195.02 *13*	1453.07	0.033 *6*
1197.992 *29*	1197.90	0.171 *26*
1204.080 *19*	1987.97	0.68 *10*
1207.363 *17*	2049.32	1.44 *22*
1213.51 *13*	4152.39	0.042 *8*
1217.32 *14*	3421.28	0.060 *12*
1223.294 *50*	1861.90	0.084 *13*
1229.894 *30*	2607.02	0.157 *24*
1254.796 *31*	1254.820	0.79 *13*
1255.521 *31*	1937.50	2.02 *31*
1266.305 *15*	1266.305	3.73 *56*
1301.008 *20*	1407.922	0.508 *76*
1319.32 *23*	2161.62	0.230 *35*
1329.81 *16*	3696.44	0.030 *6*
1340.942 *23*	2718.12	0.345 *52*
1352.020 *67*	2607.02	0.144 *22*
1361.535 *23*	2627.85	0.345 *52*
1368.70 *23*	3418.45	0.201 *30*
1377.065 *16*	1377.12	3.07 *46*
1382.22 *29*	1489.27	0.014 *4*
1391.44 *33*	3233.92	0.179 *27*
1399.781 *87*	1400.04	0.586 *88*
1403.481 *50*	2187.20	0.090 *14*
1407.898 *16*	1407.922	2.99 *45*
1430.74 *16*	3418.45	0.028 *5*
1433.274 *19*	2072.00	0.71 *11*
1451.745 *19*	2718.12	0.74 *11*
1454.53 *12*	2862.71	0.95 *14*
1463.592 *27*	1463.65	0.247 *37*
1470.088 *62*	2877.98	0.075 *12*
1472.999 *66*	2926.09	0.067 *11*
1485.601# *76*	2862.71	0.063# *10*
	2938.59	0.063# *10*
1500.37 *13*	2644.31	0.073 *15*
1501.85 *21*	3014.46	0.048 *12*
1509.924 *44*	4877	0.101 *16*
1520.277 *35*	2718.12	0.174 *26*
1555.500 *41*	7533.77	0.119 *18*
1558.718 *34*	3304.34	0.196 *30*
1565.468# *54*	3502.90	0.080# *12*
	4428.25	0.080# *12*
1568.99 *12*	2251.09	0.040 *7*
1571.815 *42*	3621.24	0.192 *29*
1572.85 *30*	4806.84	0.122 *30*
1574.47 *30*	3418.45	0.122 *30*
1580.318 *29*	7533.77	0.301 *45*
1585.101 *37*	1692.00	0.127 *19*
1596.62 *23*	2862.71	0.204 *31*
1602.079 *37*	3674.15	0.242 *37*
1603.597 *53*	1861.90	0.183 *37*
1604.357 *53*	3421.28	0.183 *37*
1606.952 *58*	5711	0.083 *13*
1616.84 *11*	1723.42	0.060 *10*
1622.525 *70*	2765.96	0.084 *13*
1640.181 *44*	2482.16	0.101 *15*
1644.553 *62*	3831.71?	0.066 *10*
1655.162 *33*	1913.48	0.213 *32*
1658.945 *94*	4576.26	0.049 *8*
1661.82 *36*	2917.02	0.083 *13*
1665.14# *14*	2862.71	0.029# *5*
	4053.90	0.029# *5*
1671.20 *11*	2926.09	0.045 *8*
1673.71# *11*	4039.95	0.052# *9*
	5711	0.052# *9*
1684.174 *53*	3888.34	0.110 *29*
1684.194 *53*	2366.19	0.110 *29*
1687.08 *10*	7533.77	0.042 *7*
1707.012 *65*	2388.83	0.131 *20*
1709.983 *25*	1816.87	0.98 *15*
x1735.047 *31*		0.268 *40*
1740.201 *29*	2422.13	0.395 *59*
1744.030 *37*	7533.77	0.146 *22*
1749.628 *48*	5790	0.147 *23*
1754.977 *28*	1861.90	0.484 *73*
1759.278 *64*	3621.24	0.066 *10*
1763.388 *71*	4152.39	0.068 *11*
1766.264 *28*	3021.10	0.487 *73*
1774.085 *45*	7533.77	0.155 *24*
1783.51 *12*	2422.13	0.394 *59*
1785.948 *63*	2627.85	0.210 *33*
1787.52 *26*	3195.82	0.173 *28*
x1797.26 *15*		0.069 *12*
1800.146 *40*	2482.16	0.234 *35*
1802.57 *11*	3210.64	0.088 *14*
1810.512 *99*	3008.35	0.069 *11*
1812.50# *18*	3674.15	0.037# *7*
	5097	0.037# *7*
1818.32 *23*	3195.82	0.138 *21*
1823.179 *30*	7533.77	0.340 *51*
1830.42 *23*	1937.50	0.161 *24*
1833.884 *50*	3233.92	0.115 *18*
1836.548 *43*	7533.77	0.138 *21*
1842.946 *26*	1842.98	1.12 *17*
1861.855 *24*	1861.90	3.43 *51*
1864.683 *54*	3008.35	0.123 *19*
x1872.97 *18*		0.021 *5*
1877.127 *55*	4128.34	0.222 *33*
1881.097 *30*	3794.64	0.368 *55*
1891.917 *49*	5179	0.089 *14*
1900.494# *92*	3888.34	0.049# *8*
	5319	0.049# *8*
1903.405 *89*	7533.77	0.051 *8*
1909.899 *53*	3287.19?	0.083 *13*
1913.79 *34*	1913.48	0.011 *3*
1921.61 *15*	4943	0.026 *5*
1934.161 *33*	2718.12	0.278 *42*
1937.484 *26*	1937.50	1.50 *23*
1941.216 *70*	4128.34	0.064 *10*
1945.688 *30*	2204.03	0.415 *62*
x1948.894 *65*		0.087 *14*
1962.294 *29*	2644.31	0.502 *75*
1965.096 *29*	2072.00	0.483 *73*
1968.083 *85*	2607.02	0.060 *10*
1976.640 *52*	3890.13?	0.106 *16*
1985.20 *12*	4612.78?	0.042 *7*

Continued on next page (footnotes at end of table)

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§
1987.999 *76*	1987.97	0.112 *17*
1990.197 *87*	3367.34	0.088 *14*
1998.11 *11*	3195.82	0.067 *12*
2006.00 *31*	2644.31	0.033 *10*
2012.086 *87*	4778.04	0.142 *16*
2014.36 *19*	4416.61	0.136 *15*
2020.828 *57*	2862.71	0.416 *42*
2023.76 *11*	4389.78	0.075 *9*
2027.35 *19*	4416.61	0.035 *6*
2030.274 *81*	4748.54	0.163 *17*
x2034.258 *68*		0.249 *28*
2035.910 *99*	3233.92	0.129 *17*
2050.02 *10*	3502.90	0.093 *11*
2056.85 *12*	7533.77	0.063 *9*
2060.99 *18*	4939	0.034 *7*
2065.16 *11*	3528.95	0.086 *12*
2071.946 *36*	2072.00	2.16 *22*
2076.855 *54*	5003	0.201 *24*
2076.895 *54*	4443.15	0.100 *16*
2083.939 *39*	2765.96	1.35 *14*
2086.528 *54*	3284.40	0.412 *42*
2089.75 *36*	3233.92	0.104 *12*
2094.05# *11*	2877.98	0.069# *9*
	4576.26	0.069# *9*
2096.60 *12*	2938.59	0.065 *8*
2101.26 *21*	3367.34	0.027 *6*
2107.92 *15*	2366.19	0.037 *7*
2113.09 *23*	3367.34	0.033 *8*
2115.55 *18*	4103.77	0.100 *22*
2116.83 *35*	3861.99	0.122 *24*
2119.72 *14*	3658.59	0.055 *8*
x2122.196 *99*		0.089 *11*
2125.60 *13*	3502.90	0.049 *8*
x2128.43 *10*		0.081 *10*
2131.86 *28*	2238.62	0.021 *7*
2138.42 *10*	3861.99	0.112 *13*
2143.432 *49*	2401.82	0.663 *67*
x2148.804 *85*		0.165 *18*
x2156.341 *79*		0.194 *20*
2163.29 *11*	3418.45	0.100 *12*
2166.376 *57*	3008.35	0.417 *42*
2172.71 *25*	3014.46	0.028 *6*
2179.044# *80*	2877.98	0.179# *20*
	4806.84	0.179# *20*
2184.45 *14*	3295.32?	0.067 *9*
2188.20 *18*	4590.59	0.104 *19*
2189.90 *19*	4103.77	0.106 *18*
2192.79 *23*	3304.34	0.044 *8*
2195.95 *10*	2877.98	0.105 *12*
2199.61 *13*	4806.84	0.060 *9*
2215.11 *20*	7533.77	0.183 *30*
2220.569 *46*	3418.45	0.579 *58*
2238.557 *35*	2238.62	2.17 *22*
x2240.558 *53*		0.378 *40*
2243.247 *91*	3696.44	0.098 *11*
2259.282 *35*	2366.19	2.14 *21*
2262.79 *16*	3528.95	0.040 *6*
2266.550 *74*	4128.34	0.151 *16*
2281.90 *10*	2388.83	0.075 *9*
2287.123 *49*	7533.77	0.464 *47*
2294.976 *34*	2401.82	3.07 *31*
x2298.874 *81*		0.125 *13*
2307.39 *10*	3418.45	0.072 *8*
2315.191 *38*	2422.13	1.45 *14*
2319.695 *75*	3696.44	0.144 *15*
2325.11 *12*	4576.26	0.053 *7*
2332.50# *11*	3014.46	0.074# *9*
	5954	0.074# *9*
2334.63 *17*	5630	0.047 *7*
2338.486 *79*	5760	0.123 *13*
2341.09# *19*	3040.15	0.033# *5*
	5760	0.033# *5*
2354.546 *78*	7533.77	0.132 *14*
2359.173 *55*	3502.90	0.326 *33*
2366.129 *35*	2366.19	3.92 *39*
2369.91 *27*	2627.85	0.171 *18*
2372.68 *11*	3861.99	0.075 *9*
2375.354 *76*	2482.16	0.138 *15*
2381.83 *26*	4128.34	0.179 *18*
2384.990 *76*	3658.59	0.135 *14*
2388.813 *50*	2388.83	0.442 *45*
2392.139 *55*	3658.59	0.325 *33*
2395.526 *64*	2653.79	0.212 *22*
2397.834 *89*	3798.15?	0.096 *11*
2401.717 *54*	2401.82	0.335 *34*
2403.839 *68*	3658.59	0.177 *19*
2408.82 *11*	4612.78?	0.064 *9*
2411.92 *26*	3195.82	0.067 *19*
2413.34 *17*	3876.98	0.104 *21*
2422.20 *11*	2422.13	0.072 *9*
2436.645 *52*	7533.77	0.330 *33*
2441.02 *13*	5319	0.041 *6*
2450.82# *14*	4612.78?	0.091# *17*
	5954	0.091# *17*
2452.360 *77*	7533.77	0.227 *26*
2455.04# *12*	4443.15	0.056# *7*
	5760	0.056# *7*
2460.94 *26*	3658.59	0.224 *23*
2466.688 *58*	2573.63	0.281 *28*
2469.811 *56*	7533.77	0.301 *30*
2476.787 *63*	3876.98	0.211 *21*
2480.28 *14*	3888.34	0.062 *9*
2482.21 *20*	2482.16	0.044 *7*
2485.25 *28*	3861.99	0.028 *6*
2487.418 *71*	4853.60	0.153 *16*
2490.651 *68*	4428.25	0.171 *18*
2493.18 *14*	4481.05	0.043 *6*
2500.454 *49*	3284.40	0.505 *51*
2504.34# *13*	3770.64	0.038# *5*
	4576.26	0.038# *5*
x2508.145 *84*		0.097 *10*
2520.730 *89*	2627.85	0.110 *12*
2523.295 *75*	5097	0.132 *14*
x2526.253 *66*		0.180 *19*
2530.769 *62*	7533.77	0.333 *35*
x2533.168 *91*		0.090 *10*
2537.357 *72*	2644.31	0.146 *16*
2542.11 *13*	5847	0.045 *6*
2550.12 *11*	4013.92	0.052 *7*
2554.93 *12*	4416.61	0.064 *9*
2556.935 *71*	3195.82	0.137 *15*
2561.53 *12*	4748.54	0.038 *5*
2566.859 *85*	4259.12?	0.089 *10*
2573.54 *16*	2573.63	0.150 *42*
2574.57 *20*	7533.77	0.120 *41*
2580.792 *91*	5003	0.074 *9*

Continued on next page (footnotes at end of table)

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§
2585.61 *20*	3696.44	0.019 *5*
2590.811 *61*	7533.77	0.197 *20*
2594.91 *37*	7533.77	0.129 *15*
2599.421 *79*	4416.61	0.102 *11*
2602.764 *99*	4806.84	0.059 *7*
2606.36 *26*	4013.92	0.169 *17*
x2617.476 *85*		0.083 *9*
2622.61 *16*	3304.34	0.042 *7*
2624.65 *19*	3323.74?	0.042 *6*
2627.74 *10*	2627.85	0.091 *11*
2629.79 *10*	7533.77	0.125 *14*
2632.029 *82*	4039.95	0.101 *11*
2648.382 *63*	3287.19?	0.181 *19*
2653.56 *10*	2653.79	0.055 *7*
2656.434 *71*	7533.77	0.128 *13*
2660.49 *17*	3502.90	0.026 *4*
2664.15 *12*	4481.05	0.070 *9*
2666.13 *11*	4179.44	0.074 *10*
x2672.02 *14*		0.038 *6*
x2678.088 *96*		0.102 *12*
2680.154 *44*	7533.77	0.619 *62*
2685.170 *83*	3367.34	0.087 *10*
2687.54 *11*	3798.15?	0.065 *8*
2691.065 *69*	4155.67?	0.137 *14*
2695.131 *81*	5097	0.093 *10*
2700.177 *97*	4939	0.059 *7*
2706.03 *12*	4778.04	0.035 *5*
2710.02 *42*	5477	0.009 *3*
x2717.292 *70*		0.137 *14*
2720.05 *25*	4128.34	0.301 *30*
2726.898 *40*	7533.77	1.11 *11*
2730.74 *11*	5097	0.044 *5*
2740.083 *55*	4013.92	0.270 *27*
2745.19 *10*	3528.95	0.065 *8*
2747.662 *72*	4013.92	0.121 *13*
2751.51 *36*	4128.34	0.184 *19*
2755.70 *50*	7533.77	0.154 *16*
2762.47 *10*	3021.10	0.061 *7*
2765.799 *39*	2765.96	1.61 *16*
2770.75 *13*	2877.98	0.036 *5*
2774.04 *29*	4590.59	0.066 *7*
2779.633 *61*	3418.45	0.187 *20*
2781.844 *51*	4036.93	0.352 *36*
2784.84 *28*	7533.77	0.114 *12*
2787.391 *72*	4053.90	0.165 *17*
x2789.735 *55*		0.266 *27*
2810.148 *62*	2917.02	0.183 *19*
x2814.13 *20*		0.023 *4*
2817.67 *27*	7533.77	0.098 *10*
2820.84 *20*	3502.90	0.031 *4*
2823.40 *19*	3934.64	0.029 *4*
x2827.245 *89*		0.070 *8*
2832.134 *58*	3674.15	0.221 *22*
x2846.094 *52*		0.325 *33*
2854.71 *10*	4128.34	0.054 *6*
x2860.49 *10*		0.161 *22*
2862.021 *76*	4128.34	0.232 *27*
2873.62 *35*	7533.77	0.233 *24*
2878.10 *16*	2877.98	0.024 *4*
2881.44 *24*	5760	0.017 *4*
2887.15 *22*	4960	0.016 *3*
2896.23 *29*	5760	0.025 *6*
2898.28 *11*	4715.41?	0.064 *8*
2907.35 *14*	3014.46	0.408 *41*
x2913.563 *93*		0.061 *7*
2919.89 *60*	7533.77	0.246 *69*
2926.008 *52*	2926.09	0.338 *34*
2938.376 *61*	2938.59	0.190 *19*
2943.149 *49*	7533.77	0.431 *44*
2945.07 *14*	4806.84	0.067 *10*
2952.856 *63*	4416.61	0.170 *17*
2957.388 *51*	7533.77	0.361 *36*
2961.110 *87*	4778.04	0.069 *8*
2964.633 *63*	4428.25	0.167 *17*
2977.037 *47*	7533.77	0.535 *54*
2981.69# *19*	4179.44	0.027# *4*
	4389.78	0.027# *4*
2984.32 *12*	4128.34	0.061 *7*
2987.07 *17*	3770.64	0.030 *4*
2991.87 *10*	3674.15	0.071 *9*
2997.69 *24*	3696.44	0.020 *4*
3008.278 *86*	3008.35	0.135 *8*
3010.543 *81*	3794.64	0.176 *10*
3014.64 *26*	3696.44	0.222 *12*
3021.071 *75*	3021.10	0.308 *16*
3025.544 *88*	4939	0.119 *7*
3028.887 *73*	3287.19?	0.407 *21*
3034.899 *71*	3876.98	0.484 *24*
3039.915 *81*	3040.15	0.305 *23*
3052.689 *69*	7533.77	0.795 *40*
3065.38 *19*	3323.74?	0.024 *3*
3077.33 *10*	4590.59	0.074 *5*
3080.10# *26*	5319	0.019# *3*
	5847	0.019# *3*
3088.47 *11*	3770.64	0.095 *8*
3090.553 *93*	7533.77	0.213 *12*
3092.856 *87*	4556.67	0.136 *9*
3105.486 *70*	7533.77	0.860 *43*
x3110.292 *76*		0.291 *16*
3112.498# *87*	3794.64	0.145# *9*
	4576.26	0.145# *9*
3117.039 *69*	7533.77	1.259 *63*
x3120.98 *16*		0.037 *3*
x3123.853 *96*		0.095 *6*
3126.83# *10*	3233.92	0.099# *6*
	4590.59	0.099# *6*
3144.36 *11*	7533.77	0.282 *14*
3150.87 *11*	3934.64	0.057 *4*
3160.038 *75*	3418.45	0.346 *19*
3161.657 *81*	4416.61	0.222 *27*
3161.816 *81*	4428.25	0.221 *27*
3177.25 *16*	3284.40	0.195 *11*
3180.00 *19*	3861.99	0.188 *40*
x3181.20 *16*		0.183 *43*
3185.088 *93*	4877	0.096 *5*
3188.90 *28*	3295.32?	0.013 *2*
3195.593 *79*	3195.82	0.255 *13*
3206.66 *22*	3888.34	0.019 *2*
3210.462 *80*	3210.64	0.219 *11*
3216.47 *19*	3323.74?	0.044 *6*
3220.894 *87*	5064	0.138 *7*
3223.99 *32*	3861.99	0.016 *3*
x3226.967 *98*		0.079 *5*
x3234.13 *12*		0.040 *3*
x3238.49 *11*		0.075 *6*
x3240.727 *83*		0.180 *10*

Continued on next page (footnotes at end of table)

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§
3252.93 *13*	4660.73?	0.044 *4*
3258.01 *31*	5247	0.020 *4*
3265.39 *16*	5179	0.030 *3*
3269.86 *16*	4053.90	0.022 *2*
3274.469 *89*	7533.77	0.120 *7*
3278.85 *23*	4389.78	0.032 *5*
3280.80 *73*	5003	0.019 *5*
3283.44 *18*	4556.67	0.090 *8*
3285.59 *40*	4128.34	0.043 *6*
x3287.91 *16*		0.076 *7*
3290.62 *23*	4556.67	0.024 *3*
3295.16 *11*	3295.32?	0.051 *4*
3310.396 *77*	4152.39	0.348 *18*
3312.74 *10*	4155.67?	0.082 *6*
3317.11 *19*	4428.25	0.019 *2*
3321.651 *85*	4105.3?	0.189 *12*
3323.691 *87*	3323.74?	0.210 *12*
3338.36 *23*	4036.93	0.047 *4*
3342.50 *20*	4806.84	0.019 *2*
3346.01# *23*	4612.78?	0.023# *3*
	5954	0.023# *3*
3350.64 *14*	5978	0.115 *14*
3354.221 *85*	7533.77	0.166 *9*
x3366.79 *11*		0.075 *6*
3367.195 *84*	3367.34	0.098 *13*
3370.045 *84*	4481.05	0.207 *26*
3379.073 *82*	7533.77	0.215 *12*
3381.313 *75*	7533.77	0.652 *33*
3394.24 *12*	4660.73?	0.041 *3*
3399.51 *27*	3658.59	0.102 *6*
3405.337 *73*	7533.77	2.07 *10*
x3410.66 *13*		0.036 *3*
x3414.362 *90*		0.126 *7*
3417.07 *16*	4259.12?	0.040 *4*
3421.085 *77*	3421.28	0.529 *27*
3427.933 *82*	7533.77	0.232 *14*
3429.868 *81*	7533.77	0.250 *15*
x3439.12 *10*		0.071 *4*
3446.56 *10*	4960	0.066 *4*
3450.39 *13*	4904	0.142 *18*
x3455.184 *84*		0.203 *11*
3459.36 *11*	5711	0.060 *4*
3465.261 *99*	4576.26	0.081 *5*
3468.989# *85*	4612.78?	0.182# *10*
	4877	0.182# *10*
x3474.274 *83*		0.219 *11*
3479.730# *80*	4590.59	0.311# *16*
	7533.77	0.311# *16*
x3483.49 *15*		0.027 *3*
3489.449 *78*	4128.34	0.496 *25*
3493.765 *87*	7533.77	0.160 *9*
3496.667 *78*	7533.77	0.472 *24*
3501.70 *27*	5247	0.012 *2*
3514.40 *12*	3621.24	0.044 *3*
3519.729 *75*	7533.77	1.445 *72*
x3524.376 *95*		0.109 *7*
3528.78 *17*	3528.95	0.092 *18*
3539.88 *13*	3798.15?	0.034 *3*
x3548.45 *20*		0.033 *3*
3551.83 *10*	4806.84	0.070 *4*
x3565.364 *89*		0.152 *8*
3574.58 *20*	4416.61	0.028 *4*
3576.98 *11*	4259.12?	0.061 *5*
3582.50 *15*	4960	0.026 *2*
3589.451 *85*	3696.44	0.218 *11*
x3594.07 *15*		0.026 *2*
3599.026 *82*	7533.77	0.339 *17*
x3610.109 *95*		0.101 *6*
3624.83 *14*	5697	0.025 *2*
3638.65 *16*	4481.05	0.024 *2*
3643.457 *83*	7533.77	0.336 *19*
3645.26 *10*	7533.77	0.151 *12*
3656.628 *79*	7533.77	0.729 *37*
3659.96 *16*	5477	0.033 *3*
3671.701 *79*	7533.77	0.866 *43*
x3688.195 *83*		0.332 *17*
x3698.33 *15*		0.042 *3*
3701.911 *94*	7533.77	0.117 *6*
3707.96 *12*	4389.78	0.039 *3*
3714.28 *17*	4556.67	0.019 *2*
x3727.98 *11*		0.057 *3*
x3732.40 *14*		0.044 *3*
3735.515 *88*	7533.77	0.201 *11*
3738.943 *81*	7533.77	0.767 *39*
x3752.52 *13*		0.051 *4*
3755.063 *93*	3861.99	0.139 *8*
x3759.14 *12*		0.040 *3*
3763.033 *97*	7533.77	0.102 *5*
3769.86 *11*	3876.98	0.069 *4*
3777.695 *91*	4416.61	0.067 *7*
3790.359 *91*	5064	0.164 *9*
3794.82 *12*	3794.64	0.040 *3*
3801.25 *17*	5790	0.018 *2*
3814.80 *27*	5081	0.026 *6*
3816.80 *14*	5978	0.060 *6*
3827.56 *12*	3934.64	0.045 *3*
3831.32 *11*	3831.71?	0.063 *4*
3837.269 *83*	7533.77	0.963 *48*
3842.41 *12*	4481.05	0.043 *3*
3859.477 *85*	7533.77	0.521 *26*
x3862.889 *93*		0.173 *9*
3869.12 *10*	5247	0.082 *5*
3874.66 *40*	4556.67	0.242 *29*
3875.048 *86*	7533.77	0.801 *48*
3881.34 *20*	5954	0.016 *2*
3889.93 *10*	3890.13?	0.104 *6*
3893.969 *94*	4152.39	0.157 *8*
x3901.538 *94*		0.166 *9*
3912.277 *88*	7533.77	0.350 *18*
x3914.57 *18*		0.040 *5*
3935.39 *19*	4778.04	0.017 *2*
x3943.942 *97*		0.142 *7*
x3952.660 *95*		0.169 *9*
x3971.64 *15*		0.022 *2*
4005.79 *23*	7533.77	0.104 *6*
4013.766 *89*	4013.92	0.732 *37*
x4020.19 *13*		0.034 *2*
4022.79 *36*	4806.84	0.301 *15*
4030.702 *94*	7533.77	0.258 *13*
4033.35 *39*	4715.41?	0.036 *4*
4037.16 *27*	4036.93	0.024 *3*
4039.64 *15*	4039.95	0.043 *4*
4048.91 *29*	4748.54	0.063 *4*
4053.64 *12*	4053.90	0.047 *3*
x4057.92 *12*		0.055 *4*
x4064.34 *11*		0.065 *4*

Continued on next page (footnotes at end of table)

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

Eγ	E(level)	Iγ†§
4095.81 *18*	4778.04	0.019 *2*
4101.15 *17*	4943	0.021 *2*
4105.75 *12*	4105.3?	0.062 *4*
4112.197 *94*	7533.77	0.588 *30*
4115.153 *92*	7533.77	1.718 *86*
4120.72 *11*	5319	0.091 *5*
4124.16 *33*	4806.84	0.014 *2*
4127.93 *14*	4128.34	0.045 *3*
4131.35 *23*	4389.78	0.021 *2*
4140.35 *28*	5630	0.011 *2*
4154.22 *12*	4155.67?	0.050 *3*
4158.77 *34*	4416.61	0.009 *2*
4166.198 *99*	7533.77	0.321 *16*
x4173.09 *12*		0.060 *4*
x4182.98 *15*		0.025 *2*
4203.80 *23*	4904	0.016 *2*
4209.94 *10*	7533.77	0.226 *12*
x4212.71 *13*		0.055 *4*
4218.71 *25*	5003	0.012 *2*
4229.38 *11*	7533.77	0.210 *11*
4233.87 *22*	5697	0.018 *2*
4238.31 *11*	7533.77	0.219 *11*
4246.39 *12*	7533.77	0.120 *7*
4249.24 *10*	7533.77	0.914 *46*
4254.09 *20*	5630	0.018 *2*
4258.95 *13*	4259.12?	0.042 *3*
4270.35 *16*	5760	0.021 *2*
x4294.41 *24*		0.014 *2*
4299.708 *94*	7533.77	0.490 *25*
4309.58 *12*	4416.61	0.049 *3*
4319.907 *99*	5697	0.190 *10*
4322.901 *94*	7533.77	0.460 *23*
4331.51 *35*	4590.59	0.022 *2*
4337.706 *93*	7533.77	0.827 *41*
4365.99 *41*	5477	0.007 *2*
x4371.429 *98*		0.228 *12*
4374.04 *10*	4481.05	0.149 *8*
4399.00 *18*	5081	0.027 *2*
4402.48 *21*	4660.73?	0.052 *6*
4404.62 *11*	5247	0.134 *9*
x4410.83 *15*		0.025 *2*
4416.314 *99*	4416.61	0.217 *11*
4425.20 *10*	5064	0.141 *8*
x4432.87 *15*		0.031 *2*
4442.06 *11*	5081	0.076 *4*
4457.34 *33*	4715.41?	0.012 *2*
4465.44 *29*	5978	0.009 *2*
x4472.85 *14*		0.026 *2*
4481.16 *18*	4481.05	0.040 *4*
4483.67 *30*	4590.59	0.035 *4*
4493.405 *96*	7533.77	0.435 *22*
x4504.02 *12*		0.073 *5*
4512.495 *94*	7533.77	1.257 *63*
4519.109 *95*	7533.77	0.638 *32*
4525.184 *95*	7533.77	0.892 *45*
4534.97 *13*	5319	0.045 *3*
x4568.52 *11*		0.107 *6*
x4581.67 *22*		0.015 *2*
4594.977 *97*	7533.77	0.517 *26*
4601.31 *21*	5978	0.017 *2*
4607.477 *98*	7533.77	0.440 *22*
4612.29 *62*	4612.78?	0.007 *2*
4616.58 *10*	7533.77	0.274 *14*
4636.57 *20*	5319	0.016 *2*
4645.03 *11*	4904	0.077 *4*
4655.619 *98*	7533.77	0.578 *29*
4670.931 *99*	7533.77	0.465 *23*
x4675.94 *15*		0.027 *2*
x4686.38 *11*		0.081 *4*
4693.08 *35*	5477	0.009 *2*
4698.54 *11*	5954	0.148 *8*
x4709.19 *22*		0.014 *2*
4714.72 *53*	4715.41?	0.007 *2*
x4731.14 *17*		0.020 *2*
4734.52 *44*	5847	0.008 *2*
x4745.37 *23*		0.023 *3*
4747.87 *38*	4748.54	0.014 *3*
4767.568 *97*	7533.77	4.11 *21*
4815.352 *99*	7533.77	1.461 *73*
x4826.89 *16*		0.030 *2*
x4830.94 *17*		0.027 *2*
4853.29 *11*	4853.60	0.205 *10*
x4861.33 *11*		0.165 *9*
4880.55 *37*	7533.77	0.062 *4*
4889.17 *10*	7533.77	0.943 *47*
4895.69 *28*	5003	0.012 *2*
4905.67 *10*	7533.77	0.587 *29*
4926.46 *10*	7533.77	0.592 *30*
4938.54 *13*	4939	0.049 *3*
4959.88 *10*	7533.77	0.368 *19*
x4985.71 *14*		0.042 *3*
x5031.31 *12*		0.121 *8*
5051.32 *10*	7533.77	2.01 *10*
5057.60 *31*	5697	0.013 *2*
5080.94 *13*	5081	0.059 *3*
5096.55 *15*	5097	0.029 *2*
5111.39 *10*	7533.77	2.01 *10*
5131.64 *10*	7533.77	3.69 *18*
5144.68 *11*	7533.77	1.030 *52*
5167.28 *10*	7533.77	6.56 *33*
x5227.95 *73*		0.005 *2*
x5239.85 *22*		0.017 *2*
5282.38 *11*	7533.77	0.540 *27*
5294.82 *11*	7533.77	2.65 *13*
x5316.71 *24*		0.013 *2*
5328.22 *28*	7533.77	0.125 *6*
5339.22 *14*	5978	0.049 *3*
5346.34 *13*	7533.77	0.058 *3*
5371.91 *11*	7533.77	0.383 *19*
x5405.17 *23*		0.013 *1*
5452.25 *16*	5711	0.028 *2*
5461.44 *11*	7533.77	2.52 *13*
5484.12 *11*	7533.77	1.818 *91*
5595.93 *11*	7533.77	1.365 *68*
5671.50 *12*	7533.77	3.71 *19*
5690.44 *12*	7533.77	2.26 *11*
5716.54 *12*	7533.77	0.187 *10*
5787.79 *13*	7533.77	0.155 *8*
5810.00 *12*	7533.77	0.633 *32*
x5828.69 *24*		0.011 *1*
x5840.01 *21*		0.013 *1*
x5852.66 *16*		0.030 *2*
x5857.96 *46*		0.005 *1*
x5959.42 *18*		0.022 *1*
x6047.65 *39*		0.005 *1*
6069.65 *13*	7533.77	0.310 *16*

Continued on next page (footnotes at end of table)

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

γ(^{42}K) (continued)

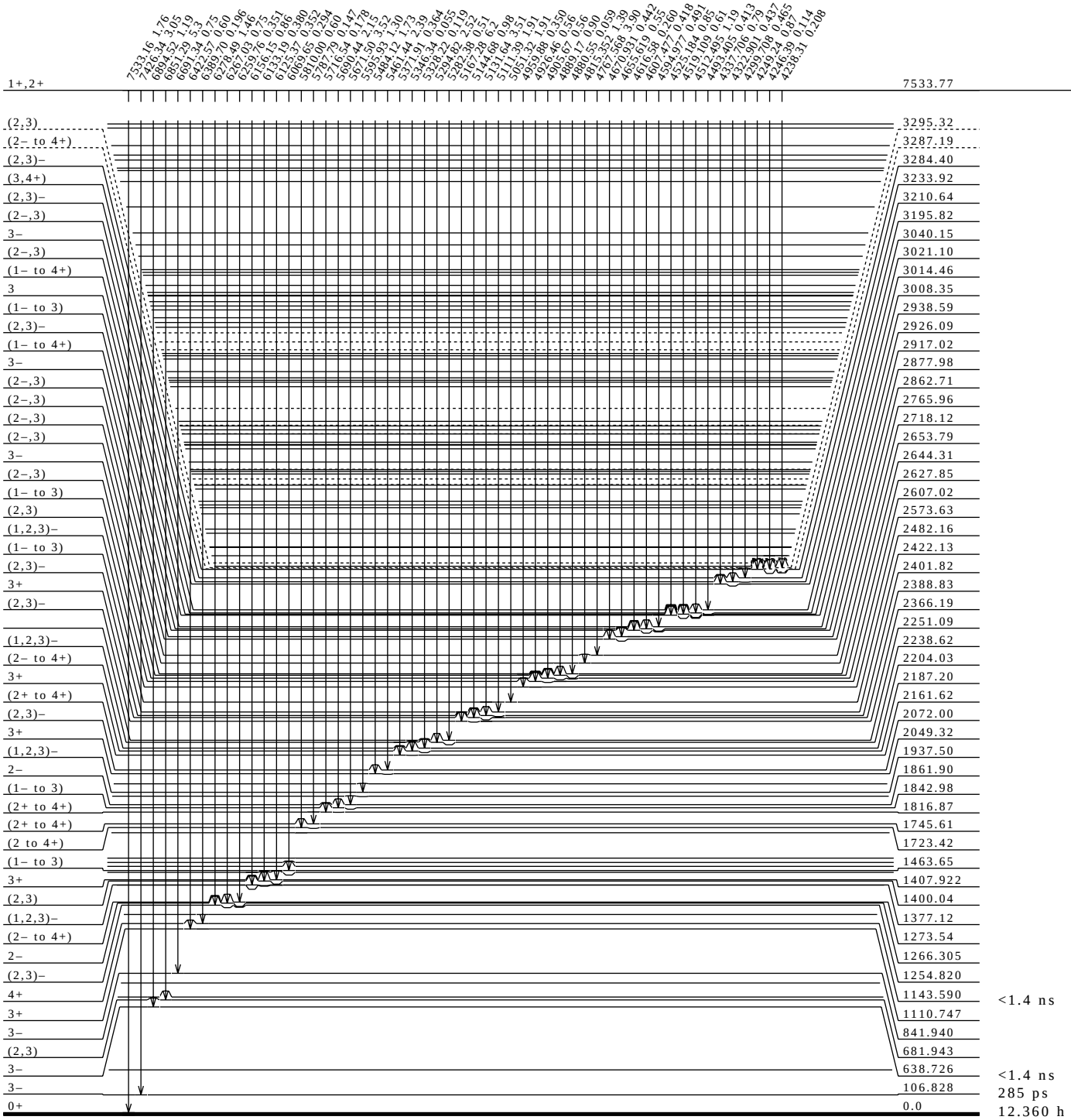
Eγ	E(level)	Iγ†§	Eγ	E(level)	Iγ†§
6125.37 *13*	7533.77	0.370 *19*	6851.29 *14*	7533.77	5.63 *28*
6133.19 *16*	7533.77	0.400 *20*	6894.52 *14*	7533.77	1.252 *63*
6156.15 *13*	7533.77	0.901 *45*	7426.34 *15*	7533.77	3.21 *16*
6259.76 *13*	7533.77	0.369 *19*	7533.16 *15*	7533.77	1.857 *93*
6267.03 *13*	7533.77	0.785 *39*			
6278.49 *13*	7533.77	1.536 *77*			
6389.70 *14*	7533.77	0.206 *10*			
6422.57 *13*	7533.77	0.635 *32*			
6691.34 *14*	7533.77	0.785 *39*			

† Relative γ–ray intensity per 100 neutron captures.
‡ From adopted gammas.
§ For intensity per 100 neutron captures, multiply by 0.95.
# Multiply placed; undivided intensity given.
x γ ray not placed in level scheme.

^{41}K(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



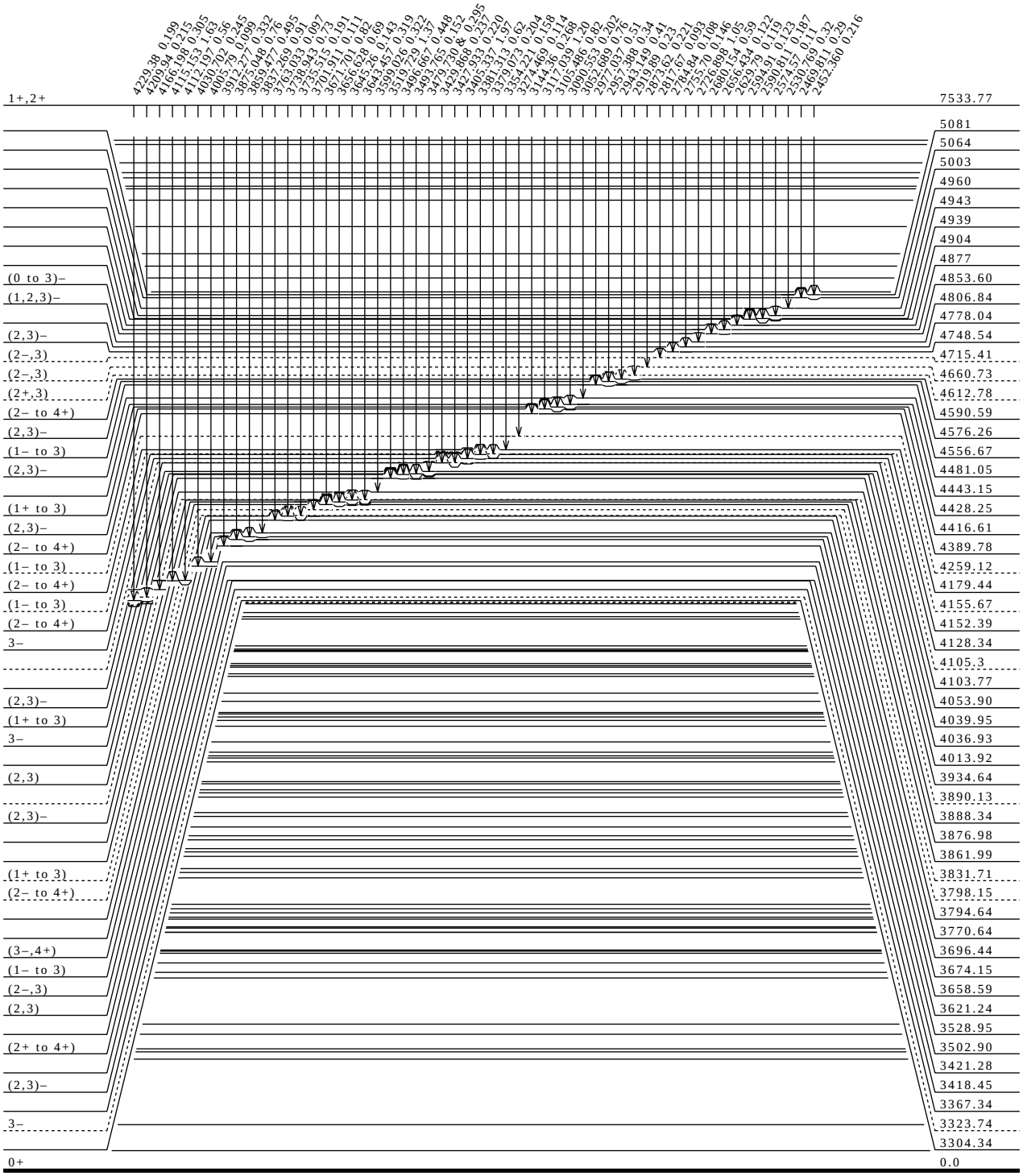
$^{42}_{19}K_{23}$

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



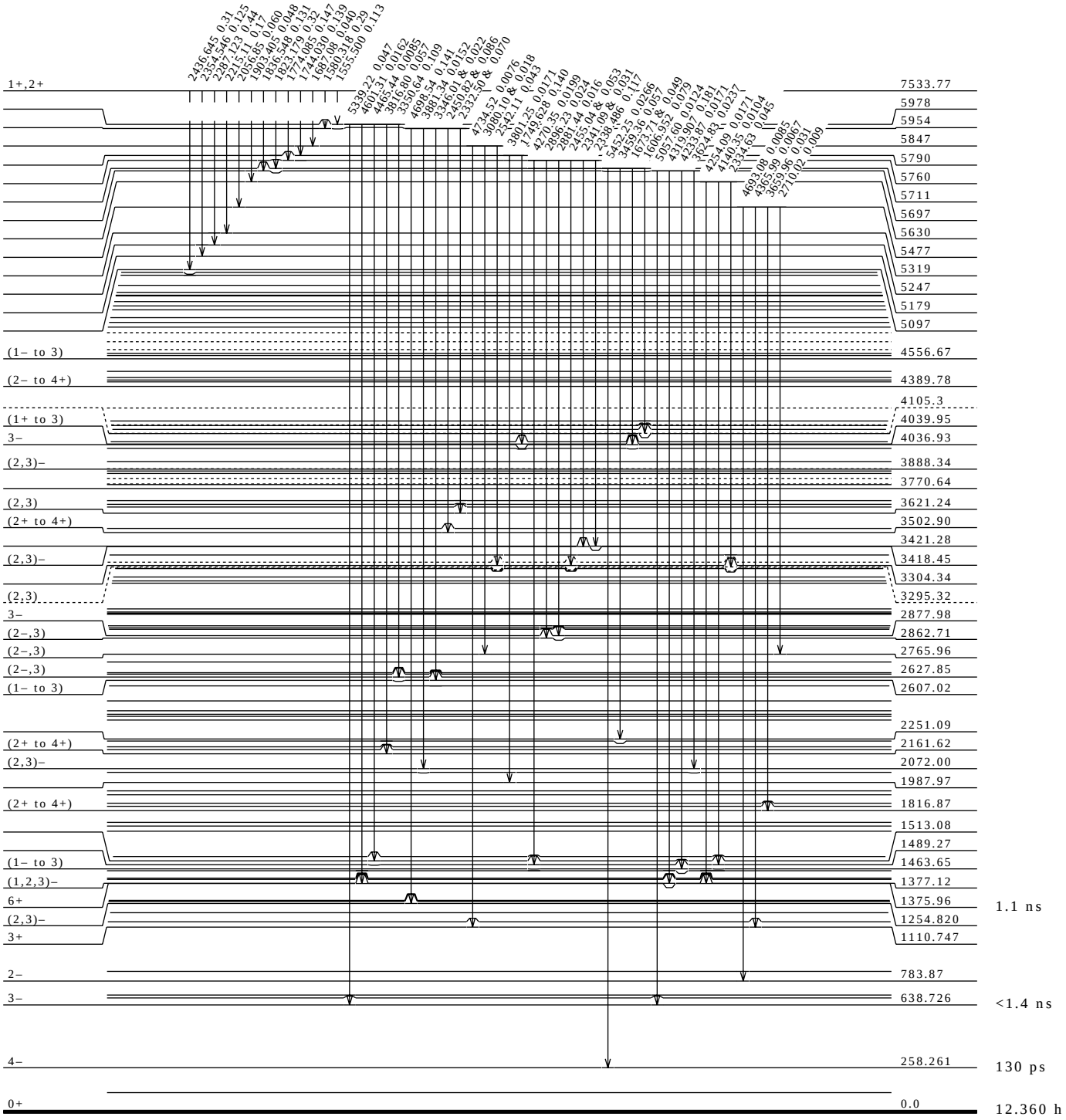
$^{42}_{19}K_{23}$

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

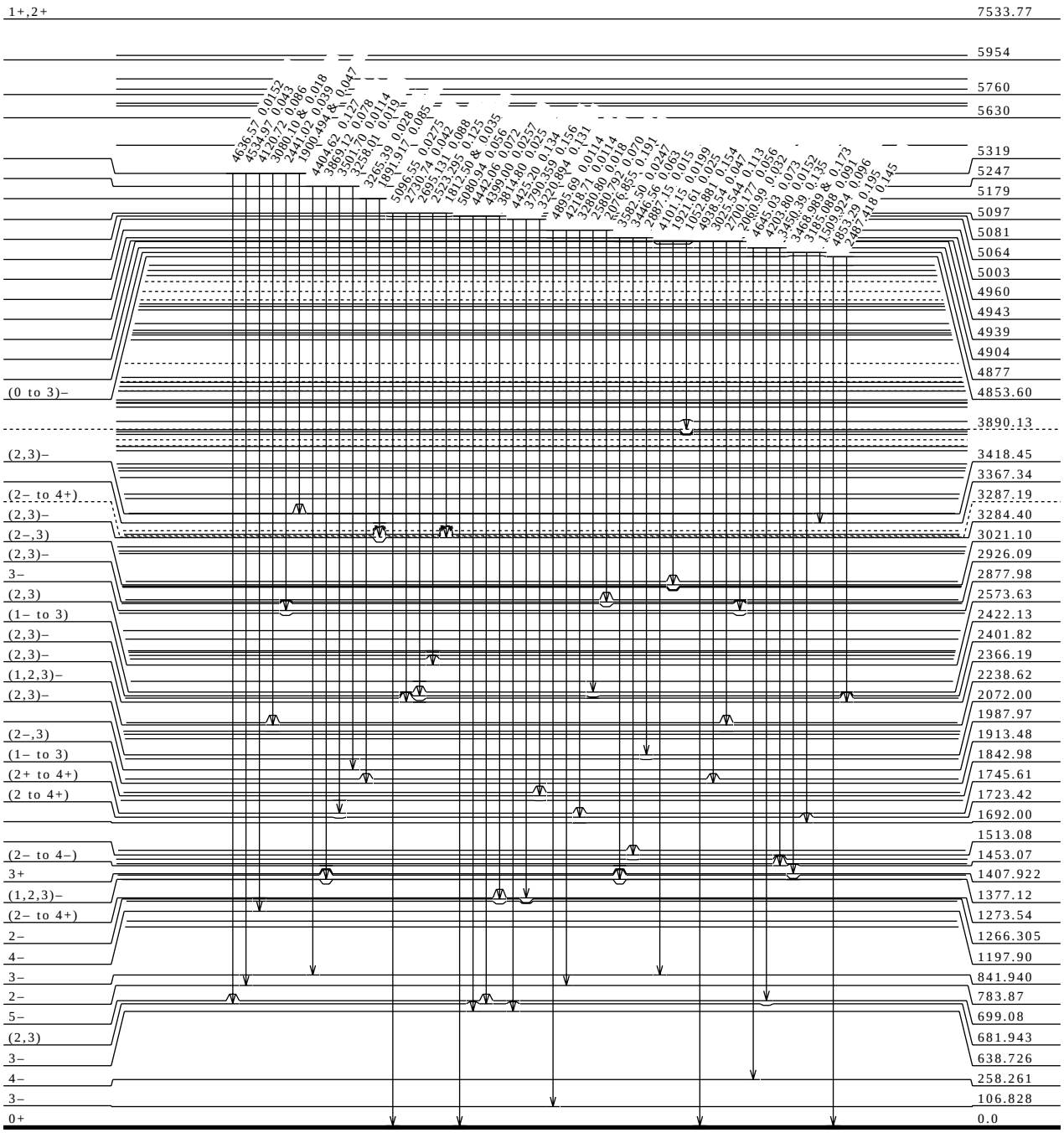


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

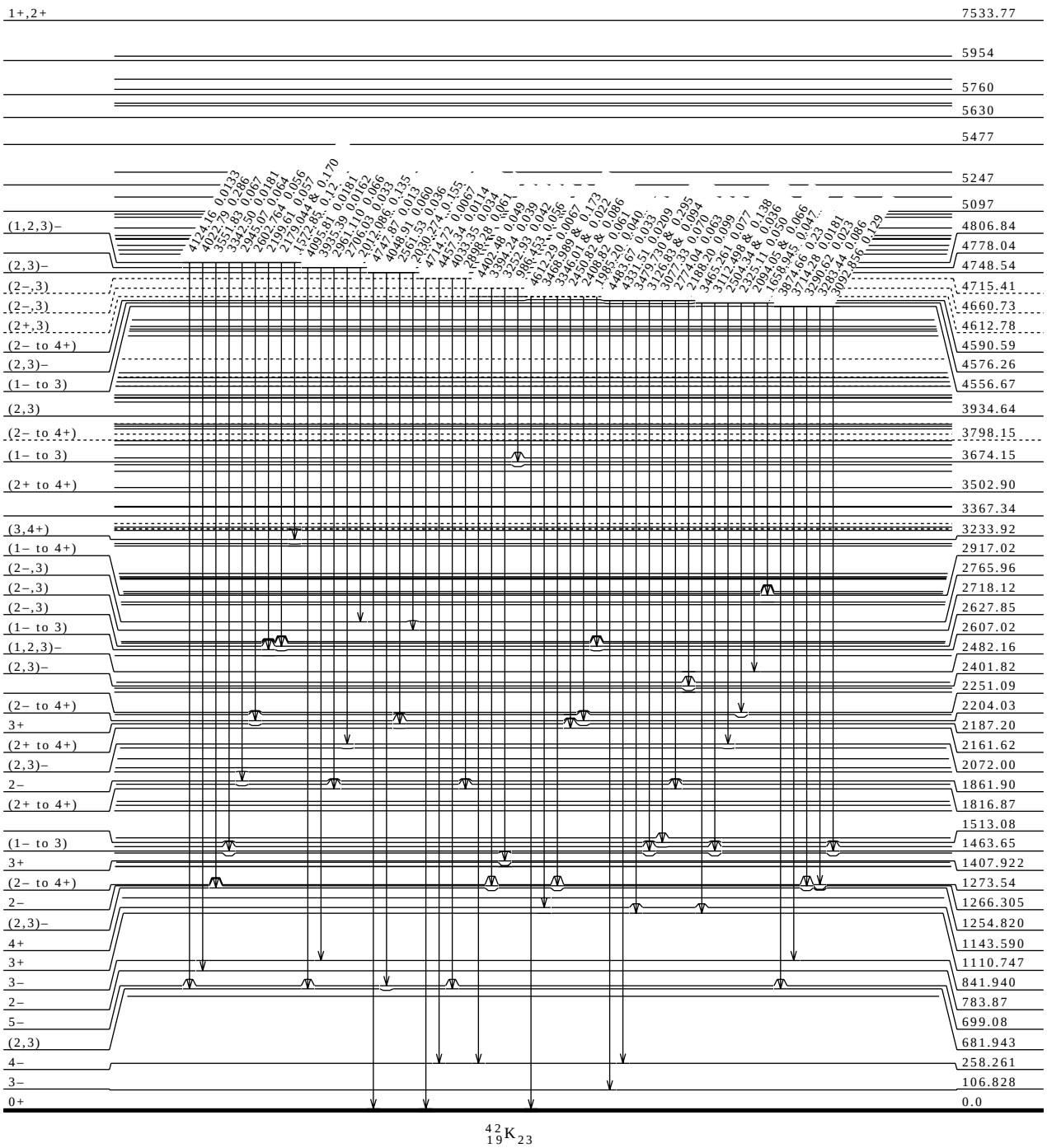


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

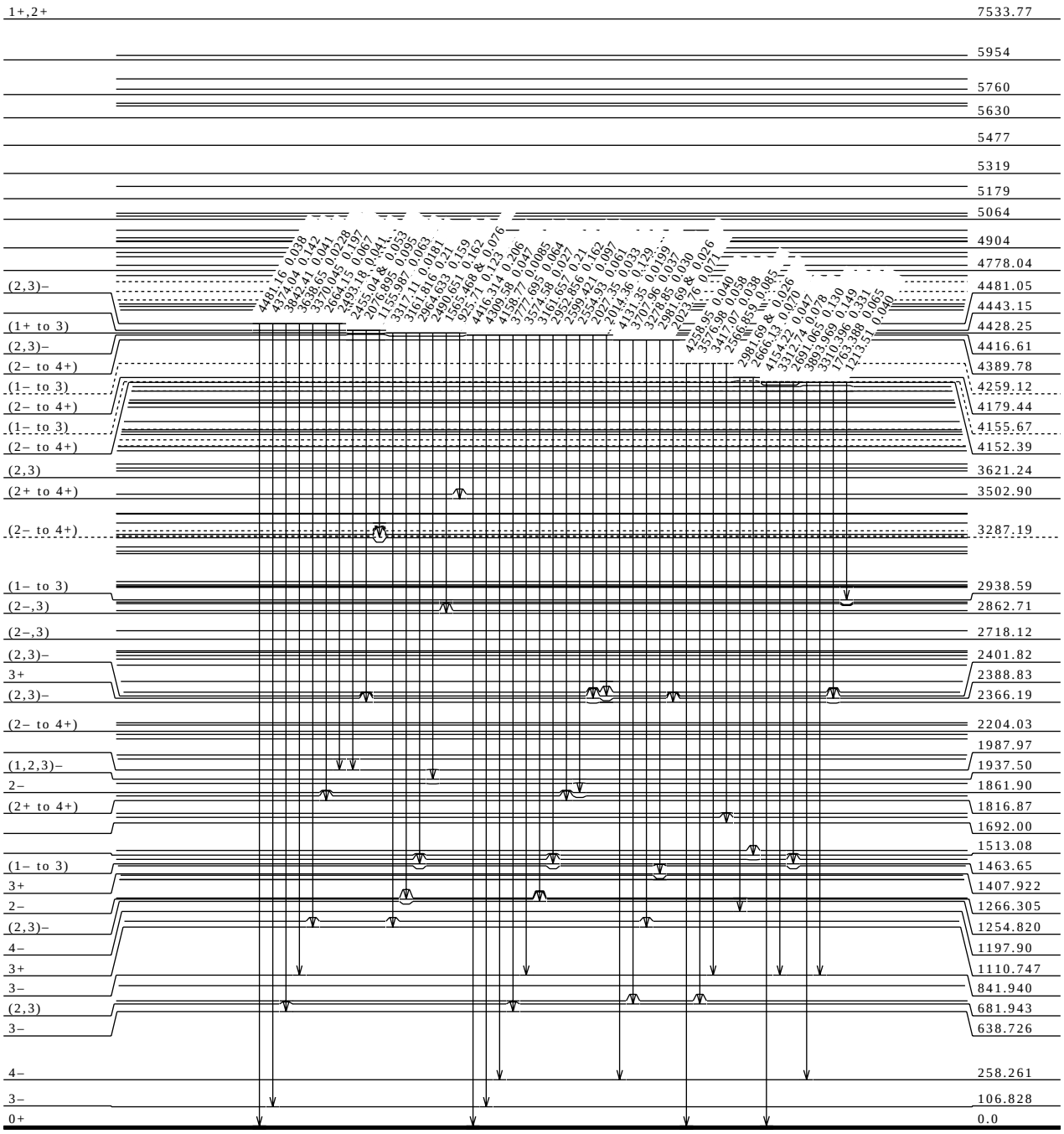


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



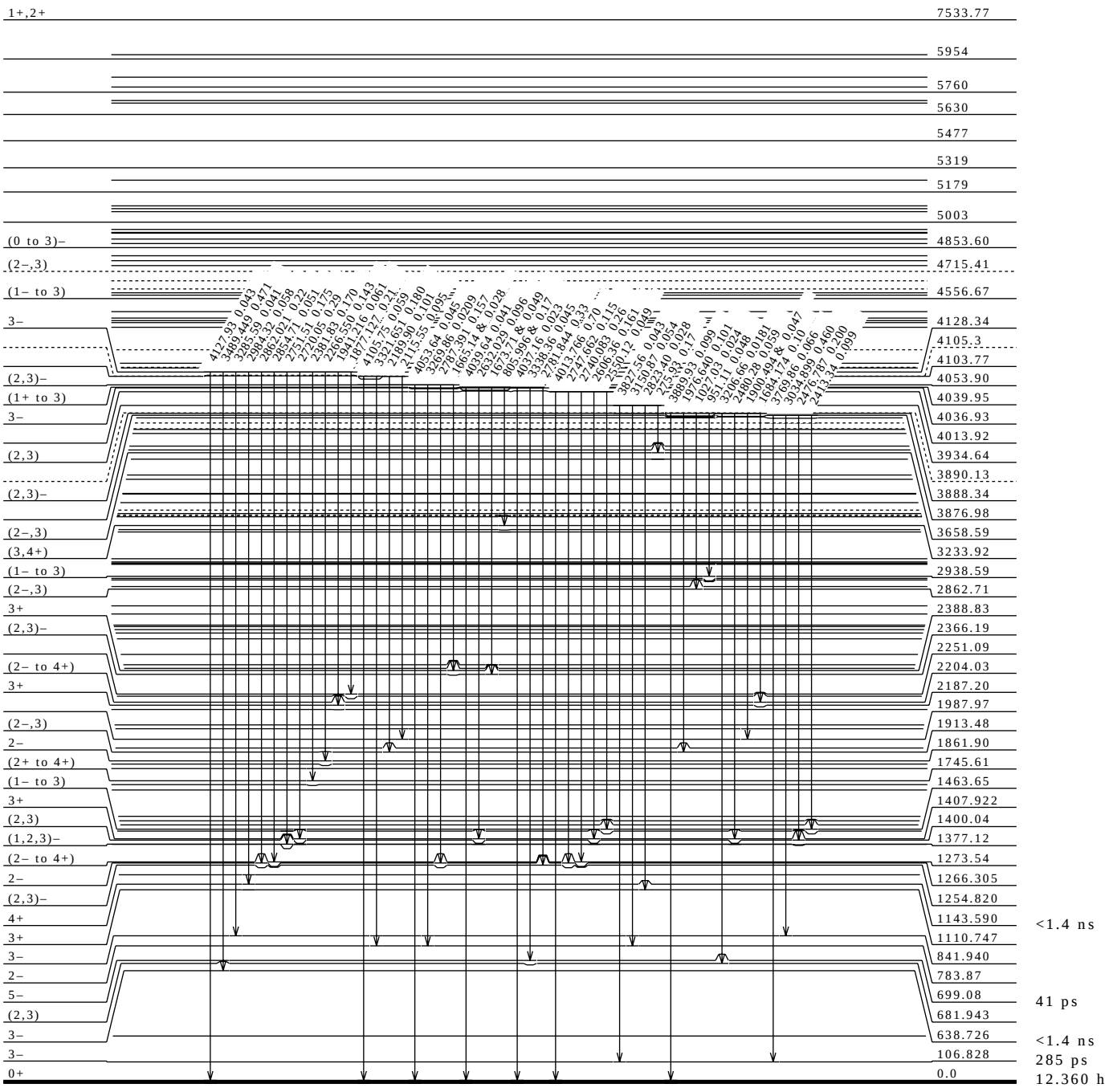
$^{42}_{19}K_{23}$

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

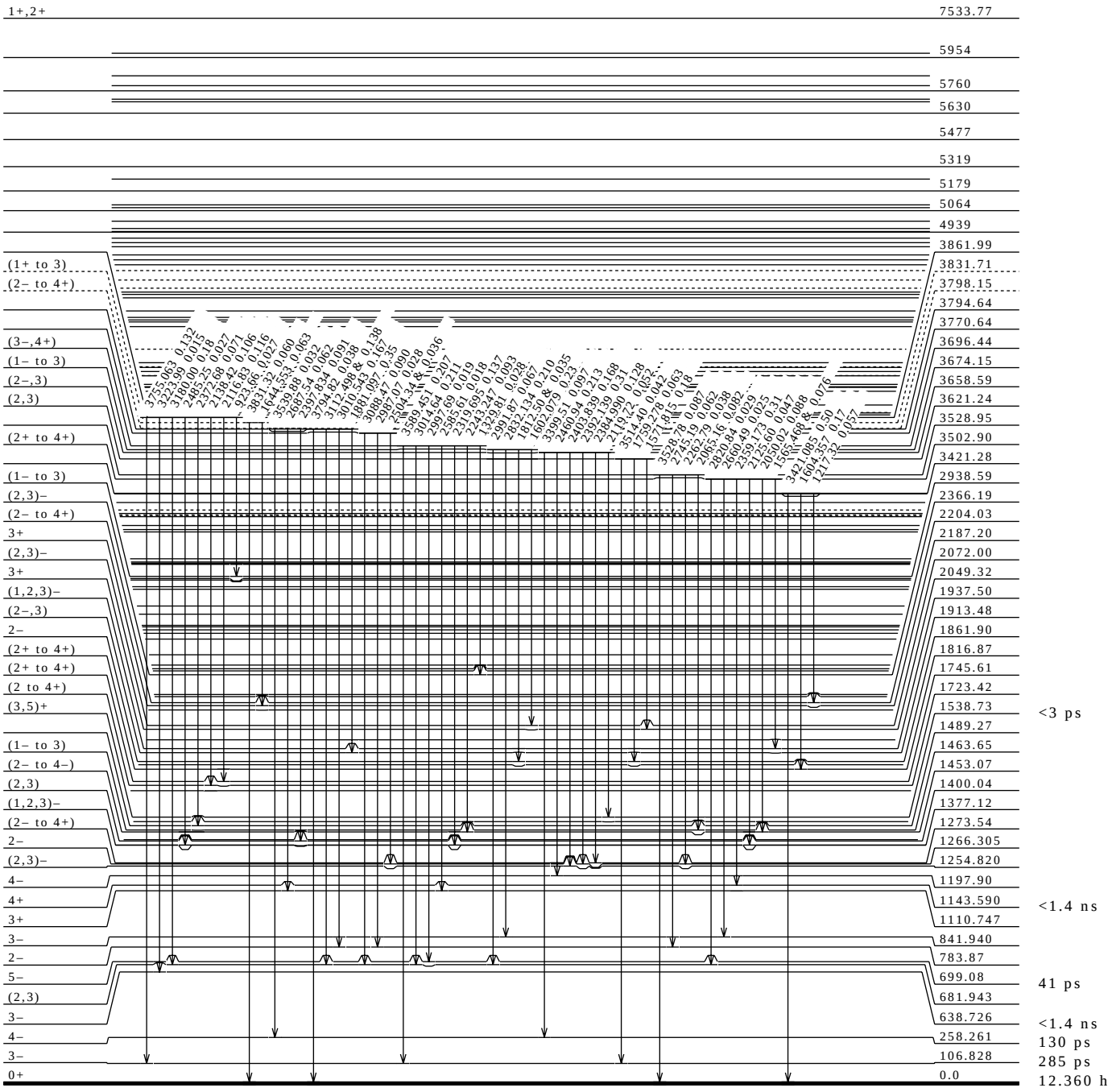


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



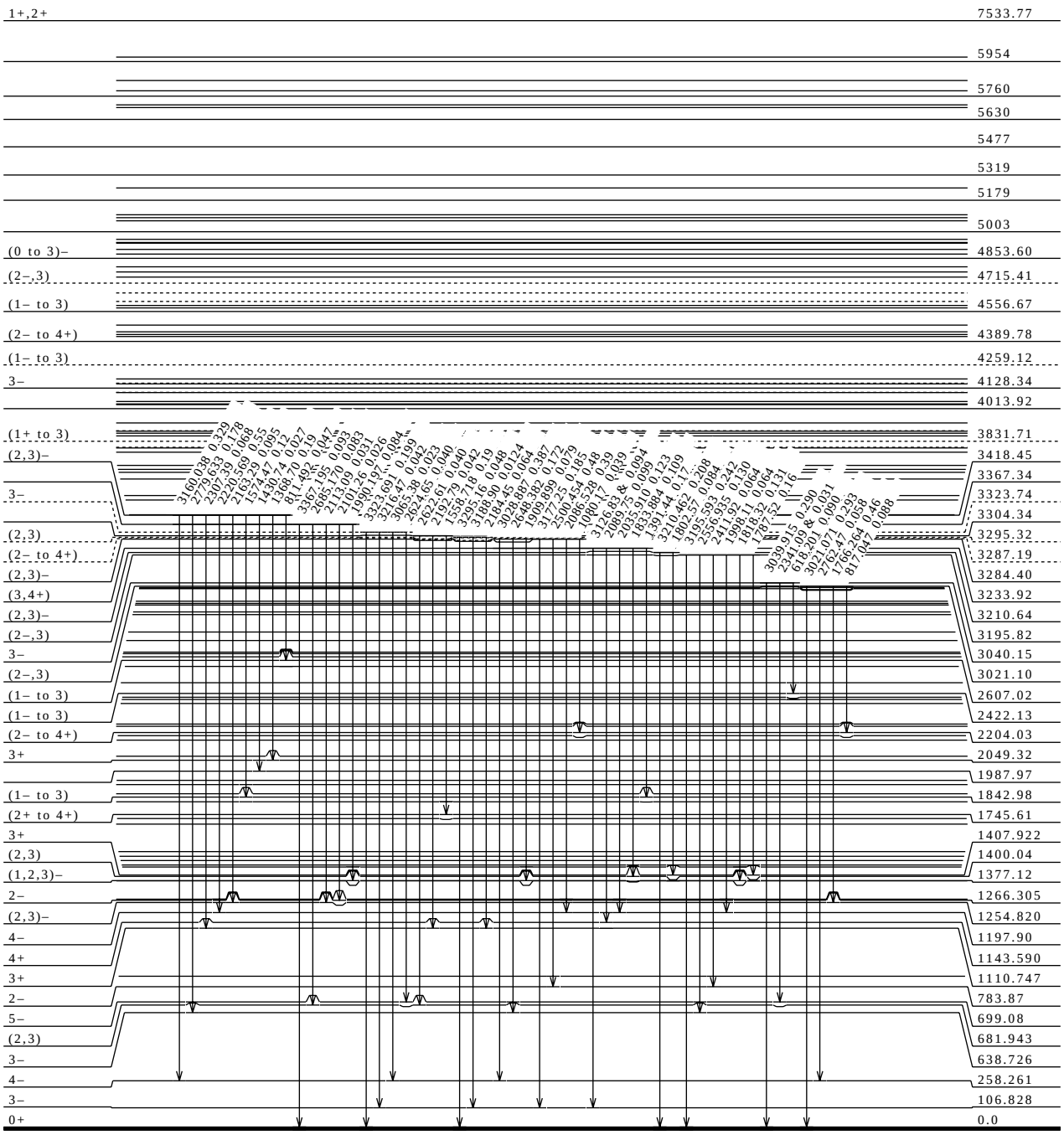
$^{42}_{19}K_{23}$

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

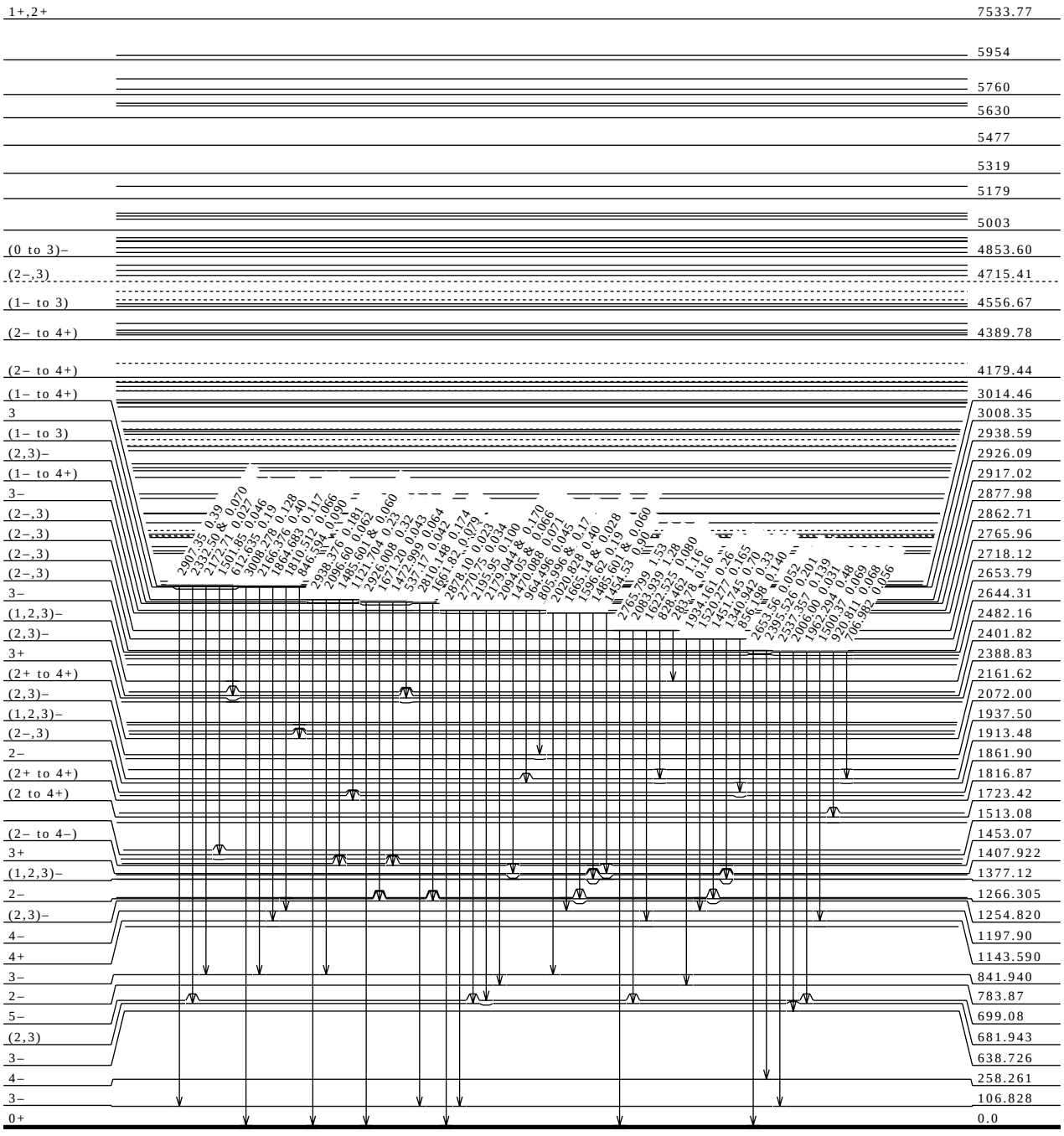


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

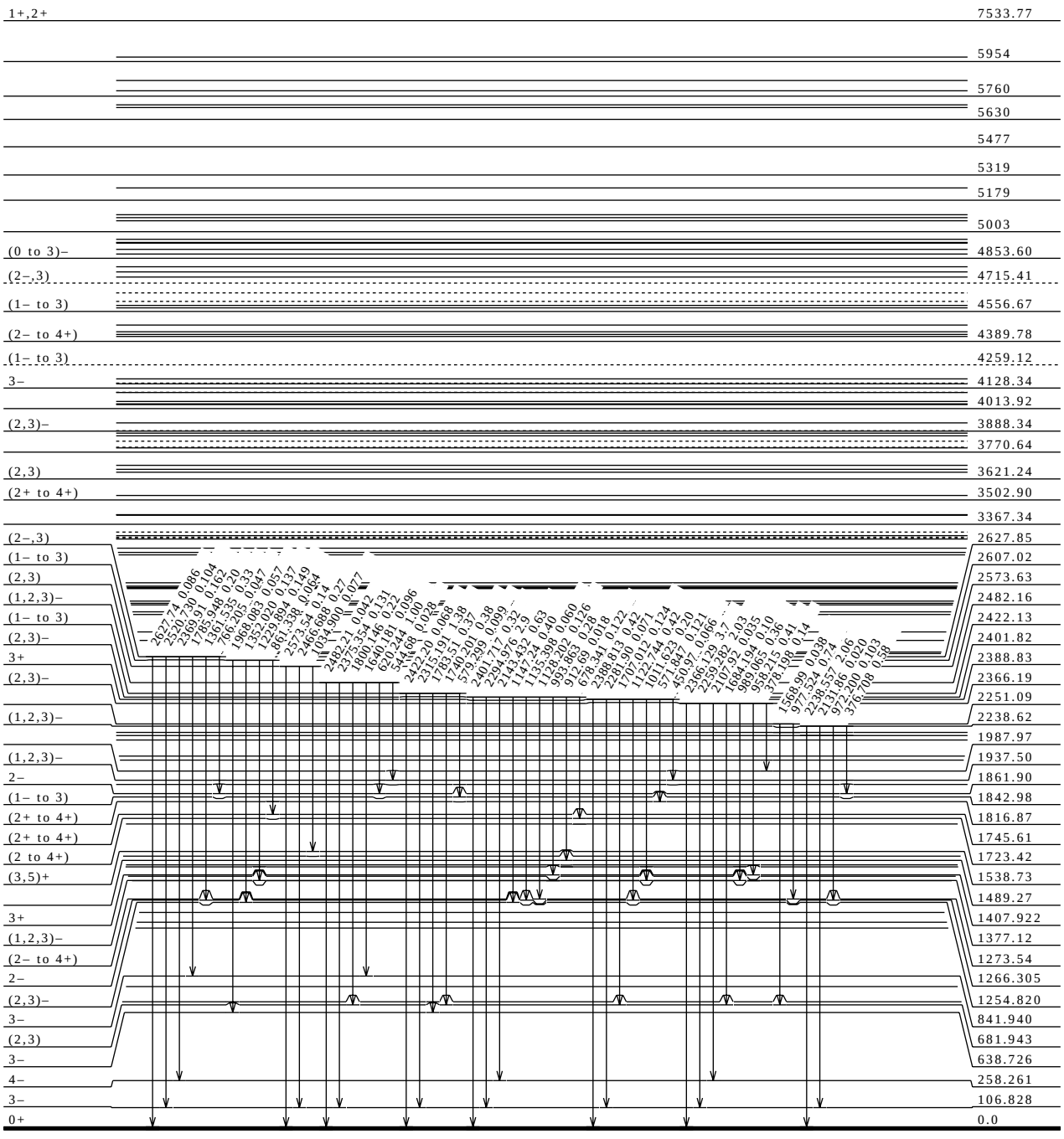


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



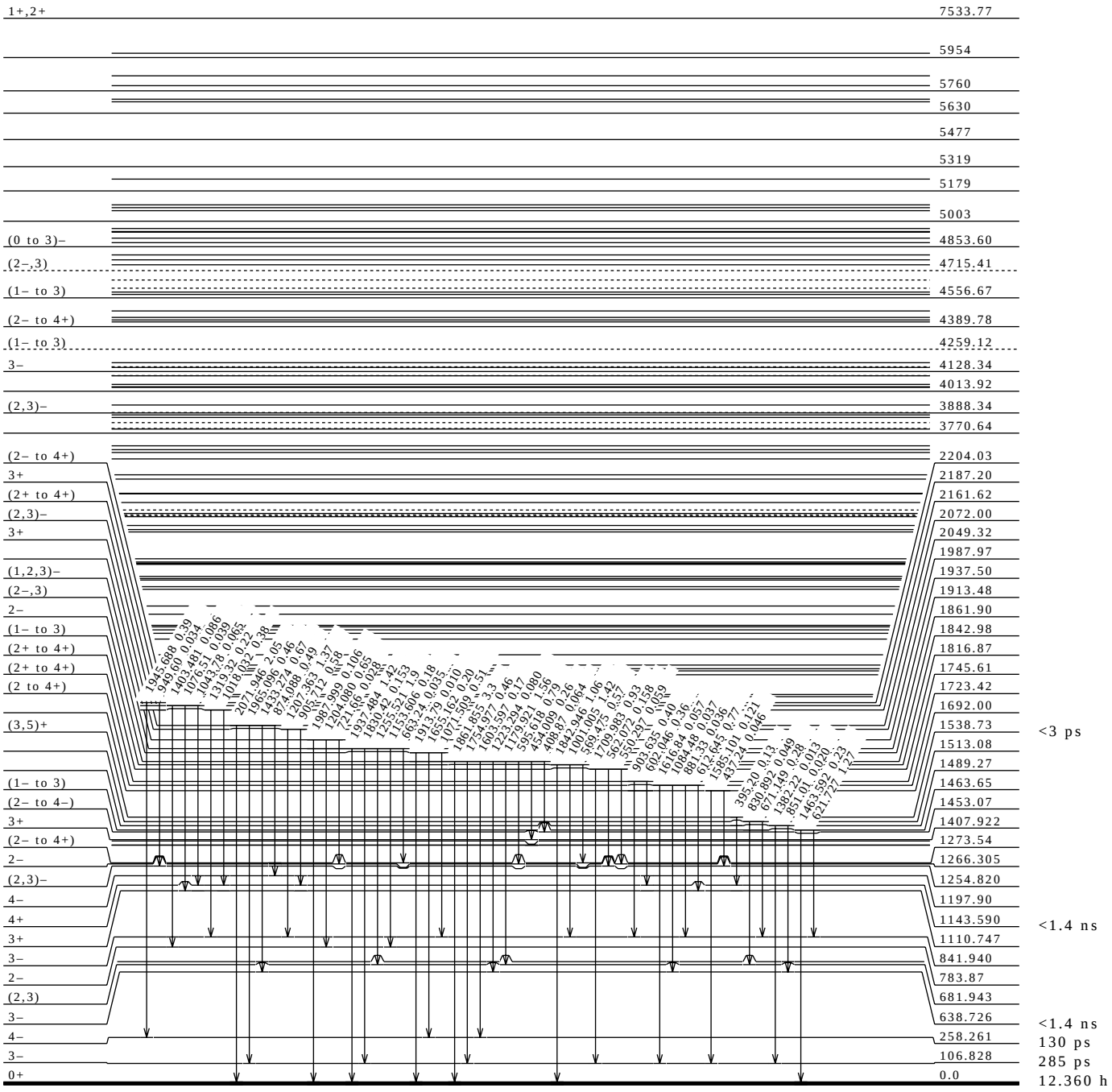
$^{42}_{19}K_{23}$

$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

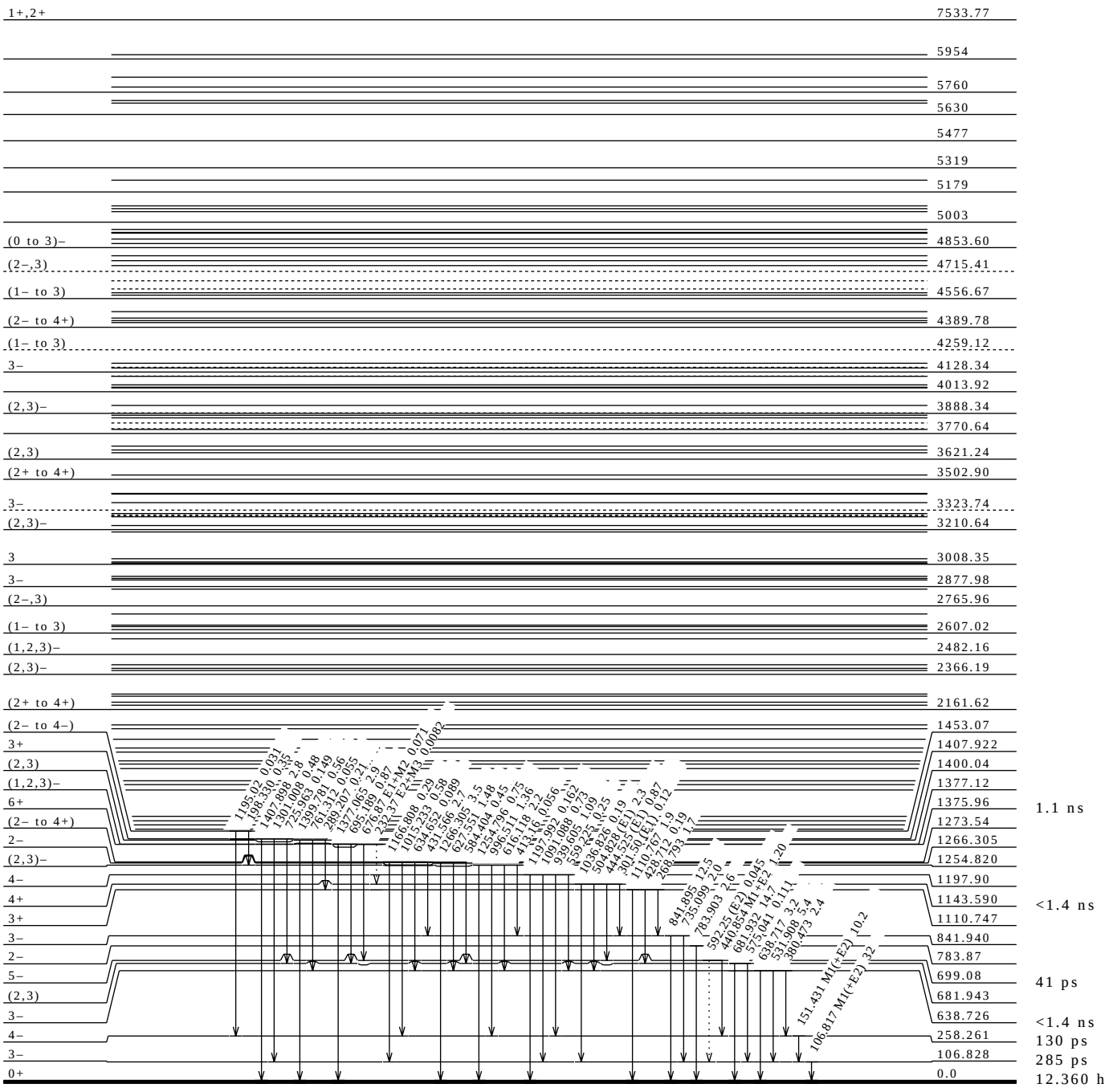


$^{42}_{19}K_{23}$

^{41}K(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{42}_{19}K_{23}$

^{42}Ca(n,γ) E=thermal 1969Gr08

Target Jπ=0+.
Measured Eγ, Iγ with Ge(Li), γγ conicidence with Ge(Li)–NaI(Tl).
See also 71Cr02.

^{43}Ca Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	7/2–	stable	
372.762 *7*	5/2–	33 ps *3*	
593.394 *6*	3/2–	81 ps *4*	
990.257 *8*	3/2+	49 ps *3*	
1394.473 *14*	5/2+	2.4 ps *5*	
1957.4 *2*	1/2+	1.1 ps *2*	
2046.25 *7*	3/2–	0.8 ps *2*	
2102.7 *2*	3/2–	335 fs *60*	
2272.7 *2*	(3/2,5/2)+	275 fs *60*	
2611.0 *2*	1/2–	130 fs *40*	
2878.0 *2*	1/2–	110 fs *30*	
2943.2 *2*	3/2–	<60 fs	
3285.7 *2*	3/2–	<60 fs	
3315.3 *4*	(1/2,3/2)–	130 fs *50*	
3572.3 *2*	3/2–		
4207.1 *2*	1/2–		
4901.2 *4*	(1/2,3/2)–		
5037.6 *3*	(1/2,3/2)–		
7933.0 *3*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s–wave neutron capture. Observed deexcitation intensity is 88.8% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{43}Ca)

σ_n=0.68 b.
Iγ normalization: normalized from assuming Iγ(to g.s.)=100.

Eγ§	E(level)	Iγ†#	Mult.‡	δ‡	Comments
220.6 *3*	593.394	11 *1*	M1+E2	–0.09 *4*	
372.70 *20*	372.762	38 *4*	M1+E2	–0.192 *11*	
396.9 *4*	990.257	0.9 *2*	E1(+M2)	–0.1 *1*	
404.0 *8*	1394.473	0.5 *2*	M1+E2	+0.32 *5*	
564.4 *6*	2611.0	1.5 *5*	(M1)		
593.4 *6*	593.394	23 *2*	E2(+M3)	≈0.0	
617.7 *3*	990.257	6.6 *7*	E1(+M2)	–0.012 *17*	
651.6 *6*	2046.25	0.9 *5*			
(801.1‡)	1394.473	0.1‡	E1(+M2)	–0.03 *4*	
831.4 *10*	2878.0	0.4 *2*	(M1)		
840.9 *10*	2943.2	0.3 *2*			
(878.2‡ *6*)	2272.7	0.04			Iγ: 0.9 *2* is inconsistent with primary intensity feeding this level.
967.5 *15*	1957.4	≈0.2			
(990.2‡)	990.257	0.2‡	(M2)		
1021.5 *10*	1394.473	1.4 *4*	E1(+M2)	+0.11 *12*	
1055.9 *6*	2046.25	4.2 *6*	E1(+M2)	0.00 *3*	
1239.1 *12*	3285.7	1.0 *2*			
1268.9 *6*	3315.3	0.7 *2*			
(1282.4‡)	2272.7	0.2‡			
1363.9 *10*	1957.4	1.5 *10*	(E1)		
x1370.48 *10*		1.1 *2*			
(1394.5‡)	1394.473	0.09‡	E1(+M2)	≈0.0	
1453.0 *3*	2046.25	4.9 *5*			
(1509.3‡)	2102.7	0.8‡	M1(+E2)	+2.0 *17*	
1525.4 *10*	3572.3	0.7 *2*			
1673.5 *4*	2046.25	11.9 *12*			
1729.9 *10*	2102.7	1.2 *4*			

Continued on next page (footnotes at end of table)

$^{43}_{20}Ca_{23}$

^{42}Ca(n,γ) E=thermal (continued)

γ(^{43}Ca) (continued)

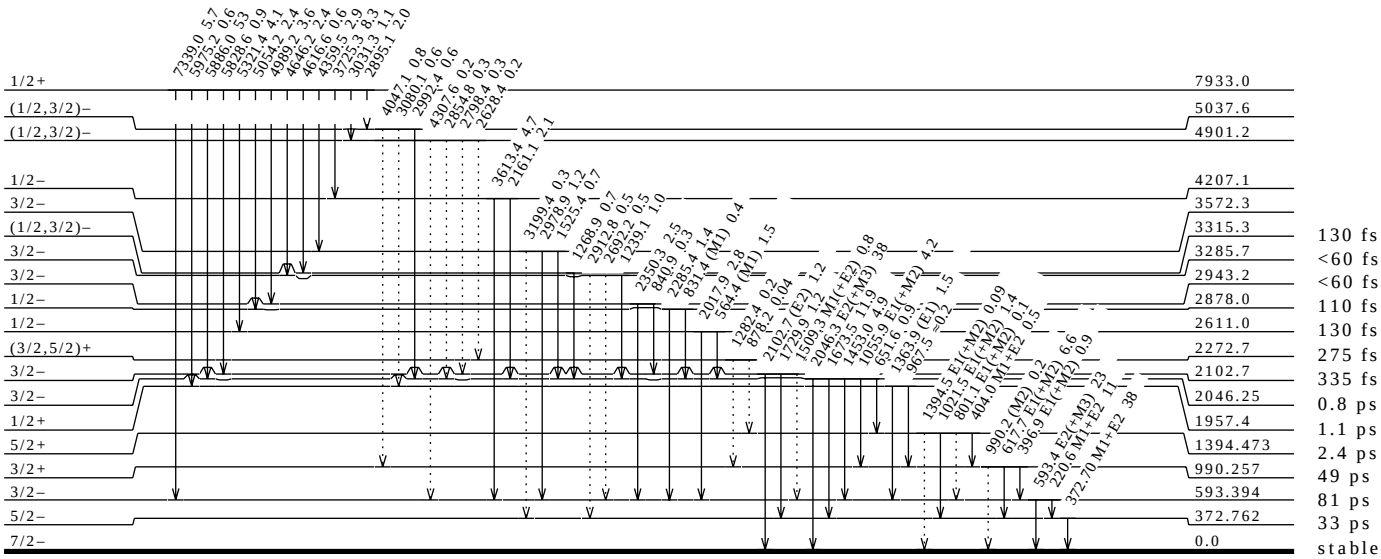
Eγ§	E(level)	Iγ†#	Mult.‡	δ‡
2017.9 *8*	2611.0	2.8 *3*		
2046.3 *3*	2046.25	38 *4*	E2(+M3)	0.00 *2*
2102.7 *6*	2102.7	1.2 *5*	(E2)	
2161.1 *6*	4207.1	2.1 *3*		
2285.4 *10*	2878.0	1.4 *3*		
2350.3 *4*	2943.2	2.5 *3*		
(2628.4‡)	4901.2	0.2‡		
(2692.2‡)	3285.7	0.5‡		
(2798.4‡)	4901.2	0.3‡		
(2854.8‡)	4901.2	0.3‡		
2895.1 *5*	7933.0	2.0 *3*		
(2912.8‡)	3285.7	0.5‡		
2978.9 *7*	3572.3	1.2 *3*		
2992.4 *10*	5037.6	0.6 *3*		
3031.3 *10*	7933.0	1.1 *3*		
(3080.1‡)	5037.6	0.6‡		
(3199.4‡)	3572.3	0.3‡		
3613.4 *8*	4207.1	4.7 *12*		
[x]3654.7 *6*		0.9 *3*		
3725.3 *3*	7933.0	8.3 *12*		
(4047.1‡)	5037.6	0.8‡		
(4307.6‡)	4901.2	0.2‡		
4359.5 *5*	7933.0	2.9 *4*		
4616.6 *9*	7933.0	0.6 *3*		
4646.2 *6*	7933.0	2.4 *5*		
[x]4836.8 *9*		≈0.1		
4989.2 *5*	7933.0	3.6 *5*		
5054.2 *5*	7933.0	2.4 *4*		
5321.4 *5*	7933.0	4.1 *6*		
[x]5420.7 *12*		≈0.2		
5828.6 *15*	7933.0	0.9 *3*		
5886.0 *4*	7933.0	53 *8*		
5975.2 *15*	7933.0	0.6 *3*		
7339.0 *7*	7933.0	5.7 *9*		

† Absolute γ–ray intensity per 100 neutron captures.
‡ From adopted gammas.
§ Literature recoil correction removed by evaluator.
# For intensity per 100 neutron captures, multiply by 1.0.
[x] γ ray not placed in level scheme.

^{42}Ca(n,γ) E=thermal (continued)

Level Scheme

Intensities: I(γ+ce) per 100 parent decays



^{43}Ca(n,γ) E=thermal 1972Wh02

Target Jπ=7/2−.

Measured EG,IG with Ge(Li), Ge(Li)–NaI(Tl) pair, Compton suppression spectrometer. γ–γ coinicence with Ge(Li).

^{44}Ca Levels

E(level)‡	Jπ†	$T_{1/2}$†	Comments
0.0	0+	stable	
1157.047 *15*	2+	2.61 ps *14*	
1883.51 *5*	0+	14 ps *4*	
2283.14 *3*	4+	1.9 ps *7*	
2656.50 *5*	2+	30 fs *3*	
3044.33 *7*	4+	4.6 ps *11*	
3285.00 *4*	6+	13.4 ps *10*	
3301.3 *2*	2+	35 fs *18*	
3307.86 *7*	3−	<340 ps	
3357.2 *2*	(2+ to 4+)	<620 ps	
3676.07 *7*	(1− to 3−)		
3711.80 *7*	(3,4,5−)	<410 ps	
3776.20 *7*	2	<0.7 ns	
3913.55 *10*	5−	>2 ps	
3922.6 *3*	(3+ to 5)		
4011.4 *5*			
4092.0 *3*	(2+ to 4+)		
4195.7 *4*	2+	<0.7 ns	
4358.42 *9*	3−		
4399.4 *5*	3−		
4479.8 *5*	2+		
4564.9 *4*	5−		
4584.1 *3*	(2+ to 4+)	<3 ns	
4651.0 *4*	2+		

Continued on next page (footnotes at end of table)

^{43}Ca(n,γ) E=thermal 1972Wh02 (continued)

^{44}Ca Levels (continued)

E(level)‡	Jπ†	$T_{1/2}$†	Comments
4690.2 *6*	(1− to 4+)		
4803.7 *5*	(1−,2+)		
4904.6 *4*	3−		
5005.9 *4*	4+		
5096.8 *5*	(3,4)−		
5130.4 *3*	(2,3)+		
5230.7 *4*	(2 to 5)+	<4 ns	
5289.3 *4*	(2 to 5)+		
5300.4 *5*			
5342.2 *5*	2+		
5375.1 *5*	(2 to 5)+		
5458.8 *5*	(2,3,4)+		
5549.0 *16*	(2,3,4)+		
5733.5 *4*	(2 to 5)+	<3 ns	
5775.9 *5*	(2+ to 4+)		
5866.7 *5*	(2+ to 5)		
6039.5 *9*	(2 to 5)+		
6146.1 *5*	(2 to 5)+		
6211.4 *6*			
6673.4 *5*			
11131.55 *19*	3−,4−		E(level): from least squares fit to level scheme. 11132.0 *7* from 95Au04. Jπ: from s−wave neutron capture. Observed deexciting intensity is 49% of g.s. feeding.

† From adopted levels, except as noted.
‡ least−squares fit to γ energies.

γ(^{44}Ca)

Iγ normalization: normalized from assuming Iγ(to g.s.)=100.
σ_n=6.2 b *6* (81MuZQ).

Eγ§	E(level)	Iγ†#	Mult.‡	δ‡
x204.33 *40*		0.10		
(263.53‡)	3307.86		(E1)	
x264.81 *40*		0.03		
299.48 *40*	4011.4	0.11		
x302.08 *40*		0.05		
368.84 *30*	3676.07	0.53		
x372.27 *40*		0.11		
x374.35 *40*		0.11		
(374.77‡)	3676.07			
404.34 *10*	3711.80	4.53		
x418.73 *30*		0.21		
x440.57 *60*		0.39		
x443.61 *60*		0.41		
x472.94 *30*		0.42		
x476.40 *60*		0.20		
x594.27 *60*		0.10		
x597.38 *60*		0.12		
x606.01 *60*		0.09		
628.69 *10*	3913.55	2.46		
637.63 *12*	3922.6	1.60		
(646.6‡)	4358.42			
651.07 *12*	4564.9	1.89		
(651.35‡)	3307.86	0.84‡		
(667.46‡)	3711.80		(E1)	
(682.34‡)	4358.42			
726.48 *30*	1883.51	0.40	E2	
761.19 *10*	3044.33	6.51	M1+E2	−0.25 *20*
806.95 *15*	4092.0	1.41		
869.45 *15*	3913.55	2.45		

Continued on next page (footnotes at end of table)

$^{44}_{20}Ca_{24}$

^{43}Ca(n,γ) E=thermal (continued)

γ(^{44}Ca) (continued)

Eγ[§]	E(level)	Iγ[†#]	Mult.[‡]	δ[‡]
878.10 *20*	3922.6	1.45		
x966.53 *20*		1.13		
1001.85 *15*	3285.00	6.59	(E2)	
x1017.77 *70*		0.38		
(1019.56[‡])	3676.07			
1024.66 *20*	3307.86	1.99		
1050.54 *20*	4358.42	0.62		
1074.13 *15*	3357.2	11.13		
1092.15 *70*	5005.9	0.16		
(1119.68[‡])	3776.20			
1126.03 *15*	2283.14	54.12	E2+M3	−0.05 *4*
1156.89 *15*	1157.047	96.97	E2	
1183.10 *40*	5096.8	0.62		
x1266.35 *80*		0.33		
1276.01 *80*	4584.1	0.18		
x1283.24 *80*		0.14		
x1314.58 *80*		0.19		
1428.56 *25*	3711.80	2.00		
x1442.39 *80*		0.13		
1499.30[@] *18*	2656.50	5.46[@]	M1+E2	−0.123 *16*
	4803.7	5.46[@]		
1539.40 *25*	4584.1	0.77		
x1543.82 *80*		0.15		
x1577.45 *40*		0.39		
1588.69 *40*	5300.4	0.53		
x1623.5 *10*		0.33		
1640.74[@] *50*	3922.6	0.73[@]		
	5733.5	0.73[@]		
1648.13 *50*	5005.9	1.65		
x1658.7 *10*		0.99		
(1701.88[‡])	4358.42			
x1729.8 *10*		0.85		
1773.27 *50*	5130.4	0.65		
(1774.7[‡])	5866.7			
1808.92 *50*	4092.0	0.68		
1872.74[@] *30*	5230.7	2.91[@]		
	5549.0	2.91[@]		
(1883.47[‡])	1883.51		E0	
1887.28 *30*	3044.33	5.74	E2+M3	−0.08 *5*
x1901.2 *10*		0.16		
x1912.85 *50*		0.41		
x1983.8 *10*		0.48		
1994.2 *10*	4651.0	0.76		
2053.94 *50*	6146.1	0.57		
2088.18 *50*	6673.4	0.87		
2099.31 *50*	5775.9	0.53		
2144.50 *50*	3301.3	1.75		
2150.93 *30*	3307.86	6.44		
x2178.8 *10*		0.29		
2186.2 *10*	5230.7	0.27		
2200.05 *30*	3357.2	1.62		
2223.3 *20*	6146.1	0.00		
2248.20 *50*	4904.6	0.52		
2281.74 *50*	4564.9	0.45		
x2293.14 *60*		0.24		
2297.53 *60*	6211.4	0.20		
2300.61 *50*	4584.1	0.79		
x2343.37 *60*		0.11		
2376.13 *50*	5733.5	0.29		
x2415.60 *60*		0.17		
x2447.39 *60*		0.19		
x2467.95 *60*		0.18		
2474.86 *60*	5775.9	0.27		

Continued on next page (footnotes at end of table)

$^{44}_{20}Ca_{24}$

^{43}Ca(n,γ) E=thermal (continued)

γ(^{44}Ca) (continued)

Eγ[§]	E(level)	Iγ[†#]	Mult.[‡]	δ[‡]
(2490.8)	5775.9			
2509.20 *60*	5866.7	0.15		
2518.90 *50*	3676.07	1.78		
x2549.92 *60*		0.31		
x2581.96 *60*		0.19		
x2612.88 *60*		0.58		
2619.11 *50*	3776.20	1.46	D+Q	−0.62 *8*
2656.24 *50*	2656.50	0.72	E2	
2682.77 *60*	6039.5	0.24		
2688.67 *50*	5733.5	0.37		
(2718.5[‡])	5375.1			
2722.44 *30*	5005.9	2.38		
2730.71 *60*	5775.9	0.36		
x2746.44 *60*		0.23		
(2759.8[‡])	6673.4			
x2786.21 *60*		0.13		
x2814.99 *60*		0.33		
2846.75 *30*	5130.4	1.93		
x2861.97 *50*		0.14		
2891.18 *60*	5549.0	0.34		
2896.71 *60*	6673.4	0.16		
(2934.8[‡])	4092.0			
2947.38 *30*	5230.7	3.92		
x2969.72 *50*		0.10		
x2995.13 *60*		0.13		
3006.02 *40*	5289.3	1.14		
3038.67 *40*	4195.7	2.02		
x3052.56 *60*		0.45		
x3100.80 *70*		0.11		
x3109.10 *90*		0.22		
x3115.50 *90*		0.20		
3120.5 *15*	5775.9	0.14		
x3149.79 *70*		0.23		
x3158.89 *70*		0.23		
3176.20 *70*	5458.8	0.44		
x3200.14 *70*		0.33		
(3201.25[‡])	4358.42			
x3203.70 *70*		0.56		
x3219.49 *70*		0.13		
x3234.48 *70*		0.33		
3242.09 *70*	4399.4	0.56		
x3259.15 *70*		0.31		
3265.35 *70*	5549.0	0.54		
3301.50 *60*	3301.3	0.70	E2	
(3307.73[‡])	3307.86	[‡]	E3	
x3312.38 *70*		0.17		
3322.77 *60*	4479.8	0.63		
x3335.52 *70*		0.16		
x3354.93 *60*		0.31		
x3367.70 *60*		0.47		
x3395.94 *70*		0.13		
3427.51 *40*	4584.1	1.96		
3450.31 *40*	5733.5	1.74		
x3467.03 *70*		0.13		
3492.89 *40*	5775.9	1.09		
x3508.95 *70*		0.37		
x3516.55 *70*		0.27		
3532.86 *60*	4690.2	0.75		
x3545.08 *70*		0.14		
x3565.34 *70*		0.27		
3583.36 *60*	5866.7	0.65		
x3622.17 *60*		0.78		
3628.92 *70*	6673.4	0.30		

Continued on next page (footnotes at end of table)

$^{44}_{20}Ca_{24}$

^{43}Ca(n,γ) E=thermal (continued)

γ(^{44}Ca) (continued)

Eγ[§]	E(level)	Iγ[†#]	Mult.[‡]
3647.15 *60*	4803.7	0.56	
x3661.41 *70*		0.22	
x3672.77 *70*		0.40	
(3675.90[‡])	3676.07		
x3712.30 *70*		0.10	
x3717.78 *70*		0.07	
x3723.58 *70*		0.24	
3747.15 *60*	4904.6	0.82	
x3756.61 *70*		0.20	
x3808.53 *60*		0.48	
x3826.84 *70*		0.16	
3848.93 *70*	5005.9	0.29	
3861.67 *70*	6146.1	0.66	
x3869.99 *70*		0.41	
x3874.37 *70*		0.17	
x3892.29 *70*		0.27	
x3903.45 *60*		0.58	
x3923.24 *70*		0.21	
x3957.29 *60*		0.52	
3973.07 *40*	5130.4	1.61	
x4025.88 *80*		0.38	
x4034.42 *80*		0.58	
x4075.37 *70*		0.14	
x4131.05 *80*		0.19	
x4149.98 *80*		0.29	
x4168.77 *70*		0.53	
4185.57 *80*	5342.2	0.13	
(4195.5[‡])	4195.7		E2
x4209.14 *70*		1.10	
4217.90 *80*	5375.1	0.69	
x4264.71 *70*		0.44	
x4276.77 *80*		0.18	
x4284.27 *80*		0.22	
4301.69 *70*	5458.8	0.22	
x4318.14 *80*		0.22	
x4345.38 *80*		0.12	
x4376.80 *80*		0.16	
x4383.36 *70*		0.39	
4391.46 *70*	5549.0	0.39	
x4436.32 *70*		0.47	
4457.88 *70*	11131.55	1.90	
x4462.67 *80*		0.54	
(4479.6[‡])	4479.8		E2
x4488.41 *80*		0.05	
x4499.36 *80*		0.16	
x4502.64 *80*		0.23	
x4530.95 *80*		0.12	
x4554.27 *80*		0.39	
4565.06 *80*	4564.9	0.44	
x4577.58 *80*		0.18	
x4599.08 *70*		0.24	
4617.95 *80*	5775.9	0.40	
x4625.11 *80*		0.72	
x4638.25 *80*		0.24	
4650.97 *50*	4651.0	1.09	E2
x4678.58 *80*		0.08	
x4686.95 *80*		0.16	
x4716.09 *80*		0.06	
x4748.25 *70*		0.28	
x4775.60 *80*		0.09	
(4803.4[‡])	4803.7		
x4808.06 *70*		0.37	
x4814.93 *80*		0.22	
x4849.82 *80*		0.12	
x4872.06 *80*		0.09	
x4890.59 *70*		0.33	
x4905.45 *70*		0.38	
4919.89 *70*	11131.55	0.90	
x4974.57 *80*		0.15	
4984.43 *50*	11131.55	1.12	
x5006.95 *70*		0.27	
x5039.11 *70*		0.39	
x5068.41 *80*		0.09	
5091.62 *80*	11131.55	0.40	
x5119.31 *80*		0.11	
x5135.96 *70*		0.45	
x5160.27 *80*		0.17	
x5196.00 *50*		0.62	
x5223.92 *70*		0.26	
x5239.69 *70*		0.21	
5264.41 *50*	11131.55	1.19	
x5281.62 *80*		0.08	
x5287.26 *80*		0.15	
x5304.22 *70*		0.26	
x5315.66 *80*		0.08	
x5348.86 *80*		0.47	
5355.71 *50*	11131.55	2.88	
5397.75 *50*	11131.55	3.75	
x5472.53 *70*		0.31	
x5478.84 *80*		0.12	
x5538.15 *50*		0.81	
x5558.59 *70*		0.26	
5582.39 *50*	11131.55	0.99	
x5592.20 *80*		0.15	
x5629.68 *70*		0.26	
5672.96 *70*	11131.55	0.50	
x5689.95 *80*		0.11	
x5723.34 *80*		0.16	
x5735.33 *70*		0.51	
5756.29 *70*	11131.55	0.85	
5789.47 *70*	11131.55	0.35	
5831.37 *70*	11131.55	1.00	
5841.88 *50*	11131.55	1.17	
5900.89 *50*	11131.55	6.97	
6001.28 *60*	11131.55	3.39	
6034.40 *60*	11131.55	1.18	
x6039.7 *10*		0.26	
x6071.1 *10*		0.07	
x6104.66 *80*		0.66	
6125.28 *60*	11131.55	3.72	
6145.6 *10*	6146.1	0.05	
x6151.07 *80*		0.16	
x6186.8 *10*		0.04	
x6197.7 *10*		0.08	
6226.70 *80*	11131.55	0.84	
x6248.5 *10*		0.09	
x6298.7 *10*		0.07	
6328.26 *60*	11131.55	0.59	
x6335.6 *10*		0.10	
x6352.21 *80*		0.23	
x6393.5 *10*		0.05	
6441.14 *80*	11131.55	0.39	
6480.23 *60*	11131.55	2.30	
6546.64 *60*	11131.55	2.36	
6566.35 *60*	11131.55	0.56	
x6591.7 *10*		0.08	

Continued on next page (footnotes at end of table)

$^{44}_{20}Ca_{24}$

^{43}Ca(n,γ) E=thermal (continued)

γ(^{44}Ca) (continued)

Eγ§	E(level)	Iγ†#	Eγ§	E(level)	Iγ†#
6651.29 *80*	11131.55	0.42	7418.78 *60*	11131.55	0.74
6731.9 *10*	11131.55	0.14	7454.4 *10*	11131.55	0.08
6772.26 *60*	11131.55	0.75	x7712.0 *10*		0.03
x6868.6 *10*		0.03	7773.37 *60*	11131.55	3.04
6935.23 *60*	11131.55	0.88	7822.3 *10*	11131.55	0.17
x6963.5 *10*		0.03	7829.30 *80*	11131.55	0.60
x6980.7 *10*		0.07	x7916.7 *10*		0.04
x7080.8 *10*		0.07	8086.43 *70*	11131.55	0.67
7119.7 *10*	11131.55	0.08	8474.3 *10*	11131.55	0.07
7208.09 *60*	11131.55	1.55	8848.00 *70*	11131.55	0.37
x7247.3 *10*		0.07	9974.30 *80*	11131.55	0.11
7354.22 *80*	11131.55	0.49			

† Absolute γ–ray intensity per 100 neutron captures. uncertaintIES of 5–10% from 200–2500 keV energy range given by authors. No uncertainties for high–energy range given by authors.

‡ From adopted gammas.

§ literature recoil correction removed by evaluator.

For intensity per 100 neutron captures, multiply by 1.0.

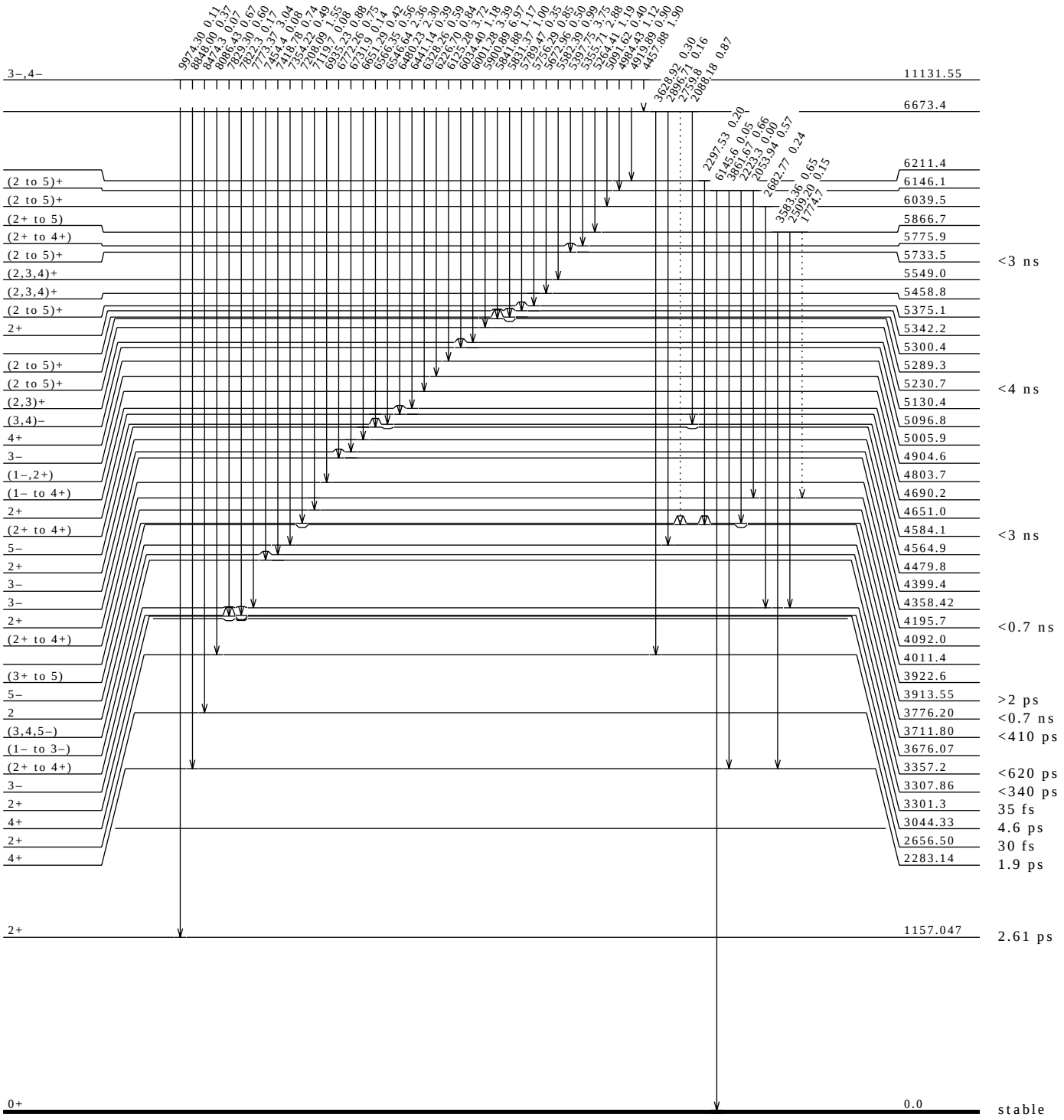
@ Multiply placed; undivided intensity given.

x γ ray not placed in level scheme.

^{43}Ca(n,γ) E=thermal (continued)

Level Scheme

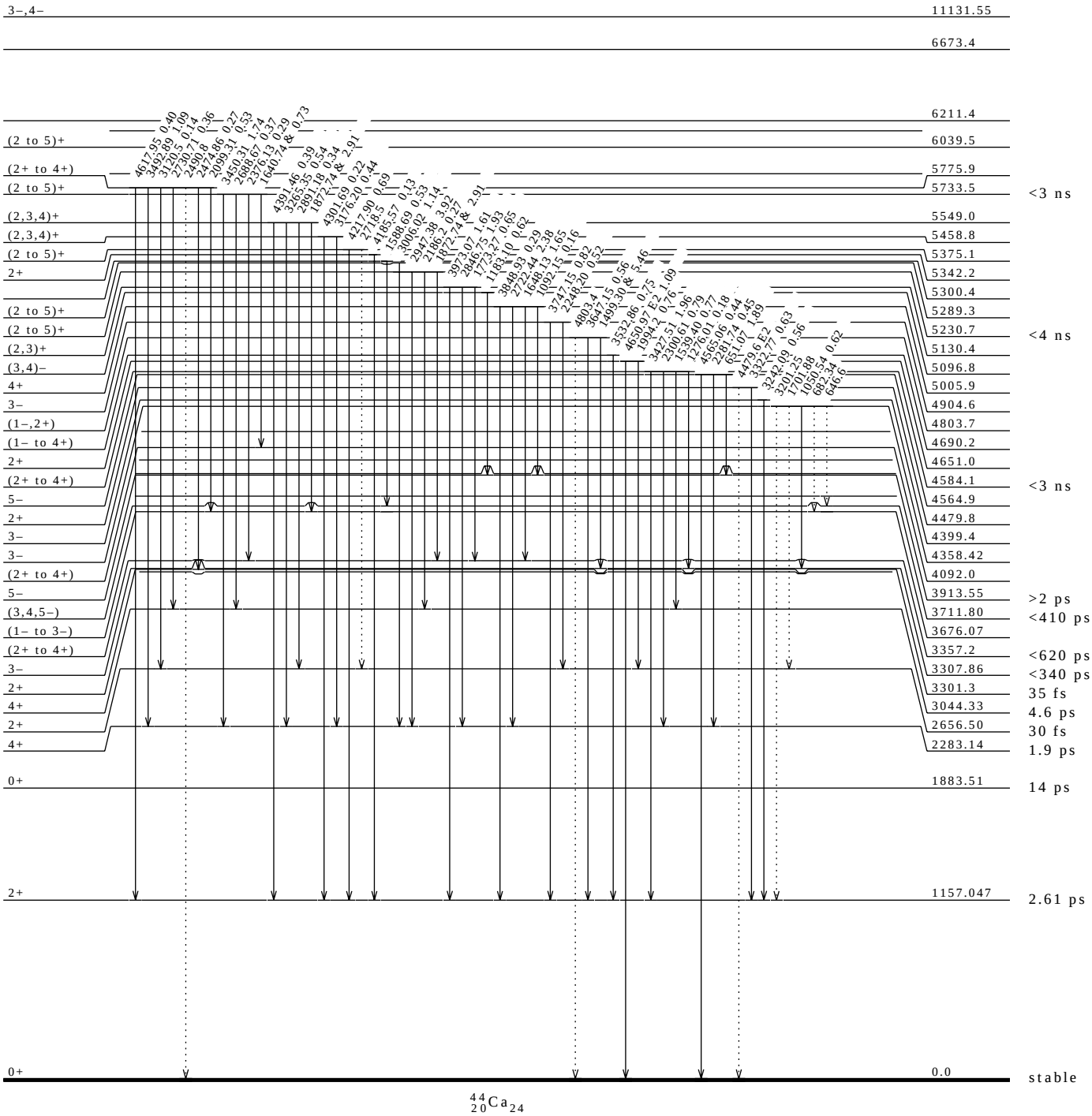
Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



^{43}Ca(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given

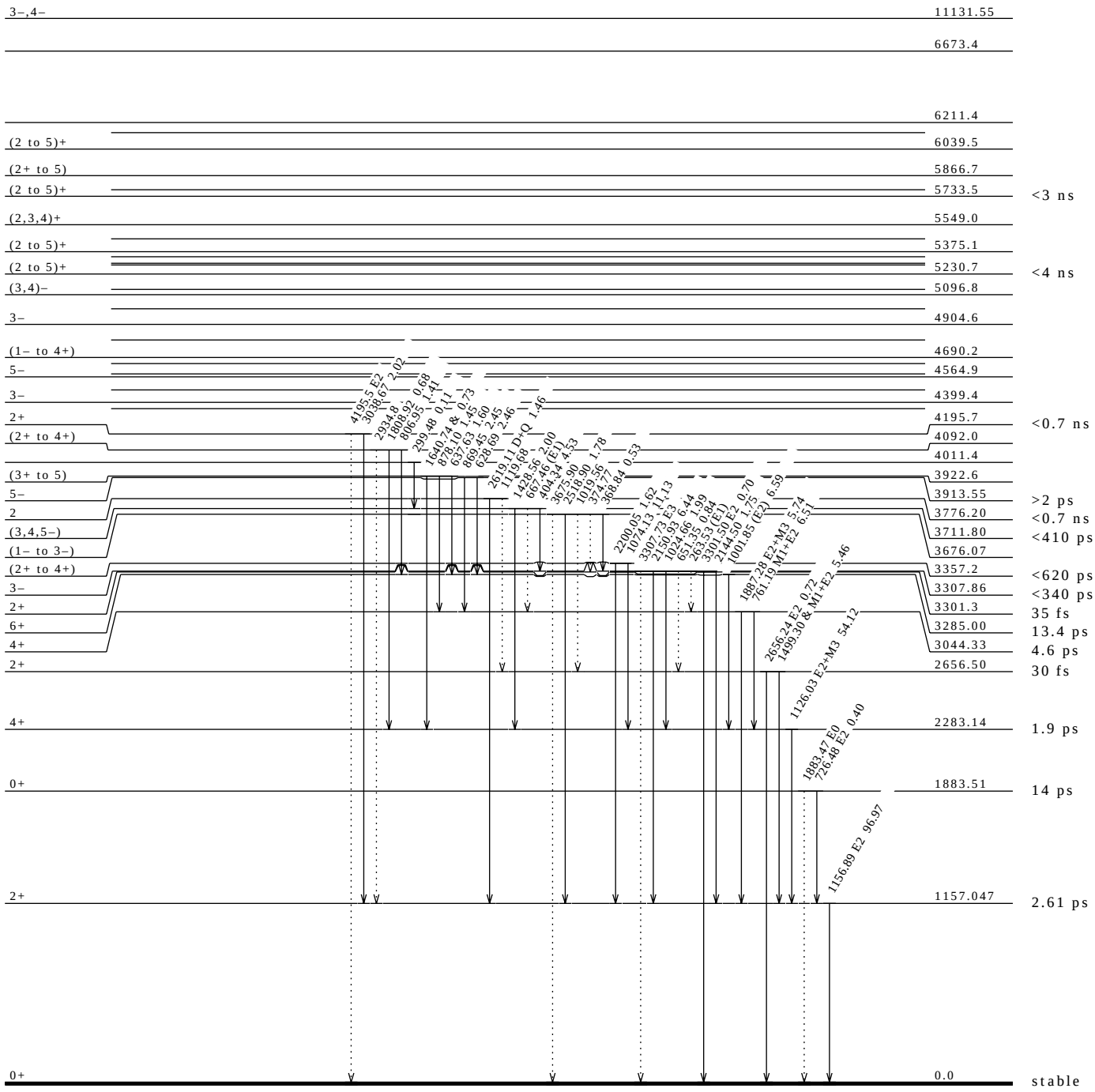


$^{44}_{20}Ca_{24}$

^{43}Ca(n,γ) E=thermal (continued)

Level Scheme (continued)

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{44}_{20}Ca_{24}$

^{44}Ca(n,γ) E=thermal 1968Gr11

Target Jπ=0+.
Measured Eγ, Iγ with Ge(Li).

^{45}Ca Levels

E(level)†	Jπ†	$T_{1/2}$†	Comments
0.0	7/2−	163.8 d *18*	%β⁻=100.
174.269 *24*	5/2−	0.40 ns *4*	
1434.74 *7*	3/2−	1.10 ps *+22−18*	
1879.91 *16*	3/2+	0.05 ps *3*	
1884.3 *3*			
1899.90 *9*	3/2−	1.12 ps *11*	
2249.08 *10*	1/2−	0.43 ps *7*	
2392.38 *14*	1/2+	0.19 ps *4*	
2842.07 *15*	3/2−	22 fs *6*	
3241.35 *24*	3/2−	36 fs *12*	
3418.34 *14*	1/2−	35 fs *7*	
3783.28 *22*	1/2−,3/2−	<26 fs	
3838.03 *20*	(1/2)−	<15 fs	
4467.7 *10*	1/2−,3/2−		
4615.76 *15*	1/2−	<12 fs	
4999.76 *19*	(1/2)−	<9.7 fs	
5237 *3*	1/2−,3/2−		
7414.8 *3*	1/2+		E(level): from evaluated s(n) (95Au04). Jπ: from s−wave neutron capture. Observed deexcitation intensity is 100% of g.s. feeding.

† From adopted levels, except as noted.

γ(^{45}Ca)

Iγ normalization: normalized from assuming Iγ(primary γ−ray from capture state)= 100.
σ_n=0.88 b *5*.

Eγ§	E(level)	Iγ‡#	Mult.†	δ†
174.5 *3*	174.269	77.4	(M1)	
349.2 *3*	2249.08	4.2	(M1)	
465.1 *3*	1899.90	5.2	(M1+E2)	
492.5 *6*	2392.38	0.1	(E1)	
(512† *1*)	2392.38	0.16†	(M1)	
x565.6 *10*		0.3		
576.7 *4*	3418.34	0.7	(M1)	
814.5 *3*	2249.08	4.8	(M1)	
x917.0 *10*		≈0.5		
942.7 *10*	2842.07	0.3	D,E2	
957.9@ *3*	2392.38	1.0@	(E1)	
	2842.07	1.0@		
(992†)	3241.35			
1026.0 *6*	3418.34	0.4	(E1)	
1169.4 *6*	3418.34	4.0	(M1)	
x1186.6 *5*		0.3		
1260.70 *10*	1434.74	18.3	M1+E2	
1434.72 *10*	1434.74	8.8	(E2)	
(1705.6† *2*)	1879.91	0.16†	(E1)	
1710.2 *20*	1884.3	1.1		
1725.8 *3*	1899.90	43.5	M1+E2	+0.34 *4*
x1751.1 *3*		0.2		
(1879.9† *3*)	1879.91	†	(M2)	
1900.0 *3*	1899.90	11.8	(E2)	
(1938.1† *5*)	3838.03	0.35†	(M1)	
x1942 *4*		<1.0		
1983.6 *20*	3418.34	1.0	(M1)	
2075.5 *4*	2249.08	7.9	(E2)	
2178.5 *30*	7414.8	0.2		
(2217.9† *6*)	2392.38	0.002†	(M2)	

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^{44}Ca(n,γ) E=thermal (continued)

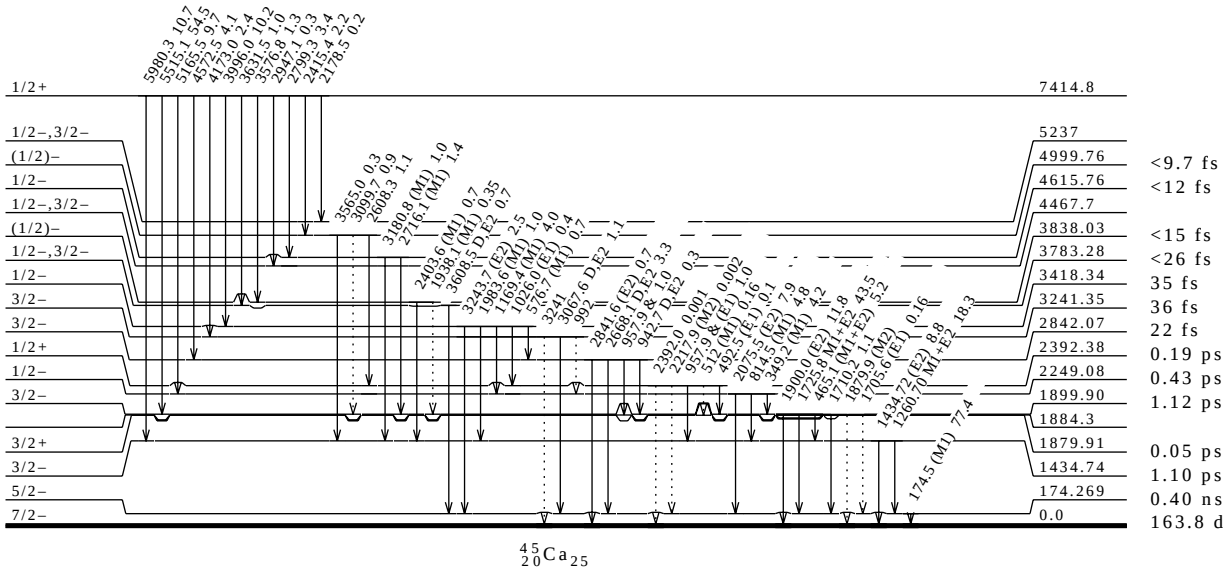
γ(^{45}Ca) (continued)

Eγ§	E(level)	Iγ‡#	Mult.†	Eγ§	E(level)	Iγ‡#	Mult.†
x2287.5 *6*		0.9		3243.7 *6*	3418.34	2.5	(E2)
(2392.0† *4*)	2392.38	0.001†		3565.0 *15*	4999.76	0.3	
2403.6 *10*	3838.03	0.7	(M1)	3576.8 *4*	7414.8	1.3	
2415.4 *5*	7414.8	2.2		3608.5 *5*	3783.28	0.7	D,E2
2608.3 *15*	4999.76	1.1		3631.5 *5*	7414.8	1.0	
2668.1 *3*	2842.07	3.3	D,E2	3996.0 *5*	7414.8	10.2	
2716.1 *4*	4615.76	1.4	(M1)	x4121.6 *10*		0.3	
2799.3 *4*	7414.8	3.4		4173.0 *8*	7414.8	2.4	
2841.6 *8*	2842.07	0.7	(E2)	4572.5 *8*	7414.8	4.1	
2947.1 *10*	7414.8	0.3		x4630.3 *10*		≈1.0	
3067.6 *6*	3241.35	1.1	D,E2	5165.5 *8*	7414.8	9.7	
(3099.7† *4*)	4999.76	0.9†		5515.1 *10*	7414.8	54.5	
3180.8 *6*	4615.76	1.0	(M1)	5980.3 *10*	7414.8	10.7	
(3241†)	3241.35						

† From adopted gammas.
‡ Absolute γ–ray intensity per 100 neutron captures. Errors are 10–15% for γ–ray with an intensity ≥2.0 and up to 50% for γ–ray with an intensity <2.0 given by authors.
§ Literature recoil correction removed by evaluator.
# For intensity per 100 neutron captures, multiply by 1.0.
@ Multiply placed; undivided intensity given.
x γ ray not placed in level scheme.

Level Scheme

Intensities: I(γ+ce) per 100 parent decays
& Multiply placed; undivided intensity given



$^{45}_{20}Ca_{25}$

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