Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen[#] and Balraj Singh	NDS 135, 1 (2016)	31-May-2016

Q(β^-)=3525.22 *18*; S(n)=7533.80 *11*; S(p)=9243.5 *4*; Q(α)=−7648.86 *14* 2012Wa38
S(2n)=17629.17 *12*, S(2p)=22040 *30* (2012Wa38).
^{42}K produced and identified by 1950Sa03 using ^{41}K(d,p) reaction.

Additional information 1.

2014Pa45, 2014Kr04: E(p)=1.4 GeV incident on UC_x target at ISOLDE-CERN facility. Fragments diffused out of target and surface ionized, then accelerated to 40 kV, followed by mass separation and bunched by gas-filled Paul Trap (ISCOOL). Hyperfine structure was studied by collinear laser spectroscopy using COLLAPS setup at ISOLDE-CERN. Measured hyperfine spectra. Deduced spin, magnetic moment, rms charge radius. Comparison with shell-model calculations. 2014Pa45 present measured hyperfine parameters, hyperfine structure anomalies, spins and magnetic moments, while 2014Kr04 present measured rms radii, isotope shifts and spin determination. Other hyperfine structure measurement: 1982To02.

^{42}K Levels

Additional information 2.

Cross Reference (XREF) Flags

A	^{42}Ar β^- decay (32.9 y)	E	^{40}Ar(α,d)	I	^{42}Ca(t,^{3}He)
B	^{9}Be(^{36}S,2npγ),(^{37}P,4nγ)	F	^{41}K(n,γ) E=thermal	J	^{43}Ca(d,^{3}He)
C	^{26}Mg(^{18}O,npγ)	G	^{41}K(n,γ):resonance	K	^{44}Ca(p,^{3}He)
D	^{27}Al(^{18}O,n2pγ),	H	^{41}K(d,p),(d,pγ)	L	^{44}Ca(d,α),(pol d,α)

E(level)[†]	J$^\pi$[#]	T$_{1/2}$[‡]	XREF	Comments
0	2$^-$	12.355 h *7*	ABCDEF HIJKL	%β^-=100 μ=−1.1388 *57* (2014Pa45); μ=−1.1425 *6* (1969Ch20,2014StZZ) The rms charge radius ($<r^2>)^{1/2}$: 3.4517 fm *70* (2013An02 evaluation). $\delta<r^2>(^{47}K,^{42}K)$=+0.034 fm^2 *6*(stat) *89*(syst); $\delta<r^2>(^{47}K,^{42}K)$=+0.026 fm^2 *23*(stat) *88*(syst) for $\delta\nu(^{39}K,^{42}K)$=+351.7 MHz *19* from literature; $\delta\nu(^{47}K,^{42}K)$=−506.7 MHz *7*(stat) *19*(syst) (2014Kr04). J$^\pi$: spin from fitting of hyperfine structure (2014Pa45,2014Kr04) with spin of 1 or 2; former is excluded in the analysis. Also atomic-beam method (1969Ch20,1973CoZG). Parity from L(α,d)=1 and L(d,p)=3. μ: deduced from hyperfine parameters measured relative to those for ^{39}K whose parameters are known very precisely. Statistical uncertainty of 0.0007 and an uncertainty of 0.0057 due to hyperfine anomaly are added in quadrature (2014Pa45). In 1969Ch20, μ is from atomic beam method. Dominant configuration=$\pi 1d_{3/2}^{-1}\otimes\nu(1f_{7/2}$ or $2p_{3/2})$ (2014Pa45) from comparison with shell-model calculations. T$_{1/2}$: weighted average of 12.339 h *11* (2005Li66), 12.321 h *25* (2004Un01), 11.97 h *12* (1994Mi03), 12.361 h *3* (1967Go21) and 12.358 h *7* (1962Me06), with uncertainty increased to 0.007 in 1967Go21. Others: 12.37 h *9* (1959Ma27), 12.46 h *7* (1957Wr37), 12.516 h *7* (1953Bu58), 12.44 h *8* (1953Ka26), 12.44 h *10* (1947Si08), 12.47 h *7* (1962Mo21), 12.5 h *2* (1951Si25), 12.4 h *2* (1937Hu01). Adopted (1977En02) neutron-stripping spectroscopic factor=0.34 *9* (L=3). Adopted (1977En02) proton-pickup spectroscopic factor=0.46 *12* (L=2).
106.826 *5*	3$^-$	0.28 ns *4*	BCDEF HIJ L	J$^\pi$: $\gamma(\theta)$; L(d,^{3}He)=2 and L(t,^{3}He)=L(d,α)=3.
258.259 *6*	4$^-$	130 ps *9*	BCD F HIJKL	J$^\pi$: $\gamma(\theta$,lin pol); L(d,p)=3 and L(d,^{3}He)=2. T$_{1/2}$: weighted average of 133 ps *9* in (^{18}O,npγ) and 123 ps *28* in

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Adopted Levels, Gammas (continued)

^{42}K Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
				(^{18}O,n2pγ).
638.726 *7*	3⁻	<1.4 ns	BC F HIJ L	Jπ: γ(θ); L(d,^{3}He)=0 and L(d,p)=1+3.
681.942 *8*	(2,3)		B F HIjkL	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
699.086 *14*	5⁻	41 ps *8*	BCDEF HIjkL	Jπ: γ(θ,lin pol); L(α,d)=L(d,α)=5.
783.885 *11*	2⁻		F HI L	Jπ: L(d,p)=1; π=U (not 0⁻) in (pol d,α).
841.941 *7*	3⁻		B F HI L	Jπ: γ from 3⁺; L(d,p)=1; π=N in (pol d,α).
1110.748 *9*	3⁺		F HI L	Jπ: primary γ from 1⁺,2⁺; L=4, π=U in (pol d,α).
1143.594 *11*	4⁺	<1.4 ns	BC eF HI k	Jπ: γ(θ); L(t,^{3}He)=4; gammas to 3⁻ and 5⁻.
1197.903 *10*	4⁻		eF HIjkL	Jπ: L(d,^{3}He)=0; L(d,p)=3; L=3, π=U in (pol d,α).
1254.821 *11*	2⁻		B F Hi kL	XREF: L(1268). Jπ: γ to 2⁻ and 4⁻; L(d,p)=1; L(t,^{3}He)=1+3.
1266.300 *9*	(1,2,3)⁻		F Hi L	XREF: L(1268). Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺, 2⁺; L(d,p)=1.
1273.537 *11*	2⁻		B F i L	XREF: L(1268). Jπ: γ to 3⁻ and 4⁻; primary γ from 1⁺, 2⁺; L(t,^{3}He)=1+3.
1376.02 *8*	6⁺	1.11 ns *14*	BCD F i	Jπ: ΔJ=2 γ to 4⁺. $T_{1/2}$: weighted average of 1.17 ns *8* in (^{18}O,npγ) and 0.76 ns *21* in (^{18}O,n2pγ).
1377.116 *10*	(2,3)⁻		F Hi	Jπ: γ to 2⁻; γ from 3⁺; primary γ from 1⁺,2⁺; L(d,p)=1.
1400.01 *4*	(2,3)		F Hi l	Jπ: γ to 2⁻, 3⁺, and 3⁻; primary γ from 1⁺,2⁺.
1407.911 *10*	(1⁻,2,3)		F Hij l	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
1453.07 *4*	(2⁻,3,4⁻)		F H j	Jπ: γ to 4⁻ and from 2⁻.
1463.653 *14*	(1⁻,2,3)		F HIj	Jπ: γ to 2⁻, 3⁻; primary γ from 1⁺,2⁺.
1489.31 *8*	(1⁻ to 5⁻)		F H j	Jπ: γ to 3⁻.
1513.076 *23*	(1⁻ to 5⁻)		eF H	Jπ: gammas to 3⁻.
1538.74 *5*	3⁺	<3.5 ps	BC eF I L	Jπ: L(d,α)=4 with π=U; L(α,d)=4; L(t,^{3}He)=2+4.
1691.99 *4*	(1⁻ to 4⁻)		F HIJ L	XREF: J(1630). Jπ: γ to 3⁻ and 2⁻.
1723.44 *3*	(2,3,4⁺)		F Hi	Jπ: γ to 3⁺ and 3⁻; primary γ from 1⁺,2⁺.
1745.616 *16*	(2⁺,3⁺)		F Hi L	Jπ: γ to 3⁻ and 4⁺; γ from 1⁺; primary γ from 1⁺,2⁺.
1816.875 *18*	(2,3,4⁻)		F I	Jπ: γ to 2⁻ and 3⁻; γ from 3⁺.
1842.980 *13*	(1⁻,2,3)		F H l	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
1861.893 *9*	2⁻		F HI l	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1, and unnatural parity in pol (d,α).
1913.458 *16*	(2⁻,3)		F Hi L	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
1936.12 *13*	(3⁻ to 6⁻)		B i l	Jπ: γ to 4⁻ and 5⁻.
1937.494 *15*	(1,2,3)⁻		F Hi l	Jπ: gammas to 2⁻ and 3⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
1947.88 *9*	7⁺	<1.1 ps	BCDE l	Jπ: γ(θ,lin pol); L(α,d)=6; ΔJ=1 γ to 6⁺.
1987.975 *19*	(0⁻ to 4⁻)		F HIJ	Jπ: γ to 2⁻.
2049.323 *14*	3⁺		F HI L	Jπ,E(level): gammas to 3⁻ and 4⁺; primary γ from 1⁺,2⁺; unnatural-parity state from (pol d,α), assuming that same level is populated in (d,α) and (n,γ). J^π=(2,4)⁻ suggested by 1982Ba55 in (pol d,α) was based on L(d,α)=3 and unnatural-parity, but γ to 4⁺ forbids 2⁻ and primary γ from 1⁺,2⁺ does not allow 4⁻. The 2056-keV peak in (d,α) was weakly populated in the work of 1977Pa24, it is possible that L(d,α)=4 can also be consistent with the observed σ(θ) pattern, which will give a unique choice of 3⁺, when combined with unnatural parity assignment for this state. Another unlikely possibility is that the level populated in (d,α) is different from that in (n,γ) giving a (2,4)⁻ level at 2056 keV in (d,α) and a 2⁺ or 3⁺ level at 2049 in (n,γ).
2072.009 *13*	(2,3)⁻		F HI	Jπ: gammas to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
2113.9 *3*	(0⁻ to 4⁻)		B j	Jπ: γ to 2⁻.
2161.651 *22*	(2⁺,3,4⁺)		F H j	Jπ: γ to 3⁻ and 4⁺; primary γ from 1⁺,2⁺.
2187.23 *4*	3⁺		F Hi L	Jπ: γ to 2⁻ and 4⁺; primary γ from 1⁺,2⁺; L(d,α)=4 with unnatural parity.

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Adopted Levels, Gammas (continued)

^{42}K Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
2204.037 *24*	(2⁻,3,4⁺)	F Hi	Jπ: γ to 4⁻; primary γ from 1⁺,2⁺.
2238.586 *25*	(1,2,3)⁻	F Hi	Jπ: γ to 2⁻; L(d,p)=1.
2251.081 *20*	(1⁻,2,3)	eF HI	Jπ: γ to 2⁻; γ from 3⁻; primary γ from 1⁺,2⁺.
2314 *14*	(3,5)⁺	e I L	Jπ: L(d,α)=4 with unnatural parity.
2359.13 *10*	(4⁺ to 7⁻)	B e i	Jπ: γ to 5⁻ and 6⁺.
2366.173 *13*	(2,3)⁻	F Hi	Jπ: γ to 2⁻ and 4⁻; L(d,p)=1.
2388.833 *20*	3⁺	F Hi kL	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺; L(d,α)=4.
2401.800 *15*	(2,3)⁻	F H k	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
2422.160 *22*	(1⁻,2,3)	F HI k	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
2482.146 *16*	(1,2,3)⁻	F HI	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
2524.9 *4*	(2 to 4)	B	Jπ: γ to 3⁻ and 3⁺.
2553.7 *2*	(0 to 3)⁻	Hi l	Jπ: L(d,p)=1.
2573.62 *5*	(2,3)	F Hi l	Jπ: γ to 2⁻, 3⁻ and 3⁺; primary γ from 1⁺,2⁺.
2606.993 *24*	(1⁻,2,3)	F H	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
2627.850 *21*	(2⁻,3)	F HI L	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
2644.288 *25*	3⁻	F H	Jπ: γ to 3⁻ and 4⁺; L(d,p)=1.
2653.81 *6*	(2⁻,3)	F HIj L	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
2718.096 *13*	(2⁻,3)	F H j	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
2765.961 *17*	(2⁺,3)	B F Hi L	Jπ: γ to 2⁻ and 4⁺; primary γ from 1⁺,2⁺.
2802 *15*		e i L	
2844 *12*		e I L	XREF: I(2824)L(2858).
2862.81 *4*	(2⁻,3)	eF I L	XREF: I(2862)L(2858).
			Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
2878.014 *24*	3⁻	F i	Jπ: γ to 2⁻ and 5⁻; primary γ from 1⁺,2⁺.
2917.12 *6*	(1⁻ to 4⁺)	F Hi	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
2926.10 *4*	(2,3)⁻	F H l	Jπ: γ to 2⁻ and 3⁺; primary γ from 1⁺,2⁺; L(d,p)=1.
2938.61 *4*	(1⁻,2,3)	F HI l	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
2991.70 *14*	(5⁺ to 9⁺)	B D	Jπ: γ to 7⁺.
3008.33 *3*	3	F l	Jπ: γ to 2⁻, 4⁺ and 4⁻; primary γ from 1⁺,2⁺.
3014.47 *5*	(1,2,3)⁻	F H l	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
3021.11 *3*	(2,3)⁻	F H l	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
3032 *10*	3⁺	I	Jπ: L(t,^{3}He)=2+4.
3040.21 *6*	3⁻	F HI l	XREF: I(3056).
			Jπ: γ to 2⁻ and 5⁻; primary γ from 1⁺,2⁺.
3090 *9*	1⁺	I L	Jπ: L(t,^{3}He)=0+2.
3132 *15*		I	
3168.2 *4*	(2⁺ to 6⁺)	B	Jπ: γ to 4⁺.
3195.78 *5*	(2⁻,3)	F H	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
3210.57 *7*	(1⁺,2,3)	F Hi L	Jπ: γ to 2⁻ and 3⁺; primary γ from 1⁺,2⁺.
3233.91 *4*	(3,4⁺)	F i	Jπ: γ to 3⁻, 4⁺ and 4⁻; primary γ from 1⁺,2⁺.
3284.42 *4*	(2,3)⁻	F H	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
3287.14 *4*	(2⁻,3,4⁺)	F l	Jπ: γ to 4⁻; primary γ from 1⁺,2⁺.
3295.35 *8*	(2,3)	F l	Jπ: γ to 3⁻ and 4⁻; primary γ from 1⁺,2⁺.
3304.37 *4*	1⁺	F HI l	XREF: I(3297).
			Jπ: L(t,^{3}He)=0+2.
3323.77 *7*	3⁻	F	Jπ: γ to 2⁻ and 5⁻; primary γ from 1⁺,2⁺.
3329 *10*	1⁺	I	Jπ: L(t,^{3}He)=0+2.
3367.30 *4*	(1⁺)	F HI	XREF: I(3377).
			Jπ: γ to 2⁻; primary γ from 1⁺,2⁺; L(t,^{3}He)=0+2 for 3377 level.
3418.44 *3*	(2,3)⁻	F HI l	Jπ: γ to 3⁺, 3⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1+3.
3421.24 *4*	(0⁻ to 3)	F i	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
3497.98 *23*	(2⁺ to 9⁻)	B i l	Jπ: γ to (4⁺ to 7⁻).
3502.91 *4*	(2⁺,3,4⁺)	F Hi l	Jπ: γ to 3⁻ and 4⁺; primary γ from 1⁺,2⁺.
3529.04 *7*	(0⁻ to 3)	F H l	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
3560.10 *14*	(5⁺ to 9⁺)	B D l	Jπ: γ to 7⁺.
3587 *15*		I	

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Adopted Levels, Gammas (continued)

^{42}K Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
3621.19 *4*	(2,3)	F HI	Jπ: γ to 2⁻, 3⁺ and 3⁻; primary γ from 1⁺,2⁺.
3658.60 *4*	(2⁻,3)	F Hi	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
3674.14 *3*	(1⁻,2,3)	F Hi	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
3696.55 *5*	(3⁻,4⁺)	F HI	Jπ: γ to 5⁻; primary γ from 1⁺,2⁺.
3758 *10*		I	
3770.70? *8*	(0⁻ to 3)	F	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
3794.61 *3*	(0⁻ to 3)	F i	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
3798.15 *7*	(2⁻,3,4⁺)	F i	Jπ: γ to 3⁺ and 4⁻; primary γ from 1⁺,2⁺.
3831.75? *6*	(1⁺,2,3)	F	Jπ: γ to 2⁻ and 3⁺; primary γ from 1⁺,2⁺.
3862.09 *6*	(1⁻ to 4⁺)	F i	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
3876.92 *5*	(1⁻ to 4⁺)	F Hi	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
3888.32 *5*	(2,3)⁻	F Hi	Jπ: γ to 3⁺; primary γ from 1⁺,2⁺; L(d,p)=1.
3890.09 *4*	(0⁻ to 3)	F i	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
3934.63 *7*	(2⁻,3)	F H	Jπ: γ to 2⁻, 3⁺ and 3⁻; primary γ from 1⁺,2⁺.
4013.89 *4*	(0⁻ to 3)	F H	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
4036.83 *5*	3⁻	F i	Jπ: γ to 2⁻ and 5⁻; primary γ from 1⁺,2⁺.
4039.93 *4*	(1,2,3)	F Hi	Jπ: γ to 2⁻ and (3,4⁺); primary γ from 1⁺,2⁺.
4053.84 *6*	(2,3)⁻	F Hi	Jπ: γ to 2⁻ and 3⁺; primary γ from 1⁺,2⁺; L(d,p)=1(+3).
4092.33 *22*	(3⁺ to 9⁻)	B	Jπ: γ to (4⁺ to 7⁻) and (5⁺ to 9⁺).
4103.51 *14*	(0⁻ to 4⁺)	F Hi	Jπ: γ to (2⁻,3); primary γ from 1⁺,2⁺.
4105.75? *8*	(0⁻ to 3)	F i	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
4128.35 *3*	3⁻	F Hi	Jπ: γ to 2⁻ and 4⁺; primary γ from 1⁺,2⁺; L(d,p)=1+3.
4152.35 *5*	(2⁻,3,4⁺)	F Hi	Jπ: γ to 3⁺, 3⁻ and 4⁻; primary γ from 1⁺,2⁺.
4154.75 *6*	(1⁻,2,3)	F i	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
4179.40 *10*	(2⁻,3,4⁺)	F H	Jπ: γ to 4⁻; primary γ from 1⁺,2⁺.
4259.05 *6*	(1⁻,2,3)	F	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
4389.94 *7*	(2⁻,3,4⁺)	F H	Jπ: γ to 3⁺ and 4⁻; primary γ from 1⁺,2⁺.
4416.58 *4*	(2,3)⁻	F H	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺; L(d,p)=1+3.
4428.30 *4*	(1⁺,2,3)	F H	Jπ: γ to 2⁻ and 3⁺; primary γ from 1⁺,2⁺.
4443.13 *5*	(0⁻ to 4⁺)	F H	Jπ: γ to (2,3)⁻; primary γ from 1⁺,2⁺.
4481.09 *5*	(2,3)⁻	F H	Jπ: γ to 2⁻, 3⁺ and 3⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
4556.71 *7*	(1⁻,2,3)	F H	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
4576.23 *5*	(2,3)⁻	F H	Jπ: γ to 3⁺; L(d,p)=1.
4590.56 *5*	(2⁻,3,4⁺)	F H	Jπ: γ to 3⁺, 3⁻ and 4⁻; primary γ from 1⁺,2⁺.
4603.7 *6*		D	
4612.81 *6*	(2⁺,3)	F	Jπ: γ to 2⁻ and 4⁺; primary γ from 1⁺,2⁺.
4660.72 *6*	(2⁻,3)	F	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
4715.33 *10*	(2⁻,3)	F	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.
4746.1 *3*	(3⁺ to 10)	B	Jπ: γ to (5⁺ to 9⁺) and (2⁺ to 9⁻).
4748.53 *7*	3⁻	F H	Jπ: γ to 2⁻ and 5⁻; primary γ from 1⁺,2⁺.
4778.05 *6*	(1⁻ to 4⁺)	F H	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
4806.84 *5*	(1 to 3)⁻	F H	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
4853.65 *6*	(0 to 3)⁻	F H	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺; L(d,p)=1.
4877.21 *5*	(0 to 4⁺)	F H	Jπ: primary γ from 1⁺,2⁺.
4903.53 *8*	(3⁻,4⁺)	F H	Jπ: γ to 4⁻ and 5⁻; primary γ from 1⁺,2⁺.
4938.98 *6*	(1⁻,2,3)	F	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
4942.99 *5*	(1⁻ to 4⁻)	F H	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
4959.72 *8*	(0⁻ to 4⁺)	F H	Jπ: γ to (2,3)⁻; primary γ from 1⁺,2⁺.
5003.01 *5*	(1⁻,2,3)	F H	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
5064.08 *6*	(1⁻ to 4⁺)	F H	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
5081.15 *8*	(1⁻,2,3)	F H	Jπ: γ to 2⁻ and 3⁻; primary γ from 1⁺,2⁺.
5097.00 *5*	(0⁻ to 3)	F H	Jπ: γ to 2⁻; primary γ from 1⁺,2⁺.
5142		H	
5179.10 *6*	(0⁻ to 4⁺)	F H	Jπ: γ to (2⁻,3); primary γ from 1⁺,2⁺.
5246.62 *7*	(1⁻ to 4⁺)	F H	Jπ: γ to 3⁻; primary γ from 1⁺,2⁺.
5318.97 *6*	(2⁻,3)	F H	Jπ: γ to 2⁻ and 4⁻; primary γ from 1⁺,2⁺.

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Adopted Levels, Gammas (continued)

^{42}K Levels (continued)

E(level)†	Jπ#	XREF		Comments
5363.5 *4*		H		
5380.1 *15*		H		
5476.93 *14*	(1+,2,3)	F H		Jπ: γ to 2− and 3+; primary γ from 1+,2+.
5484.0 *6*		H		
5555.7 *6*		H		
5622.5 *3*		H		
5630.13 *13*	(4+)	F H		Jπ: γ to 6+; weak primary γ from 1+,2+.
5654.6 *3*		H		
5682.7 *3*		H		
5697.21 *8*	(1− to 4+)	F H		Jπ: γ to 3−; primary γ from 1+,2+.
5710.68 *8*	(2−,3,4+)	F H		Jπ: γ to 4−; primary γ from 1+,2+.
5723.5 *6*		H		
5737.5 *4*		H		
5747.7 *8*		H		
5759.69 *6*	(1−,2,3+)	F H		Jπ: γ to 1+ and 3−; primary γ from 1+,2+.
5772.4 *6*		H		
5789.58 *6*	(0 to 4+)	F H		Jπ: primary γ from 1+,2+.
5809.3 *3*		H		
5819.4 *3*		H		
5846.42 *12*	(1+,2,3+)	F H		Jπ: γ to 1+ and 3+; primary γ from 1+,2+.
5896.4 *4*		H		
5927.2 *5*		H		
5953.67 *7*	(1 to 3)	F H		Jπ: γ to 2−; primary γ from 1+,2+.
5968.7 *5*		H		
5978.43 *8*	(4+)	F H		Jπ: γ to 3− and 6+; weak primary γ from 1+,2+.
6012.6 *5*		H		
6450	(0+)		K	T=3 Jπ,T: probable IAS of ^{42}Ar g.s.
(7533.80 *15*)	1+,2+	F		Jπ: s-wave neutron capture in 3/2+ g.s. of ^{41}K.
7534.67 *11*		G		
7535.78 *11*	1+,2+	G		
7536.93 *11*	(0 to 3)−	G		
7537.72 *11*		G		
7539.18 *11*	1+,2+	G		
7539.67 *11*		G		
7540.32 *11*		G		
7541.60 *11*		G		
7542.07 *11*		G		
7544.48 *11*	(0 to 3)−	G		
7544.76 *11*		G		
7546.82 *11*	(0 to 3)−	G		
7548.46 *11*	(0 to 3)−	G		
7548.86 *11*		G		
7549.04 *11*		G		
7550.11 *11*	1+,2+	G		
7551.36 *11*		G		
7552.04 *11*		G		
7553.24 *11*		G		
7553.61 *11*	(0 to 3)−	G		
7558.31 *11*	(1+,2+)	G		
7560.18 *11*		G		
7560.27 *11*	(0 to 3)−	G		
7561.43 *11*		G		
7566.12 *11*		G		
7566.20 *11*		G		
7566.85 *11*		G		

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Adopted Levels, Gammas (continued)

^{42}K Levels (continued)

E(level)†	Jπ#	XREF
7568.49 *12*		G
7571.43 *12*	$1^+,2^+$	G
7572.33 *12*		G
7575.13 *12*	$(1^+,2^+)$	G
7575.72 *12*		G
7577.05 *12*		G
7577.14 *12*		G
7580.12 *12*		G
7580.35 *12*		G
7580.97 *12*		G
7582.01 *12*		G
7582.80 *12*		G
7583.95 *12*		G
7585.39 *12*		G
7585.69 *12*		G
7586.46 *12*		G
7587.90 *12*	$(0\text{ to }3)^-$	G
7589.67 *12*		G
7590.60 *12*	$(1^+,2^+)$	G
7591.51 *12*		G
7594.76 *13*		G
7595.23 *13*		G
7595.50 *13*	$(0\text{ to }3)^-$	G
7597.89 *13*		G
7599.27 *13*	$(0\text{ to }3)^-$	G
7599.94 *13*		G
7600.41 *13*		G
7602.56 *13*	$(0\text{ to }3)^-$	G
7602.89 *13*		G
7603.90 *13*		G
7607.14 *13*		G
7607.49 *13*	$(0\text{ to }3)^-$	G
7609.18 *13*		G
7610.95 *13*		G
7611.51 *13*		G
7611.71 *13*	$(0\text{ to }3)^-$	G
7614.19 *14*		G
7614.93 *14*		G
7615.21 *14*	$(0\text{ to }3)^-$	G
7617.95 *14*		G
7620.11 *14*		G
7622.15 *14*	$(0\text{ to }3)^-$	G
7622.98 *14*		G
7625.14 *14*		G
7626.42 *14*		G
7628.19 *15*		G
7628.48 *15*		G
7628.72 *15*		G
7630.24 *15*		G
7631.99 *15*	$(0\text{ to }3)^-$	G
7632.67 *15*		G
7634.80 *15*		G
7636.71 *15*		G
7637.84 *15*		G
7639.84 *15*		G
7641.06 *15*		G
7641.55 *15*		G
7643.89 *15*		G
7645.35 *15*		G
7647.11 *15*		G
7647.4 *3*	$(0\text{ to }3)^-$	G
7651.89 *16*		G
7652.48 *15*		G
7653.16 *16*		G
7654.72 *16*		G
7657.16 *16*		G
7657.46 *17*		G
7658.82 *17*		G
7660.09 *17*		G
7662.53 *17*		G
7663.70 *17*		G
7664.38 *17*		G
7664.87 *17*		G
7666.24 *18*		G
7669.26 *18*		G
7671.31 *18*		G
7674.53 *18*		G
7675.71 *18*		G
7676.49 *18*		G
7680.10 *18*		G
7680.59 *18*		G

† From least-squares adjustment to measured Eγ data when such data are available. Otherwise weighted averages of available level energies are taken. Uncertainties for neutron resonances include only uncertainty for S(n) and statistical uncertainties for neutron energies.

‡ From recoil-distance method. Values are from (^{18}O,npγ) (1977Ek01), unless otherwise stated.

When L-transfer arguments are used, the target spin-parity is $J^\pi=3/2^+$ for ^{41}K(d,p); $J^\pi=0^+$ for ^{42}K(t,^{3}He), ^{44}Ca(p,^{3}He) and ^{44}Ca(d,α); $J^\pi=7/2^-$ for ^{43}Ca(d,^{3}He). When levels are only seen in (n,γ):Resonance, J^π values are from s-wave or p-wave assignment in the analysis of neutron-resonance data (2006MuZX). When assigning J^π to a level based on γ transitions from this level to a level of known J^π, evaluators consider transitions to be E1, M1 or E2.

Adopted Levels, Gammas (continued)

$\gamma(^{42}K)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
106.826	3^-	106.817 *7*	100	0	2^-	M1(+E2)	+0.01 *3*	B(M1)(W.u.)=0.065 *10*; B(E2)(W.u.)<12
258.259	4^-	151.431 *3*	100	106.826	3^-	M1(+E2)	−0.008 *16*	B(M1)(W.u.)=0.049 *4*; B(E2)(W.u.)<2.1
638.726	3^-	380.473 *13*	44 *9*	258.259	4^-	(M1+E2)		
		531.908 *15*	100 *16*	106.826	3^-			
		638.717 *14*	60 *9*	0	2^-	D		
681.942	(2,3)	575.04 *5*	0.7 *2*	106.826	3^-			
		681.932 *12*	100.0 *2*	0	2^-			
699.086	5^-	440.854 *18*	100 *2*	258.259	4^-	M1+E2	+0.102 *8*	B(M1)(W.u.)=0.0059 *12*; B(E2)(W.u.)=0.94 *24*
		592.23[#] *6*	4.6[#] *3*	106.826	3^-	[E2]		B(E2)(W.u.)=0.96 *20*
783.885	2^-	783.903 *14*	100	0	2^-			
841.941	3^-	735.099 *14*	16 *2*	106.826	3^-			
		841.895 *13*	100 *15*	0	2^-			
1110.748	3^+	268.793 *8*	90 *20*	841.941	3^-			
		428.71 *5*	10 *2*	681.942	(2,3)			
		1110.767 *16*	100 *15*	0	2^-			
1143.594	4^+	301.50 *14*	4.5 *15*	841.941	3^-			
		444.525 *19*	38 *8*	699.086	5^-	D		
		504.828 *16*	100 *8*	638.726	3^-	D		
		1036.83 *3*	9.1 *15*	106.826	3^-			
1197.903	4^-	559.23 *3*	23 *4*	638.726	3^-			
		939.605 *17*	100 *15*	258.259	4^-			
		1091.088 *18*	67 *11*	106.826	3^-			
		1197.99 *3*	15 *3*	0	2^-			
1254.821	2^-	413.16 *16*	2.6 *7*	841.941	3^-			
		616.118 *14*	100 *13*	638.726	3^-			
		996.511 *16*	62 *9*	258.259	4^-			
		1254.80 *3*	34 *6*	0	2^-			
1266.300	$(1,2,3)^-$	584.40 *4*	12.7 *22*	681.942	(2,3)			
		627.551 *15*	42 *6*	638.726	3^-			
		1266.305 *15*	100 *16*	0	2^-			
1273.537	2^-	431.566 *16*	100 *15*	841.941	3^-			
		634.65 *6*	3.2 *5*	638.726	3^-			
		1015.233 *24*	21 *3*	258.259	4^-			
		1166.808 *25*	10.3 *17*	106.826	3^-			
1376.02	6^+	232.3 *2*	12.3 *5*	1143.594	4^+	E2(+M3)	−0.04 *3*	B(E2)(W.u.)=9.5 *13* E_γ,I_γ: weighted average from (^{18}O,npγ) and (^{36}S,2npγ).
		676.87 *11*	100 *3*	699.086	5^-	E1+M2	+0.025 *11*	B(E1)(W.u.)=1.45×10^{-6} *20*; B(M2)(W.u.)=0.009 *8* I_γ: from (^{18}O,npγ) and (^{36}S,2npγ).
1377.116	$(2,3)^-$	695.189 *17*	30 *5*	681.942	(2,3)			
		1377.065 *16*	100 *5*	0	2^-			
1400.01	(2,3)	289.21 *9*	37 *9*	1110.748	3^+			
		761.31 *8*	9.8 *17*	638.726	3^-			
		1399.78 *9*	100 *15*	0	2^-			
1407.911	$(1^-,2,3)$	725.96 *3*	5.2 *8*	681.942	(2,3)			
		1301.008 *20*	17 *3*	106.826	3^-			
		1407.898 *16*	100 *17*	0	2^-			
1453.07	$(2^-,3,4^-)$	198.33 *9*	100 *27*	1254.821	2^-			
		1195.02 *13*	8.9 *16*	258.259	4^-			
1463.653	$(1^-,2,3)$	621.727 *16*	100 *15*	841.941	3^-			
		1463.59 *3*	19 *3*	0	2^-			

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
1489.31	(1⁻ to 5⁻)	851.01 *20*	100 *17*	638.726	3⁻			
		1382.2 *3*	69 *17*	106.826	3⁻			
1513.076	(1⁻ to 5⁻)	671.149 *23*	100 *29*	841.941	3⁻			
		830.89 *9*	17 *3*	681.942	(2,3)			
1538.74	3⁺	395.16 *7*	100	1143.594	4⁺	D		
1691.99	(1⁻ to 4⁻)	437.24 *18*	37 *10*	1254.821	2⁻			
		1585.10 *4*	100 *10*	106.826	3⁻			
1723.44	(2,3,4⁺)	612.65 *5*	100 *17*	1110.748	3⁺			
		881.33 *11*	4.7 *9*	841.941	3⁻			
		1084.48 *12*	4.8 *9*	638.726	3⁻			
		1616.84 *11*	7.4 *12*	106.826	3⁻			
1745.616	(2⁺,3⁺)	602.046 *22*	88 *14*	1143.594	4⁺			
		903.635 *21*	100 *14*	841.941	3⁻			
1816.875	(2,3,4⁻)	550.30 *10*	6.3 *12*	1266.300	(1,2,3)⁻			
		562.07 *4*	17 *3*	1254.821	2⁻			
		1709.983 *25*	100 *15*	106.826	3⁻			
1842.980	(1⁻,2,3)	569.475 *20*	40 *6*	1273.537	2⁻			
		1001.005 *16*	100 *15*	841.941	3⁻			
		1842.95 *3*	75 *12*	0	2⁻			
1861.893	2⁻	408.87 *15*	2.0 *5*	1453.07	(2⁻,3,4⁻)			
		454.01 *3*	8.2 *18*	1407.911	(1⁻,2,3)			
		595.618 *17*	24 *4*	1266.300	(1,2,3)⁻			
		1179.921 *16*	48 *7*	681.942	(2,3)			
		1223.29 *5*	2.5 *4*	638.726	3⁻			
		1603.60 *5*	5.3 *12*	258.259	4⁻			
		1754.98 *3*	14.1 *21*	106.826	3⁻			
		1861.855 *24*	100 *15*	0	2⁻			
1913.458	(2⁻,3)	1071.509 *20*	100 *15*	841.941	3⁻			
		1655.16 *3*	40 *6*	258.259	4⁻			
		1913.8 *3*	2.1 *6*	0	2⁻			
1936.12	(3⁻ to 6⁻)	1237.07[#] *16*	100[#] *9*	699.086	5⁻			
		1677.52[#] *26*	82[#] *18*	258.259	4⁻			
1937.494	(1,2,3)⁻	663.2 *5*	1.9 *4*	1273.537	2⁻			
		1153.61 *3*	9.5 *15*	783.885	2⁻			
		1255.52 *3*	100 *15*	681.942	(2,3)			
		1830.42 *23*	8.1 *12*	106.826	3⁻			
		1937.48 *3*	75 *12*	0	2⁻			
1947.88	7⁺	571.86 *4*	100	1376.02	6⁺	M1+E2	−0.035 *19*	B(M1)(W.u.)>0.11
1987.975	(0⁻ to 4⁻)	721.66 *16*	4.4 *10*	1266.300	(1,2,3)⁻			
		1204.080 *19*	100 *15*	783.885	2⁻			
		1988.00 *8*	17 *3*	0	2⁻			
2049.323	3⁺	905.712 *19*	42 *6*	1143.594	4⁺			
		1207.363 *17*	100 *15*	841.941	3⁻			
2072.009	(2,3)⁻	874.088 *19*	24 *4*	1197.903	4⁻			
		1433.274 *19*	33 *5*	638.726	3⁻			
		1965.10 *3*	22 *3*	106.826	3⁻			
		2071.95 *4*	100 *10*	0	2⁻			
2113.9	(0⁻ to 4⁻)	2113.8 *3*	100	0	2⁻			E_γ: from (^{36}S,2npγ).
2161.651	(2⁺,3,4⁺)	1018.032 *21*	100 *15*	1143.594	4⁺			
		1319.32 *23*	58 *10*	841.941	3⁻			
2187.23	3⁺	1043.78 *13*	76 *16*	1143.594	4⁺			
		1076.51 *12*	46 *9*	1110.748	3⁺			
		1403.48 *5*	100 *16*	783.885	2⁻			
2204.037	(2⁻,3,4⁺)	949.60 *20*	8.6 *22*	1254.821	2⁻			
		1945.69 *3*	100 *14*	258.259	4⁻			

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
2238.586	(1,2,3)$^-$	376.71 *5*	28 *7*	1861.893	2$^-$
		972.20 *4*	5.0 *8*	1266.300	(1,2,3)$^-$
		2131.9 *3*	1.0 *3*	106.826	3$^-$
		2238.56 *4*	100 *10*	0	2$^-$
2251.081	(1$^-$,2,3)	977.524 *18*	100 *15*	1273.537	2$^-$
		1568.99 *12*	5.1 *9*	681.942	(2,3)
2359.13	(4$^+$ to 7$^-$)	422.8 *3*	49 *6*	1936.12	(3$^-$ to 6$^-$)
		983.16 *9*	100 *11*	1376.02	6$^+$
		1659.91 *16*	38 *5*	699.086	5$^-$
2366.173	(2,3)$^-$	378.20 *5*	3.8 *10*	1987.975	(0$^-$ to 4$^-$)
		958.215 *21*	11.0 *18*	1407.911	(1$^-$,2,3)
		989.065 *21*	9.7 *15*	1377.116	(2,3)$^-$
		1684.19 *5*	2.8 *8*	681.942	(2,3)
		2107.92 *15*	0.95 *18*	258.259	4$^-$
		2259.28 *4*	55 *5*	106.826	3$^-$
		2366.13 *4*	100 *10*	0	2$^-$
2388.833	3$^+$	450.97 *12*	16 *4*	1937.494	(1,2,3)$^-$
		571.85 *5*	29 *5*	1816.875	(2,3,4$^-$)
		1011.62 *3*	48 *7*	1377.116	(2,3)$^-$
		1122.74 *5*	100 *21*	1266.300	(1,2,3)$^-$
		1707.01 *7*	30 *5*	681.942	(2,3)
		2281.90 *10*	16.7 *23*	106.826	3$^-$
		2388.81 *5*	100 *11*	0	2$^-$
2401.800	(2,3)$^-$	678.34 *6*	4.1 *7*	1723.44	(2,3,4$^+$)
		912.69 *23*	0.61 *16*	1489.31	(1$^-$ to 5$^-$)
		993.863 *23*	9.7 *16*	1407.911	(1$^-$,2,3)
		1128.20 *3*	4.3 *7*	1273.537	2$^-$
		1135.40 *7*	2.0 *3*	1266.300	(1,2,3)$^-$
		1147.24 *22*	13.5 *19*	1254.821	2$^-$
		2143.43 *5*	21.3 *23*	258.259	4$^-$
		2294.98 *3*	100 *10*	106.826	3$^-$
		2401.72 *5*	11.0 *10*	0	2$^-$
2422.160	(1$^-$,2,3)	579.30 *6*	7.2 *12*	1842.980	(1$^-$,2,3)
		1740.20 *3*	28 *4*	681.942	(2,3)
		1783.51 *12*	27 *4*	638.726	3$^-$
		2315.19 *4*	100 *10*	106.826	3$^-$
		2422.20 *11*	5.0 *6*	0	2$^-$
2482.146	(1,2,3)$^-$	544.68 *21*	2.9 *8*	1937.494	(1,2,3)$^-$
		620.244 *16*	100 *15*	1861.893	2$^-$
		1640.18 *4*	9.6 *14*	841.941	3$^-$
		1800.15 *4*	22 *4*	681.942	(2,3)
		2375.35 *8*	13.1 *14*	106.826	3$^-$
		2482.21 *20*	4.2 *7*	0	2$^-$
2524.9	(2 to 4)	986.1 *4*	100 *27*	1538.74	3$^+$
		1682.9 *5*	59 *15*	841.941	3$^-$
2573.62	(2,3)	1034.90 *7*	29 *5*	1538.74	3$^+$
		2466.69 *6*	100 *11*	106.826	3$^-$
		2573.54 *16*	54 *14*	0	2$^-$
2606.993	(1$^-$,2,3)	861.34 *6*	43 *7*	1745.616	(2$^+$,3$^+$)
		1229.89 *3*	100 *15*	1377.116	(2,3)$^-$
		1352.02 *7*	92 *14*	1254.821	2$^-$
		1968.08 *9*	38 *6*	638.726	3$^-$
2627.850	(2$^-$,3)	766.21 *9*	14 *3*	1861.893	2$^-$
		1361.535 *23*	100 *14*	1266.300	(1,2,3)$^-$
		1785.95 *6*	60 *9*	841.941	3$^-$
		2369.9 *3*	49 *5*	258.259	4$^-$

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
2627.850	(2⁻,3)	2520.73 *9*	31 *4*	106.826	3⁻
		2627.74 *10*	26 *3*	0	2⁻
2644.288	3⁻	706.98 *8*	11.8 *20*	1937.494	(1,2,3)⁻
		920.81 *6*	14.4 *24*	1723.44	(2,3,4⁺)
		1500.37 *13*	15 *3*	1143.594	4⁺
		1962.29 *3*	100 *16*	681.942	(2,3)
		2006.0 *3*	6.6 *20*	638.726	3⁻
		2537.36 *7*	29 *3*	106.826	3⁻
2653.81	(2⁻,3)	2395.53 *6*	100 *10*	258.259	4⁻
		2653.56 *10*	26 *3*	0	2⁻
2718.096	(2⁻,3)	856.20 *3*	20 *3*	1861.893	2⁻
		1340.942 *23*	47 *7*	1377.116	(2,3)⁻
		1451.745 *19*	100 *15*	1266.300	(1,2,3)⁻
		1520.28 *4*	23 *4*	1197.903	4⁻
		1934.16 *3*	38 *6*	783.885	2⁻
2765.961	(2⁺,3)	283.78 *12*	11 *3*	2482.146	(1,2,3)⁻
		828.462 *16*	76 *11*	1937.494	(1,2,3)⁻
		1622.53 *7*	5.2 *8*	1143.594	4⁺
		2083.94 *4*	84 *9*	681.942	(2,3)
		2765.80 *4*	100 *10*	0	2⁻
2862.81	(2⁻,3)	1454.53 *12*	100 *15*	1407.911	(1⁻,2,3)
		1485.60 *8*	6.6 *11*	1377.116	(2,3)⁻
		1596.62 *23*	21 *3*	1266.300	(1,2,3)⁻
		1665.14 *14*	3.1 *5*	1197.903	4⁻
		2020.83 *6*	44 *4*	841.941	3⁻
2878.014	3⁻	806.00 *3*	100 *17*	2072.009	(2,3)⁻
		964.50 *9*	26 *5*	1913.458	(2⁻,3)
		1470.09 *6*	42 *7*	1407.911	(1⁻,2,3)
		2094.05 *11*	38 *5*	783.885	2⁻
		2179.04 *8*	100 *11*	699.086	5⁻
		2195.95 *10*	58 *7*	681.942	(2,3)
		2770.75 *13*	20 *3*	106.826	3⁻
		2878.10 *16*	13.3 *22*	0	2⁻
2917.12	(1⁻ to 4⁺)	1661.8 *4*	45 *7*	1254.821	2⁻
		2810.15 *6*	100 *10*	106.826	3⁻
2926.10	(2,3)⁻	537.17 *14*	13 *3*	2388.833	3⁺
		1473.00 *7*	20 *3*	1453.07	(2⁻,3,4⁻)
		1671.20 *11*	13 *3*	1254.821	2⁻
		2926.01 *5*	100 *9*	0	2⁻
2938.61	(1⁻,2,3)	1121.70 *5*	100 *14*	1816.875	(2,3,4⁻)
		1485.60 *8*	26 *5*	1453.07	(2⁻,3,4⁻)
		2096.60 *12*	28 *5*	841.941	3⁻
		2938.38 *6*	79 *12*	0	2⁻
2991.70	(5⁺ to 9⁺)	632.68 *20*	65 *7*	2359.13	(4⁺ to 7⁻)
		1043.79 *14*	100 *9*	1947.88	7⁺
3008.33	3	846.59 *5*	23 *4*	2161.651	(2⁺,3,4⁺)
		1810.51 *10*	16 *3*	1197.903	4⁻
		1864.68 *5*	29 *5*	1143.594	4⁺
		2166.38 *6*	100 *10*	841.941	3⁻
		3008.28 *9*	32.1 *19*	0	2⁻
3014.47	(1,2,3)⁻	612.64 *5*	49 *7*	2401.800	(2,3)⁻
		1501.85 *21*	12 *3*	1513.076	(1⁻ to 5⁻)
		2172.71 *25*	6.8 *15*	841.941	3⁻
		2332.50 *11*	18.0 *22*	681.942	(2,3)
		2907.35 *14*	100 *10*	106.826	3⁻
3021.11	(2,3)⁻	817.05 *5*	19 *3*	2204.037	(2⁻,3,4⁺)

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
3021.11	(2,3)$^-$	1766.26 *3*	100 *14*	1254.821	2$^-$
		2762.47 *10*	12.4 *14*	258.259	4$^-$
		3021.07 *8*	63 *3*	0	2$^-$
3040.21	3$^-$	618.20 *8*	31 *5*	2422.160	(1$^-$,2,3)
		2341.09 *19*	10.8 *16*	699.086	5$^-$
		3039.92 *8*	100 *8*	0	2$^-$
3168.2	(2$^+$ to 6$^+$)	1054.3 *3*	100 *22*	2113.9	(0$^-$ to 4$^-$)
		2024.5 *6*	61 *17*	1143.594	4$^+$
3195.78	(2$^-$,3)	1787.5 *3*	67 *12*	1407.911	(1$^-$,2,3)
		1818.32 *23*	54 *8*	1377.116	(2,3)$^-$
		1998.11 *11*	26 *5*	1197.903	4$^-$
		2411.9 *3*	26 *8*	783.885	2$^-$
		2556.94 *7*	54 *6*	638.726	3$^-$
		3195.59 *8*	100 *5*	0	2$^-$
3210.57	(1$^+$,2,3)	1802.57 *11*	40 *6*	1407.911	(1$^-$,2,3)
		3210.46 *8*	100 *5*	0	2$^-$
3233.91	(3,4$^+$)	1391.4 *3*	100 *17*	1842.980	(1$^-$,2,3)
		1833.88 *5*	64 *10*	1400.01	(2,3)
		2035.91 *10*	72 *10*	1197.903	4$^-$
		2089.8 *4*	58 *7*	1143.594	4$^+$
		3126.83 *10*	55 *3*	106.826	3$^-$
3284.42	(2,3)$^-$	1080.17 *10*	8.0 *14*	2204.037	(2$^-$,3,4$^+$)
		2086.53 *5*	80 *8*	1197.903	4$^-$
		2500.45 *5*	100 *10*	783.885	2$^-$
		3177.25 *16*	38.2 *22*	106.826	3$^-$
3287.14	(2$^-$,3,4$^+$)	1909.90 *5*	20 *3*	1377.116	(2,3)$^-$
		2648.38 *6*	44 *5*	638.726	3$^-$
		3028.89 *7*	100 *5*	258.259	4$^-$
3295.35	(2,3)	2184.45 *14*	100 *14*	1110.748	3$^+$
		3188.9 *3*	20 *3*	106.826	3$^-$
		3295.16 *11*	76 *6*	0	2$^-$
3304.37	1$^+$	1558.72 *3*	100 *15*	1745.616	(2$^+$,3$^+$)
		2192.79 *23*	22 *4*	1110.748	3$^+$
		2622.61 *16*	21 *4*	681.942	(2,3)
3323.77	3$^-$	2624.65 *19*	20 *3*	699.086	5$^-$
		3065.38 *19*	11.5 *14*	258.259	4$^-$
		3216.47 *19*	21 *3*	106.826	3$^-$
		3323.69 *9*	100 *3*	0	2$^-$
3367.30	(1$^+$)	1990.20 *9*	90 *14*	1377.116	(2,3)$^-$
		2101.26 *21*	28 *6*	1266.300	(1,2,3)$^-$
		2113.09 *23*	34 *8*	1254.821	2$^-$
		2685.17 *8*	89 *10*	681.942	(2,3)
		3367.20 *8*	100 *13*	0	2$^-$
3418.44	(2,3)$^-$	811.49 *9*	8.6 *16*	2606.993	(1$^-$,2,3)
		1368.70 *23*	34 *5*	2049.323	3$^+$
		1430.74 *16*	4.8 *9*	1987.975	(0$^-$ to 4$^-$)
		1574.5 *3*	21 *5*	1842.980	(1$^-$,2,3)
		2163.29 *11*	17.2 *21*	1254.821	2$^-$
		2220.57 *5*	100 *10*	1197.903	4$^-$
		2307.39 *10*	12.4 *14*	1110.748	3$^+$
		2779.63 *6*	32 *4*	638.726	3$^-$
		3160.04 *8*	60 *3*	258.259	4$^-$
3421.24	(0$^-$ to 3)	1217.32 *14*	11.3 *23*	2204.037	(2$^-$,3,4$^+$)
		1604.36 *5*	34 *8*	1816.875	(2,3,4$^-$)
		3421.09 *8*	100 *6*	0	2$^-$
3497.98	(2$^+$ to 9$^-$)	1138.78 *24*	100	2359.13	(4$^+$ to 7$^-$)

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
3502.91	$(2^+,3,4^+)$	1565.47 *5*	24 *4*	1937.494	$(1,2,3)^-$
		2050.02 *10*	28 *3*	1453.07	$(2^-,3,4^-)$
		2125.60 *13*	14.8 *24*	1377.116	$(2,3)^-$
		2359.17 *6*	100 *9*	1143.594	4^+
		2660.49 *17*	7.9 *12*	841.941	3^-
		2820.84 *20*	9.4 *12*	681.942	(2,3)
3529.04	(0^- to 3)	2065.16 *11*	93 *13*	1463.653	$(1^-,2,3)$
		2262.79 *16*	43 *7*	1266.300	$(1,2,3)^-$
		2745.19 *10*	71 *9*	783.885	2^-
		3528.78 *17*	100 *20*	0	2^-
3560.10	(5^+ to 9^+)	1612.19 *11*	100	1947.88	7^+
3621.19	(2,3)	1571.82 *4*	100 *16*	2049.323	3^+
		1759.28 *6*	35 *5*	1861.893	2^-
		3514.40 *12*	23.2 *16*	106.826	3^-
3658.60	$(2^-,3)$	2119.72 *14*	16.7 *24*	1538.74	3^+
		2384.99 *8*	41 *3*	1273.537	2^-
		2392.14 *6*	100 *9*	1266.300	$(1,2,3)^-$
		2403.84 *7*	54 *6*	1254.821	2^-
		2460.9 *3*	68 *7*	1197.903	4^-
		3399.5 *3*	30.9 *18*	258.259	4^-
3674.14	$(1^-,2,3)$	1602.08 *4*	100 *17*	2072.009	$(2,3)^-$
		1812.50 *18*	16 *3*	1861.893	2^-
		2832.13 *6*	92 *9*	841.941	3^-
		2991.87 *10*	30 *4*	681.942	(2,3)
3696.55	$(3^-,4^+)$	1329.81 *16*	14 *3*	2366.173	$(2,3)^-$
		2243.25 *9*	44 *5*	1453.07	$(2^-,3,4^-)$
		2319.70 *8*	65 *7*	1377.116	$(2,3)^-$
		2585.61 *20*	8.6 *23*	1110.748	3^+
		2997.69 *24*	9.0 *18*	699.086	5^-
		3014.6 *3*	100 *6*	681.942	(2,3)
		3589.45 *9*	98 *5*	106.826	3^-
3770.70?	(0^- to 3)	2504.34 *13*	40 *5*	1266.300	$(1,2,3)^-$
		2987.07 *17*	32 *4*	783.885	2^-
		3088.47 *11*	100 *9*	681.942	(2,3)
3794.61	(0^- to 3)	1881.10 *3*	100 *16*	1913.458	$(2^-,3)$
		3010.54 *8*	48 *3*	783.885	2^-
		3112.50 *9*	39 *3*	681.942	(2,3)
		3794.82 *12*	10.8 *8*	0	2^-
3798.15	$(2^-,3,4^+)$	2397.83 *9*	100 *12*	1400.01	(2,3)
		2687.54 *11*	68 *8*	1110.748	3^+
		3539.88 *13*	35 *3*	258.259	4^-
3831.75?	$(1^+,2,3)$	1644.55 *6*	100 *15*	2187.23	3^+
		3831.32 *11*	95 *6*	0	2^-
3862.09	(1^- to 4^+)	923.66 *19*	15 *3*	2938.61	$(1^-,2,3)$
		2116.8 *4*	64 *13*	1745.616	$(2^+,3^+)$
		2138.42 *10*	59 *7*	1723.44	$(2,3,4^+)$
		2372.68 *11*	39 *5*	1489.31	(1^- to 5^-)
		2485.3 *3*	15 *3*	1377.116	$(2,3)^-$
		3180.00 *19*	100 *21*	681.942	(2,3)
		3224.0 *3*	8.4 *16*	638.726	3^-
		3755.06 *9*	73 *4*	106.826	3^-
3876.92	(1^- to 4^+)	2413.34 *17*	21 *4*	1463.653	$(1^-,2,3)$
		2476.79 *6*	44 *4*	1400.01	(2,3)
		3034.90 *7*	100 *5*	841.941	3^-
		3769.86 *11*	14.3 *8*	106.826	3^-
3888.32	$(2,3)^-$	1684.17 *5*	100 *27*	2204.037	$(2^-,3,4^+)$

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Adopted Levels, Gammas (continued)

$\gamma(^{42}K)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
3888.32	$(2,3)^-$	1900.49 *9*	45 *7*	1987.975	$(0^-$ to $4^-)$
		2480.28 *14*	56 *8*	1407.911	$(1^-,2,3)$
		3206.66 *22*	17.3 *18*	681.942	(2,3)
3890.09	$(0^-$ to 3)	951.11 *14*	48 *10*	2938.61	$(1^-,2,3)$
		1027.03 *16*	24 *5*	2862.81	$(2^-,3)$
		1976.64 *5*	100 *15*	1913.458	$(2^-,3)$
		3889.93 *10*	98 *6*	0	2^-
3934.63	$(2^-,3)$	275.93 *12*	100 *28*	3658.60	$(2^-,3)$
		2823.40 *19*	16.1 *22*	1110.748	3^+
		3150.87 *11*	31.7 *22*	783.885	2^-
		3827.56 *12*	25.0 *17*	106.826	3^-
4013.89	$(0^-$ to 3)	2550.12 *11*	7.1 *10*	1463.653	$(1^-,2,3)$
		2606.4 *3*	23.2 *23*	1407.911	$(1^-,2,3)$
		2740.08 *6*	37 *4*	1273.537	2^-
		2747.66 *7*	16.6 *18*	1266.300	$(1,2,3)^-$
		4013.77 *9*	100 *6*	0	2^-
4036.83	3^-	2781.84 *5*	100 *12*	1254.821	2^-
		3338.36 *23*	13.4 *12*	699.086	5^-
		4037.2 *3*	6.9 *9*	0	2^-
4039.93	(1,2,3)	806.00 *3*	100 *17*	3233.91	$(3,4^+)$
		1673.71 *11*	29 *5*	2366.173	$(2,3)^-$
		2632.03 *8*	56 *6*	1407.911	$(1^-,2,3)$
		4039.64 *15*	23.9 *22*	0	2^-
4053.84	$(2,3)^-$	1665.14 *14*	18 *3*	2388.833	3^+
		2787.39 *7*	100 *10*	1266.300	$(1,2,3)^-$
		3269.86 *16*	13.3 *12*	783.885	2^-
		4053.64 *12*	28.5 *18*	0	2^-
4092.33	$(3^+$ to $9^-)$	1100.67 *18*	100 *10*	2991.70	$(5^+$ to $9^+)$
		1732.6 *6*	36 *11*	2359.13	$(4^+$ to $7^-)$
4103.51	$(0^-$ to $4^+)$	2115.55 *18*	94 *21*	1987.975	$(0^-$ to $4^-)$
		2189.90 *19*	100 *17*	1913.458	$(2^-,3)$
4105.75?	$(0^-$ to 3)	3321.65 *9*	100 *3*	783.885	2^-
		4105.75 *12*	33 *3*	0	2^-
4128.35	3^-	1877.13 *6*	44 *6*	2251.081	$(1^-,2,3)$
		1941.22 *7*	12.9 *20*	2187.23	3^+
		2266.55 *7*	30 *3*	1861.893	2^-
		2381.8 *3*	36 *4*	1745.616	$(2^+,3^+)$
		2720.05 *25*	60 *6*	1407.911	$(1^-,2,3)$
		2751.5 *4*	37 *4*	1377.116	$(2,3)^-$
		2854.71 *10*	10.9 *12*	1273.537	2^-
		2862.02 *8*	46 *6*	1266.300	$(1,2,3)^-$
		2984.32 *12*	12.3 *14*	1143.594	4^+
		3285.6 *4*	8.7 *12*	841.941	3^-
		3489.45 *8*	100 *5*	638.726	3^-
		4127.93 *14*	9.1 *6*	0	2^-
4152.35	$(2^-,3,4^+)$	1213.51 *13*	12.1 *23*	2938.61	$(1^-,2,3)$
		1763.39 *7*	20 *3*	2388.833	3^+
		3310.40 *8*	100 *5*	841.941	3^-
		3893.97 *9*	45.1 *23*	258.259	4^-
4154.75	$(1^-,2,3)$	2691.07 *7*	100 *10*	1463.653	$(1^-,2,3)$
		3312.74 *10*	60 *4*	841.941	3^-
		4154.22 *12*	36.5 *22*	0	2^-
4179.40	$(2^-,3,4^+)$	2666.13 *11*	100 *14*	1513.076	$(1^-$ to $5^-)$
		2981.69 *19*	36 *6*	1197.903	4^-
4259.05	$(1^-,2,3)$	2566.86 *9*	100 *11*	1691.99	$(1^-$ to $4^-)$
		3417.07 *16*	45 *5*	841.941	3^-

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Adopted Levels, Gammas (continued)

$\gamma(^{42}K)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
4259.05	$(1^-,2,3)$	3576.98 *11*	69 *6*	681.942	(2,3)
		4258.95 *13*	47 *3*	0	2^-
4389.94	$(2^-,3,4^+)$	2023.76 *11*	100 *12*	2366.173	$(2,3)^-$
		2981.69 *19*	36 *5*	1407.911	$(1^-,2,3)$
		3278.85 *23*	43 *7*	1110.748	3^+
		3707.96 *12*	52 *4*	681.942	(2,3)
		4131.35 *23*	28 *3*	258.259	4^-
4416.58	$(2,3)^-$	2014.36 *19*	62 *7*	2401.800	$(2,3)^-$
		2027.35 *19*	16 *3*	2388.833	3^+
		2554.93 *12*	29 *4*	1861.893	2^-
		2599.42 *8*	46 *5*	1816.875	$(2,3,4^-)$
		2952.86 *6*	77 *8*	1463.653	$(1^-,2,3)$
		3161.66 *8*	100 *14*	1254.821	2^-
		3574.58 *20*	12.7 *18*	841.941	3^-
		3777.70 *9*	30 *3*	638.726	3^-
		4158.8 *3*	4.1 *9*	258.259	4^-
		4309.58 *12*	22.3 *14*	106.826	3^-
		4416.31 *10*	99 *5*	0	2^-
4428.30	$(1^+,2,3)$	925.71 *24*	59 *9*	3502.91	$(2^+,3,4^+)$
		1565.47 *5*	36 *6*	2862.81	$(2^-,3)$
		2490.65 *7*	78 *8*	1937.494	$(1,2,3)^-$
		2964.63 *6*	76 *8*	1463.653	$(1^-,2,3)$
		3161.82 *8*	100 *14*	1266.300	$(1,2,3)^-$
		3317.11 *19*	8.6 *9*	1110.748	3^+
4443.13	$(0^-$ to $4^+)$	1155.99 *8*	66 *11*	3287.14	$(2^-,3,4^+)$
		2076.90 *5*	100 *16*	2366.173	$(2,3)^-$
		2455.04 *12*	56 *7*	1987.975	$(0^-$ to $4^-)$
4481.09	$(2,3)^-$	2493.18 *14*	21 *3*	1987.975	$(0^-$ to $4^-)$
		2664.15 *12*	33 *4*	1816.875	$(2,3,4^-)$
		3370.05 *8*	100 *14*	1110.748	3^+
		3638.65 *16*	11.4 *10*	841.941	3^-
		3842.41 *12*	20.5 *14*	638.726	3^-
		4374.04 *10*	71 *4*	106.826	3^-
		4481.16 *18*	19.0 *19*	0	2^-
4556.71	$(1^-,2,3)$	3092.86 *9*	57 *4*	1463.653	$(1^-,2,3)$
		3283.44 *18*	38 *3*	1273.537	2^-
		3290.62 *23*	10.0 *15*	1266.300	$(1,2,3)^-$
		3714.28 *17*	7.9 *8*	841.941	3^-
		3874.7 *4*	100 *13*	681.942	(2,3)
4576.23	$(2,3)^-$	1658.94 *9*	34 *6*	2917.12	$(1^-$ to $4^+)$
		2094.05 *11*	48 *6*	2482.146	$(1,2,3)^-$
		2325.11 *12*	37 *5*	2251.081	$(1^-,2,3)$
		2504.34 *13*	26 *4*	2072.009	$(2,3)^-$
		3112.50 *9*	100 *6*	1463.653	$(1^-,2,3)$
		3465.26 *10*	56 *4*	1110.748	3^+
4590.56	$(2^-,3,4^+)$	2188.20 *18*	33 *6*	2401.800	$(2,3)^-$
		2774.0 *3*	21.2 *23*	1816.875	$(2,3,4^-)$
		3077.33 *10*	23.8 *16*	1513.076	$(1^-$ to $5^-)$
		3126.83 *10*	31.8 *19*	1463.653	$(1^-,2,3)$
		3479.73 *8*	100 *5*	1110.748	3^+
		4331.5 *4*	7.1 *7*	258.259	4^-
		4483.7 *3*	11.3 *13*	106.826	3^-
4603.7		1043.6 *5*		3560.10	$(5^+$ to $9^+)$
4612.81	$(2^+,3)$	1985.20 *12*	23 *4*	2627.850	$(2^-,3)$
		2408.82 *11*	35 *5*	2204.037	$(2^-,3,4^+)$
		2450.82 *14*	50 *9*	2161.651	$(2^+,3,4^+)$

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
4612.81	(2$^+$,3)	3346.01 *23*	12.6 *17*	1266.300	(1,2,3)$^-$
		3468.99 *9*	100 *6*	1143.594	4$^+$
		4612.3 *6*	3.8 *11*	0	2$^-$
4660.72	(2$^-$,3)	986.45 *8*	100 *17*	3674.14	(1$^-$,2,3)
		3252.93 *13*	75 *7*	1407.911	(1$^-$,2,3)
		3394.24 *12*	69 *5*	1266.300	(1,2,3)$^-$
		4402.48 *21*	88 *10*	258.259	4$^-$
4715.33	(2$^-$,3)	2898.28 *11*	100 *13*	1816.875	(2,3,4$^-$)
		4033.4 *4*	56 *6*	681.942	(2,3)
		4457.3 *3*	19 *3*	258.259	4$^-$
		4714.7 *5*	11 *3*	0	2$^-$
4746.1	(3$^+$ to 10)	1248.00 *27*	100 *14*	3497.98	(2$^+$ to 9$^-$)
		1754.4 *3*	88 *15*	2991.70	(5$^+$ to 9$^+$)
4748.53	3$^-$	2030.27 *8*	100 *11*	2718.096	(2$^-$,3)
		2561.53 *12*	23 *3*	2187.23	3$^+$
		4048.9 *3*	39 *3*	699.086	5$^-$
		4747.9 *4*	8.6 *19*	0	2$^-$
4778.05	(1$^-$ to 4$^+$)	2012.09 *9*	100 *11*	2765.961	(2$^+$,3)
		2706.03 *12*	25 *4*	2072.009	(2,3)$^-$
		2961.11 *9*	49 *6*	1816.875	(2,3,4$^-$)
		3935.39 *19*	12.0 *14*	841.941	3$^-$
		4095.81 *18*	13.4 *14*	681.942	(2,3)
4806.84	(1 to 3)$^-$	1572.9 *3*	40 *10*	3233.91	(3,4$^+$)
		2179.04 *8*	59 *7*	2627.850	(2$^-$,3)
		2199.61 *13*	21 *3*	2606.993	(1$^-$,2,3)
		2602.76 *10*	19.6 *23*	2204.037	(2$^-$,3,4$^+$)
		2945.07 *14*	22 *3*	1861.893	2$^-$
		3342.50 *20*	6.3 *7*	1463.653	(1$^-$,2,3)
		3551.83 *10*	23.3 *13*	1254.821	2$^-$
		4022.8 *4*	100 *5*	783.885	2$^-$
		4124.2 *3*	4.7 *7*	681.942	(2,3)
4853.65	(0 to 3)$^-$	2487.42 *7*	75 *8*	2366.173	(2,3)$^-$
		4853.29 *11*	100 *5*	0	2$^-$
4877.21	(0 to 4$^+$)	1509.92 *4*	55 *9*	3367.30	(1$^+$)
		3185.09 *9*	53 *3*	1691.99	(1$^-$ to 4$^-$)
		3468.99 *9*	100 *6*	1407.911	(1$^-$,2,3)
4903.53	(3$^-$,4$^+$)	3450.39 *13*	100 *13*	1453.07	(2$^-$,3,4$^-$)
		4203.80 *23*	11.3 *14*	699.086	5$^-$
		4645.03 *11*	54 *3*	258.259	4$^-$
4938.98	(1$^-$,2,3)	2060.99 *18*	29 *6*	2878.014	3$^-$
		2700.18 *10*	50 *6*	2238.586	(1,2,3)$^-$
		3025.54 *9*	100 *6*	1913.458	(2$^-$,3)
		4938.54 *13*	41 *3*	0	2$^-$
4942.99	(1$^-$ to 4$^-$)	1052.88 *3*	100 *16*	3890.09	(0$^-$ to 3)
		1921.61 *15*	16 *3*	3021.11	(2,3)$^-$
		4101.15 *17*	13.0 *12*	841.941	3$^-$
4959.72	(0$^-$ to 4$^+$)	2887.15 *22*	24 *5*	2072.009	(2,3)$^-$
		3446.56 *10*	100 *6*	1513.076	(1$^-$ to 5$^-$)
		3582.50 *15*	39 *3*	1377.116	(2,3)$^-$
5003.01	(1$^-$,2,3)	2076.86 *5*	100 *12*	2926.10	(2,3)$^-$
		2580.79 *9*	37 *5*	2422.160	(1$^-$,2,3)
		3280.8 *7*	9.5 *25*	1723.44	(2,3,4$^+$)
		4218.71 *25*	6.0 *10*	783.885	2$^-$
		4895.7 *3*	6.0 *10*	106.826	3$^-$
5064.08	(1$^-$ to 4$^+$)	3220.89 *9*	84 *4*	1842.980	(1$^-$,2,3)
		3790.36 *9*	100 *6*	1273.537	2$^-$

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Adopted Levels, Gammas (continued)

$\gamma(^{42}K)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
5064.08	(1⁻ to 4⁺)	4425.20 *10*	86 *5*	638.726	3⁻
5081.15	(1⁻,2,3)	3814.8 *3*	34 *8*	1266.300	(1,2,3)⁻
		4399.00 *18*	36 *3*	681.942	(2,3)
		4442.06 *11*	100 *5*	638.726	3⁻
		5080.94 *13*	78 *4*	0	2⁻
5097.00	(0⁻ to 3)	1812.50 *18*	28 *5*	3284.42	(2,3)⁻
		2523.30 *8*	100 *11*	2573.62	(2,3)
		2695.13 *8*	70 *8*	2401.800	(2,3)⁻
		2730.74 *11*	33 *4*	2366.173	(2,3)⁻
		5096.55 *15*	22.0 *15*	0	2⁻
5179.10	(0⁻ to 4⁺)	1891.92 *5*	100 *16*	3287.14	(2⁻,3,4⁺)
		3265.39 *16*	34 *3*	1913.458	(2⁻,3)
5246.62	(1⁻ to 4⁺)	3258.0 *3*	15 *3*	1987.975	(0⁻ to 4⁻)
		3501.7 *3*	9.0 *15*	1745.616	(2⁺,3⁺)
		3869.12 *10*	61 *4*	1377.116	(2,3)⁻
		4404.62 *11*	100 *7*	841.941	3⁻
5318.97	(2⁻,3)	1900.49 *9*	54 *9*	3418.44	(2,3)⁻
		2441.02 *13*	45 *7*	2878.014	3⁻
		3080.1 *3*	21 *3*	2238.586	(1,2,3)⁻
		4120.72 *11*	100 *6*	1197.903	4⁻
		4534.97 *13*	49 *3*	783.885	2⁻
		4636.57 *20*	17.6 *22*	681.942	(2,3)
5476.93	(1⁺,2,3)	2710.0 *4*	27 *9*	2765.961	(2⁺,3)
		3659.96 *16*	100 *9*	1816.875	(2,3,4⁻)
		4366.0 *4*	21 *6*	1110.748	3⁺
		4693.1 *4*	27 *6*	783.885	2⁻
5630.13	(4⁺)	2334.63 *17*	100 *15*	3295.35	(2,3)
		4140.4 *3*	23 *4*	1489.31	(1⁻ to 5⁻)
		4254.09 *20*	38 *4*	1376.02	6⁺
5697.21	(1⁻ to 4⁺)	3624.83 *14*	13.2 *11*	2072.009	(2,3)⁻
		4233.87 *22*	9.5 *11*	1463.653	(1⁻,2,3)
		4319.91 *10*	100 *5*	1377.116	(2,3)⁻
		5057.6 *3*	6.8 *11*	638.726	3⁻
5710.68	(2⁻,3,4⁺)	1606.95 *6*	100 *16*	4103.51	(0⁻ to 4⁺)
		1673.71 *11*	63 *11*	4036.83	3⁻
		3459.36 *11*	72 *5*	2251.081	(1⁻,2,3)
		5452.25 *16*	33.7 *24*	258.259	4⁻
5759.69	(1⁻,2,3⁺)	2338.49 *8*	100 *11*	3421.24	(0⁻ to 3)
		2341.09 *19*	27 *4*	3418.44	(2,3)⁻
		2455.04 *12*	46 *6*	3304.37	1⁺
		2881.44 *24*	14 *3*	2878.014	3⁻
		2896.2 *3*	20 *5*	2862.81	(2⁻,3)
		4270.35 *16*	17.1 *16*	1489.31	(1⁻ to 5⁻)
5789.58	(0 to 4⁺)	1749.63 *5*	100 *16*	4039.93	(1,2,3)
		3801.25 *17*	12.2 *14*	1987.975	(0⁻ to 4⁻)
5846.42	(1⁺,2,3⁺)	2542.11 *13*	100 *13*	3304.37	1⁺
		3080.1 *3*	42 *7*	2765.961	(2⁺,3)
		4734.5 *4*	18 *5*	1110.748	3⁺
5953.67	(1 to 3)	2332.50 *11*	50 *6*	3621.19	(2,3)
		2450.82 *14*	61 *12*	3502.91	(2⁺,3,4⁺)
		3346.01 *23*	15.5 *20*	2606.993	(1⁻,2,3)
		3881.34 *20*	10.8 *14*	2072.009	(2,3)⁻
		4698.54 *11*	100 *6*	1254.821	2⁻
5978.43	(4⁺)	3350.64 *14*	100 *12*	2627.850	(2⁻,3)
		3816.80 *14*	52 *5*	2161.651	(2⁺,3,4⁺)
		4465.4 *3*	7.8 *17*	1513.076	(1⁻ to 5⁻)

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
5978.43	(4$^+$)	4601.31 *21*	14.8 *17*	1376.02	6$^+$
		5339.22 *14*	43 *3*	638.726	3$^-$
(7533.80)	1$^+$,2$^+$	1555.50 *4*	1.80 *27*	5978.43	(4$^+$)
		1580.32 *3*	4.5 *8*	5953.67	(1 to 3)
		1687.08 *10*	0.64 *11*	5846.42	(1$^+$,2,3$^+$)
		1744.03 *4*	2.2 *3*	5789.58	(0 to 4$^+$)
		1774.09 *5*	2.3 *4*	5759.69	(1$^-$,2,3$^+$)
		1823.18 *3*	5.2 *8*	5710.68	(2$^-$,3,4$^+$)
		1836.55 *4*	2.1 *3*	5697.21	(1$^-$ to 4$^+$)
		1903.41 *9*	0.77 *12*	5630.13	(4$^+$)
		2056.85 *12*	0.95 *14*	5476.93	(1$^+$,2,3)
		2215.11 *20*	2.7 *5*	5318.97	(2$^-$,3)
		2287.12 *5*	7.0 *8*	5246.62	(1$^-$ to 4$^+$)
		2354.55 *8*	2.0 *2*	5179.10	(0$^-$ to 4$^+$)
		2436.65 *5*	5.0 *5*	5097.00	(0$^-$ to 3)
		2452.36 *8*	3.5 *5*	5081.15	(1$^-$,2,3)
		2469.81 *6*	4.5 *5*	5064.08	(1$^-$ to 4$^+$)
		2530.77 *6*	5.0 *6*	5003.01	(1$^-$,2,3)
		2574.57 *20*	1.8 *6*	4959.72	(0$^-$ to 4$^+$)
		2590.81 *6*	3.0 *3*	4942.99	(1$^-$ to 4$^-$)
		2594.9 *4*	1.95 *23*	4938.98	(1$^-$,2,3)
		2629.79 *10*	1.89 *21*	4903.53	(3$^-$,4$^+$)
		2656.43 *7*	1.94 *20*	4877.21	(0 to 4$^+$)
		2680.15 *4*	9.4 *9*	4853.65	(0 to 3)$^-$
		2726.90 *4*	16.8 *17*	4806.84	(1 to 3)$^-$
		2755.7 *5*	2.33 *24*	4778.05	(1$^-$ to 4$^+$)
		2784.8 *3*	1.73 *18*	4748.53	3$^-$
		2817.7 *3*	1.48 *15*	4715.33	(2$^-$,3)
		2873.6 *4*	3.5 *4*	4660.72	(2$^-$,3)
		2919.9 *6*	3.8 *11*	4612.81	(2$^+$,3)
		2943.15 *5*	6.5 *6*	4590.56	(2$^-$,3,4$^+$)
		2957.39 *5*	5.5 *6*	4576.23	(2,3)$^-$
		2977.04 *5*	8.2 *8*	4556.71	(1$^-$,2,3)
		3052.69 *7*	12.1 *6*	4481.09	(2,3)$^-$
		3090.55 *9*	3.23 *18*	4443.13	(0$^-$ to 4$^+$)
		3105.49 *7*	13.0 *6*	4428.30	(1$^+$,2,3)
		3117.04 *7*	19.1 *9*	4416.58	(2,3)$^-$
		3144.36 *11*	4.27 *21*	4389.94	(2$^-$,3,4$^+$)
		3274.47 *9*	1.82 *11*	4259.05	(1$^-$,2,3)
		3354.22 *9*	2.52 *14*	4179.40	(2$^-$,3,4$^+$)
		3379.07 *8*	3.26 *18*	4154.75	(1$^-$,2,3)
		3381.31 *8*	9.8 *5*	4152.35	(2$^-$,3,4$^+$)
		3405.34 *7*	31.4 *15*	4128.35	3$^-$
		3427.93 *8*	3.52 *21*	4105.75?	(0$^-$ to 3)
		3429.87 *8*	3.79 *23*	4103.51	(0$^-$ to 4$^+$)
		3479.73 *8*	4.71 *24*	4053.84	(2,3)$^-$
		3493.77 *9*	2.42 *14*	4039.93	(1,2,3)
		3496.67 *8*	7.2 *4*	4036.83	3$^-$
		3519.73 *8*	22 *1*	4013.89	(0$^-$ to 3)
		3599.03 *8*	5.14 *26*	3934.63	(2$^-$,3)
		3643.46 *8*	5.09 *29*	3890.09	(0$^-$ to 3)
		3645.26 *10*	2.29 *18*	3888.32	(2,3)$^-$
		3656.63 *8*	11.1 *6*	3876.92	(1$^-$ to 4$^+$)
		3671.70 *8*	13.2 *6*	3862.09	(1$^-$ to 4$^+$)
		3701.91 *9*	1.77 *9*	3831.75?	(1$^+$,2,3)
		3735.52 *9*	3.05 *17*	3798.15	(2$^-$,3,4$^+$)

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Adopted Levels, Gammas (continued)

γ(^{42}K) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
(7533.80)	$1^+,2^+$	3738.94 *8*	11.7 *6*	3794.61	(0^- to 3)
		3763.03 *10*	1.55 *8*	3770.70?	(0^- to 3)
		3837.27 *8*	14.5 *8*	3696.55	($3^-,4^+$)
		3859.48 *9*	7.9 *5*	3674.14	(1^-,2,3)
		3875.05 *9*	12.1 *8*	3658.60	(2^-,3)
		3912.28 *9*	5.30 *27*	3621.19	(2,3)
		4005.79 *23*	1.58 *9*	3529.04	(0^- to 3)
		4030.70 *9*	3.91 *20*	3502.91	(2^+,3,4^+)
		4112.20 *9*	8.9 *5*	3421.24	(0^- to 3)
		4115.15 *9*	26.1 *14*	3418.44	$(2,3)^-$
		4166.20 *10*	4.86 *24*	3367.30	(1^+)
		4209.94 *10*	3.42 *18*	3323.77	3^-
		4229.38 *11*	3.18 *17*	3304.37	1^+
		4238.31 *11*	3.32 *17*	3295.35	(2,3)
		4246.39 *12*	1.82 *11*	3287.14	(2^-,3,4^+)
		4249.24 *10*	13.8 *8*	3284.42	$(2,3)^-$
		4299.71 *9*	7.4 *4*	3233.91	($3,4^+$)
		4322.90 *9*	7.0 *4*	3210.57	(1^+,2,3)
		4337.71 *9*	12.6 *6*	3195.78	(2^-,3)
		4493.41 *10*	6.6 *3*	3040.21	3^-
		4512.50 *9*	19.1 *9*	3021.11	$(2,3)^-$
		4519.11 *10*	9.7 *5*	3014.47	$(1,2,3)^-$
		4525.18 *10*	13.5 *8*	3008.33	3
		4594.98 *10*	7.9 *5*	2938.61	(1^-,2,3)
		4607.48 *10*	6.7 *3*	2926.10	$(2,3)^-$
		4616.58 *10*	4.15 *21*	2917.12	(1^- to 4^+)
		4655.62 *10*	8.8 *5*	2878.014	3^-
		4670.93 *10*	7.0 *4*	2862.81	(2^-,3)
		4767.57 *10*	62 *3*	2765.961	(2^+,3)
		4815.35 *10*	22.1 *11*	2718.096	(2^-,3)
		4880.6 *4*	0.94 *6*	2653.81	(2^-,3)
		4889.17 *10*	14.2 *8*	2644.288	3^-
		4905.67 *10*	8.9 *5*	2627.850	(2^-,3)
		4926.46 *10*	8.9 *5*	2606.993	(1^-,2,3)
		4959.88 *10*	5.58 *29*	2573.62	(2,3)
		5051.32 *10*	30.5 *15*	2482.146	$(1,2,3)^-$
		5111.39 *10*	30.5 *15*	2422.160	(1^-,2,3)
		5131.64 *10*	55.9 *27*	2401.800	$(2,3)^-$
		5144.68 *11*	15.6 *8*	2388.833	3^+
		5167.28 *10*	100 *5*	2366.173	$(2,3)^-$
		5282.38 *11*	8.2 *5*	2251.081	(1^-,2,3)
		5294.82 *11*	40.2 *20*	2238.586	$(1,2,3)^-$
		5328.2 *3*	1.89 *9*	2204.037	(2^-,3,4^+)
		5346.34 *13*	0.88 *5*	2187.23	3^+
		5371.91 *11*	5.80 *29*	2161.651	(2^+,3,4^+)
		5461.44 *11*	38.2 *20*	2072.009	$(2,3)^-$
		5484.12 *11*	27.6 *14*	2049.323	3^+
		5595.93 *11*	20.8 *11*	1937.494	$(1,2,3)^-$
		5619.90 *15*	9.2 *5*	1913.458	(2^-,3)
		5671.50 *12*	56.2 *29*	1861.893	2^-
		5690.44 *12*	34.2 *17*	1842.980	(1^-,2,3)
		5716.54 *12*	2.83 *15*	1816.875	(2,3,4^-)
		5787.79 *13*	2.35 *12*	1745.616	(2^+,3^+)
		5810.00 *12*	9.5 *5*	1723.44	(2,3,4^+)
		6069.65 *13*	4.70 *24*	1463.653	(1^-,2,3)
		6125.37 *13*	5.61 *29*	1407.911	(1^-,2,3)

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Adopted Levels, Gammas (continued)

$\gamma(^{42}K)$ (continued)

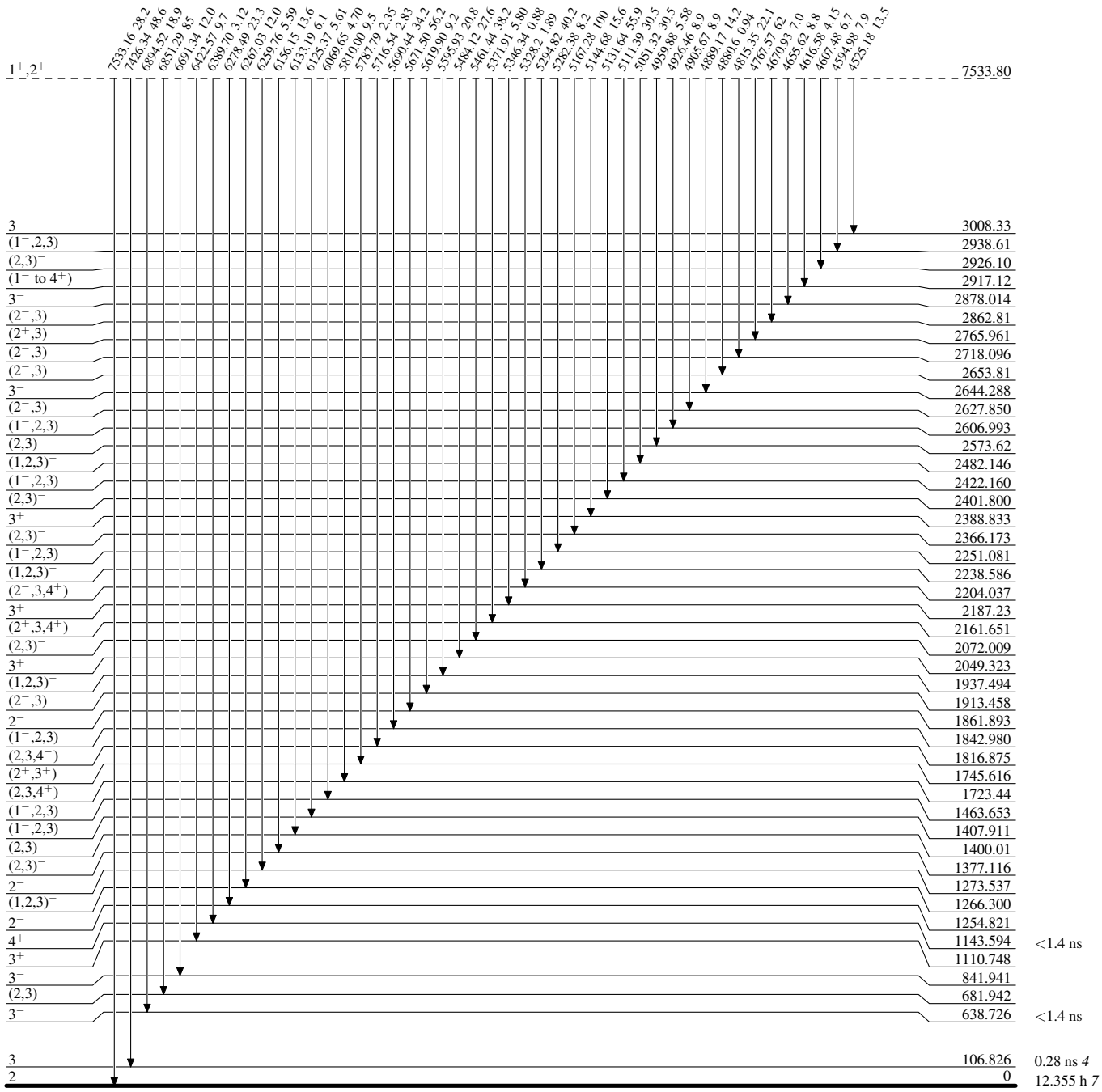
E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
(7533.80)	$1^+,2^+$	6133.19 *16*	6.1 *3*	1400.01	(2,3)
		6156.15 *13*	13.6 *8*	1377.116	$(2,3)^-$
		6259.76 *13*	5.59 *29*	1273.537	2^-
		6267.03 *13*	12.0 *6*	1266.300	$(1,2,3)^-$
		6278.49 *13*	23.3 *12*	1254.821	2^-
		6389.70 *14*	3.12 *15*	1143.594	4^+
		6422.57 *13*	9.7 *5*	1110.748	3^+
		6691.34 *14*	12.0 *6*	841.941	3^-
		6851.29 *14*	85 *5*	681.942	(2,3)
		6894.52 *14*	18.9 *9*	638.726	3^-
		7426.34 *15*	48.6 *24*	106.826	3^-
		7533.16 *15*	28.2 *14*	0	2^-

† Primarily from (n,γ), when a level is seen in this reaction; otherwise weighted averages of available values in different datasets are taken.
‡ From $\gamma(\theta$,pol) in (^{18}O,npγ).
# From (^{36}S,2npγ) only.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

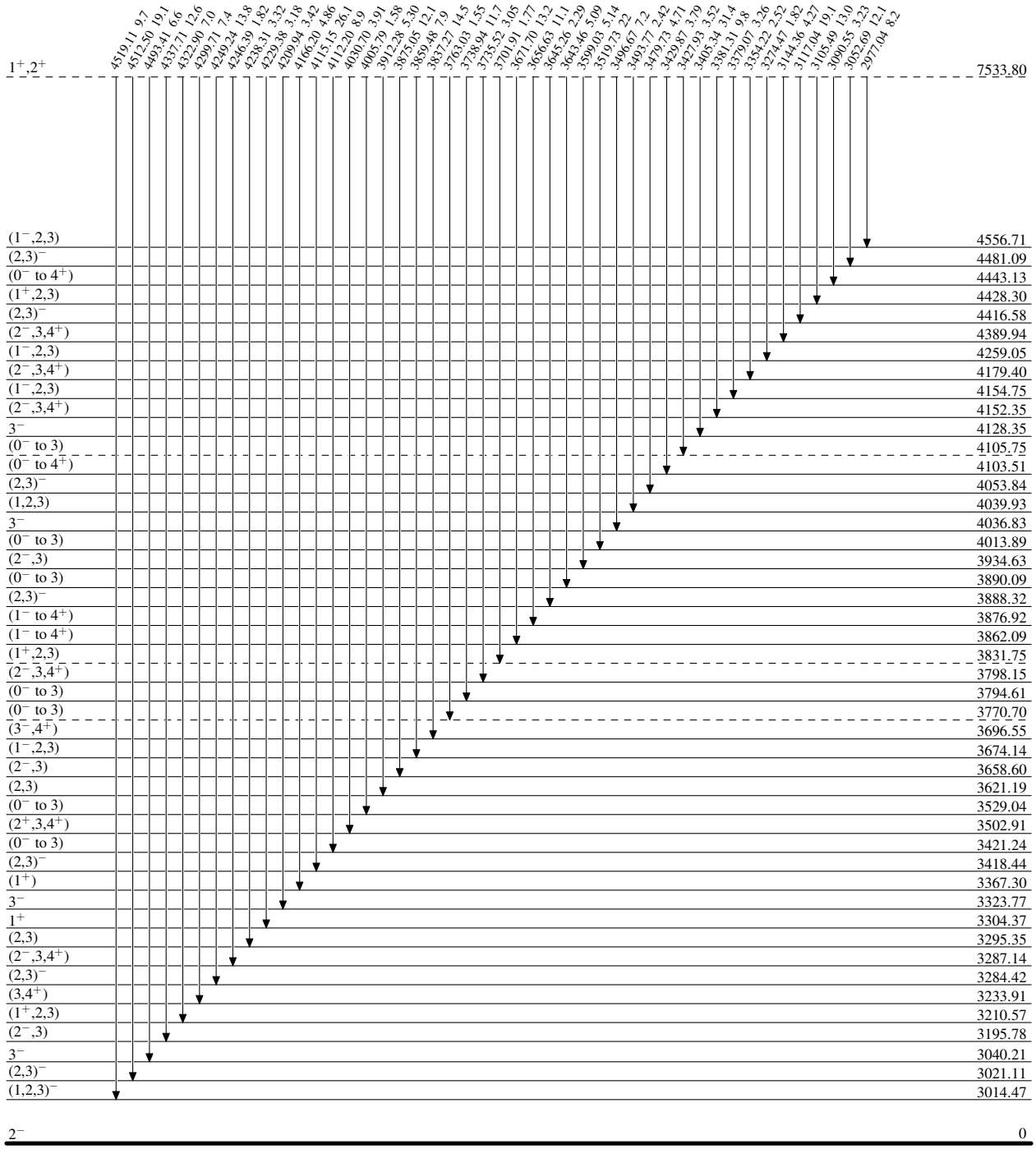


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

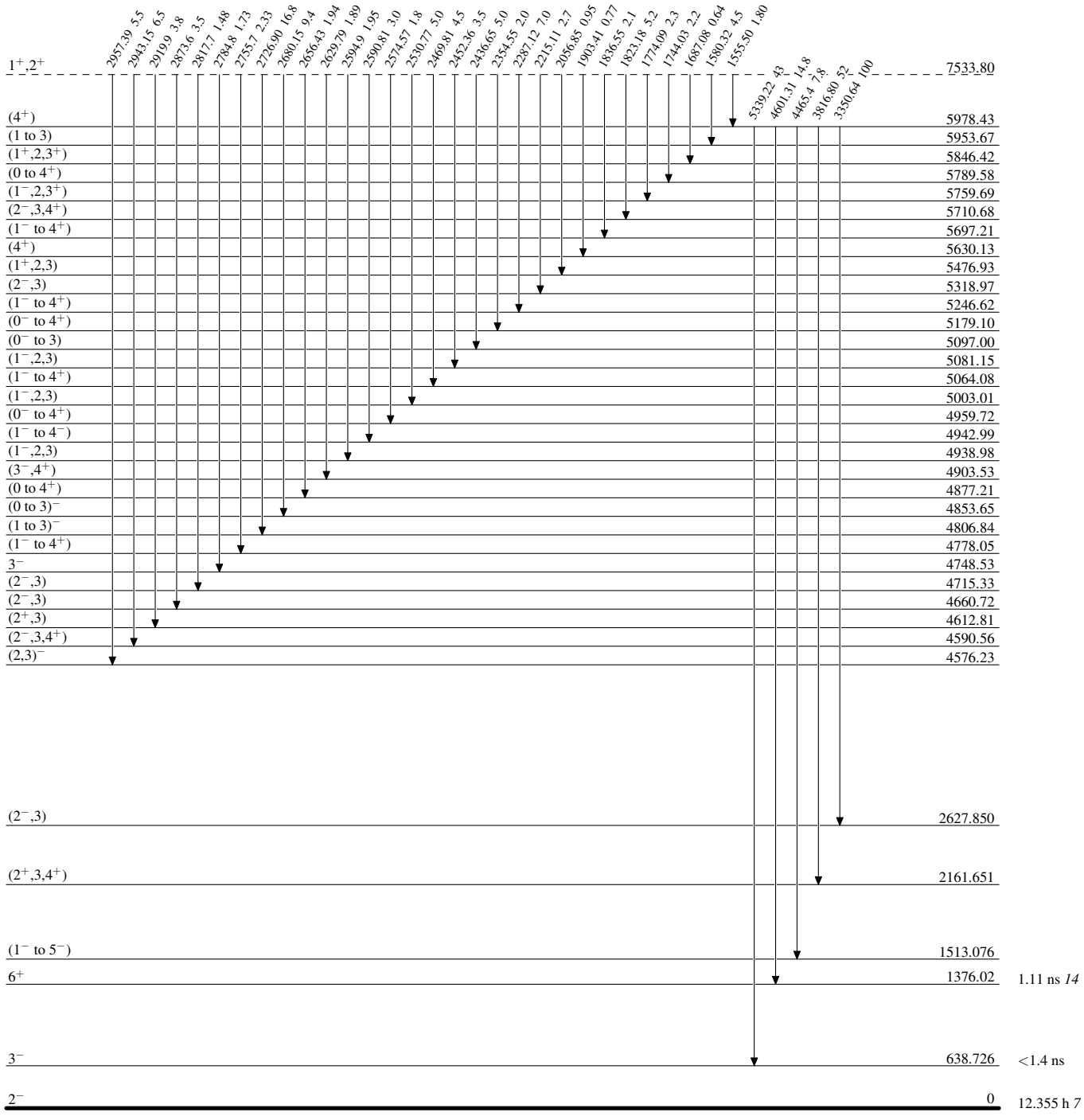


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

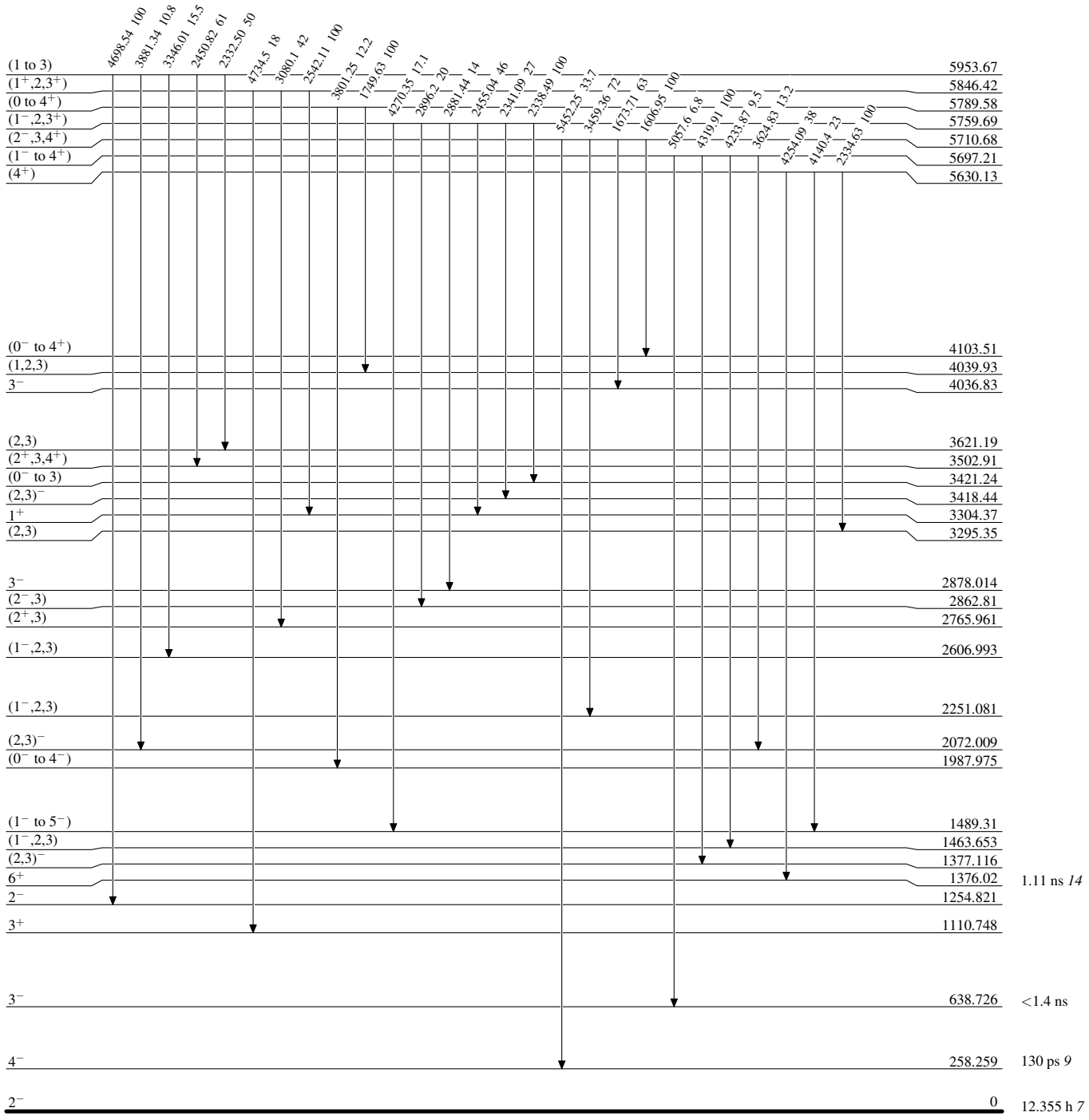


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

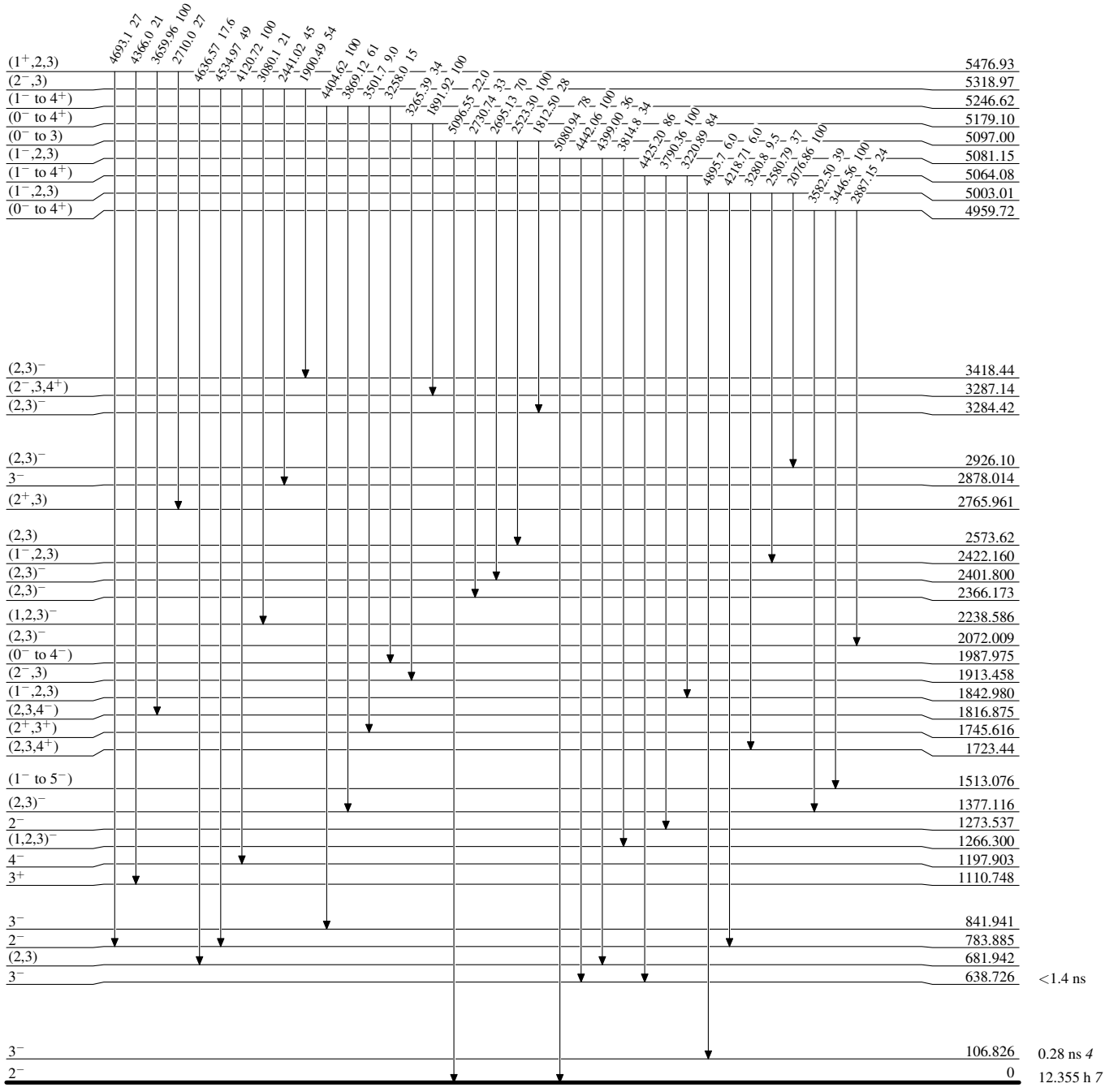


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

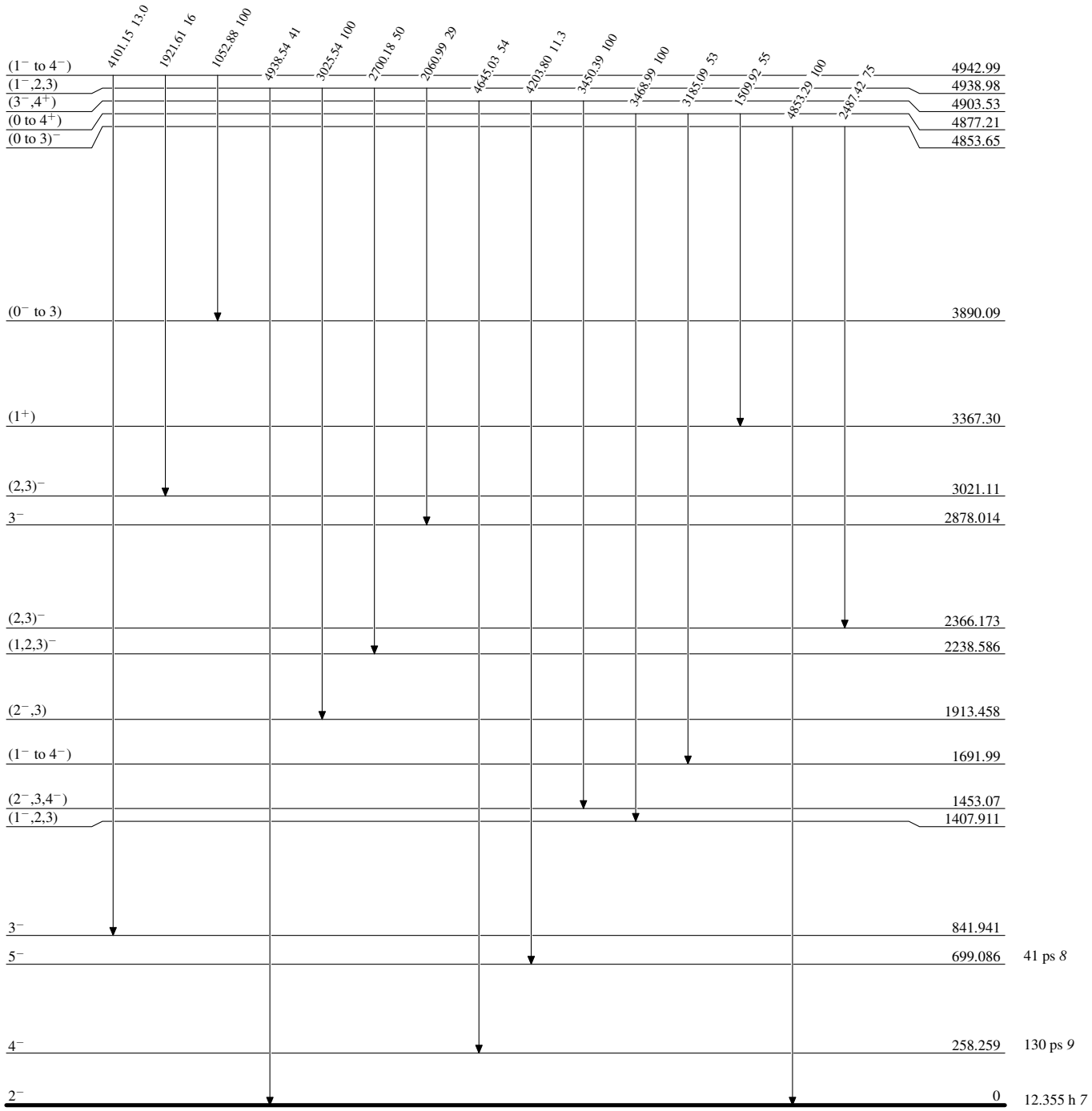


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

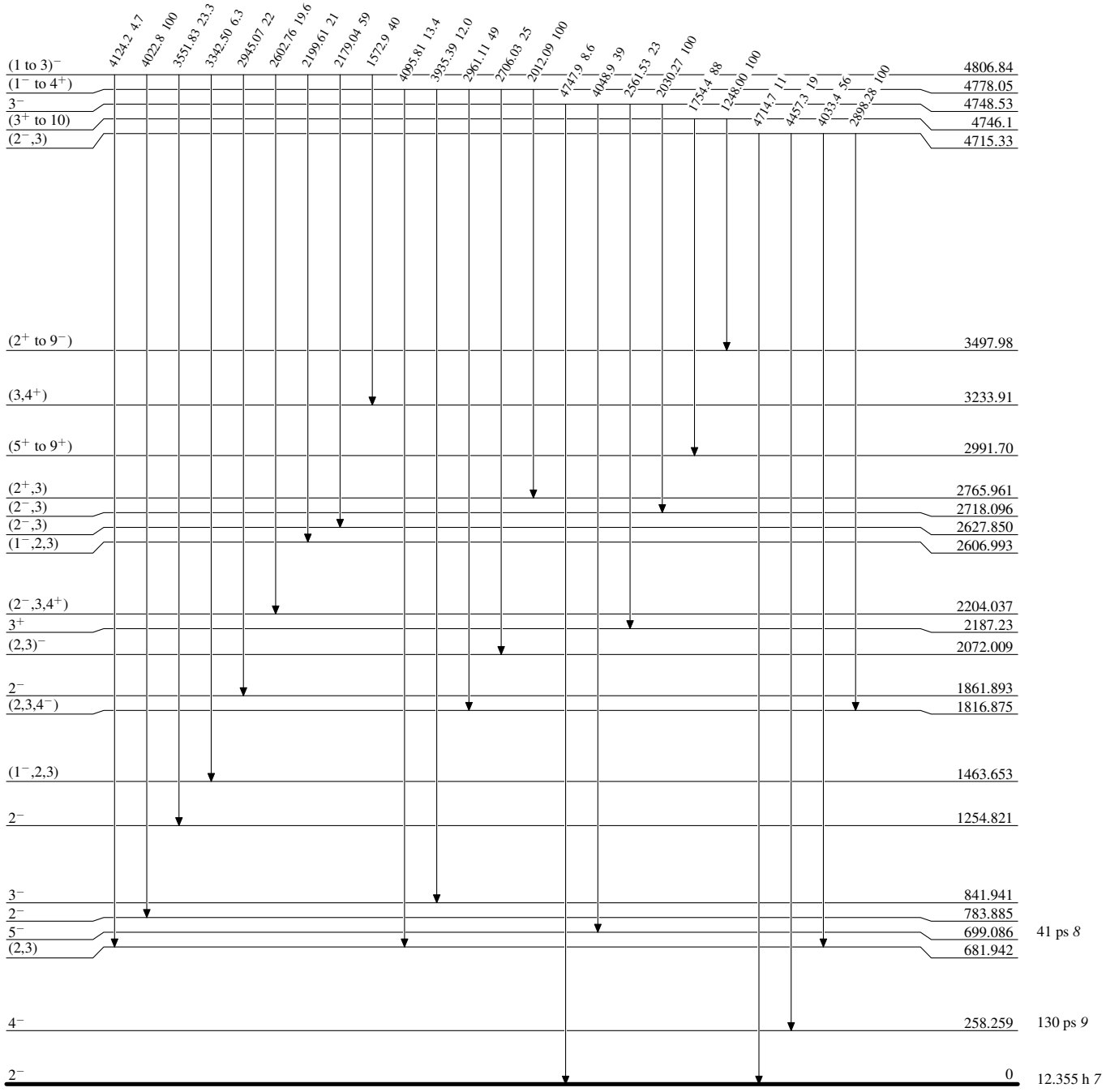


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

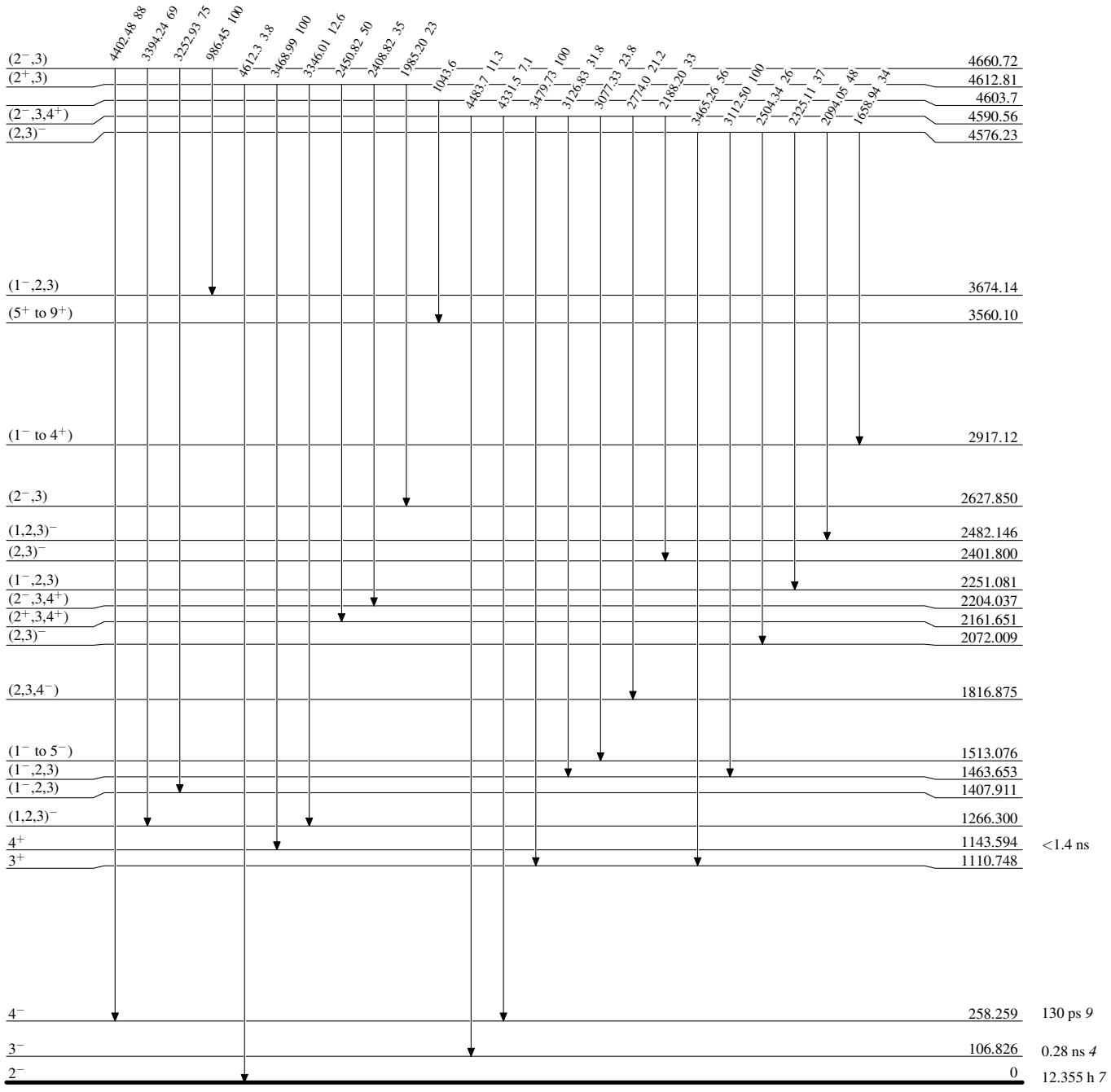


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

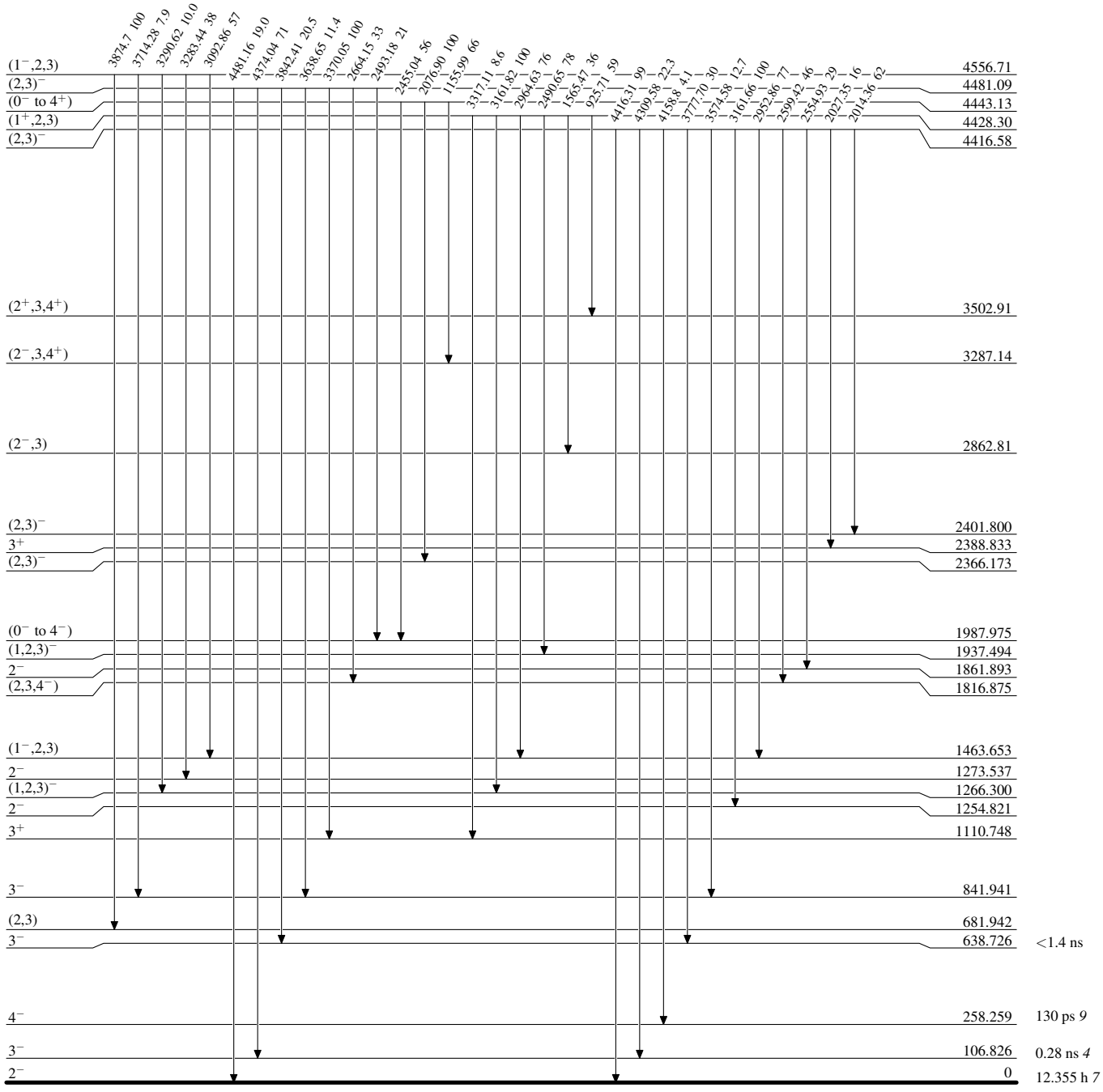


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

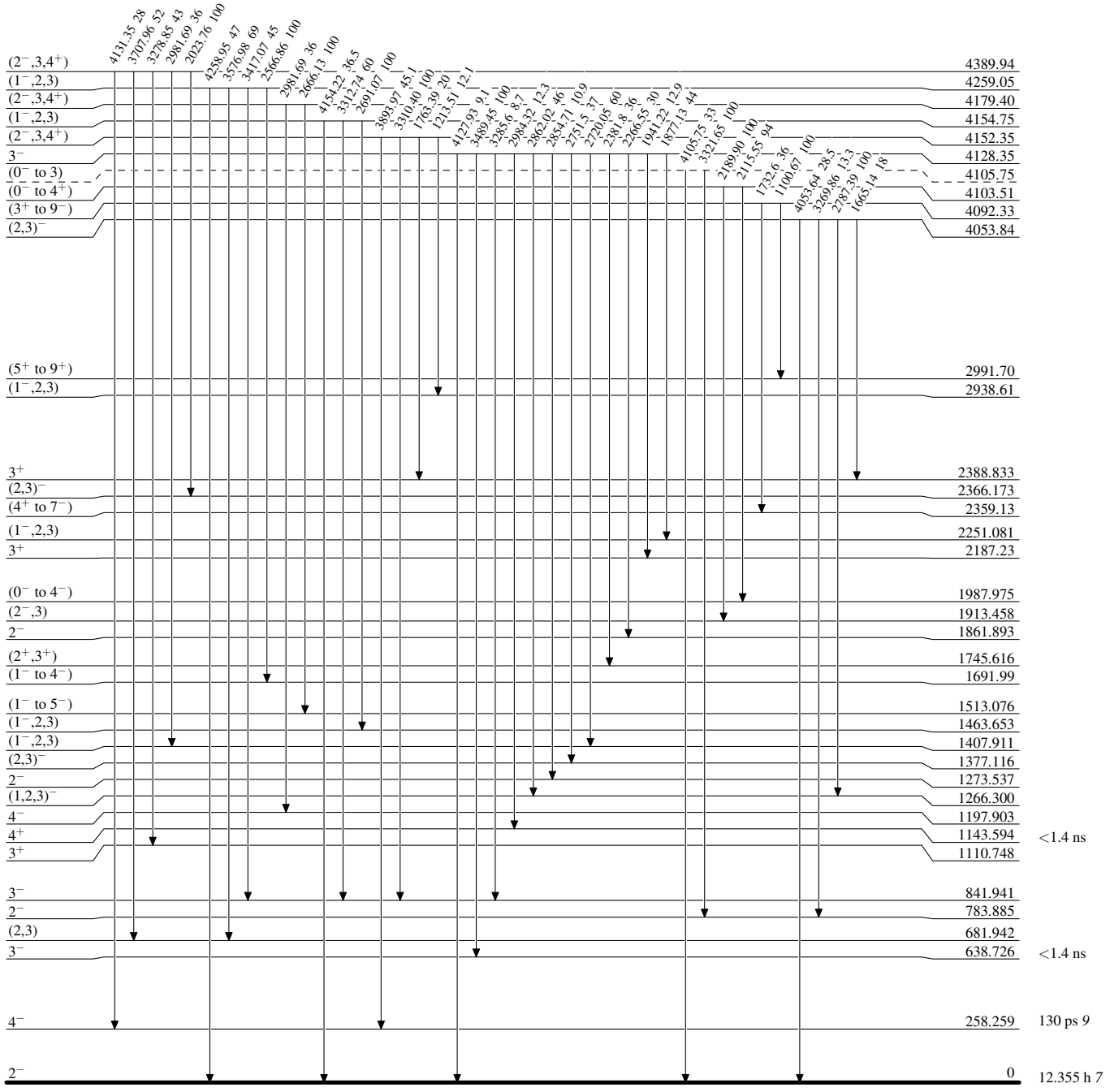


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

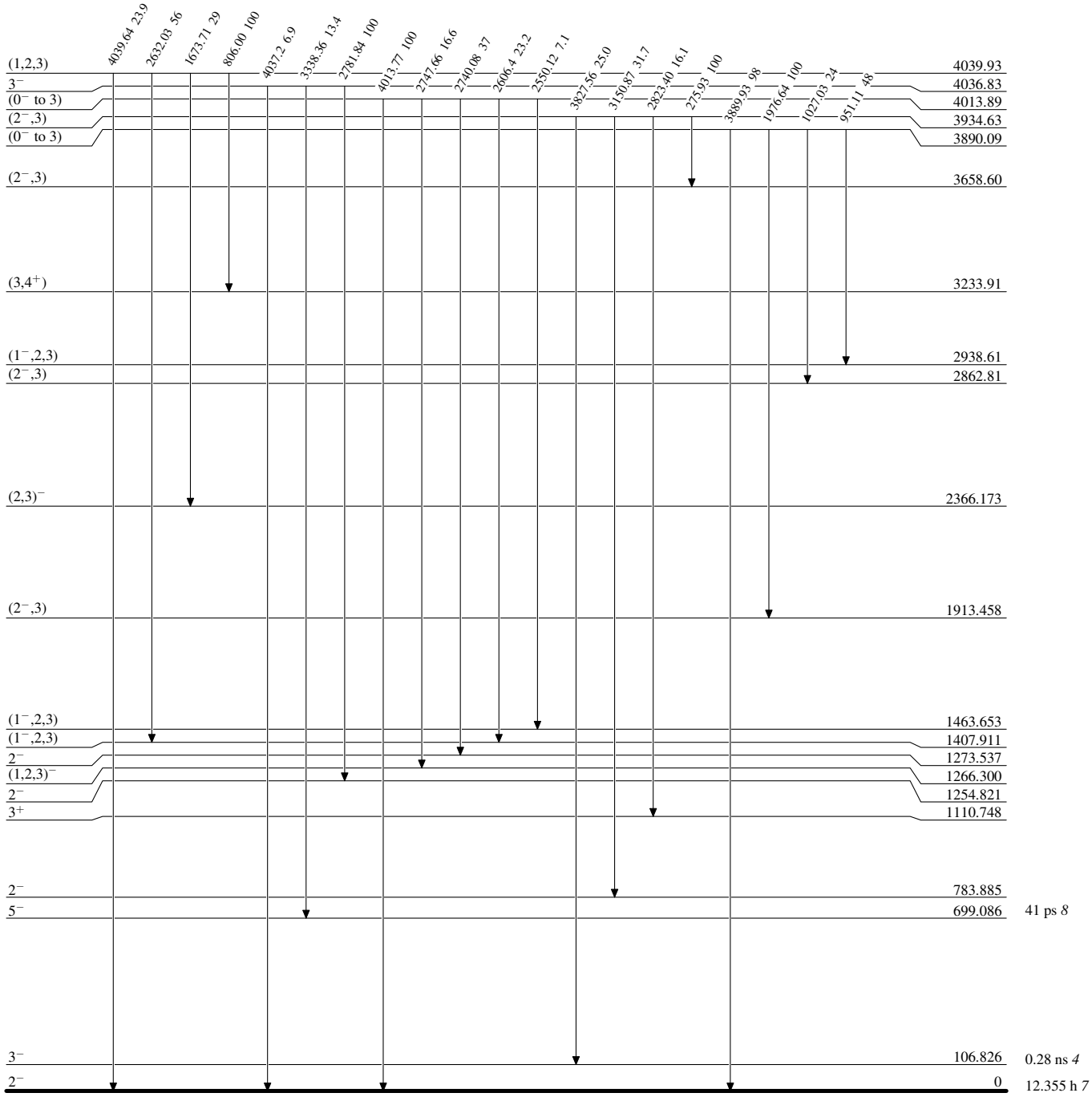


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

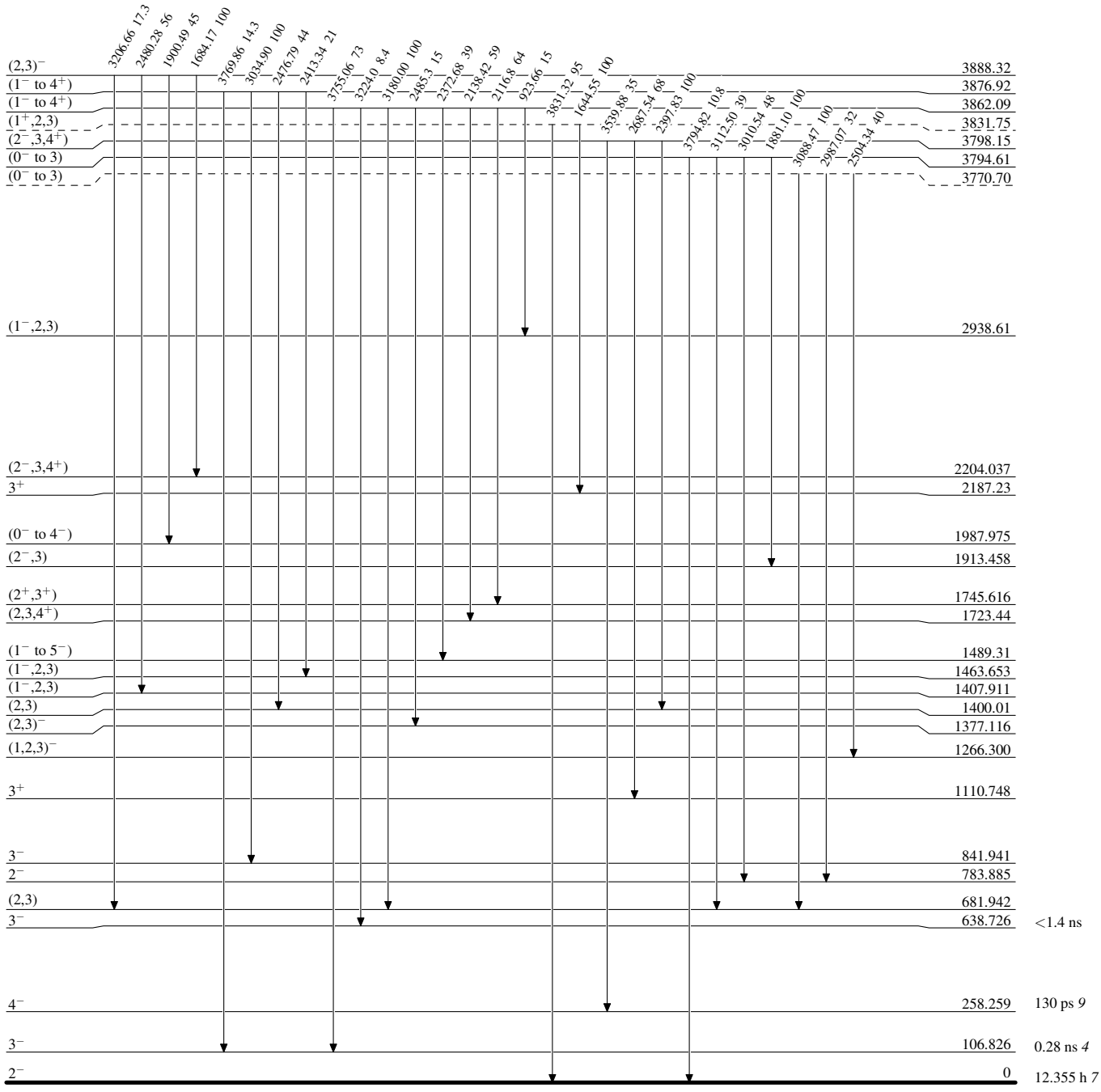


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

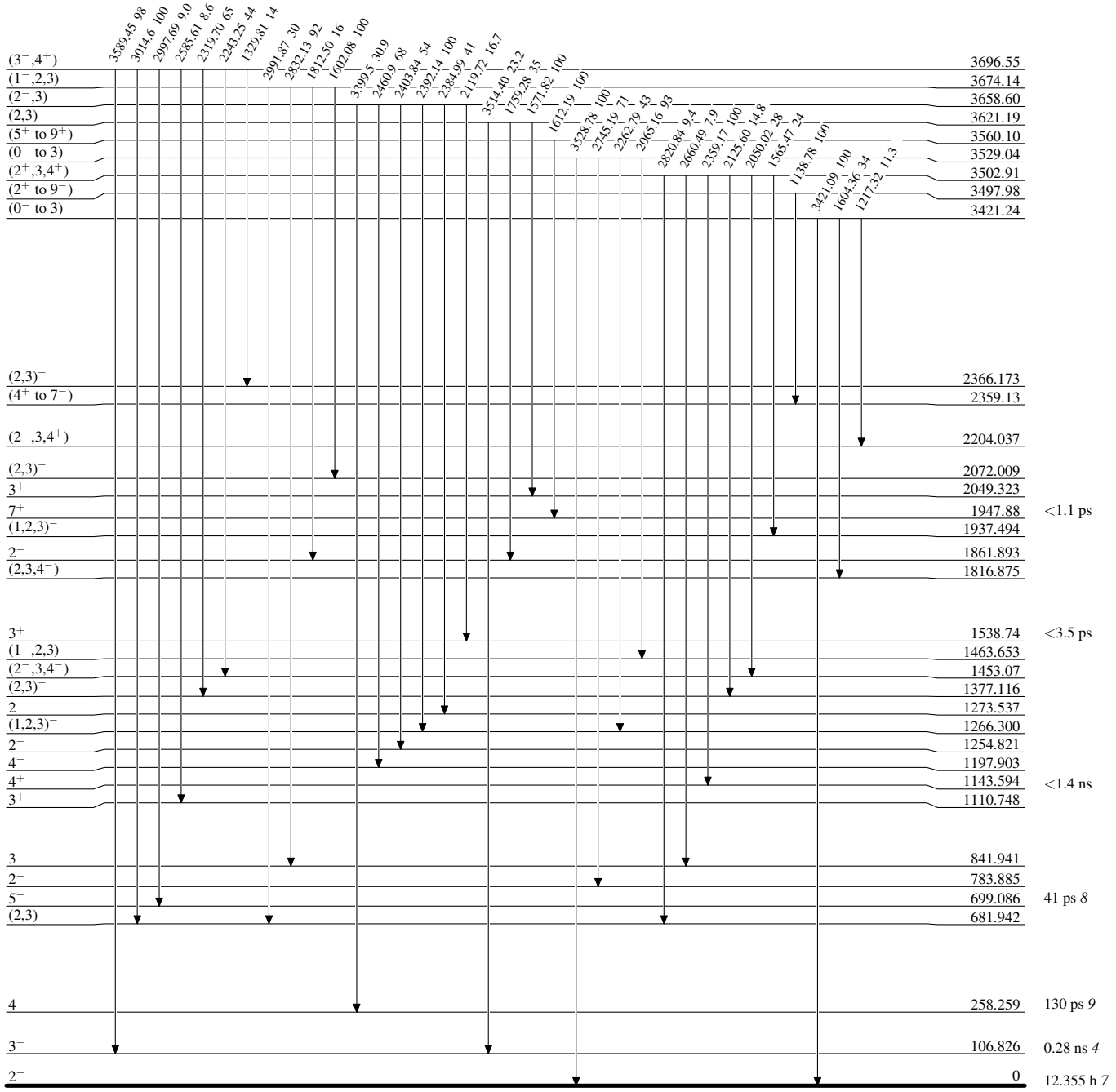


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

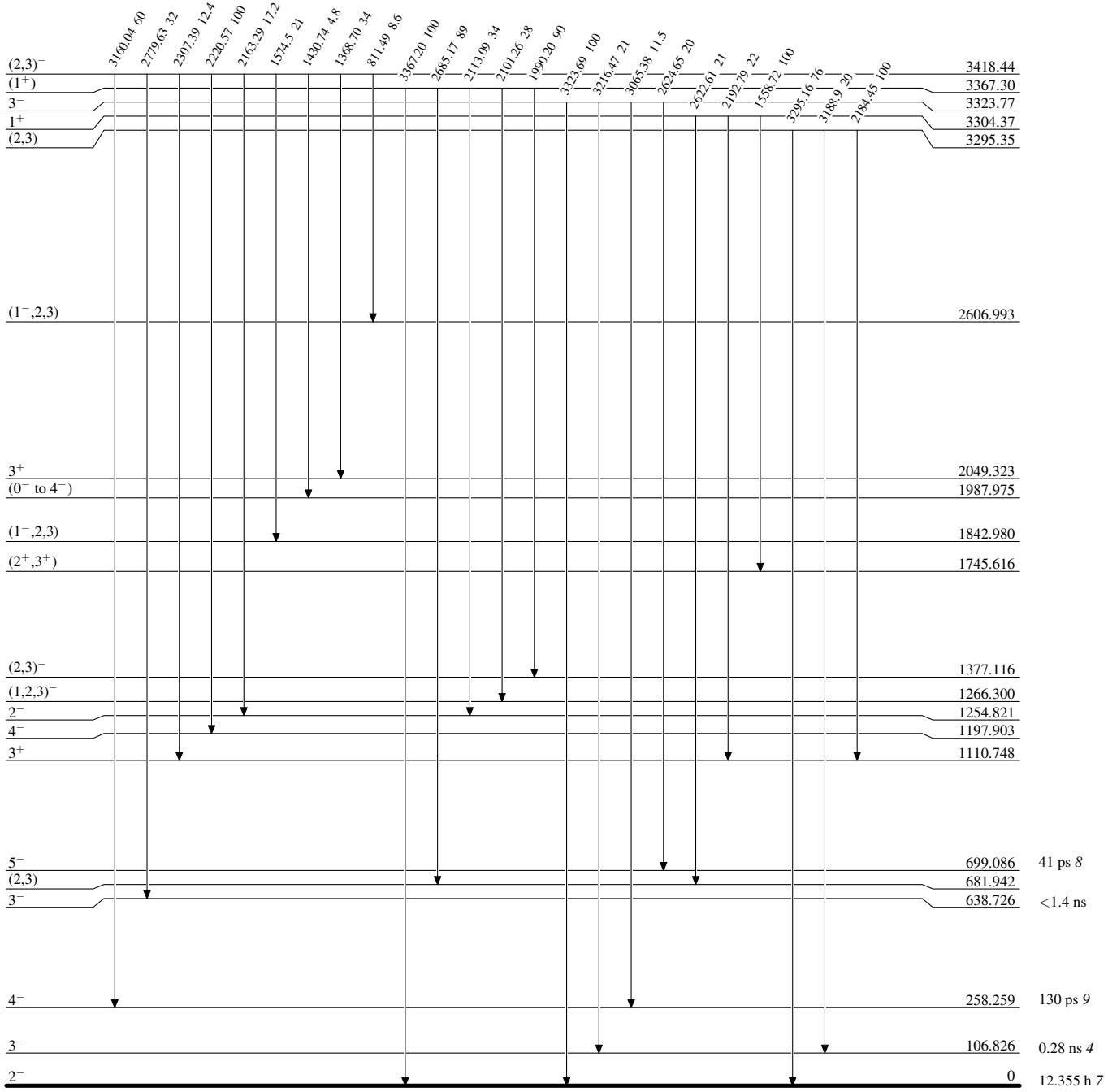


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

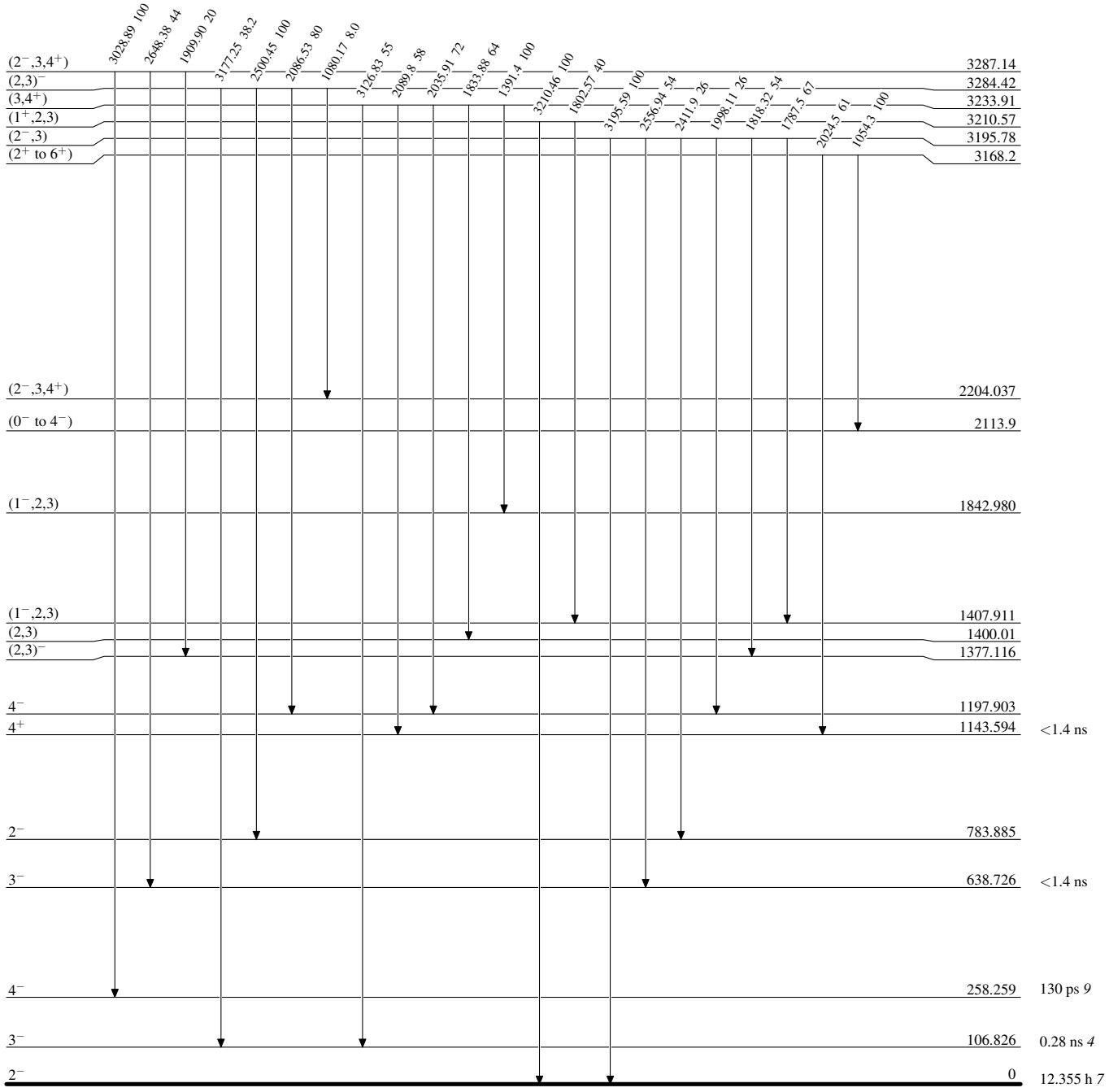


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

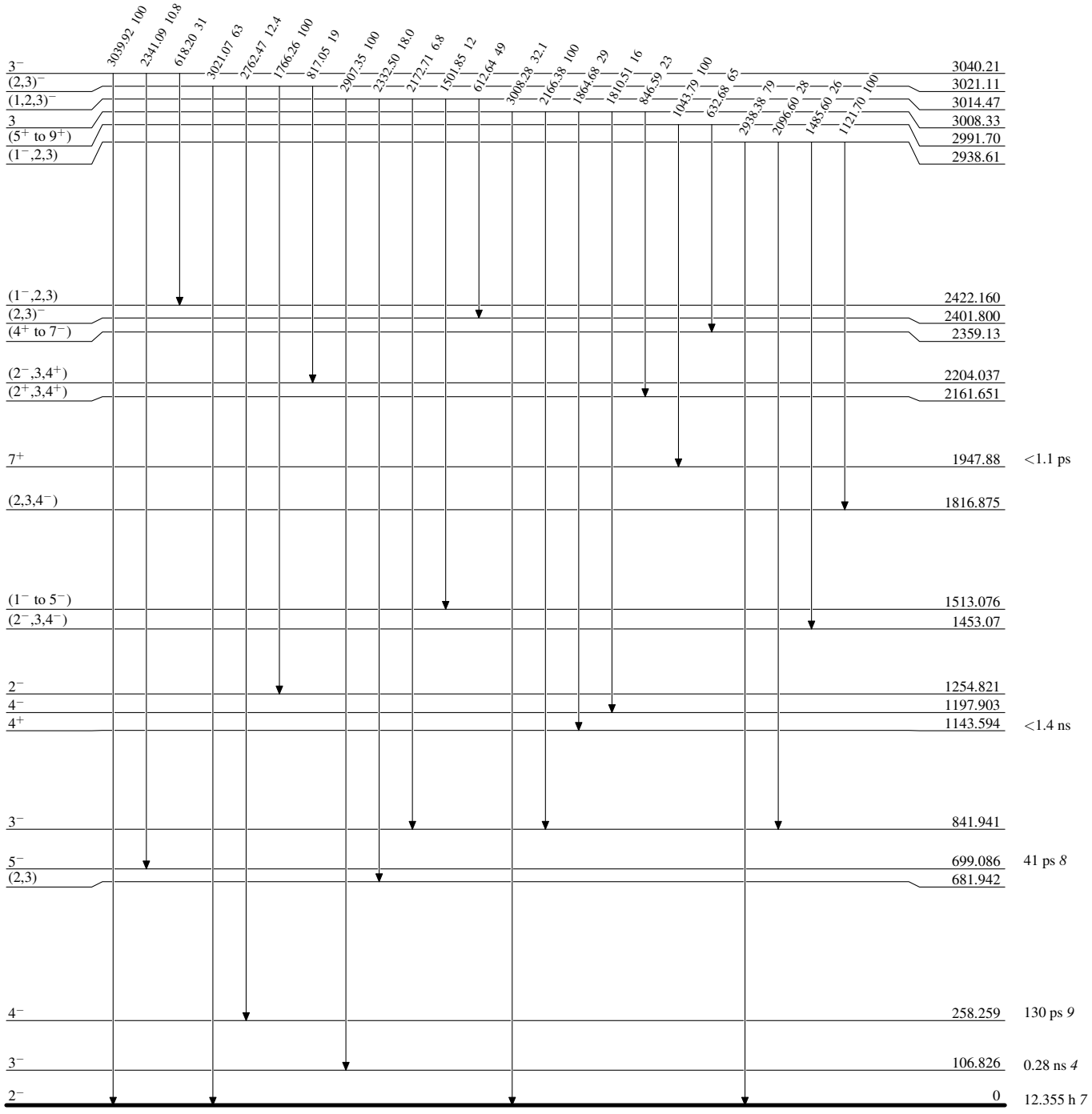


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

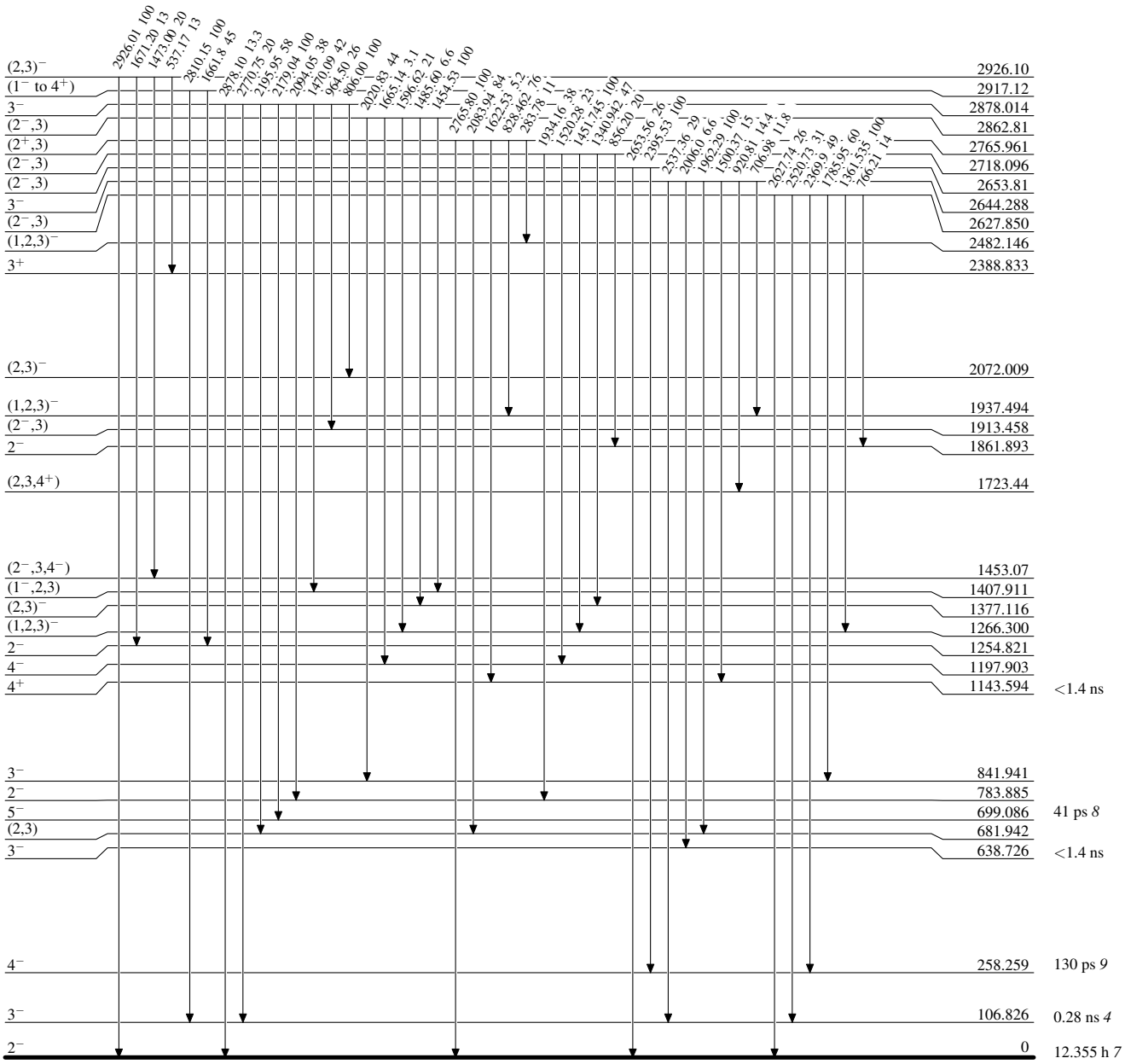


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

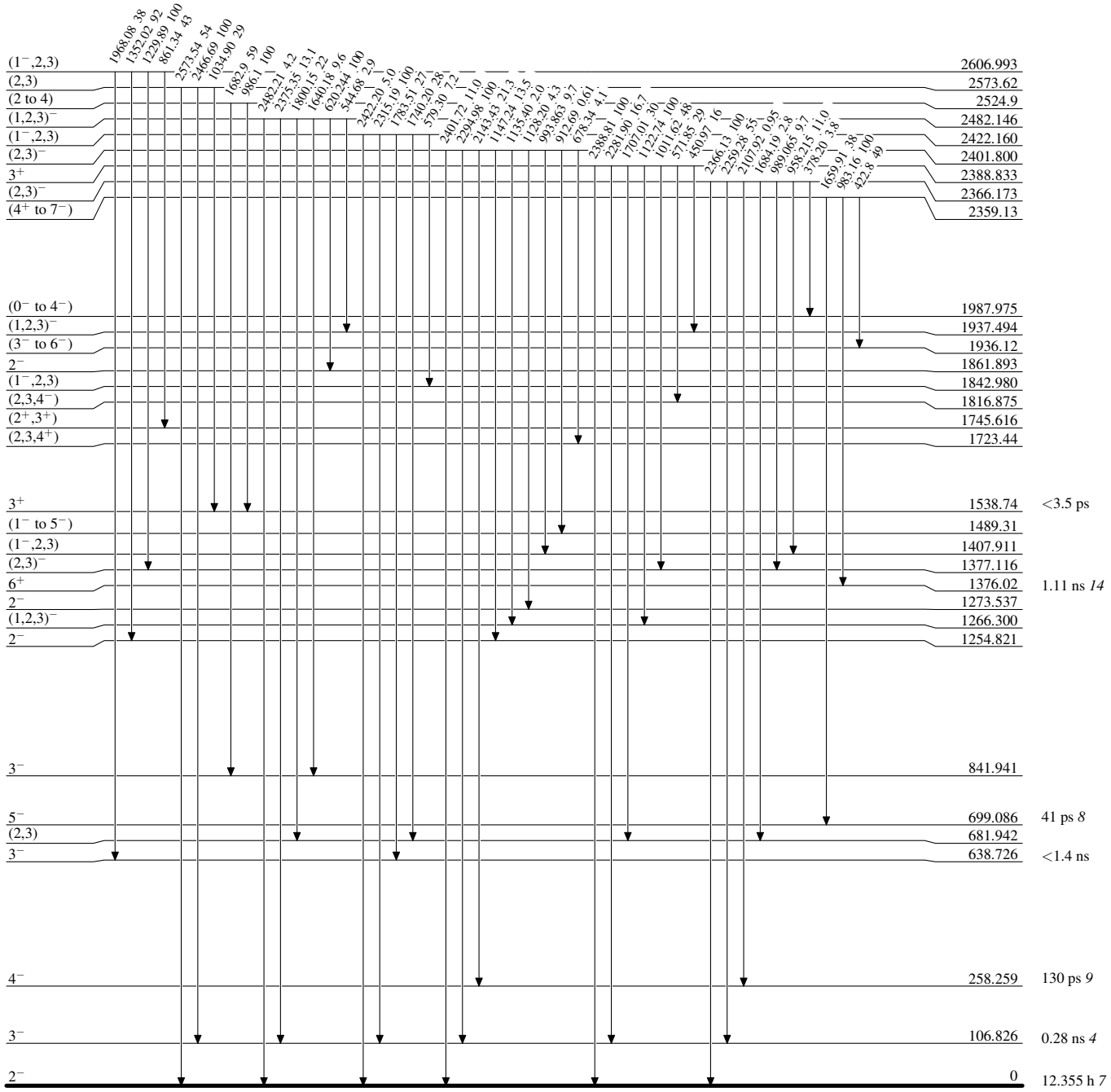


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

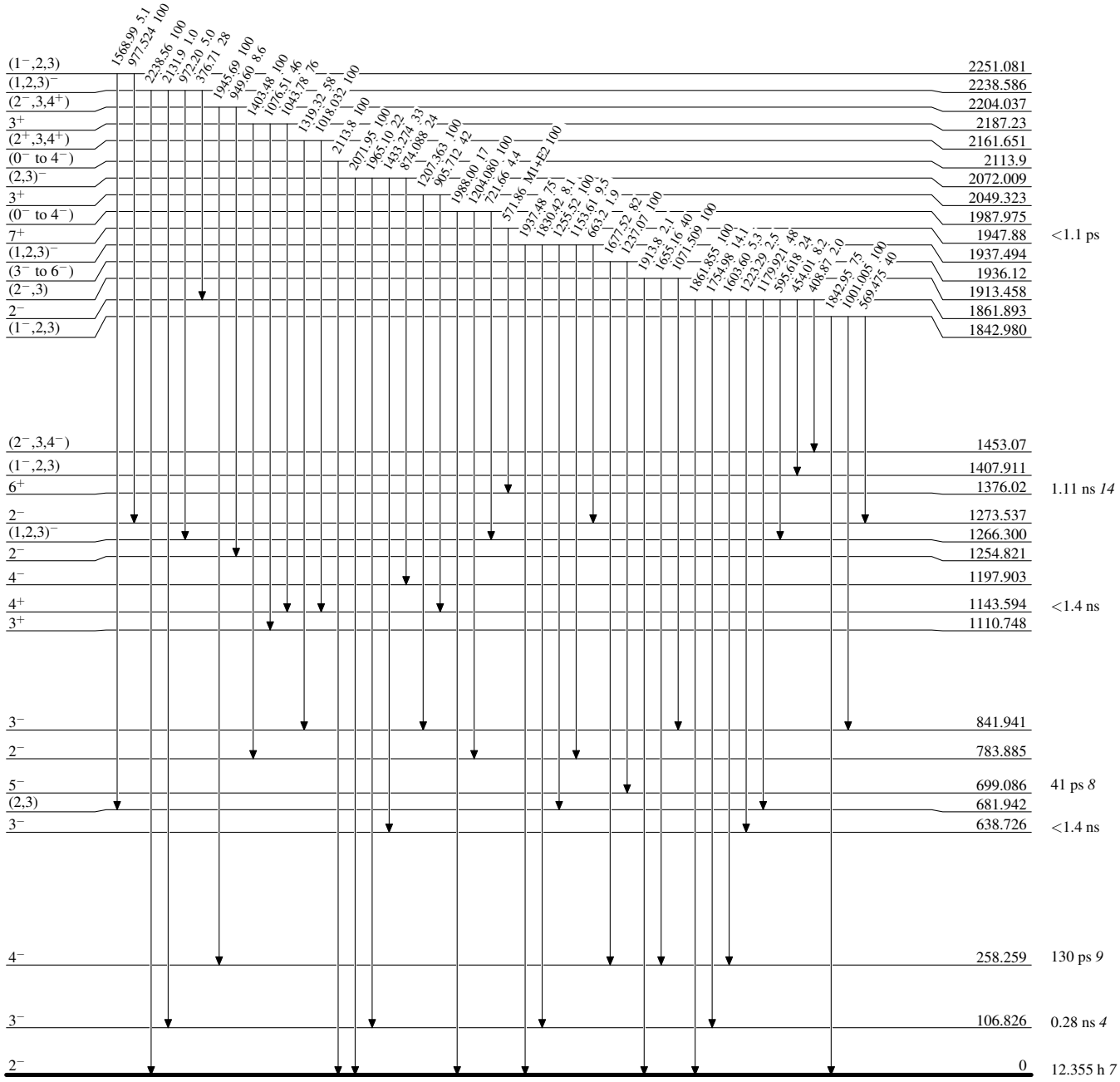


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

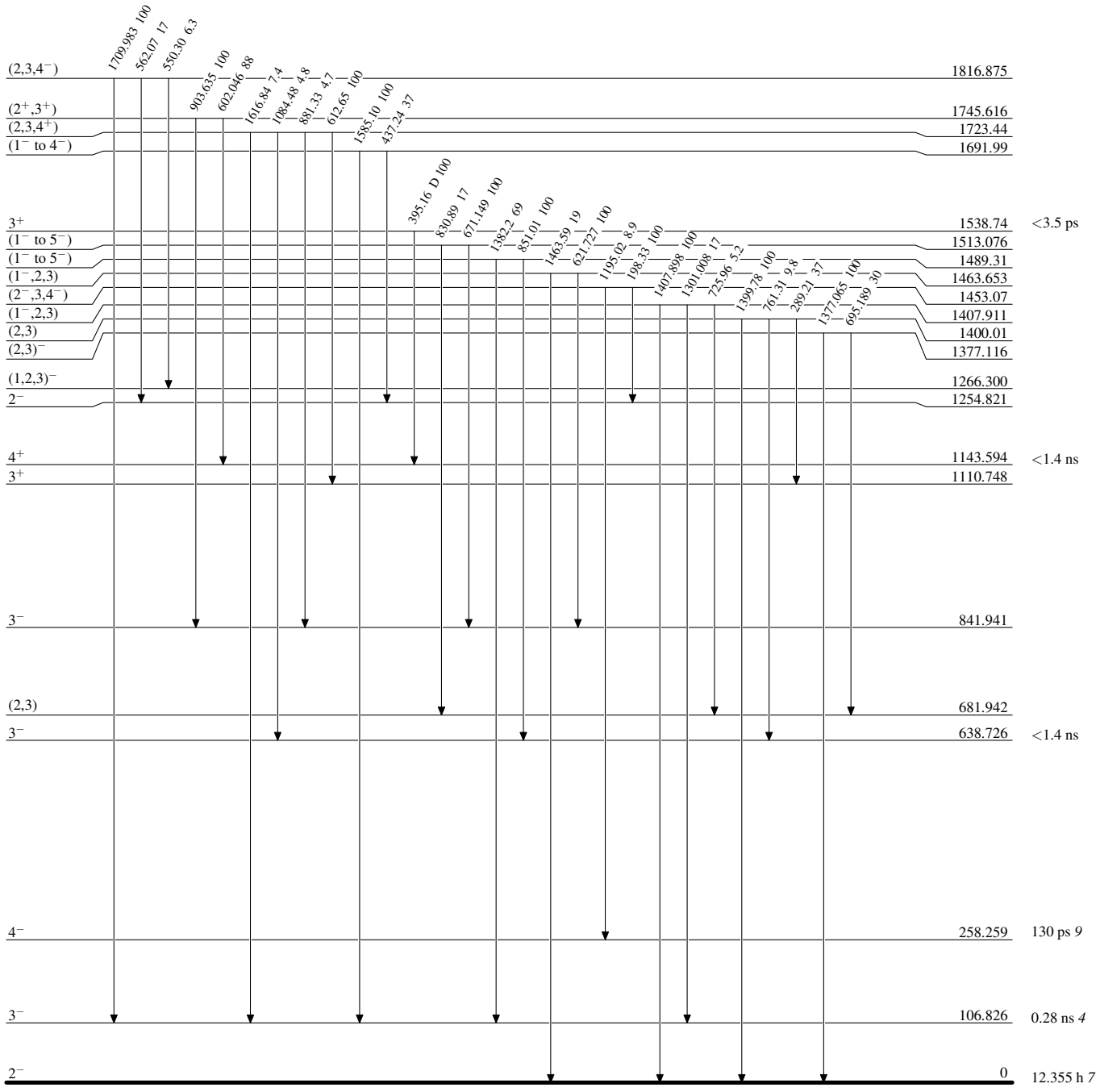


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

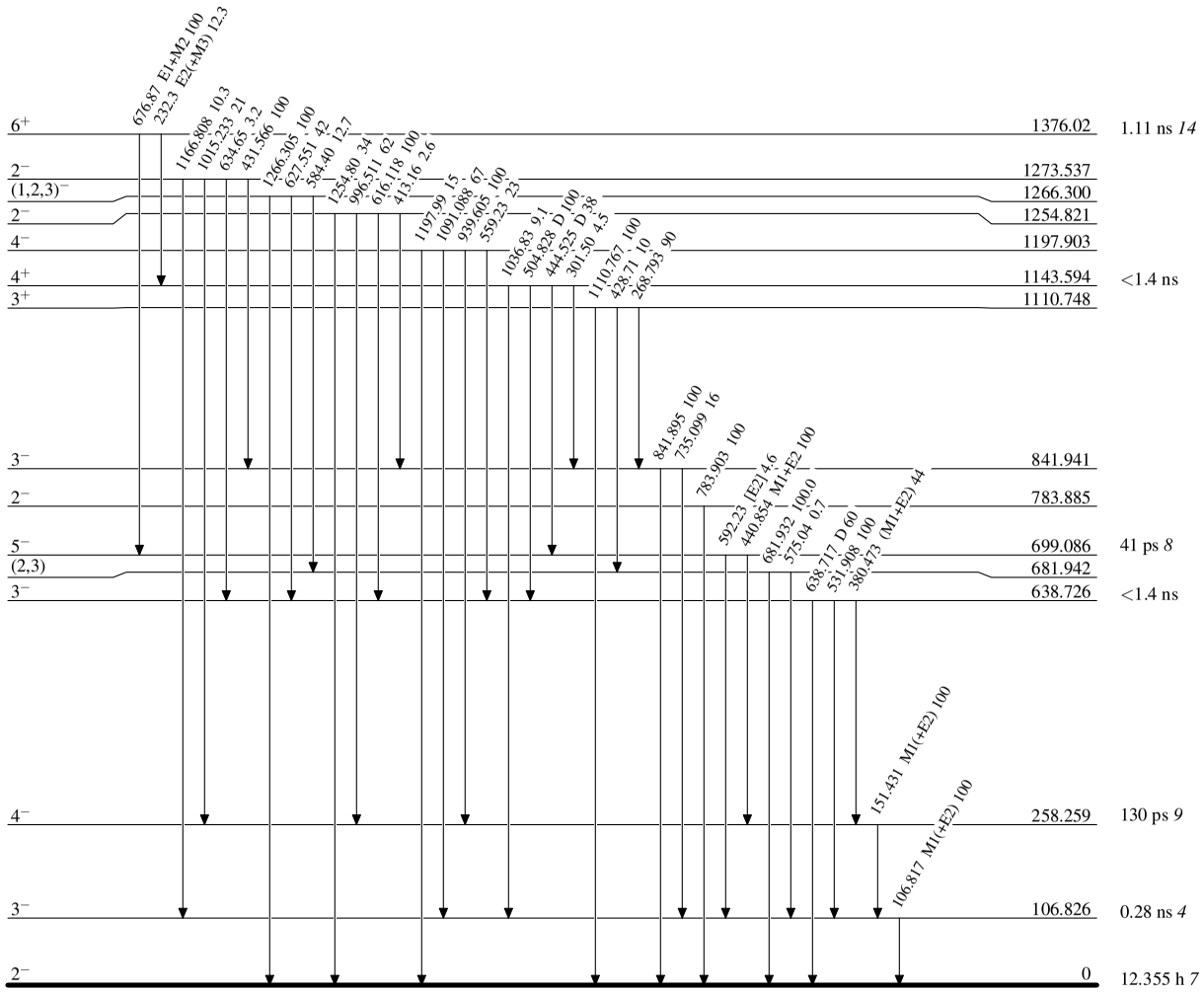


$^{42}_{19}K_{23}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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