Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson and W. D. Kulp(a)	NDS 129,1 (2015)	27-Jul-2015

Q(β^-)=3888.27 *25*; S(n)=5515.17 *25*; S(p)=12366 *3*; Q(α)=−7794 *3* 2012Wa38

^{87}Kr Levels

From ^{88}Rb decay, 95.9% *3* of the delayed neutron from levels in ^{88}Kr go to the ^{87}Kr ground state and 4.1% *3* go to the first excited level at 532 keV.

%IT: for the levels above the neutron binding energy, the γ decay fractions were computed from gΓ(n) and gΓ(n)$\Gamma(\gamma)/\Gamma$ in (n,X).

Cross Reference (XREF) Flags

A	^{86}Kr(d,p),(pol d,p)	E	^{88}Br β^-n decay
B	^{86}Kr(n,γ) E=th	F	^{208}Pb(^{18}O,Fγ)
C	^{86}Kr(n,X)	G	^{238}U(^{82}Se,Xγ), ^{192}Os(^{82}Se,Xγ)
D	^{87}Br β^- decay	H	^{2}H(^{86}Kr,p)

E(level)†	J$^\pi$‡#	$T_{1/2}$@	XREF	Comments
0.0[c]	5/2$^+$	76.3 min *5*	AB DEFGH	%β^-=100 μ=−1.023 *2*; Q=−0.30 *3* From laser spectroscopy (1995Ke04), $\delta<r^2>_{86,87}$ = 0.125 fm^2; authors give three associated uncertainty components. J$^\pi$: from laser spectroscopy (1995Ke04), L=2 in (d,p) and analyzing power in (pol d,p). $T_{1/2}$: weighted average of 76.3 m 6 (1972Eh02, β decay measurements), 76.4 m 10 (1964Cl01, mass spectrometer measurements), 78 m 2 (1949Ko13), and 74 m 2 (1937Sn02). This average has a reduced-χ^2 of 0.68. The weighted average is the same if the two older values are omitted; then the reduced-χ^2 is 0.01. μ: from 2011StZZ evaluation, based on laser spectroscopy data of 1995Ke04; other: see 1989Ra17 evaluation. Q: from 2011StZZ evaluation, based on laser spectroscopy data of 1995Ke04.
531.99 *4*	1/2$^+$		AB DEFGH	J$^\pi$: L=0 in (d,p).
1419.65[c] *4*	(7/2$^+$)		D FG	J$^\pi$: From in-beam spectroscopy (2006Po09, 2007De37), γ to 5/2$^+$.
1476.12 *5*	3/2$^+$,5/2$^+$		AB D H	XREF: H(1465). J$^\pi$: L=2 in (d,p). The direct feed from 1/2$^+$ in (n,γ) makes the 5/2$^+$ alternative less likely.
1570 *3*	(1/2$^+$)		H	J$^\pi$: L-transfer of (0) in ^{2}H(^{86}Kr,p).
1577.59 *4*	9/2$^+$		A D FG	J$^\pi$: From in-beam spectroscopy (2006Po09, 2007De37), γ to 5/2$^+$.
1841.42[&c] *5*	(9/2$^+$)		D FG	
1881.19 *6*	3/2$^+$,5/2$^+$		A D H	J$^\pi$: from L=(2) in (d,p) and isobaric analog of the 15854 level in ^{87}Rb J$^\pi$=(3/2$^+$,5/2$^+$), confirmed by agreement of spectroscopic factors in ^{86}Kr(d,p) and ^{86}Kr(p,p′) IAR. and L=2 in ^{2}H(^{86}Kr,p).
2005.42 *4*	3/2$^+$,5/2$^+$		AB D H	XREF: H(1997). J$^\pi$: L=2 in (d,p).
2071.65 *5*			D	
2086.7 *6*	1/2$^+$		A D H	J$^\pi$: L=0 in ^{2}H(^{86}Kr,p).
2105.37[&c] *8*	(11/2$^+$)		D FG	
2122.53 *6*	3/2$^+$,5/2$^+$		AB D H	XREF: H(2112). J$^\pi$: L=2 in (d,p) and L=2 in ^{2}H(^{86}Kr,p). The direct feed from 1/2$^+$ in (n,γ) makes the 5/2$^+$ alternative less likely.

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
2258.67 *7*	11/2⁻	A D FGH	XREF: H(2250). Jπ: from L=5 in ^{2}H(^{86}Kr,p) and isobaric analog of the 16240 level in ^{87}Rb (Jπ=9/2⁻,11/2⁻), confirmed by agreement of spectroscopic factors in ^{86}Kr(d,p) and ^{86}Kr(p,p′) IAR. Confirmed 11/2⁻ with in-beam spectroscopy (2006Po09) from the expected yrast nature.
2300.02 *6*	(1/2⁺)	A D H	XREF: A(2277)H(2277). Jπ: L=(0) in (d,p) and ^{2}H(^{86}Kr,p).
2329.9 *6*		D	
2369.49 *7*		D	
2371.8 *4*	1/2,3/2	B	Jπ: primary γ in thermal neutron capture from Jπ=1/2⁺.
2372.35 *6*	(3/2⁺,5/2⁺)	D	Jπ: from γ's to 1/2⁺ and 5/2⁺ levels. the 952.66 γ to a (7/2⁺) weakly rules out 1/2⁺ and suggests π=+ for 3/2.
2451.91 *5*		D	
2462.86 *10*		D	
2498.59 *5*		D	
2513.75 *9*		D	
2518.91 *9*	7/2⁺,9/2⁺	A D H	Jπ: L=4 and log $f^{1u}t$=9.4 from Jπ=5/2⁻.
2547.1 *3*		D	
2565.9 *6*		D	
2605.77 *16*		D	
2614.49[c] *25*	(13/2⁺)[b]	F	
2641.74 *6*		D	
2715.24 *10*		D	
2757.69 *8*		D	
2787.34 *11*	3/2⁺,5/2⁺	A D H	XREF: H(2775). Jπ: L=2 in (d,p) and ^{2}H(^{86}Kr,p).
2821.06 *6*		D	
2832.1 *6*		A D H	XREF: A(2823)H(2823). Jπ: L=2 in (d,p) and ^{2}H(^{86}Kr,p) implies 3/2⁺ or 5/2⁺ for the 2832 or 2836 level, or both levels.
2836.55 *5*	(3/2,5/2,7/2)	A D H	XREF: A(2823)H(2823). Jπ: log *ft*=6.7, log $f^{1u}t$=8.3 from 5/2⁻, γ to 5/2⁺. L=2 in (d,p) and ^{2}H(^{86}Kr,p) implies 3/2⁺ or 5/2⁺ for the 2832 or 2836 level, or both levels.
2863.26 *10*		D	
3004.0 *3*		D	
3020.81 *16*		A D H	XREF: A(3015)H(3021). Jπ: L=2 in (d,p) implies 3/2⁺ or 5/2⁺ for the 3020 or 3026 level, or both levels.
3026.84 *4*		A D H	XREF: A(3015)H(3021). Jπ: L=2 in (d,p) and ^{2}H(^{86}Kr,p) implies 3/2⁺ or 5/2⁺ for the 3020 or 3026 level, or both levels.
3080.78 *15*		D	
3142.91 *15*		D	
3171.86 *16*		D	
3217.86 *5*		D H	XREF: H(3229). Jπ: L=(0+2) in ^{2}H(^{86}Kr,p) implies 1/2⁺ and 3/2⁺,5/2⁺ for the 3217 or 3226 level, or both levels.
3225.97 *10*		D H	XREF: H(3229). Jπ: L=(0+2) in ^{2}H(^{86}Kr,p) implies 1/2⁺ and 3/2⁺,5/2⁺ for the 3217 or 3226 level, or both levels.
3237.19 *10*		A D	XREF: A(3223).
3256.90 *8*		A D	XREF: A(3237).
3288.4 *3*		D	
3297.13 *21*		D	
3301.9 *4*		D	
3361.9 *7*		D	

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
3434.76 *11*		D	
3444.9 *3*		D	
3525.26 *25*	(15/2⁻)	F	Jπ: From angular correlation and yrast arguments in ^{208}Pb(^{18}O,Fγ).
3559.7 *3*		A D	
3599.00 *15*		D	
3645.52 *7*	3/2⁺,5/2,7/2	D	Jπ: log*ft*=7.1 from 5/2⁻, γ to (7/2⁺).
3657.3 *10*		D	
3689.1 *5*		D	
3777.4 *6*		D	
3807.03 *10*		D	
3809.41 *15*		D	
3827 *10*		A	XREF: A(3819).
3874.18 *8*	3/2,5/2,7/2	A D	Jπ: log *ft*=6.9 from 5/2⁻, γ to 7/2⁺.
3909.8 *7*		D	
3914.3[c] *4*	(15/2⁺)[b]	F	
3917.16 *10*	3/2,5/2,7/2	D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.9 from 5/2⁻, γ to 5/2⁺.
3923.0 *6*		D	
4027.2 *5*		D	
4088.2 *3*	(17/2⁻)[b]	F	
4136.3 *4*		D	
4180.82 *6*	3/2(⁻),5/2,7/2	D	Jπ: log *ft*=6.0, log $f^{1u}t$=7.3 from 5/2⁻, γ to 5/2⁺. The 2603 γ to 9/2⁺ makes 3/2⁺ unlikely.
4192.1 *10*		D	
4197.91 *11*		D	
4204.1 *15*		D	
4223.4 *3*		D	
4226.34 *9*		D	
4265.1 *6*		D	
4297.29 *15*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=8.1 from 5/2⁻, γ to 5/2⁺.
4327.21 *10*	3/2,5/2,7/2	D	Jπ: log *ft*=6.6, log $f^{1u}t$=7.8 from 5/2⁻, γ to 5/2⁺.
4357.9 *5*	(17/2⁻)[b]	F	
4372.4 *8*	(17/2⁺)[b]	F	
4416.92 *6*	3/2(⁻),5/2,7/2	A D	Jπ: log *ft*=6.0, log $f^{1u}t$=7.2 from 5/2⁻. The 2575 γ to (9/2⁺) makes 3/2⁺ unlikely.
4524.15 *15*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=8.0 from 5/2⁻, γ to 5/2⁺.
4530.2 *4*	(19/2⁻)[b]	F	
4548.29 *20*		A D	XREF: A(4536).
4572.49 *15*	3/2,5/2,7/2	D	Jπ: log *ft*=6.4, log $f^{1u}t$=7.6 from 5/2⁻, γ to 5/2⁺.
4595.51 *6*	3/2(⁻),5/2,7/2	D	Jπ: log *ft*=6.0, log $f^{1u}t$=7.2 from 5/2⁻, γ to 5/2⁺. The 2754 γ to (9/2⁺) makes 3/2⁺ unlikely.
4620.90 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.8 from 5/2⁻, γ to 5/2⁺.
4644.58 *13*	3/2(⁻),5/2,7/2	D	Jπ: log *ft*=6.3, log $f^{1u}t$=7.5 from 5/2⁻, γ to 5/2⁺. The 3066 γ to 9/2⁺ makes 3/2⁺ unlikely.
4655.2 *3*		D	
4668.19 *9*	3/2(⁻),5/2,7/2	D	Jπ: log *ft*=6.4, log $f^{1u}t$=7.5 from 5/2⁻. The 3091 γ to 9/2⁺ makes 3/2⁺ unlikely.
4710.35 *6*	5/2⁺,7/2	D	Jπ: log *ft*=5.7 from 5/2⁻, γ to 9/2⁺.
4711.25 *10*	3/2,5/2,7/2	D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.8 from 5/2⁻.
4728.2 *10*		D	
4734.55 *19*	3/2,5/2,7/2	D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.8 from 5/2⁻, γ to 5/2⁺.
4752.71 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.8 from 5/2⁻, γ to 5/2⁺.
4784.46 *14*	3/2(⁻),5/2,7/2	D	Jπ: log *ft*=5.9, log $f^{1u}t$=7.0 from 5/2⁻, γ to 5/2⁺. The 2943γ to (9/2⁺) makes 3/2⁺ unlikely.
4807.9 *4*	3/2,5/2,7/2	A D	Jπ: log *ft*=7.0, log $f^{1u}t$=8.1 from 5/2⁻, γ to 5/2⁺.
4824.9 *4*	3/2,5/2,7/2	D	Jπ: log *ft*=7.0, log $f^{1u}t$=8.1 from 5/2⁻, γ to 5/2⁺.

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
4836.29 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=7.9 from 5/2$^-$, γ to 5/2$^+$.
4858.87 *13*	3/2$^{(-)}$,5/2,7/2	A D	XREF: A(4856). Jπ: log *ft*=6.3, log $f^{1u}t$=7.4 from 5/2$^-$. The 3281γ to 9/2$^+$ makes 3/2$^+$ unlikely.
4872.05 *15*	3/2,5/2,7/2	A D	XREF: A(4856). Jπ: log *ft*=6.5, log $f^{1u}t$=7.5 from 5/2$^-$, γ to 5/2$^+$.
4889.4 *5*		D	
4917.7 *11*	3/2,5/2,7/2	D	Jπ: log *ft*=7.0, log $f^{1u}t$=8.0 from 5/2$^-$, γ to 5/2$^+$.
4925.7 *7*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=7.9 from 5/2$^-$, γ to 5/2$^+$.
4961.55 *7*	3/2$^{(-)}$,5/2,7/2	D	Jπ: log *ft*=5.5 from 5/2$^-$, γ to 5/2$^+$. The 3383γ to 9/2$^+$ makes 3/2$^+$ unlikely.
4962.43 *21*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=7.8 from 5/2$^-$.
4976.1 *9*		D	
5003.2 *5*		D	
5021.7 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.8, log $f^{1u}t$=7.8 from 5/2$^-$, γ to 5/2$^+$.
5033.9 *6*		D	
5044.7 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.3, log $f^{1u}t$=7.3 from 5/2$^-$, γ to 5/2$^+$.
5059.69 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.5 from 5/2$^-$, γ to 5/2$^+$.
5065.9 *3*		D	
5076.19 *17*	3/2$^{(-)}$,5/2,7/2	D	Jπ: log *ft*=6.3, log $f^{1u}t$=7.3 from 5/2$^-$, γ to 5/2$^+$. The 34998γ to 9/2$^+$ makes 3/2$^+$ unlikely.
5088.9 *4*		D	
5103.55 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.3, log $f^{1u}t$=7.2 from 5/2$^-$, γ to 5/2$^+$.
5120.39 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.2, log $f^{1u}t$=7.1 from 5/2$^-$, γ to 5/2$^+$.
5136.08 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.6 from 5/2$^-$, γ to 5/2$^+$.
5155.1 *6*		D	
5183.4 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.6, log $f^{1u}t$=7.5 from 5/2$^-$, γ to 5/2$^+$.
5195.25 *18*	3/2,5/2,7/2,7/2$^{(-)}$	D	Jπ: log *ft*=5.8, log $f^{1u}t$=6.8 from 5/2$^-$, γ's to 5/2$^+$ and 1/2$^+$, although an E3 seems unlikely.
5201.21 *18*	3/2,5/2,7/2,7/2$^{(-)}$	D	Jπ: log *ft*=5.9, log $f^{1u}t$=6.8 from 5/2$^-$, γ's to 5/2$^+$ and 1/2$^+$ although an E3 seems unlikely.
5214.25 *14*	3/2,5/2,7/2	D	Jπ: log *ft*=5.7, log $f^{1u}t$=6.6 from 5/2$^-$, γ to 5/2$^+$.
5245.6 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.4 from 5/2$^-$, γ to 5/2$^+$.
5280.70 *14*	3/2,5/2,7/2	D	Jπ: log *ft*=6.0, log $f^{1u}t$=6.9 from 5/2$^-$, γ to 5/2$^+$.
5302.56 *21*	3/2,5/2$^{(+)}$	D	Jπ: log *ft*=6.3, log $f^{1u}t$=7.2 from 5/2$^-$, γ to 1/2$^+$.
5340.2 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.4 from 5/2$^-$, γ to 5/2$^+$.
5370.1 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.3 from 5/2$^-$, γ to 5/2$^+$.
5383.1 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.4, log $f^{1u}t$=7.3 from 5/2$^-$, γ to 5/2$^+$.
5406.34 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=6.2, log $f^{1u}t$=7.1 from 5/2$^-$, γ to 5/2$^+$.
5419.9 *5*		D	
5424.2 *9*		D	
5436.3 *6*	(21/2$^-$)[b]	F	
5439.9 *9*		D	
5454.9 *3*	3/2,5/2,7/2	D	Jπ: log *ft*=6.2, log $f^{1u}t$=7.0 from 5/2$^-$, γ to 5/2$^+$.
5466.79 *13*	3/2,5/2,7/2,7/2$^{(-)}$	D	Jπ: log *ft*=5.6 from 5/2$^-$, γ to (3/2)$^+$ and 3167γ to (1/2$^+$), although an E3 seems unlikely.
5473.74 *20*	3/2,5/2,7/2	D	Jπ: log *ft*=5.9, log $f^{1u}t$=6.7 from 5/2$^-$, γ to 5/2$^+$.
5519.9 *7*	(23/2$^-$)[b]	F	
5520.72 *25*		C	
5526.67 *25*		C	
5534.184 *6*	1/2$^-$	C	Γ_n=14.8 eV *4*
5540.70 *25*		C	
5542.71 *25*	(3/2)$^-$	C	Γ_n=7.9 eV *3* Jπ: L=1 in (n,x).

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	$T_{1/2}$[@]	XREF	Comments
5546.7 *6*	(5/2⁻)		D	Jπ: log *ft*=6.9, log $f^{1u}t$=7.6 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X) (see 1983Ra21).
5551.66 *2*	1/2⁺	54 eV *2*	C	Jπ: L=0 in (n,x).
5558.606 *15*	1/2⁻	127 eV *3*	C	
5561.9 *9*	(5/2⁻)		D	Jπ: log *ft*=7.0, log $f^{1u}t$=7.8 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X) (see1983Ra21).
5563.27 *4*			C	Γ_n=45 eV *1*
5564.28 *26*	1/2⁺	45 eV *1*	C	Jπ: L=0 in (n,x).
5568.94 *26*	3/2⁻	201 eV *3*	C	%IT=0.27 *7* Γ_n=200 eV *3* Jπ: L=1 in (n,x).
5583.05 *26*	(1/2)⁻		C	Jπ: L=1 in (n,x).
5593.4 *8*	1/2⁻	93 eV *4*	C	%IT=0.38 *14* Γ_n=93 eV *4*
5593.70 *3*	(1/2⁻)		C	%IT=3.4 *10* Γ_n=10.3 eV *12*
5594.7 *3*	(5/2⁻)		D	Jπ: log *ft*=6.5, log $f^{1u}t$=7.3 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5602.48 *26*	(3/2⁺)		C	Jπ: L=(2) in (n,x).
5606.4 *5*	3/2⁻	<311[a] eV	CD	Jπ: L=1 in (n,x) and log *ft*=6.6, log $f^{1u}t$=7.3 from 5/2⁻, γ to 5/2⁺.
5635.2 *5*	(5/2⁻)		D	Jπ: log *ft*=6.7, log $f^{1u}t$=7.4 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5638.40 *26*	1/2⁻		C	Jπ: L=1 in (n,x).
5638.78 *26*	(3/2⁺)		C	Jπ: L=(2) in (n,x).
5638.82 *26*	(3/2⁻)		C	Jπ: L=(1) in (n,x).
5648.8 *9*	(5/2⁻)		D	Jπ: log *ft*=7.5, log $f^{1u}t$=8.2 from 3/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5651.08 *6*	1/2⁺		C	
5655.5 *10*	3/2⁻	0.32 keV *4*	C	
5659.9 *4*	(5/2⁻)		D	Jπ: log *ft*=6.8, log $f^{1u}t$=7.5 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5670.30 *7*	3/2⁻		C	Γ_n=0.54 keV *3*
5671.14 *26*	1/2⁺		C	Jπ: L=0 in (n,x).
5671.57 *26*	(1/2⁻)		C	Jπ: L=(1) in (n,x).
5672.3 *4*	(5/2⁻)		D	Jπ: log *ft*=6.6, log $f^{1u}t$=7.3 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5682.81 *27*	3/2⁻		C	Jπ: L=1 in (n,x).
5685.6 *3*	(5/2⁻)		D	Jπ: log *ft*=6.2, log $f^{1u}t$=6.8 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5691.44 *27*	(3/2⁻)		C	Jπ: L=(1) in (n,x).
5698.8 *4*	(5/2⁻)		D	Jπ: log *ft*=6.9, log $f^{1u}t$=7.6 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5701.8 *8*	1/2⁻		C	Γ_n=1.48 keV *12*
5712.46 *27*	1/2⁺		C	Jπ: L=0 in (n,x).
5714.7 *9*	(5/2⁻)		D	Jπ: log *ft*=7.3, log $f^{1u}t$=8.0 from 5/2⁻, γ to 5/2⁺, not observed as resonance in (n,X).
5719.70 *27*	1/2⁺		C	Jπ: L=0 in (n,x).
5724.36 *28*	3/2⁻		C	Jπ: L=1 in (n,x).
5735.89 *28*	(1/2⁻)		C	Jπ: L=1 in (n,x), but 1983Ra21 suggests 3/2⁻.
5736.68 *28*	3/2⁻		C	Jπ: L=1 in (n,x).
5740.04 *28*	1/2⁺		C	Jπ: L=0 in (n,x).
5750.32 *28*	3/2⁻		C	Jπ: L=1 in (n,x).
5761.4 *8*	3/2⁻		C	Γ_n=2.38 keV *3*
5779.65 *29*	(3/2⁺)		C	Γ_n=24 eV *12*

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
5782.46 *29*	(3/2+)	C	Jπ: L=(2) in (n,x).
5782.63 *30*	1/2−	C	Γ_n=0.56 keV *3* Jπ: L=1 in (n,x).
5784.20 *30*	3/2−	C	Γ_n=95 eV *10* Jπ: L=1 in (n,x).
5793.3 *4*	(5/2−)	D	Jπ: log *ft*=6.2, log $f^{1u}t$=6.8 from 3/2−, γ to 5/2+, not observed as resonance in (n,X).
5798.60 *30*	(3/2+)	C	Γ_n=18 eV *3* Jπ: L=(2) in (n,x).
5805.62 *30*	3/2−	C	Γ_n=5.97 keV *12* Jπ: L=1 in (n,x).
5818.91 *31*	(3/2−)	C	Γ_n=35 eV *6* Jπ: L=(1) in (n,x).
5821.28 *31*	(3/2+)	C	%IT>20 Γ_n=20 eV *3* Jπ: L=(2) in (n,x).
5824.64 *31*	1/2+	C	Γ_n=3.21 keV *3* Jπ: L=0 in (n,x).
5828.25 *31*	3/2−	C	Γ_n=75 eV *8* Jπ: L=1 in (n,x).
5828.61 *31*	(3/2+)	C	Γ_n=93 eV *9* Jπ: L=(2) (n,x).
5829.78 *31*	(1/2−)	C	Γ_n=88 eV *16* Jπ: L=(1) in (n,x).
5841.64 *32*	1/2+	C	Γ_n=1.37 keV *5* Jπ: L=0 in (n,x).
5850.97 *32*	1/2−	C	Γ_n=140 eV *14* Jπ: L=1 in (n,x).
5862.06 *3*	3/2−	C	Γ_n=1488 eV *15* Jπ: L=1 in (n,x).
5863.26 *33*	1/2−	C	Γ_n=265 eV *19* Jπ: L=1 in (n,x).
5874.26 *33*	3/2−	C	Γ_n=2.72 keV *3* Jπ: L=1 in (n,x).
5876.52 *34*	3/2+	C	Γ_n=50 eV *5* Jπ: L=2 in (n,x).
5877.38 *34*	(1/2+)	C	Γ_n=25 eV *5* Jπ: L=(0) in (n,x).
5877.72 *34*	(3/2+)	C	Γ_n=53 eV *15* Jπ: L=(2) in (n,x).
5883.85 *34*	1/2−	C	Γ_n=5.62 keV *11* Jπ: L=1 in (n,x).
5885.97 *34*	3/2−	C	Γ_n=3.17 keV *4* Jπ: L=1 in (n,x).
5900.95 *35*	1/2+	C	Γ_n=1.36 keV *5* Jπ: L=0 in (n,x).
5901.50 *35*	1/2−	C	Γ_n=340 eV *17* Jπ: L=1 in (n,x).
5903.57 *35*	3/2+	C	Γ_n=198 eV *10* Jπ: L=2 in (n,x).
5908.18 *36*	3/2−,(3/2+)	C	E(level),Jπ,L,Γ_n: 1988Ca17 report an unresolved doublet in (n,x) with l=1 and l=(2). For the l=1 component, Γ_n=780 kev *25* and for the l=(2) component, Γ_n=83 eV *13*, both for J=3/2.
5922.15 *36*	1/2−	C	Γ_n=1.13 keV *6* Jπ: L=1 in (n,x).
5925.16 *37*	3/2−	C	Γ_n=13.09 keV *13*

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	J$^{\pi}$[‡#]	XREF	Comments
			J$^{\pi}$: L=1 in (n,x).
5925.94 *37*	(3/2$^+$)	C	Γ_n=45 eV *10* J$^{\pi}$: L=(2) in (n,x).
5939.16 *37*	3/2$^-$	C	Γ_n=255 eV *13* J$^{\pi}$: L=1 in (n,x).
5944.64 *37*	(3/2$^+$)	C	Γ_n=70 eV *10* J$^{\pi}$: L=(2) in (n,x).
5951.87 *38*	(3/2$^+$)	C	Γ_n=30 eV *6* J$^{\pi}$: L=(2) in (n,x).
5953.5 *4*	1/2$^-$	C	Γ_n=230 eV *25* J$^{\pi}$: L=1 in (n,x).
5958.6 *4*	3/2$^+$	C	Γ_n=280 eV *14* J$^{\pi}$: L=2 in (n,x).
5964.4 *4*	3/2$^-$	C	Γ_n=1.86 keV *4* J$^{\pi}$: L=1 in (n,x).
5968.6 *4*	1/2$^+$	C	Γ_n=0.82 keV *4* J$^{\pi}$: L=0 in (n,x).
5976.7 *4*	3/2$^+$	C	Γ_n=175 eV *9* J$^{\pi}$: L=2.
5991.3 *4*	(3/2$^+$)	C	Γ_n=25 eV *6* J$^{\pi}$: L=(2) in (n,x).
5994.8 *5*	3/2$^-$	C	Γ_n=1.335 keV *25* J$^{\pi}$: L=1 in (n,x).
6002.4 *5*	1/2$^+$	C	Γ_n=0.34 keV *3* J$^{\pi}$: L=0 in (n,x).
6008.2 *5*	3/2$^+$	C	Γ_n=348 eV *13* J$^{\pi}$: L=2 in (n,x).
6013.8 *5*	1/2$^-$	C	Γ_n=4.64 keV *12* J$^{\pi}$: L=1 in (n,x).
6015.81 *5*	(3/2$^+$)	C	Γ_n=43 eV *9* J$^{\pi}$: L=(2) in (n,x).
6017.4 *5*	1/2$^+$	C	Γ_n=2.07 keV *8* J$^{\pi}$: L=0 in (n,x).
6022.4 *5*	1/2$^-$	C	Γ_n=155 eV *17* J$^{\pi}$: L=1 in (n,x).
6025.2 *5*	1/2$^-$	C	Γ_n=120 eV *15* J$^{\pi}$: L=1 in (n,x).
6026.4 *5*	3/2$^-$	C	Γ_n=4.66 keV *5* J$^{\pi}$: L=1 in (n,x).
6032.1 *5*	(1/2$^-$)	C	Γ_n=0.21 keV *3* J$^{\pi}$: L=(1) in (n,x).
6033.2 *5*	(1/2$^-$)	C	Γ_n=25 eV *12* J$^{\pi}$: L=(1) in (n,x).
6035.2 *5*	3/2$^+$	C	Γ_n=2.66 keV *5* J$^{\pi}$: L=2 in (n,x).
6041.2 *5*	(5/2$^+$)	C	Γ_n=47 eV *10* J$^{\pi}$: L=(2) in (n,x).
6042.2 *5*	(5/2$^+$)	C	Γ_n=132 eV *17* J$^{\pi}$: L=(2) in (n,x).
6043.3 *5*	3/2$^-$	C	Γ_n=1.12 keV *4* J$^{\pi}$: L=1 in (n,x).
6046.63 *5*	(1/2$^-$)	C	Γ_n=70 eV *10* J$^{\pi}$: L=(1) in (n,x).
6048.7 *5*	1/2$^+$	C	Γ_n=45 eV *15* J$^{\pi}$: L=0 in (n,x).

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
6049.0 *5*	1/2⁻	C	Γ_n=175 eV *10* Jπ: L=1 in (n,x).
6054.8 *5*	3/2⁺	C	Γ_n=75 eV *11* Jπ: L=2 in (n,x).
6056.8 *5*	3/2⁺	C	Γ_n=170 eV *15* Jπ: L=2 in (n,x).
6057.4 *5*	3/2⁻	C	Γ_n=3.75 keV *8* Jπ: L=1 in (n,x).
6064.3 *5*	1/2⁻	C	Γ_n=400 eV *20* Jπ: L=1 in (n,x).
6067.0 *5*	3/2⁻	C	Γ_n=1.93 eV *4* Jπ: L=1 in (n,x).
6075.9 *5*	1/2⁻	C	Γ_n=1.26 keV *5* Jπ: L=1 in (n,x).
6076.1 *5*	1/2⁺	C	Γ_n=2.14 keV *15* Jπ: L=0 in (n,x).
6077.6 *5*	3/2⁻	C	Γ_n=6.34 keV *10* Jπ: L=1 in (n,x).
6081.6 *5*	1/2⁻	C	Γ_n=240 eV *20* Jπ: L=1 in (n,x).
6094.3 *5*	1/2⁻	C	Γ_n=1.61 keV *3* Jπ: L=1 in (n,x).
6101.3 *5*	3/2⁻	C	Γ_n=4.60 keV *8* Jπ: L=1 in (n,x).
6101.5 *5*	3/2⁺	C	Γ_n=185 eV *10* Jπ: L=2 in (n,x).
6103.4 *5*	3/2⁺	C	Γ_n=383 eV *20* Jπ: L=2 in (n,x).
6105.0 *5*	3/2⁻	C	Γ_n=135 eV *15* Jπ: L=1 in (n,x).
6116.9 *5*	1/2⁻	C	Γ_n=3.51 keV *7* Jπ: L=1 in (n,x).
6127.0 *6*	3/2⁺	C	Γ_n=80 eV *16* Jπ: L=2 in (n,x).
6130.9 *6*	1/2⁻	C	Γ_n=2.20 keV *9* Jπ: L=1 in (n,x).
6132.3 *6*	1/2⁺	C	Γ_n=0.39 keV *6* Jπ: L=0 in (n,x).
6132.9 *6*	3/2⁻	C	Γ_n=33.5 keV *7* Jπ: L=1 in (n,x).
6134.0 *6*	3/2⁺	C	Γ_n=0.25 keV *4* Jπ: L=2 in (n,x).
6139.1 *6*	3/2⁻	C	Γ_n=0.27 eV *4* Jπ: L=1 in (n,x).
6149.0 *6*	1/2⁺	C	Γ_n=1.17 keV *12* Jπ: L=0 in (n,x).
6151.4 *6*	3/2⁻	C	Γ_n=0.27 keV *3* Jπ: L=1 in (n,x).
6153.2 *6*	1/2⁻	C	Γ_n=6.42 keV *6* Jπ: L=1 in (n,x).
6155.7 *6*	(5/2⁺)	C	Γ_n=53 eV *13* Jπ: L=(2) in (n,x).
6164.8 *6*	1/2⁻	C	Γ_n=1.37 keV *9* Jπ: L=1.
6172.8 *6*	3/2⁻	C	Γ_n=12.3 keV *4*

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)†	Jπ‡#	XREF	Comments
			J^π: L=1 in (n,x).
6177.9 *6*	3/2−	C	Γ_n=21.2 keV *4* J^π: L=1 in (n,x).
6187.3 *6*	1/2+	C	Γ_n=190 eV *15* J^π: L=0 in (n,x).
6188.0 *6*	3/2+	C	Γ_n=0.12 keV *4* J^π: L=2 in (n,x).
6191.7 *6*	3/2−	C	Γ_n=21.4 keV *4* J^π: L=1.
6193.5 *6*	(3/2+)	C	Γ_n=0.12 keV *4* J^π: L=(2) in (n,x).
6201.4 *6*	(3/2+)	C	Γ_n=0.12 keV *4* J^π: L=(2) in (n,x).
6202.3 *6*	1/2+	C	Γ_n=0.60 keV *8* J^π: L=0 in (n,x).
6207.6 *6*	1/2−	C	Γ_n=0.85 keV *10* J^π: L=1 in (n,x).
6208.4 *6*	3/2−	C	Γ_n=5.51 keV *17* J^π: L=1 in (n,x).
6214.0 *6*	1/2−	C	Γ_n=13.7 keV *6* J^π: L=1 in (n,x).
6217.4 *6*	3/2−	C	Γ_n=2.20 keV *22* J^π: L=1 in (n,x).
6225.1 *7*	1/2−	C	Γ_n=0.58 keV *9* J^π: L=1 in (n,x).
6225.6 *6*	3/2+	C	Γ_n=0.18 keV *5* J^π: L=2 in (n,x).
6228.6 *7*	3/2+	C	Γ_n=160 eV *16* J^π: L=2 in (n,x).
6232.8 *7*	3/2−	C	Γ_n=3.40 keV *4* J^π: L=1 in (n,x).
6233.2 *7*	(5/2+)	C	Γ_n=123 eV *13* J^π: L=(2) in (n,x).
6235.5 *7*	1/2+	C	Γ_n=2.8 eV *5* J^π: L=0 in (n,x).
6237.1 *7*	3/2+	C	Γ_n=0.60 keV *4* J^π: L=2 in (n,x).
6239.2 *7*	3/2−	C	Γ_n=0.60 keV *4* J^π: L=1 in (n,x).
6241.0 *7*	1/2−	C	Γ_n=7.0 keV *5* J^π: L=1 in (n,x).
6242.8 *7*	5/2+	C	Γ_n=50 eV *4* J^π: L=2 in (n,x).
6247.6 *7*	3/2−	C	Γ_n=1.38 keV *4* J^π: L=1 in (n,x).
6251.7 *7*	1/2+	C	Γ_n=0.87 keV *18* J^π: L=0 in (n,x).
6255.0 *7*	3/2−	C	Γ_n=5.9 keV *6* J^π: L=1 in (n,x).
6256.0 *7*	1/2−	C	Γ_n=6.5 keV *8* J^π: L=1 in (n,x).
6258.9 *7*	(3/2+)	C	Γ_n=240 eV *24* J^π: L=(2) in (n,x).
6261.4 *7*	1/2+	C	Γ_n=1.8 keV *4* J^π: L=0 in (n,x).

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
6266.4 *7*	1/2⁻	C	Γ_n=5.1 keV *7* Jπ: L=1 in (n,x).
6267.5 *7*	3/2⁻	C	Γ_n=7.3 keV *7* Jπ: L=1 in (n,x).
6281.5 *7*	3/2⁻	C	Γ_n=15.4 keV *13* Jπ: L=1 in (n,x).
6283.2 *7*	1/2⁺	C	Γ_n=0.27 keV *8* Jπ: L=0 in (n,x).
6292.0 *7*	3/2⁻	C	Γ_n=5.4 keV *3* Jπ: L=1 in (n,x).
6293.2 *7*	(3/2⁺)	C	Γ_n=162.5 eV *25* Jπ: L=(2) in (n,x).
6297.5 *7*	1/2⁻	C	Γ_n=3.56 keV *4* Jπ: L=1 in (n,x).
6300.6? *8*		F	
6303.2 *7*	1/2⁻	C	Γ_n=9.87 keV *10* Jπ: L=1 in (n,x).
6308.4 *7*	3/2⁻	C	Γ_n=1.700 keV *25* Jπ: L=1 in (n,x).
6318.9 *7*	3/2⁻	C	Γ_n=952 eV *17* Jπ: L=1 in (n,x).
6323.3 *8*	3/2⁻	C	Γ_n=0.67 keV *14* Jπ: L=1 in (n,x).
6326.0 *8*	1/2⁺	C	Γ_n=0.76 keV *19* Jπ: L=0 in (n,x).
6331.5 *8*	(1/2⁻)	C	Γ_n=55 eV *16* Jπ: L=(1) in (n,x).
6334.0 *8*	1/2⁺	C	Γ_n=0.16 keV *5* Jπ: L=0 in (n,x).
6335.4 *8*	(3/2⁺)	C	Γ_n=118 eV *20* Jπ: L=(2) in (n,x).
6336.6 *8*	1/2⁺	C	Γ_n=0.14 keV *5* Jπ: L=0 in (n,x).
6337.5 *8*	(3/2⁺)	C	Γ_n=130 eV *20* Jπ: L=(2) in (n,x).
6341.9 *8*	3/2⁻	C	Γ_n=9.9 keV *5* Jπ: L=1 in (n,x).
6348.2 *8*	3/2⁻	C	Γ_n=4.7 keV *7* Jπ: L=1 in (n,x).
6348.4 *8*	(3/2⁺)	C	Γ_n=1.90 keV *19* Jπ: L=(2) in (n,x).
6356.3 *8*	1/2⁺	C	Γ_n=0.32 keV *10* Jπ: L=0 in (n,x).
6357.8 *8*	3/2⁻	C	Γ_n=0.76 keV *19* Jπ: L=1 in (n,x).
6358.1 *8*	(3/2⁺)	C	Γ_n=0.09 keV *3* Jπ: L=(2) in (n,x).
6365.2 *8*	1/2	C	Γ_n=1.0 keV *3* Jπ: L=(1) in (n,x).
6366.7 *8*	(1/2⁻)	C	Γ_n=1.45 keV *18* Jπ: L=(1) in (n,x).
6371.9 *8*	3/2⁻	C	Γ_n=1.9 keV *3* Jπ: L=1 in (n,x).
6373.6 *8*	(3/2⁺)	C	Γ_n=0.13 keV *3* Jπ: L=(2) in (n,x).

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)[†]	Jπ[‡#]	XREF	Comments
6376.9 *8*	3/2⁻	C	Γ_n=5.7 keV *5* Jπ: L=1 in (n,x).
6379.0 *8*	1/2⁺	C	Γ_n=98 eV *20* Jπ: L=0 in (n,x).
6380.0 *7*	(5/2⁺)	C	Γ_n=0.66 keV *7* Jπ: L=(2) in (n,x).
6382.7 *8*	(3/2⁺)	C	Γ_n=108 eV *11* Jπ: L=(2) in (n,x).
6385.0 *8*	1/2⁻	C	Γ_n=2.9 keV *5* Jπ: L=1 in (n,x).
6385.2 *8*	(3/2⁺)	C	Γ_n=0.10 keV *3* Jπ: L=(2) in (n,x).
6390.0 *8*	3/2⁻	C	Γ_n=2.6 keV *3* Jπ: L=1 in (n,x).
6392.7 *8*	3/21	C	Γ_n=0.43 keV *4* Jπ: L=1 in (n,x).
6394.1 *8*	(1/2⁺)	C	Γ_n=0.08 keV *4* Jπ: L=(0) in (n,x).
6396.1 *8*	3/2⁻	C	Γ_n=0.54 keV *6* Jπ: L=1 in (n,x).
6398.5 *8*	1/2⁻	C	Γ_n=1.88 keV *19* Jπ: L=1 in (n,x).
6402.8 *8*	(5/2⁺)	C	Γ_n=0.68 keV *17* Jπ: L=(2) in (n,x).
6407.2 *9*	(3/2⁺)	C	Γ_n=0.22 keV *4* Jπ: L=(2) in (n,x).
6407.7 *9*	3/2⁻	C	Γ_n=28.6 keV *20* Jπ: L=1 in (n,x).
6410.0 *9*	(5/2⁺)	C	Γ_n=0.21 keV *6* Jπ: L=(2) in (n,x).
6413.2 *9*	(3/2⁺)	C	Γ_n=0.11 keV *4* Jπ: L=(2) in (n,x).
6414.9 *9*	(1/2⁻)	C	Γ_n=0.24 keV *7* Jπ: L=(1) in (n,x).
6418.2 *9*	(3/2⁺)	C	Γ_n=0.26 keV *4* Jπ: L=(2) in (n,x).
6419.5 *9*	(3/2⁺)	C	Γ_n=0.63 keV *7* Jπ: L=(2) in (n,x).
6422.5 *9*	(5/2⁺)	C	Γ_n=0.22 keV *6* Jπ: L=(2) in (n,x).
6428.1 *9*		C	E(level): Reported as a doublet with L=1 and Γ_n=0.46 keV *12* and Γ_n=1.9 keV *4*.
6429.0 *9*	(3/2⁺)	C	Γ_n=0.30 keV *8* Jπ: L=(2) in (n,x).
6433.4 *9*	1/2⁺	C	Γ_n=2.3 keV *6* Jπ: L=0 in (n,x).
6436.7 *9*	(5/2⁺)	C	Γ_n=0.18 keV *6* Jπ: L=(2) in (n,x).
6438.5 *9*	(3/2⁺)	C	Γ_n=0.25 keV *8* Jπ: L=(2) in (n,x).
6439.1 *9*	3/2⁻	C	Γ_n=4.0 keV *5* Jπ: L=1 in (n,x).
6443.1 *9*	(3/2⁺)	C	Γ_n=0.48 keV *14* Jπ: L=(2) in (n,x).
6444.2 *9*	3/2⁻	C	Γ_n=3.1 keV *6* Jπ: L=1 in (n,x).

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Adopted Levels, Gammas (continued)

^{87}Kr Levels (continued)

E(level)†	Jπ‡#	XREF	Comments
6445.3 *9*	(3/2+)	C	Γ_n=0.20 keV *6* Jπ: L=(2) in (n,x).
6446.2 *9*	1/2−	C	Γ_n=13.7 keV *20* Jπ: L=1 in (n,x).
6450.7 *9*	(3/2+)	C	Γ_n=0.26 keV *8* Jπ: L=(2) in (n,x).

† From least-squares fit to γ-ray energies for levels depopulated by γ rays.
‡ From (n,X) for levels above S_n=5515 keV, unless indicated otherwise. See comment on Jπ in that data set.
# The log *ft* values from the ^{87}Br β^- decay have been used in many Jπ assignments, but as noted in that decay, the intensities of the β^- branches are not well determined because there are many unplaced γ's. Therefore, the log *ft*'s have been used only if the I_β values are > 0.3% for levels below 4000 keV, > 0.1% from 4000 to 5515 keV; all values have been used above the neutron binding energy, 5515 keV. For these assignments it has also been assumed that any γ ray to the ground state is not an M2.
@ Calculated from γ branching ratio and Γ(n) assuming no other decay branch.
& From (n,X).
a From Γ(n) assuming, as is the case for most of the low energy resonances, that $\Gamma\gamma/\Gamma(n) \leq 0.5\%$.
b Expected population of only yrast states in ^{208}Pb(^{18}O,(fragment)γ) and assuming increasing J with excitation energy.
c Band(A): γ cascade.

γ(^{87}Kr)

Unplaced γ's are not included here; see ^{87}Br β^- decay.

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.	α‡	Comments
531.99	1/2+	532.03 *7*	100	0.0	5/2+			E_γ: from β^-. Others: 531.91 *13* ^{86}Kr(n,γ), E=thermal, and 532.12 5 from ^{88}Br β-n decay,
1419.65	(7/2+)	1419.71 *7*	100	0.0	5/2+	(E2)	2.88×10^{-4}	Mult.: Angular correlations.
1476.12	3/2+,5/2+	944.12 *7*	17.7 *13*	531.99	1/2+			E_γ,I_γ: from β^- decay. Others: 944.2 3 ^{86}Kr(n,γ), E=thermal.
		1476.06 *7*	100 *8*	0.0	5/2+			E_γ,I_γ: from β^- decay Others: 1475.94 *17* ^{86}Kr(n,γ), E=thermal.
1577.59	9/2+	1577.60 *7*	100	0.0	5/2+	[E2]		Mult.: γ to 5/2+.
1841.42	(9/2+)	421.74 *10*	100	1419.65	(7/2+)	D		
1881.19	3/2+,5/2+	461.52 *7*	22.6 *16*	1419.65	(7/2+)			
		1349.19 *7*	23.7 *16*	531.99	1/2+			
		1881.20 *20*	100 *11*	0.0	5/2+			
2005.42	3/2+,5/2+	529.60 *15*	25 *4*	1476.12	3/2+,5/2+			
		2005.52 *7*	100 *8*	0.0	5/2+			
2071.65		230.33 *9*	23.5 *18*	1841.42	(9/2+)			
		651.96 *7*	48 *4*	1419.65	(7/2+)			
		2071.66 *7*	100 *9*	0.0	5/2+			
2086.7	1/2+	611.5 *8*	100	1476.12	3/2+,5/2+			
2105.37	(11/2+)	263.96 *7*	100	1841.42	(9/2+)	D		
		527.5 *3*	18 *5*	1577.59	9/2+			E_γ: from ^{208}Pb(^{18}O,Fγ).
2122.53	3/2+,5/2+	2122.62 *9*	100	0.0	5/2+			
2258.67	11/2−	417.1 *3*	8 *3*	1841.42	(9/2+)			E_γ: Seen only in (^{18}O,Fγ).
		681.22 *8*	100 *8*	1577.59	9/2+	[E1]	4.72×10^{-4}	Mult.: Angular correlations gives d.
		2258.44 *10*	39 *3*	0.0	5/2+	[E3]		
2300.02	(1/2+)	824.0 *3*	21 *4*	1476.12	3/2+,5/2+			

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Adopted Levels, Gammas (continued)

$\gamma(^{87}Kr)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	Comments
2300.02	(1/2$^+$)	1768.07 *7*	100 *7*	531.99	1/2$^+$		
		2299.93 *8*	55 *4*	0.0	5/2$^+$		
2329.9		853.8 *6*	100	1476.12	3/2$^+$,5/2$^+$		
2369.49		893.42 *9*	71 *6*	1476.12	3/2$^+$,5/2$^+$		
		2369.39 *10*	100 *14*	0.0	5/2$^+$		
2371.8	1/2,3/2	1839.8 *4*	100	531.99	1/2$^+$		E_γ: from (n,γ). This γ cannot be the 1840 γ seen in β^- decay because the stronger γ's deexciting the 2372.35 level in β^- decay have not been seen in (n,γ).
2372.35	(3/2$^+$,5/2$^+$)	896.0 *4*	13 *3*	1476.12	3/2$^+$,5/2$^+$		
		952.66 *15*	74 *7*	1419.65	(7/2$^+$)		
		1840.10 *15*	38 *4*	531.99	1/2$^+$		
		2372.38 *7*	100 *8*	0.0	5/2$^+$		
2451.91		610.46 *7*	90 *9*	1841.42	(9/2$^+$)		
		874.30 *7*	58 *5*	1577.59	9/2$^+$		
		2451.88 *10*	100 *8*	0.0	5/2$^+$		
2462.86		2462.82 *10*	100	0.0	5/2$^+$		
2498.59		617.5 *3*	21 *7*	1881.19	3/2$^+$,5/2$^+$		
		920.98 *7*	91 *7*	1577.59	9/2$^+$		
		1078.88 *9*	17.5 *18*	1419.65	(7/2$^+$)		
		2498.58 *7*	100 *7*	0.0	5/2$^+$		
2513.75		1037.63 *7*	100	1476.12	3/2$^+$,5/2$^+$		
2518.91	7/2$^+$,9/2$^+$	1099.88 *10*	7.6 *8*	1419.65	(7/2$^+$)		E_γ: Not included in the least squares adjustment to obtain level energies.
		2519.0 *4*	100 *7*	0.0	5/2$^+$		
2547.1		2547.1 *3*	100	0.0	5/2$^+$		
2565.9		1146.2 *6*	100	1419.65	(7/2$^+$)		
2605.77		724.57 *15*	100	1881.19	3/2$^+$,5/2$^+$		
2614.49	(13/2$^+$)	509.1 *3*	100	2105.37	(11/2$^+$)	D	
2641.74		636.39 *8*	27.1 *17*	2005.42	3/2$^+$,5/2$^+$		
		2641.67 *8*	100 *9*	0.0	5/2$^+$		
2715.24		2715.19 *10*	100	0.0	5/2$^+$		
2757.69		1338.03 *7*	100	1419.65	(7/2$^+$)		
2787.34	3/2$^+$,5/2$^+$	1311.21 *10*	100	1476.12	3/2$^+$,5/2$^+$		
2821.06		698.59 *9*	7.8 *6*	2122.53	3/2$^+$,5/2$^+$		
		2820.97 *7*	100 *6*	0.0	5/2$^+$		
2832.1		1356.0 *6*	100	1476.12	3/2$^+$,5/2$^+$		
2836.55	(3/2,5/2,7/2)	714.09 *7*	5.6 *3*	2122.53	3/2$^+$,5/2$^+$		
		831.26 *7*	38 *3*	2005.42	3/2$^+$,5/2$^+$		
		1360.59 *20*	100 *6*	1476.12	3/2$^+$,5/2$^+$		
		2836.36 *7*	41 *3*	0.0	5/2$^+$		
2863.26		1285.66 *9*	100	1577.59	9/2$^+$		
3004.0		3003.9 *3*	100	0.0	5/2$^+$		
3020.81		1443.21 *15*	100	1577.59	9/2$^+$		
3026.84		955.1 *3*	26 *5*	2071.65			
		1021.26 *7*	93 *7*	2005.42	3/2$^+$,5/2$^+$		
		1449.24 *7*	79 *6*	1577.59	9/2$^+$		
		1607.32 *7*	100 *7*	1419.65	(7/2$^+$)		
		3026.77 *7*	93 *7*	0.0	5/2$^+$		
3080.78		3080.72 *15*	100	0.0	5/2$^+$		
3142.91		3142.85 *15*	100	0.0	5/2$^+$		
3171.86		1330.43 *15*	100	1841.42	(9/2$^+$)		
3217.86		1095.16 *15*	15.5 *17*	2122.53	3/2$^+$,5/2$^+$		
		1146.3 *6*	25 *7*	2071.65			
		1212.60 *9*	32 *3*	2005.42	3/2$^+$,5/2$^+$		
		1376.08 *15*	16.7 *17*	1841.42	(9/2$^+$)		

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Adopted Levels, Gammas (continued)

$\gamma(^{87}Kr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[‡]	Comments
3217.86		1798.31 *7*	100 *7*	1419.65	$(7/2^+)$			
		3217.61 *9*	55 *5*	0.0	$5/2^+$			
3225.97		853.6 *6*	24 *10*	2372.35	$(3/2^+,5/2^+)$			
		2693.94 *10*	100 *8*	531.99	$1/2^+$			
		3225.9 *3*	26.8 *25*	0.0	$5/2^+$			
3237.19		1659.58 *9*	100	1577.59	$9/2^+$			
3256.90		737.96 *7*	31.3 *20*	2518.91	$7/2^+,9/2^+$			
		1415.43 *15*	100 *14*	1841.42	$(9/2^+)$			
		1836.78[#] *7*	93 *7*	1419.65	$(7/2^+)$			E_γ: Not included in least squares fit for energy levels.
		3256.92 *10*	21.3 *20*	0.0	$5/2^+$			
3288.4		1868.7 *3*	100	1419.65	$(7/2^+)$			
3297.13		1291.7 *2*	100	2005.42	$3/2^+,5/2^+$			
3301.9		1043.3 *6*	20 *7*	2258.67	$11/2^-$			
		1882.2 *4*	100 *17*	1419.65	$(7/2^+)$			
3361.9		3361.8 *7*	100	0.0	$5/2^+$			
3434.76		1958.23 *15*	70 *9*	1476.12	$3/2^+,5/2^+$			
		3435.07 *15*	100 *9*	0.0	$5/2^+$			
3444.9		3444.8 *3*	100	0.0	$5/2^+$			
3525.26	$(15/2^-)$	910.8 *3*	35 *7*	2614.49	$(13/2^+)$			
		1266.6 *3*	100 *22*	2258.67	$11/2^-$	E2	3.13×10^{-4}	
3559.7		555.72 *7*	100	3004.0				
3599.00		3598.92 *15*	100	0.0	$5/2^+$			
3645.52	$3/2^+,5/2,7/2$	1126.78 *15*	15.4 *18*	2518.91	$7/2^+,9/2^+$			
		1640.24 *20*	33 *6*	2005.42	$3/2^+,5/2^+$			
		2169.30 *7*	100 *7*	1476.12	$3/2^+,5/2^+$			
		2226.1 *3*	27 *6*	1419.65	$(7/2^+)$			
3657.3		3657.2 *10*	100	0.0	$5/2^+$			
3689.1		3689.0 *5*	100	0.0	$5/2^+$			
3777.4		940.8 *6*	100	2836.55	(3/2,5/2,7/2)			
3807.03		1965.58 *9*	100	1841.42	$(9/2^+)$			
3809.41		3809.32 *15*	100	0.0	$5/2^+$			
3874.18	3/2,5/2,7/2	1355.1 *6*	22 *7*	2518.91	$7/2^+,9/2^+$			
		2398.01 *7*	100 *7*	1476.12	$3/2^+,5/2^+$			
		2454.70 *20*	66 *7*	1419.65	$(7/2^+)$			
3909.8		3909.7 *7*	100	0.0	$5/2^+$			
3914.3	$(15/2^+)$	1299.7 *4*	100	2614.49	$(13/2^+)$			
3917.16	3/2,5/2,7/2	3917.06 *10*	100	0.0	$5/2^+$			
3923.0		2345.4 *6*	100	1577.59	$9/2^+$			
4027.2		4027.1 *5*	100	0.0	$5/2^+$			
4088.2	$(17/2^-)$	173.9 *2*	17 *5*	3914.3	$(15/2^+)$			
		562.9 *2*	100 *16*	3525.26	$(15/2^-)$			
4136.3		4136.2 *4*	100	0.0	$5/2^+$			
4180.82	$3/2^{(-)},5/2,7/2$	1344.60 *15*	5.2 *5*	2836.55	(3/2,5/2,7/2)			
		2603.20 *8*	10.2 *8*	1577.59	$9/2^+$			
		4180.54 *10*	100 *8*	0.0	$5/2^+$			
4192.1		4192.0 *10*	100	0.0	$5/2^+$			
4197.91		2192.46 *10*	100	2005.42	$3/2^+,5/2^+$			
4204.1		4204.0 *15*	100	0.0	$5/2^+$			
4223.4		4223.3 *3*	100	0.0	$5/2^+$			
4226.34		1389.77 *7*	100	2836.55	(3/2,5/2,7/2)			
4265.1		4265.0 *6*	100	0.0	$5/2^+$			
4297.29	3/2,5/2,7/2	4297.18 *15*	100	0.0	$5/2^+$			
4327.21	3/2,5/2,7/2	1685.58 *15*	47 *5*	2641.74				
		2446.2 *3*	30 *5*	1881.19	$3/2^+,5/2^+$			

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Adopted Levels, Gammas (continued)

$\gamma(^{87}Kr)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
4327.21	3/2,5/2,7/2	2907.46 *15*	100 *10*	1419.65	(7/2$^+$)
		4326.83 *20*	68 *5*	0.0	5/2$^+$
4357.9	(17/2$^-$)	832.6 *4*	100	3525.26	(15/2$^-$)
4372.4	(17/2$^+$)	1757.9 *7*	100	2614.49	(13/2$^+$)
4416.92	3/2$^{(-)}$,5/2,7/2	2345.3 *4*	16 *3*	2071.65	
		2411.74 *15*	5.7 *5*	2005.42	3/2$^+$,5/2$^+$
		2575.37 *9*	25.2 *22*	1841.42	(9/2$^+$)
		2997.21 *7*	100 *9*	1419.65	(7/2$^+$)
4524.15	3/2,5/2,7/2	3048.04 *20*	34 *4*	1476.12	3/2$^+$,5/2$^+$
		4523.96 *20*	100 *11*	0.0	5/2$^+$
4530.2	(19/2$^-$)	441.8 *3*	100 *30*	4088.2	(17/2$^-$)
		1005.2 *4*	100 *30*	3525.26	(15/2$^-$)
4548.29		4548.16 *20*	100	0.0	5/2$^+$
4572.49	3/2,5/2,7/2	4572.36 *15*	100	0.0	5/2$^+$
4595.51	3/2$^{(-)}$,5/2,7/2	2143.40 *15*	19.2 *23*	2451.91	
		2523.97 *10*	23.8 *23*	2071.65	
		2754.3 *4*	18.5 *23*	1841.42	(9/2$^+$)
		3175.74 *7*	100 *7*	1419.65	(7/2$^+$)
		4596.4 *6*	17 *5*	0.0	5/2$^+$
4620.90	3/2,5/2,7/2	4620.77 *20*	100	0.0	5/2$^+$
4644.58	3/2$^{(-)}$,5/2,7/2	3066.85 *15*	15.9 *12*	1577.59	9/2$^+$
		4644.58 *20*	100 *9*	0.0	5/2$^+$
4655.2		3235.5 *3*	100	1419.65	(7/2$^+$)
4668.19	3/2$^{(-)}$,5/2,7/2	2662.79 *15*	85 *13*	2005.42	3/2$^+$,5/2$^+$
		3090.8 *6*	23 *8*	1577.59	9/2$^+$
		3248.45 *9*	100 *8*	1419.65	(7/2$^+$)
4710.35	5/2$^+$,7/2	2638.7 *4*	25 *4*	2071.65	
		2704.88 *7*	100 *6*	2005.42	3/2$^+$,5/2$^+$
		2828.79 *20*	11.8 *12*	1881.19	3/2$^+$,5/2$^+$
		2869.20 *15*	14.1 *12*	1841.42	(9/2$^+$)
		3132.64 *9*	14.7 *12*	1577.59	9/2$^+$
		4710.23 *20*	22.9 *24*	0.0	5/2$^+$
4711.25	3/2,5/2,7/2	1493.38 *8*	100	3217.86	
4728.2		4728.1 *10*	100	0.0	5/2$^+$
4734.55	3/2,5/2,7/2	3314.6 *6*	46 *13*	1419.65	(7/2$^+$)
		4734.44 *20*	100 *9*	0.0	5/2$^+$
4752.71	3/2,5/2,7/2	4752.57 *20*	100	0.0	5/2$^+$
4784.46	3/2$^{(-)}$,5/2,7/2	2943.0 *3*	4.3 *6*	1841.42	(9/2$^+$)
		4784.32 *15*	100 *6*	0.0	5/2$^+$
4807.9	3/2,5/2,7/2	4807.8 *4*	100	0.0	5/2$^+$
4824.9	3/2,5/2,7/2	4824.8 *4*	100	0.0	5/2$^+$
4836.29	3/2,5/2,7/2	4836.15 *20*	100	0.0	5/2$^+$
4858.87	3/2$^{(-)}$,5/2,7/2	3017.39 *15*	82 *6*	1841.42	(9/2$^+$)
		3281.23 *20*	100 *12*	1577.59	9/2$^+$
4872.05	3/2,5/2,7/2	4871.90 *15*	100	0.0	5/2$^+$
4889.4		4889.3 *5*	100	0.0	5/2$^+$
4917.7	3/2,5/2,7/2	4917.6 *11*	100	0.0	5/2$^+$
4925.7	3/2,5/2,7/2	4925.6 *7*	100	0.0	5/2$^+$
4961.55	3/2$^{(-)}$,5/2,7/2	1044.3 *6*	3.0 *10*	3917.16	3/2,5/2,7/2
		1934.67 *8*	11.0 *10*	3026.84	
		2509.63 *20*	8.5 *10*	2451.91	
		2889.8 *4*	5.0 *10*	2071.65	
		3383.3 *7*	8 *3*	1577.59	9/2$^+$
		3541.79 *15*	22.0 *15*	1419.65	(7/2$^+$)
		4961.54 *15*	100 *5*	0.0	5/2$^+$

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Adopted Levels, Gammas (continued)

$\gamma(^{87}Kr)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
4962.43	3/2,5/2,7/2	2125.85 *20*	100	2836.55	(3/2,5/2,7/2)
4976.1		4975.9 *9*	100	0.0	$5/2^+$
5003.2		5003.0 *5*	100	0.0	$5/2^+$
5021.7	3/2,5/2,7/2	5021.5 *3*	100	0.0	$5/2^+$
5033.9		5033.7 *6*	100	0.0	$5/2^+$
5044.7	3/2,5/2,7/2	5044.5 *3*	100	0.0	$5/2^+$
5059.69	3/2,5/2,7/2	5059.53 *20*	100	0.0	$5/2^+$
5065.9		4533.8 *3*	100	531.99	$1/2^+$
5076.19	$3/2^{(-)}$,5/2,7/2	3498.4 *3*	100 *12*	1577.59	$9/2^+$
		5076.08 *20*	73 *8*	0.0	$5/2^+$
5088.9		5088.7 *4*	100	0.0	$5/2^+$
5103.55	3/2,5/2,7/2	5103.39 *20*	100	0.0	$5/2^+$
5120.39	3/2,5/2,7/2	5120.23 *20*	100	0.0	$5/2^+$
5136.08	3/2,5/2,7/2	5135.92 *20*	100	0.0	$5/2^+$
5155.1		5154.9 *6*	100	0.0	$5/2^+$
5183.4	3/2,5/2,7/2	5183.2 *3*	100	0.0	$5/2^+$
5195.25	$3/2,5/2,7/2^{(-)}$	4663.4 *4*	79 *8*	531.99	$1/2^+$
		5195.02 *20*	100 *10*	0.0	$5/2^+$
5201.21	$3/2,5/2,7/2^{(-)}$	4669.9 *4*	51 *7*	531.99	$1/2^+$
		5200.84 *20*	100 *7*	0.0	$5/2^+$
5214.25	3/2,5/2,7/2	3091.6 *6*	31 *7*	2122.53	$3/2^+$,$5/2^+$
		3794.46 *15*	100 *8*	1419.65	$(7/2^+)$
		5214.3 *3*	28 *3*	0.0	$5/2^+$
5245.6	3/2,5/2,7/2	5245.4 *3*	100	0.0	$5/2^+$
5280.70	3/2,5/2,7/2	2639.0 *6*	46 *16*	2641.74	
		3804.6 *3*	65 *23*	1476.12	$3/2^+$,$5/2^+$
		3860.90 *15*	100 *8*	1419.65	$(7/2^+)$
		5281.5 *9*	4.2 *16*	0.0	$5/2^+$
5302.56	$3/2,5/2^{(+)}$	4770.43 *20*	100	531.99	$1/2^+$
5340.2	3/2,5/2,7/2	5340.0 *3*	100	0.0	$5/2^+$
5370.1	3/2,5/2,7/2	5369.9 *3*	100	0.0	$5/2^+$
5383.1	3/2,5/2,7/2	5382.9 *3*	100	0.0	$5/2^+$
5406.34	3/2,5/2,7/2	5406.16 *20*	100	0.0	$5/2^+$
5419.9		5419.7 *5*	100	0.0	$5/2^+$
5424.2		5424.0 *9*	100	0.0	$5/2^+$
5436.3	$(21/2^-)$	1348.1 *5*	100	4088.2	$(17/2^-)$
5439.9		5439.7 *9*	100	0.0	$5/2^+$
5454.9	3/2,5/2,7/2	5454.7 *3*	100	0.0	$5/2^+$
5466.79	$3/2,5/2,7/2^{(-)}$	3166.81 *15*	100 *10*	2300.02	$(1/2^+)$
		3381.0 *8*	42 *20*	2086.7	$1/2^+$
		3461.06 *20*	90 *10*	2005.42	$3/2^+$,$5/2^+$
5473.74	3/2,5/2,7/2	5473.56 *20*	100	0.0	$5/2^+$
5519.9	$(23/2^-)$	989.7 *5*	100	4530.2	$(19/2^-)$
5546.7	$(5/2^-)$	5546.5 *6*	100	0.0	$5/2^+$
5561.9	$(5/2^-)$	5561.7 *9*	100	0.0	$5/2^+$
5594.7	$(5/2^-)$	5594.5 *3*	100	0.0	$5/2^+$
5606.4	$3/2^-$	5606.2 *5*	100	0.0	$5/2^+$
5635.2	$(5/2^-)$	5635.0 *5*	100	0.0	$5/2^+$
5648.8	$(5/2^-)$	5648.6 *9*	100	0.0	$5/2^+$
5659.9	$(5/2^-)$	5659.7 *4*	100	0.0	$5/2^+$
5672.3	$(5/2^-)$	5672.1 *4*	100	0.0	$5/2^+$
5685.6	$(5/2^-)$	5685.4 *3*	100	0.0	$5/2^+$
5698.8	$(5/2^-)$	5698.6 *4*	100	0.0	$5/2^+$
5714.7	$(5/2^-)$	5714.5 *9*	100	0.0	$5/2^+$

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{87}Kr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
5793.3	(5/2$^-$)	5793.1 *4*	100	0.0	5/2$^+$
6300.6?		864.6[#] *5*	100	5436.3	(21/2$^-$)

[†] From β^- decay, unless indicated otherwise.
[‡] Additional information 1.
[#] Placement of transition in the level scheme is uncertain.

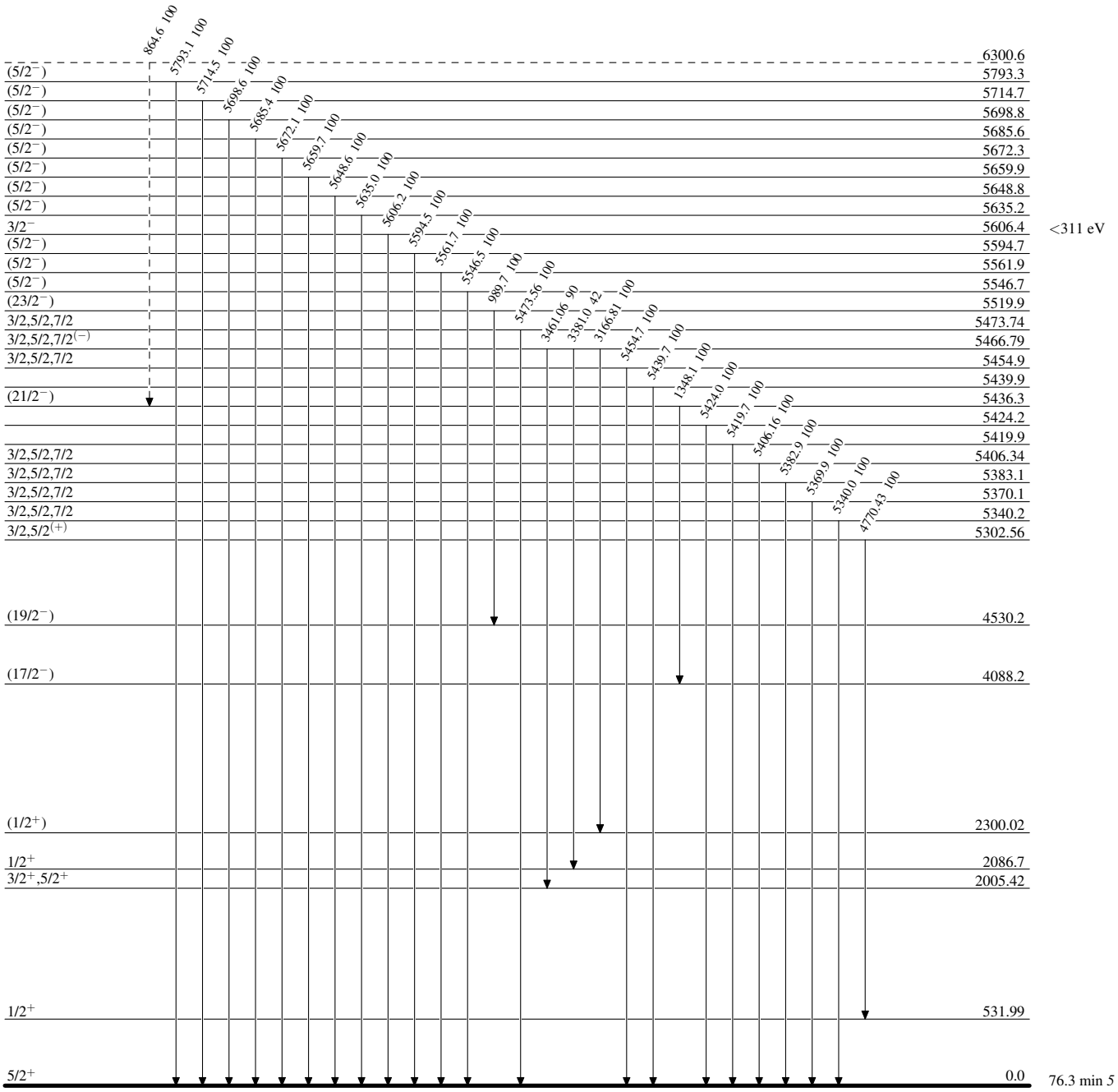
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

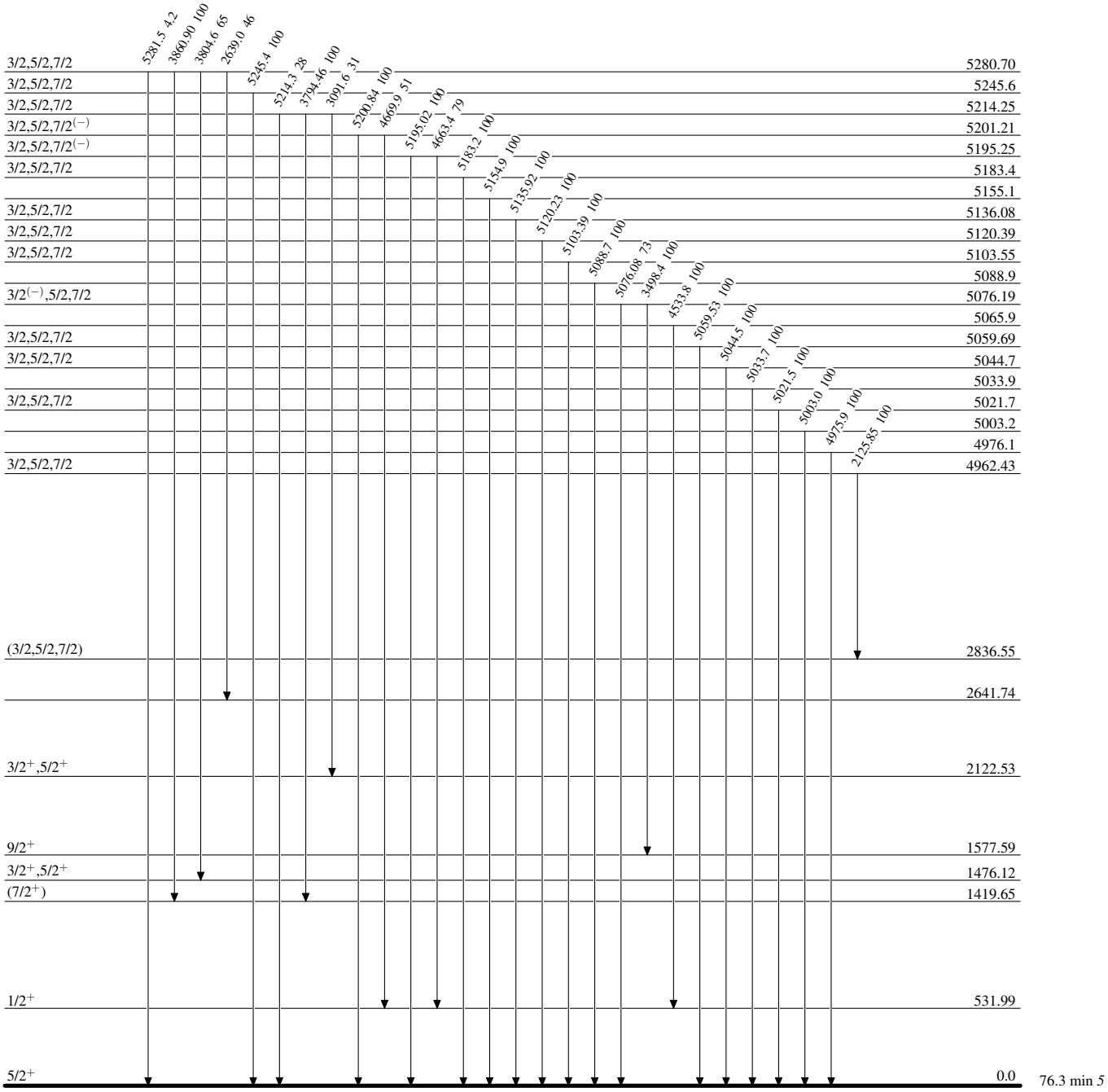


$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

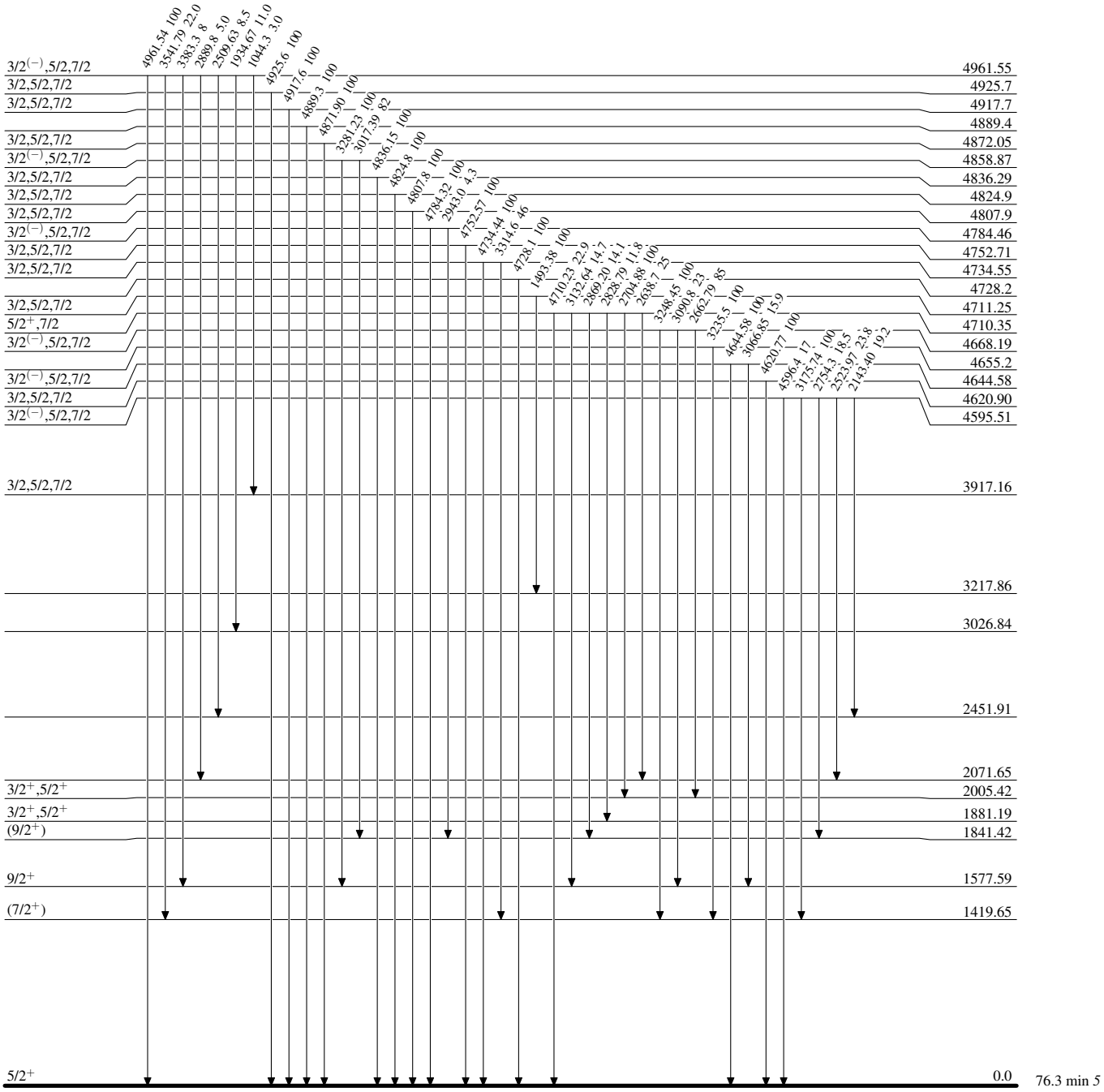


$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

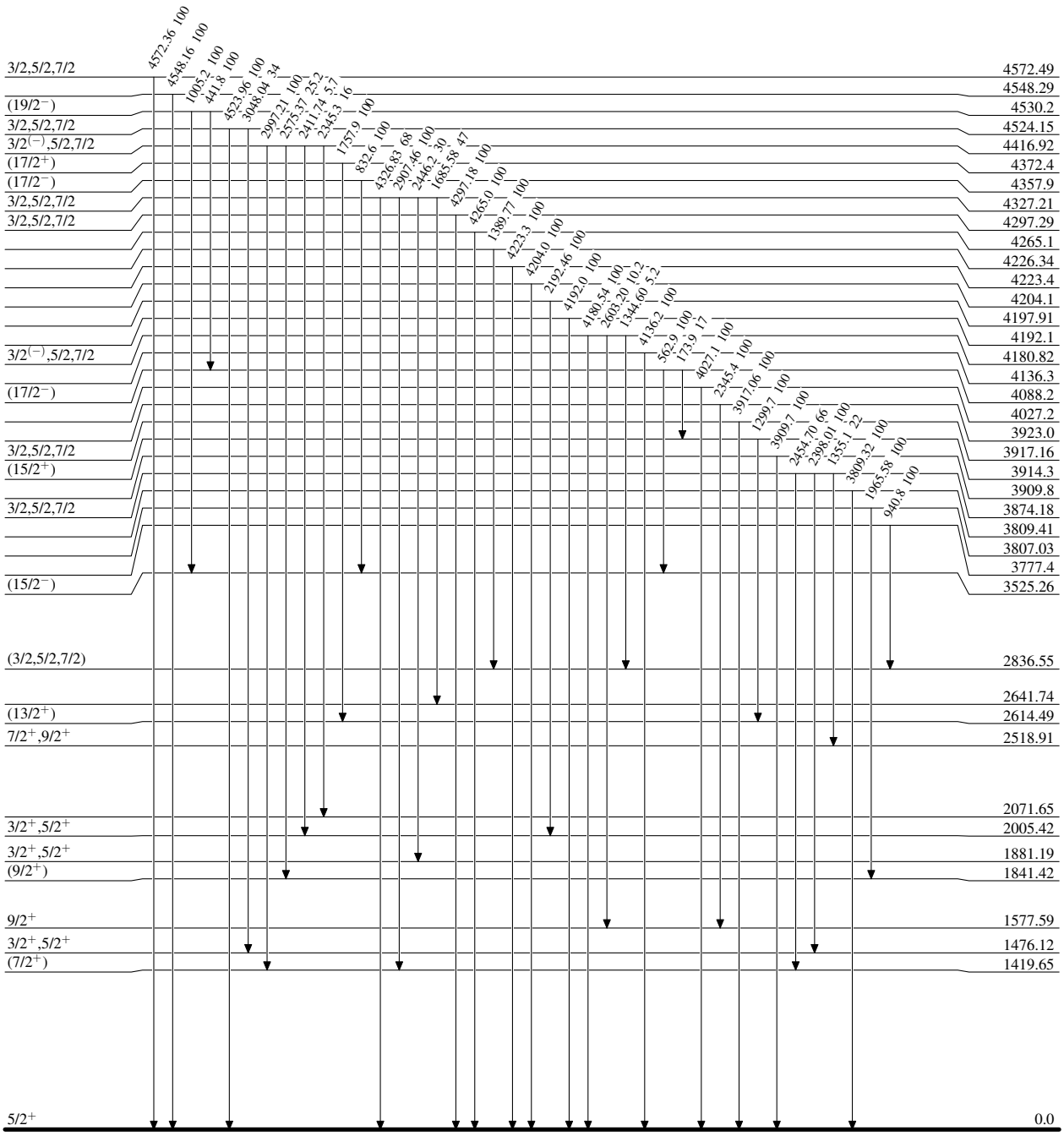


$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{87}_{36}Kr_{51}$

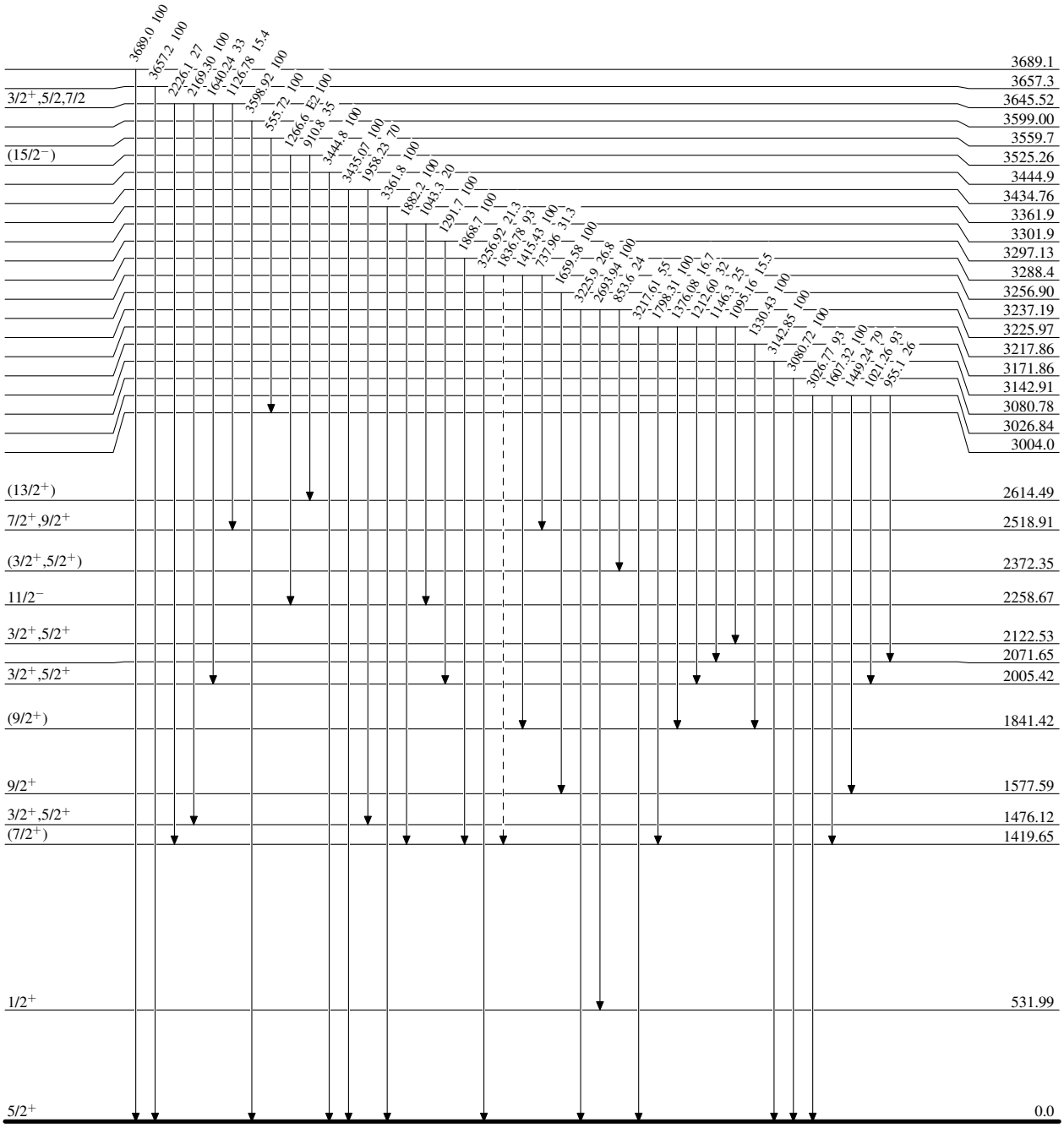
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

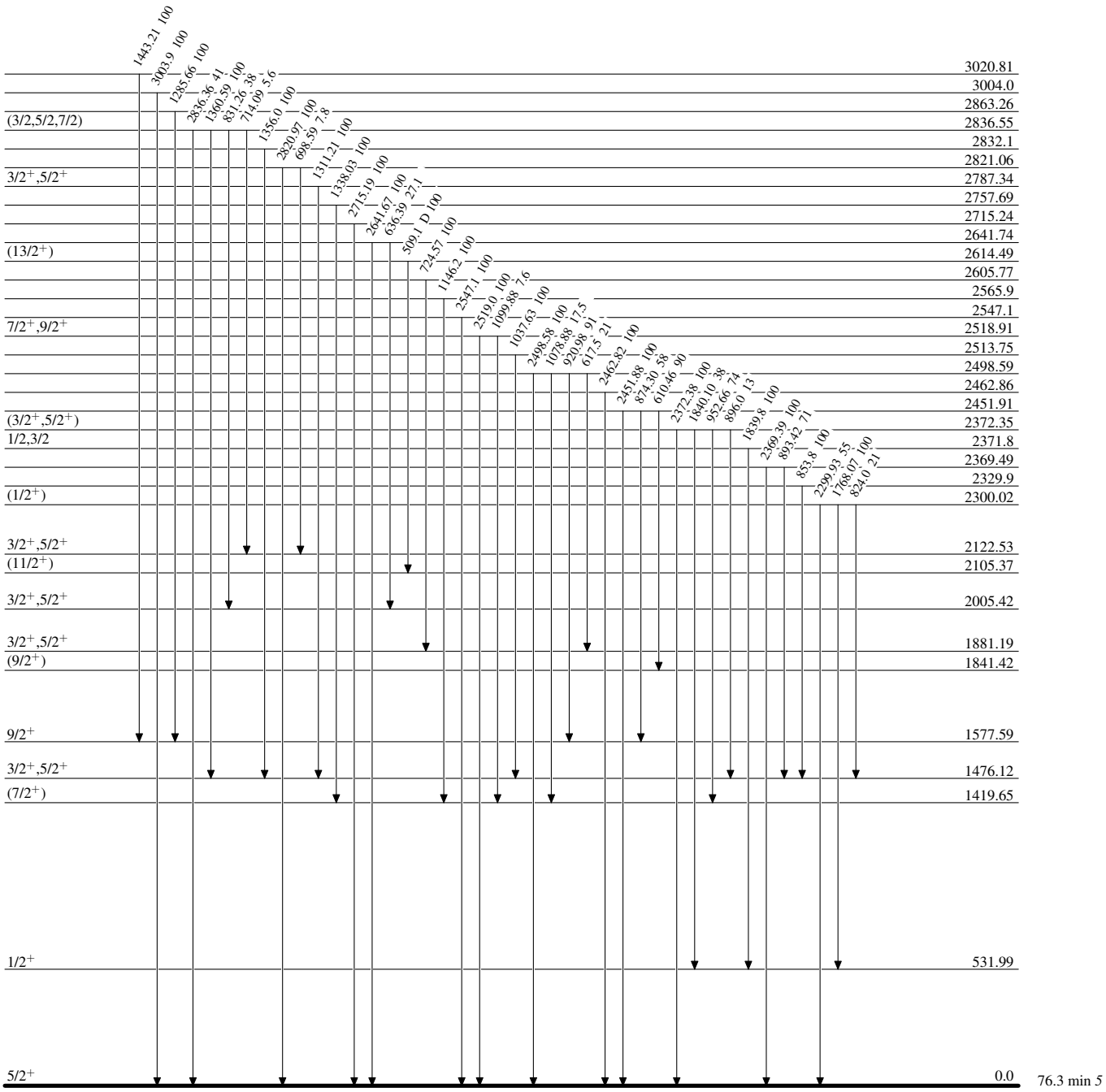


$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

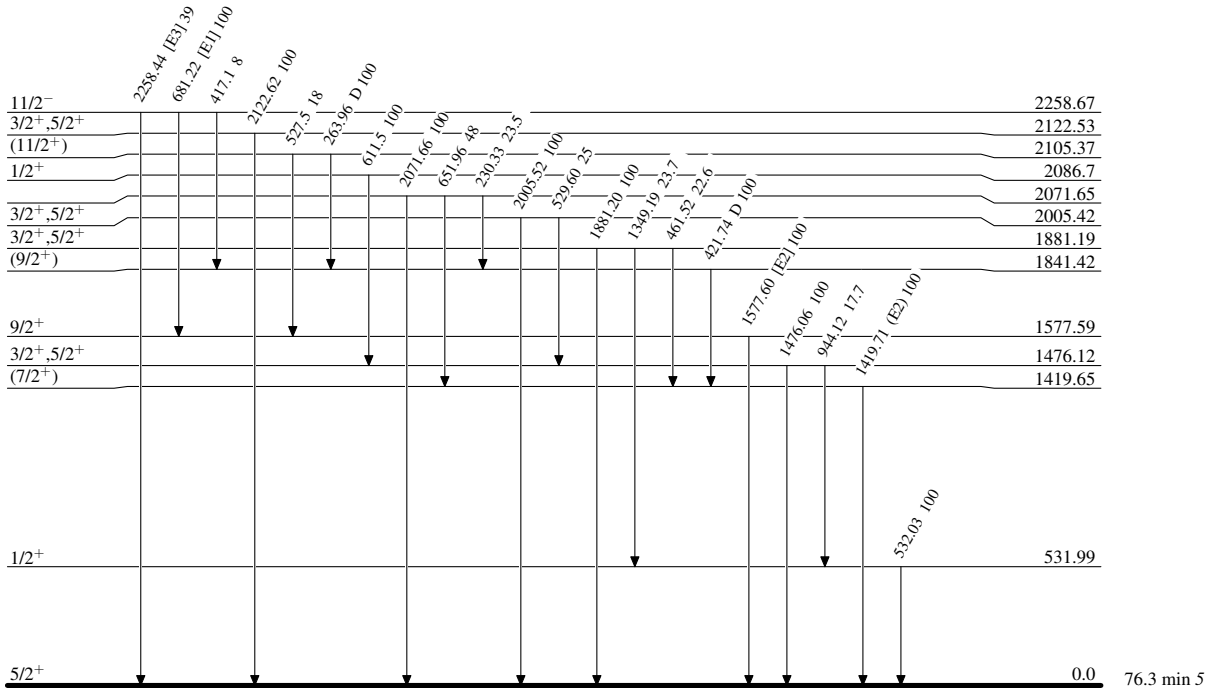


$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas

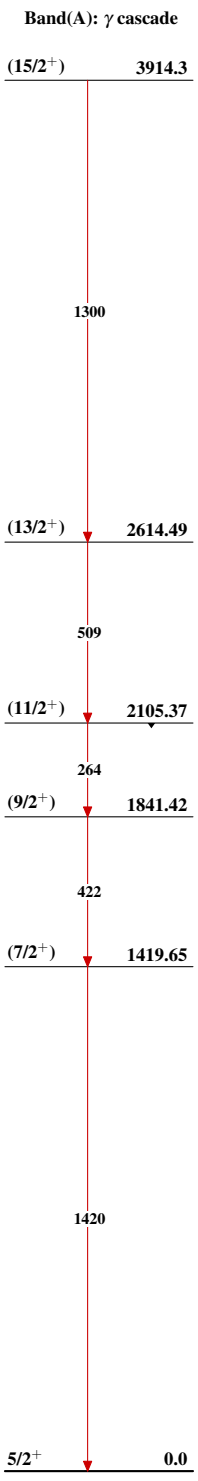
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{87}_{36}Kr_{51}$

Adopted Levels, Gammas



$^{87}_{36}Kr_{51}$