Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 135, 193 (2016)	31-May-2016

Q(β^-)=−3639 *4*; S(n)=8334 *4*; S(p)=8279 *5*; Q(α)=−4698 *4* 2012Wa38
S(2n)=20415 *4*, S(2p)=14421 *4* (2012Wa38).
Isotope shift, charge radii, g factors: 1992ArZY, 1992Li24, 1992Ne09, 1995Ke04, 1968BlZZ.
Other reactions:
^{80}Kr(p,d): 1977OgZW: E=51.9 MeV. No details available. Differential cross section data from 7° to 80°(lab). FWHM=100. DWBA analysis to deduce L-transfers and S-factors. Authors indicated population of $1g_{9/2}$ (probably 149 level) and $2p_{1/2}$ (probably g.s.) states with S-factors of 0.6 and 0.2, respectively.
Additional information 1.
^{95}Mo(p bar,x); ^{98}Mo(p bar,x) E=200 MeV: 1986Mo20.
Nuclear structure theory references (levels, J, π, transition probability, etc.): 2004Ma39, 1998Ta20, 1994Do21, 1993Am07, 1992Ta01, 1990Ca27, 1985Na02, 1984Ge01.

^{79}Kr Levels

Cross Reference (XREF) Flags

A	^{79}Kr IT decay (50 s)	E	^{77}Se(α,2nγ),^{78}Se(α,3nγ)
B	^{79}Rb ε decay (22.9 min)	F	^{78}Kr(pol d,p)
C	^{65}Cu(^{18}O,p3nγ)	G	^{79}Br(p,nγ)
D	^{70}Zn(^{13}C,4nγ)	H	^{79}Br(^{3}He,t)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
0.0[@]	1/2⁻	35.04 h *10*	ABCDEFGH	%ε+%β⁺=100 μ=+0.536 *2* (1995Ke04,2014StZZ) Evaluated rms charge radius=4.2034 fm *32* (2013An02). Evaluated δ<r²>(^{79}Kr,^{86}Kr)=0.168 fm² *4* (2013An02). J$^{\pi}$: L(pol d,p)=1. Probable $p_{1/2}$ orbital. $T_{1/2}$: from 1974Co05. Others: 34.92 h *5* (1964Bo25), 34.5 h *2* (1952Ra13), 36 h *1* (1952Be55), 34.5 h *10* (1940Cr06). The uncertainty given by 1964Bo25 is small but it may be an underestimate whereas that given by 1974Co05 includes an estimate of systematic error also. μ: collinear fast beam LASER spectroscopy (1995Ke04).
129.77[b] *5*	7/2⁺	50 s *3*	ABCDEFG	%IT=100 μ=−0.786 *2* (1995Ke04,2014StZZ) Q=+0.404 *5* (1995Ke04,2014StZZ,2013StZZ) μ,Q: collinear fast beam LASER spectroscopy (1995Ke04). Note that 1995Ke04 give Q=+0.40 *4* with a comment that conventional estimated uncertainty of 10% from calibration and the expected small Sternheimer shielding correction is included. It seems 2013StZZ evaluation removes this uncertainty. J$^{\pi}$: E3 γ to 1/2⁻. $T_{1/2}$: from 1969Ha03 (from a single γ-ray in a mass-separated source). 1940Cr06 give 55 s *2* using a source containing mixed activities.
147.06[&] *6*	5/2⁻	78.7 ns *10*	BC EFGh	μ=+1.124 *10* (1968Bl04,2014StZZ) Q=0.45 *3* (1978HaXP,2014StZZ,2013StZZ) J$^{\pi}$: E2 γ to 1/2⁻. $T_{1/2}$: weighted average of 77.7 ns *15* (γ(t) in (p,nγ),1968Bl04); 78 ns *6* (1978Li28), 81.2 ns *32* (1975Bu10), 79.1 ns *15* (1972Br31). The last three values are from γγ(t) in ^{79}Rb ε decay. μ: γ(θ,H,t) in (p,nγ) (1968Bl04). Q: differential PAD method (1978HaXP).

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Adopted Levels, Gammas (continued)

^{79}Kr Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
				Quadrupole coupling constants measured using $\gamma\gamma$ PAC method with ^{79}Rb source (1981Ha37).
148.88[a] *6*	$9/2^+$		BCDEFGh	J^{π}: L(pol d,p)=4. In (pol d,p) $\sigma(\theta)$ and Ay(θ) data for a composite group (130,147,149 levels) are fitted well with L=4, $7/2^+$ for 130, L=3, $5/2^-$ for 147 and L=4, $9/2^+$ for 149 level.
182.78[@] *5*	$3/2^-$	0.21 ns *10*	BC E GH	J^{π}: M1 γ to $1/2^-$ and M1+E2 γ from $5/2^-$. $T_{1/2}$: from γ(t) pulsed beam (1990Sc07). Others: 0.52 ns *10* (1986ZhZW),≤0.6 ns ($\gamma\gamma$(t) in ^{79}Rb ε decay,1972Br31).
290.52 *5*	$5/2^+$	0.62 ns *14*	B E G	J^{π}: M1+E2 γ to $7/2^+$ and D+Q γ to $3/2^-$. $T_{1/2}$: 143γ(t) pulsed beam (1990Sc07). Other: 0.21 ns *7* (1986ZhZW). It should be noted that value of 0.21 ns (1986ZhZW) for 290 level agrees with 0.21 ns (1990Sc07) for 183 level and 0.52 ns (1986ZhZW) for 183 level agrees with 0.62 ns (1990Sc07) for 290 level.
384.11[f] *6*	$3/2^-$	21 ps *8*	B EFGH	J^{π}: L(pol d,p)=1. Also M1+E2 γ to $1/2^-$. $T_{1/2}$: RDDS for 384γ (1990Sc07).
401.92[@] *6*	$5/2^-$	33 ps *5*	BC EFG	J^{π}: L(pol d,p)=3. Also E2 γ to $1/2^-$. $T_{1/2}$: RDDS for 219γ and 402γ (1990Sc07). Other: 17 ps *5* (1986ZhZW).
449.95[&] *6*	$7/2^-$	51 ps *10*	BC E GH	J^{π}: ΔJ=2 E2 γ to $3/2^-$ and E1 γ to $7/2^+$. $T_{1/2}$: RDDS for 302γ and 320γ (1990Sc07). Other: 35 ps *10* (1986ZhZW).
533.41 *6*	$1/2^+$		B EFG	J^{π}: L(pol d,p)=0. Also E1 γ to $3/2^-$.
635.79 *8*	$5/2^+$	10 ps *+7−4*	B EFG	J^{π}: L(pol d,p)=2. $T_{1/2}$: RDDS for 487γ (1986ZhZW).
659.28[f] *9*	$(5/2)^-$		B E G	J^{π}: ΔJ=(1) M1 γ to $3/2^-$ and possible band assignment. J=1/2 not allowed by $\gamma(\theta)$.
673.14 *10*	$7/2^{(+)}$		B E G	J^{π}: ΔJ=0 or 1 γs to $5/2^+$ and $9/2^+$.
675.8 *6*	$(1/2^+,3/2,5/2^-)$		G	J^{π}: γs to $1/2^-$ and $5/2^+$.
688.17 *5*	$3/2^+$		B EFG	J^{π}: L(pol d,p)=2. Also E1 γ to $1/2^-$ and M1 γ to $5/2^+$.
694.90[@] *9*	$(7/2)^-$	5.5 ps *21*	C E G	J^{π}: ΔJ=0 or 1 M1+E2 γ to $5/2^-$ and band assignment. $T_{1/2}$: RDDS for 293γ (1990Sc07). Other: 7 ps *+7−4* (1986ZhZW).
719.2 *7*	(≤7/2)		G	J^{π}: γs to $3/2^-$ and $5/2^+$. $J^{\pi}=1/2^-$ and $7/2^+$ are not likely.
752.04 *6*	$5/2^+$	21 ps *+7−4*	B EFG	J^{π}: ΔJ=1 M1+E2 γ to $7/2^+$ and γ to $1/2^+$. Also L(pol d,p)=2. $T_{1/2}$: RDDS for 622γ (1986ZhZW).
809.5 *3*	$1/2^-$		EFG	J^{π}: L(pol d,p)=1. However, slight anisotropy of 426$\gamma(\theta)$ is inconsistent with $1/2^-$.
814.27[&] *8*	$9/2^-$	4.2 ps *14*	C E	J^{π}: ΔJ=2 E2 γ to $5/2^-$ and ΔJ=1 M1+E2 γ to $7/2^-$. $T_{1/2}$: RDDS for 667γ (1990Sc07). Other: 4.2 ps *14* (1986ZhZW).
835.5 *3*	(3/2)		E G	J^{π}: ΔJ=0 or 1 γ to $3/2^-$; γs to $1/2^-$ and $1/2^+$. Possible γ to $7/2^+$. J=1/2 not allowed by $\gamma(\theta)$.
896.69[b] *9*	$11/2^+$	1.50 ps *16*	CDE	J^{π}: ΔJ=2 E2 γ to $7/2^+$ and ΔJ=1 M1+E2 γ to $9/2^+$. $T_{1/2}$: DSA for 748γ and 767γ. Weighted average of 1.39 ps *28*, 1.59 ps *21*, (1988Wi01) and 1.25 ps *63* (1985ZhZX). Other: 1.2 ps *6* (RDDS for 748γ, 1986ZhZW).
907.23 *14*	$(3/2,5/2^-)$		B E G	J^{π}: γs to $1/2^-$, $5/2^+$ and $5/2^-$.
931.1 *7*	$(1/2,3/2,5/2^-)$		G	J^{π}: γ to $1/2^-$.
958.31 *12*	$(9/2^+)$	7 ps *+7−4*	E	J^{π}: ΔJ=0 or 2 γ to $9/2^+$ and ΔJ=1 M1+E2 γ to $7/2^{(+)}$. Excitation function supports $9/2^+$. $T_{1/2}$: RDDS for 285γ (1986ZhZW).
975.92[a] *9*	$(13/2)^+$	1.98 ps *12*	CDE	J^{π}: ΔJ=(2) E2 γ to $9/2^+$; ΔJ=0 or 1 γ to $11/2^+$ and band assignment. $T_{1/2}$: DSA for 827γ. Weighted average of 1.87 ps *21*, 2.22 ps *21* (1988Wi01), 1.94 ps *35* (1985ZhZX) and 1.87 ps *21* (RDDS,1982Pa20).

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Adopted Levels, Gammas (continued)

^{79}Kr Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
983.71[f] *11*	$(7/2)^-$	6 ps *3*	E G	J^{π}: ΔJ=1 M1+E2 γ to $(5/2)^-$; possible γ to $9/2^+$ and band assignment. $T_{1/2}$: RDDS for 582γ (1986ZhZW).
987.0 *6*	$(1/2,3/2,5/2^-)$		G	J^{π}: γs to $1/2^-$ and $3/2^-$.
1038.84[e] *24*	$(11/2)^+$		E G	J^{π}: ΔJ=1 γ to $9/2^+$ and band assignment. E(level): transitions of 378, 654 and 747 keV as given in ^{79}Br(p,nγ) cannot be placed with this level due to large J^{π} change. It is possible that these transitions define another low-spin level near 1038 keV.
1063.48[@] *9*	$9/2^-$	2.1 ps *7*	C E	J^{π}: ΔJ=2 E2 γ to $5/2^-$ and ΔJ=0 or 1 γ to $7/2^-$. $T_{1/2}$: RDDS for 661γ (1986ZhZW). Others:<3 ps (1990Sc07),>0.7 ps (DSA,1990Sc07),>1.4 ps (DSA,1985ZhZX).
1064.68 *7*	$(5/2^+,7/2)$		B	J^{π}: γs to $5/2^-$, $5/2^+$ and $9/2^+$.
1079.13 *12*	$(5/2^+,7/2)$		B E	J^{π}: ΔJ=1 γ to $5/2^+$; γ to $9/2^+$; log *ft*=7.05 from $5/2^+$.
1132.26 *8*	$(3/2,5/2^-)$		B E	J^{π}: γ to $1/2^-$ and log *ft*=7.31 from $5/2^+$. $J^{\pi}=1/2^-$ is possible from log $f^{1u}t$=8.4 but would be difficult to populate in (α,xnγ).
1171.48[&] *9*	$11/2^-$	2.8 ps *7*	C E	J^{π}: ΔJ=2 E2 γ to $7/2^-$ and γ to $9/2^+$. $T_{1/2}$: RDDS for 721γ (1990Sc07). Other: 1.7 ps *+7−4* (1986ZhZW).
1200.4 *6*	$(3/2,5/2,7/2^-)$	0.55 ps *14*	E	J^{π}: γs to $3/2^-$, $5/2^-$ and $5/2^+$. $T_{1/2}$: DSA for 798γ (1985ZhZX).
1299.91 *17*	$(5/2^+)$	0.49 ps *14*	B E	J^{π}: γs to $3/2^-$ and $9/2^+$. Possible γ from $(3/2^+)$. $T_{1/2}$: DSA for 1170γ (1985ZhZX).
1333.8? *10*	(≤7/2)		E	J^{π}: γ to $3/2^-$.
1363.15[f] *17*	$(9/2^-)$		E	J^{π}: ΔJ=(2) γ to $(5/2)^-$. J=1/2 not allowed by γ(θ).
1428.17 *8*	$(5/2^+)$	0.42 ps *14*	B E	J^{π}: γs to $3/2^-$ and $7/2^+$. Possible γ to $9/2^+$ and γ from $3/2^+$. log *ft*=6.56 from $5/2^+$. $T_{1/2}$: DSA for 792γ (1985ZhZX).
1450.59[@] *12*	$(11/2^-)$	1.2 ps *4*	C E	J^{π}: ΔJ=2 (E2) γ to $(7/2)^-$ and ΔJ=1 γ to $9/2^-$. $T_{1/2}$: DSA for 756γ (1990Sc07). Other: 1.3 ps *4* (1985ZhZX).
1474.62 *6*	(3/2)		B	J^{π}: γs to $1/2^-$, $1/2^+$, $5/2^+$ and possibly to $5/2^-$.
1502.4? *10*	$(1/2,3/2,5/2^+)$		E	J^{π}: γ to $1/2^+$.
1507.9 *4*	(9/2,11/2)		E	J^{π}: γ to 7/2 and excitation function.
1549.8? *10*	(≤7/2)		E	J^{π}: γ to $3/2^-$.
1568.1 *10*	(≤7/2)	0.42 ps *14*	E	J^{π}: γ to $3/2^-$. $T_{1/2}$: DSA for 1184γ (1985ZhZX).
1598.5? *10*	(≤9/2)		E	J^{π}: γ to $5/2^+$. $J^{\pi}=1/2^-$ and $9/2^-$ are not likely.
1606.5? *10*	(≤9/2)		E	J^{π}: γ to $5/2^+$. $J^{\pi}=1/2^-$ and $9/2^-$ are not likely.
1609.93 *6*	$(3/2^+,5/2^+)$		B	J^{π}: γs to $1/2^+$ and $7/2^+$.
1662.05[e] *16*	$(13/2^+)$		E	J^{π}: ΔJ=0 γ to $(13/2)^+$ and ΔJ=1 γ to $11/2^+$.
1662.22[&] *11*	$(13/2)^-$	0.77 ps *18*	C E	J^{π}: ΔJ=(2) E2 γ to $9/2^-$ and ΔJ=1 γ to $11/2^+$. $T_{1/2}$: DSA for 848γ. Weighted average of 2.8 ps *14*, 0.84 ps *28* (1990Sc07) and 0.69 ps *21* (1985ZhZX).
1707.35 *10*	$(5/2^+,7/2)$	0.28 ps *7*	B E	J^{π}: γs to $5/2^+$ and $9/2^+$; log *ft*=6.64 from $5/2^+$. $T_{1/2}$: DSA for 1417γ (1985ZhZX).
1803.1? *11*			E	J^{π}: γ to $(9/2^-)$ gives J^{π}=5/2 to 13/2.
1812.42 *11*	$(5/2^+)$		B	J^{π}: γs to $3/2^+$, $3/2^-$ and $9/2^+$.
1850.7? *10*	(13/2)		E	J^{π}: excitation function in (α,xnγ).
1884.73[b] *13*	$15/2^+$	0.34 ps *3*	CDE	J^{π}: ΔJ=2 E2 γ to $11/2^+$ and ΔJ=1 γ to $(13/2)^+$. $T_{1/2}$: DSA for 909γ and 988γ. Weighted average of 0.32 ps *4*, 0.35 ps *4* (1988Wi01); 0.35 ps *14*, 0.49 ps *14* (1985ZhZX).
1912	$1/2^+$		F	J^{π}: L(d,p)=0.
1915.81[@] *14*	$13/2^-$	0.81 ps *18*	C E	J^{π}: ΔJ=2 E2 γ to $9/2^-$ and ΔJ=0 or 1 γ to $11/2^-$. $T_{1/2}$: DSA for 852γ. Weighted average of 1.4 ps *6*, 0.77 ps *35* (1990Sc07) and 0.76 ps *21* (1985ZhZX).
2002.18[a] *14*	$(17/2)^+$	0.55 ps *5*	CDE	J^{π}: ΔJ=2 E2 γ to $(13/2)^+$ and ΔJ=1 γ to $15/2^+$.

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Adopted Levels, Gammas (continued)

^{79}Kr Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
				$T_{1/2}$: DSA for 1026γ. Weighted average of 0.65 ps *6*, 0.51 ps *5*, 0.52 ps *5* (1988Wi01); 0.49 ps *14*, 0.76 ps *28* (1985ZhZX) and 0.62 ps *21* (RDDS,1982Pa20).
2056.72[&] *14*	15/2⁻	0.61 ps *5*	C E	Jπ: ΔJ=2 E2 γ to 11/2⁻ and ΔJ=0 or 1 γ to (13/2)⁺. $T_{1/2}$: DSA for 885γ. Weighted average of 0.77 ps *7*, 0.56 ps7, 0.56 ps *14* (1990Sc07) and 0.55 ps *18* (1985ZhZX).
2060	5/2⁺		F	Jπ: L(pol d,p)=2.
2105.19 *19*	(5/2⁺,7/2⁻)		B	Jπ: γs to 3/2⁻ and 9/2⁺.
2135.6[e] *4*	(15/2⁺)		E	Jπ: γs to (11/2)⁺ and (13/2)⁺; Possible band assignment.
2366.58 *19*	(3/2,5/2)		B	Jπ: log *ft*=6.15 from 5/2⁺; γs to 3/2⁻ and 3/2⁺.
2415.59[@] *24*	(15/2⁻)	0.62 ps *14*	C E	Jπ: ΔJ=2 (E2) γ to (11/2⁻); γ to 13/2⁻. $T_{1/2}$: DSA for 965γ (1990Sc07).
2583.83 *14*	(5/2⁺)		B	Jπ: log *ft*=5.76 from 5/2⁺; γs to 3/2⁻ and 9/2⁺.
2586.29 *11*	(3/2⁺)		B	Jπ: log *ft*=5.78 from 5/2⁺; γs to 1/2⁻ and 1/2⁺.
2643.26[&] *16*	(17/2)⁻	0.83 ps *21*	C E	Jπ: ΔJ=2 E2 γ to (13/2)⁻ and ΔJ=1 γ to 15/2⁺. $T_{1/2}$: DSA for 981γ (1990Sc07).
2768	7/2⁺,9/2⁺		F	Jπ: L(d,p)=4.
2857.32[d] *20*	(17/2⁻)	1.2 ps *+8−6*	C E	Jπ: ΔJ=(2) γ to 13/2⁻ and γ to 15/2⁻. $T_{1/2}$: DSA for 941γ (1990Sc07).
2930.24[@] *17*	(17/2)⁻	0.8 ps *4*	C E	Jπ: ΔJ=(2) (E2) γ to 13/2⁻, ΔJ=1 γ to 15/2⁻ and E2 γ from (21/2)⁻. $T_{1/2}$: DSA for 1014γ (1990Sc07).
2979.38[b] *18*	(19/2)⁺	0.21 ps *4*	CDE	Jπ: ΔJ=(2) (E2) γ to 15/2⁺ and ΔJ=1 M1 γ to (17/2)⁺. $T_{1/2}$: DSA for 977γ and 1094γ. Weighted average of 0.31 ps *5*, 0.15 ps *4* and 0.21 ps *3* (1988Wi01).
3061.92[&] *19*	19/2⁻	0.69 ps *21*	C E	Jπ: ΔJ=2 E2 γ to 15/2⁻ and γ to (17/2)⁺. $T_{1/2}$: DSA for 1005γ (1990Sc07).
3146.07[a] *21*	(21/2)⁺	0.30 ps *6*	CDE	Jπ: ΔJ=2 E2 γ to (17/2)⁺ and band assignment. $T_{1/2}$: DSA for 1144γ. Weighted average of 0.36 ps *4*, 0.21 ps *4*, 0.22 ps *4* (1988Wi01); 0.55 ps *14* (1985ZhZX) and 0.32 ps *11* (RDDS,1982Pa20).
3214.39[d] *16*	19/2⁻	1.9 ps *+12−11*	C E	Jπ: ΔJ=2 E2 γ to 15/2⁻ and ΔJ=1 M1+E2 γ to (17/2)⁻. $T_{1/2}$: DSA for 1158γ (1990Sc07).
3288.6[e] *11*	(19/2⁺)		E	Jπ: ΔJ=2 γ to (15/2⁺) and band assignment.
3383.2[@] *4*	(19/2⁻)		C E	Jπ: ΔJ=(2) γ to (15/2⁻) and band assignment.
3585.58[d] *18*	(21/2)⁻	0.7 ps *+6−4*	C E	Jπ: ΔJ=2 γ to (17/2)⁻ and ΔJ=1 M1+E2 γ to 19/2⁻. $T_{1/2}$: DSA for 943γ (1990Sc07).
3618.88 *23*	(21/2⁺)	0.49 ps *14*	CDE	Jπ: γ to (21/2)⁺ and band assignment. $T_{1/2}$: DSA for 473γ (1988Wi01).
3655.4[&] *4*	(21/2)⁻	0.55 ps *21*	C E	Jπ: ΔJ=2 E2 γ to (17/2)⁻ and band assignment. $T_{1/2}$: DSA for 1012γ (1990Sc07).
3846.08[b] *22*	(23/2)⁺	0.21 ps *7*	CDE	Jπ: ΔJ=1 M1+E2 γ to (21/2)⁺ and band assignment. $T_{1/2}$: DSA for 700γ (1990Sc07).
4063.3? *11*	(21/2⁻)		C	
4087.65[&] *25*	(23/2⁻)	0.42 ps *21*	C E	Jπ: ΔJ=(2) γ to 19/2⁻ and ΔJ=1 γ to (21/2)⁻. $T_{1/2}$: DSA for 1025γ (1990Sc07).
4133.11[d] *24*	(23/2⁻)		C E	Jπ: ΔJ=1 γ to (21/2)⁻ and γ to 19/2⁻. Possible band assignment.
4299.70[a] *25*	(25/2⁺)	0.24 ps *4*	CDE	Jπ: ΔJ=(2) (E2) γ to (21/2)⁺ and ΔJ=0 or 1 γ to (23/2)⁺. $T_{1/2}$: DSA for 454γ and 1154γ (1988Wi01).
4657.6[c] *4*	(25/2⁺)		CD	Jπ: ΔJ=1 γ to (23/2⁺).
4708.8[&] *5*	(25/2⁻)		C E	Jπ: ΔJ=2 γ to (21/2)⁻.
4899.7[b] *3*	(27/2⁺)	0.21 ps *7*	CDE	Jπ: ΔJ=(0,1) γ to (25/2⁺) and band assignment. $T_{1/2}$: DSA for 600γ and 1054γ (1988Wi01).
5165.0 *6*	(27/2⁻)		C	Jπ: ΔJ=2 γ to (23/2⁻).

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Adopted Levels, Gammas (continued)

^{79}Kr Levels (continued)

E(level)[†]	J^{π}[‡]	XREF	Comments
5524.0[a] *3*	(29/2$^+$)	CDE	J^{π}: ΔJ=2 γ to (25/2$^+$), ΔJ=1 γ to (27/2$^+$).
5547.4[c] *7*	(27/2$^+$)	D	
5973.9[c] *6*	(29/2$^+$)	D	
5993.8 *21*	(29/2$^-$)	C	J^{π}: γ to (25/2$^-$) and band assignment.
6250.1[b] *4*	(31/2$^+$)	CD	J^{π}: ΔJ=2 γ to (27/2$^+$); γ to (29/2$^+$).
6446.4 *10*	(31/2$^-$)	C	J^{π}: ΔJ=2 γ to (27/2$^-$).
6890.7[a] *5*	(33/2$^+$)	CD	J^{π}: ΔJ=2 γ to (29/2$^+$), ΔJ=1 γ to (31/2$^+$).
7056.7[c] *9*	(31/2$^+$)	D	
7903.7[b] *8*	(35/2$^+$)	CD	J^{π}: ΔJ=2 γ to (31/2$^+$).
8400.6[a] *8*	(37/2$^+$)	CD	J^{π}: ΔJ=2 γ to (33/2$^+$), ΔJ=1 γ to (35/2$^+$).
8409 *17*	(3/2$^-$)	H	J^{π}: analog of ^{79}Br g.s., J^{π}=3/2$^-$.
9650.7[b] *11*	(39/2$^+$)	CD	J^{π}: γ to (35/2$^+$) and band assignment.
10039.6[a] *22*	(41/2$^+$)	CD	J^{π}: ΔJ=2 γ to (37/2$^+$).
11822[b] *4*	(45/2$^+$)	CD	J^{π}: γ to (41/2$^+$) and band assignment.

† For levels populated in γ-ray studies energies are from least-squares fitting to Eγ data.

‡ For high spin states (J≥7/2), from γ(θ), γ(lin pol) in (α,xnγ). When J^{π} is deduced from (pol d,p), results of vector analyzing power measurements are used. Arguments referring to ΔJ are based on γ(θ) and/or γγ(θ) data in in-beam reactions: (^{18}O,p3nγ); (α,2nγ), (α,3nγ); and (p,nγ).

\# Above 200, from DSAM and RDDS in (α,xnγ). The DSA measurements are by 1990Sc07, 1988Wi01 and 1985ZhZX. The RDDS data are from 1990Sc07, 1988Wi01, 1986ZhZW and 1982Pa20. Values given here are generally from 1990Sc07.

@ Band(A): ν1/2[301],α=1/2$^-$ band Deduced band parameters are: E0=−2.6, α=45.6, β=−0.12, A0=0.0058 (evaluator).

& Band(B): ν5/2[303] band. Deduced band parameters are E0=−196.4, α=41.9, β=−0.089, A0=−0.094 (evaluator).

[a] Band(C): Yrast (favored) band,α=+1/2. ν5/2[422] ($g_{9/2}$ neutron orbital) at low spins, $\nu g_{9/2}\pi g^2_{9/2}$ at higher spins.

[b] Band(c): Yrast (unfavored) band,α=−1/2. ν5/2[422] ($g_{9/2}$ neutron orbital) at low spins, $\nu g_{9/2}\pi g^2_{9/2}$ at higher spins.

[c] Band(D): Band based on (25/2$^+$). Possible chiral partner of yrast band.

[d] Band(E): ΔJ=1, 3-quasiparticle band.

[e] Band(F): Band based on (11/2$^+$).

[f] Band(G): Band based on 3/2$^-$.

$\gamma(^{79}Kr)$

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
129.77	7/2+	129.76 *10*	100	0.0	1/2−	E3		2.64	B(E3)(W.u.)=0.029 *2* α(K)=2.08 *3*; α(L)=0.470 *7*; α(M)=0.0770 *12* α(N)=0.00649 *10*
147.06	5/2−	17.3 *1*	2.1 *3*	129.77	7/2+	[E1]		13.4 *3*	B(E1)(W.u.)=1.24×10^{-5} *19* α(K)=11.57 *24*; α(L)=1.53 *4*; α(M)=0.240 *6* α(N)=0.0213 *5*
		147.08 *10*	100	0.0	1/2−	E2		0.222	B(E2)(W.u.)=3.40 *12* α(K)=0.193 *3*; α(L)=0.0252 *4*; α(M)=0.00406 *6* α(N)=0.000381 *6*
148.88	9/2+	19.1 *1*	100	129.77	7/2+	(M1)		15.2 *4*	α(K)=13.4 *3*; α(L)=1.54 *4*; α(M)=0.251 *6* α(N)=0.0249 *6*
182.78	3/2−	182.78 *10*	100	0.0	1/2−	M1		0.0256	B(M1)(W.u.)=0.017 *8* α(K)=0.0227 *4*; α(L)=0.00250 *4*; α(M)=0.000405 *6* α(N)=4.07×10^{-5} *6* δ: 0.00 *2*, +0.03 *5* (γ(θ) in (α,xnγ)); 0.36 *9* (ce data in (p,nγ)).
290.52	5/2+	107.72 *10*	0.50 *3*	182.78	3/2−	D+Q		0.073	Mult.,δ: α(K)exp in (p,nγ) gives E2+M1, δ=0.8 *4* or E1+M2, δ=0.6 *2*. ΔJ$^\pi$ requires E1+M2. But δ(M2/E1)=0.6 *2* gives B(M2)(W.u.)=130 *65* which exceeds RUL (for M2) by a factor of≈100. This would suggest that α(K)exp data are not definite. α: for E1. If E1, B(E1)(W.u.)=1.3×10^{-6} *3*.
		141.65 *10*	4.8 *2*	148.88	9/2+	[E2]		0.255	B(E2)(W.u.)=21 *5* α(K)=0.221 *4*; α(L)=0.0292 *5*; α(M)=0.00471 *7* α(N)=0.000440 *7*
		143.41 *10*	100 *2*	147.06	5/2−	E1		0.0310	B(E1)(W.u.)=0.00011 *3* α(K)=0.0275 *4*; α(L)=0.00295 *5*; α(M)=0.000475 *7* α(N)=4.71×10^{-5} *7*
		160.76 *10*	62 *3*	129.77	7/2+	M1+E2	+0.29 *10*	0.045 *7*	B(M1)(W.u.)=0.0027 *7*; B(E2)(W.u.)=11 *8* α(K)=0.040 *6*; α(L)=0.0046 *8*; α(M)=0.00075 *13* α(N)=7.4×10^{-5} *12* δ: from γ(θ) in (α,xnγ). Others: 0.7 *2* (ce data in ^{79}Rb ε). ce data in (p,nγ) gives E1.
		291[@c] *1*	<5	0.0	1/2−				If M2, B(M2)(W.u.)<35. RUL=1 for B(M2)(W.u.) would limit the intensity to≈0.14.
384.11	3/2−	201.2 *2*	15 *2*	182.78	3/2−				Additional information 2.
		236.9[@] *5*	2	147.06	5/2−	M1(+E2)	<0.8	0.0182 *51*	B(M1)(W.u.)>0.00051; B(E2)(W.u.)<17 α(K)=0.0161 *45*; α(L)=0.00182 *55*; α(M)=2.95×10^{-4} *89* α(N)=2.91×10^{-5} *84*
		384.1 *1*	100 *6*	0.0	1/2−	M1+E2	−0.07 *4*	0.00401 *7*	B(M1)(W.u.)=0.016 *7*; B(E2)(W.u.)<1.4 α(K)=0.00355 *6*; α(L)=0.000383 *6*; α(M)=6.21×10^{-5} *10* α(N)=6.27×10^{-6} *10*
401.92	5/2−	111.0 *10*	5	290.52	5/2+	[E1]		0.0661 *21*	B(E1)(W.u.)=0.00021 *4*

$^{79}_{36}Kr_{43}$-6

Adopted Levels, Gammas (continued)

γ(^{79}Kr) (continued)

E$_i$(level)	J$^\pi_i$	E$_\gamma$[†]	I$_\gamma$[†]	E$_f$	J$^\pi_f$	Mult.[‡]	δ[‡]	α[a]	Comments
									α(K)=0.0587 18; α(L)=0.00633 20; α(M)=0.00102 4 α(N)=0.000100 3
401.92	$5/2^-$	219.2 1	86 6	182.78	$3/2^-$	M1+E2	+0.07 3	0.0162 3	B(M1)(W.u.)=0.028 5; B(E2)(W.u.)<8 α(K)=0.0143 3; α(L)=0.00157 3; α(M)=0.000255 5 α(N)=2.57×10^{-5} 5 δ: other: 0.5 3 (ce data in (p,nγ)).
		401.85 10	100 2	0.0	$1/2^-$	E2		0.00636	B(E2)(W.u.)=42 7 α(K)=0.00562 8; α(L)=0.000631 9; α(M)=0.0001021 15 α(N)=1.008×10^{-5} 15
449.95	$7/2^-$	159.7 2	2.2 6	290.52	$5/2^+$	[E1]		0.0226	B(E1)(W.u.)=3.9×10^{-5} 13 α(K)=0.0200 3; α(L)=0.00215 4; α(M)=0.000346 5 α(N)=3.43×10^{-5} 5
		267.1 1	6.4 4	182.78	$3/2^-$	E2		0.0255	B(E2)(W.u.)=26 6 α(K)=0.0224 4; α(L)=0.00262 4; α(M)=0.000424 6 α(N)=4.12×10^{-5} 6
		301.1 2	≈11	148.88	$9/2^+$	[E1]		0.00366	α(K)=0.00325 5; α(L)=0.000347 5; α(M)=5.59×10^{-5} 8 α(N)=5.60×10^{-6} 8
		302.9 1	100 1	147.06	$5/2^-$	M1+E2	+0.69 4	0.0101 3	B(M1)(W.u.)=0.0105 21; B(E2)(W.u.)=70 15 α(K)=0.00894 25; α(L)=0.00100 3; α(M)=0.000162 5 α(N)=1.61×10^{-5} 5
		320.2 1	44 1	129.77	$7/2^+$	E1		0.00309	B(E1)(W.u.)=9.7×10^{-5} 19 α(K)=0.00275 4; α(L)=0.000293 5; α(M)=4.72×10^{-5} 7 α(N)=4.74×10^{-6} 7
533.41	$1/2^+$	149.34 10	9.3 3	384.11	$3/2^-$				
		350.6 1	100 2	182.78	$3/2^-$	E1		0.00242	α(K)=0.00215 3; α(L)=0.000229 4; α(M)=3.69×10^{-5} 6 α(N)=3.71×10^{-6} 6
		533.3 1	17.9 3	0.0	$1/2^-$				
635.79	$5/2^+$	345.6[@] 5	16	290.52	$5/2^+$				Additional information 3.
		486.8 2	11 1	148.88	$9/2^+$	[E2]		0.00347	B(E2)(W.u.)=9 7 α(K)=0.00307 5; α(L)=0.000340 5; α(M)=5.50×10^{-5} 8 α(N)=5.46×10^{-6} 8
		506.0 2	100 22	129.77	$7/2^+$	M1,E2		0.0026 5	B(M1)(W.u.)=0.007 5; B(E2)(W.u.)=30 20 α(K)=0.0023 5; α(L)=0.00025 6; α(M)=4.0×10^{-5} 9 α(N)=4.0×10^{-6} 8
659.28	$(5/2)^-$	257.4[@] 5	9	401.92	$5/2^-$				
		275.2 1	100 3	384.11	$3/2^-$	M1(+E2)	0.00 5	0.00902 14	α(K)=0.00799 12; α(L)=0.000870 13; α(M)=0.0001410 21 α(N)=1.421×10^{-5} 21
		476.3 2	50 6	182.78	$3/2^-$	[#]			I$_\gamma$: 77 3 in ^{76}Se(α,nγ).
		512.6[@c] 5	77	147.06	$5/2^-$				
673.14	$7/2^{(+)}$	382.6 2	100 20	290.52	$5/2^+$	D(+Q)	0.00 3		
		524.2 1	94 5	148.88	$9/2^+$	[#]			

From ENSDF

$^{79}_{36}$Kr$_{43}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ‡	α[a]	Comments
673.14	$7/2^{(+)}$	543.8 2	60 6	129.77	$7/2^+$	#			
675.8	$(1/2^+,3/2,5/2^-)$	385 1		290.52	$5/2^+$				
		493 1		182.78	$3/2^-$				
		676 1		0.0	$1/2^-$				
688.17	$3/2^+$	52.42 10	1.26 4	635.79	$5/2^+$	(M1)		0.794	α(K)=0.700 11; α(L)=0.0795 12; α(M)=0.01291 20 α(N)=0.001289 20
		154.82 10	34.2 8	533.41	$1/2^+$	M1(+E2)	<0.5	0.054 15	α(K)=0.048 13; α(L)=0.0055 17; α(M)=9.0×10^{-4} 27 α(N)=8.8×10^{-5} 25 δ: from α(K)exp in ^{79}Rb ε decay.
		286.2 1	3.9 1	401.92	$5/2^-$				
		304.0 2	0.45 8	384.11	$3/2^-$				
		397.6 1	26.2 6	290.52	$5/2^+$	M1		0.00367	α(K)=0.00326 5; α(L)=0.000351 5; α(M)=5.69×10^{-5} 8 α(N)=5.74×10^{-6} 8
		505.4 1	46 2	182.78	$3/2^-$	E1			
		541.0 1	3.2 1	147.06	$5/2^-$				
		558.3 1	1.10 6	129.77	$7/2^+$				
		688.1 1	100	0.0	$1/2^-$	E1			
694.90	$(7/2)^-$	293.0 1	44 7	401.92	$5/2^-$	M1+E2	+0.13 5	0.00790 20	B(M1)(W.u.)=0.048 22; B(E2)(W.u.)=12 11 α(K)=0.00700 17; α(L)=0.000762 20; α(M)=0.000123 4 α(N)=1.24×10^{-5} 4
		512.1 3	100 23	182.78	$3/2^-$	[E2]		0.00297	B(E2)(W.u.)=100 50 α(K)=0.00263 4; α(L)=0.000290 4; α(M)=4.70×10^{-5} 7 α(N)=4.67×10^{-6} 7
		695[@c] 1		0.0	$1/2^-$				This transition to $1/2^-$ level implying M3 multipolarity is considered as uncertain.
719.2	$(\leq7/2)$	428 1		290.52	$5/2^+$				
		537 1		182.78	$3/2^-$				
752.04	$5/2^+$	63.84 10	0.95 3	688.17	$3/2^+$	(M1)		0.452	B(M1)(W.u.)=0.026 9 α(K)=0.399 6; α(L)=0.0451 7; α(M)=0.00733 11 α(N)=0.000733 11
		116.25 10	2.4 1	635.79	$5/2^+$	[M1,E2]		0.31 23	B(M1)(W.u.)=0.0055 24; B(E2)(W.u.)=5.2×10^2 23 α(K)=0.27 19; α(L)=0.036 28; α(M)=0.0059 45 α(N)=5.4×10^{-4} 41 Additional information 4. δ: RUL of 300 for E2 would limit δ(E2/M1)(116γ) to<1.
		218.8 4	5.8 8	533.41	$1/2^+$	(E2)		0.0520	B(E2)(W.u.)=110 40 α(K)=0.0456 7; α(L)=0.00548 9; α(M)=0.000885 14 α(N)=8.52×10^{-5} 14
		302.4 5	1.8 8	449.95	$7/2^-$	[E1]		0.00362	B(E1)(W.u.)=8.E−6 5 α(K)=0.00321 5; α(L)=0.000342 5; α(M)=5.53×10^{-5} 9 α(N)=5.54×10^{-6} 9
		461.5 1	13.9 3	290.52	$5/2^+$				Additional information 5.

$^{79}_{36}Kr_{43}$-8

Adopted Levels, Gammas (continued)

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
752.04	5/2$^+$	569.2 *1*	10.5 *3*	182.78	3/2$^-$	[E1][#]			B(E1)(W.u.)=6.8×10^{-6} *23*
		603.2 *1*	7.6 *3*	148.88	9/2$^+$	[E2]		0.00183	B(E2)(W.u.)=0.9 *3* α(K)=0.001626 *23*; α(L)=0.0001778 *25*; α(M)=2.88×10^{-5} *4* α(N)=2.87×10^{-6} *4*
		605.6 *2*	1.0 *2*	147.06	5/2$^-$	[E1]			B(E1)(W.u.)=5.4×10^{-7} *21*
		622.2 *1*	100 *2*	129.77	7/2$^+$	M1(+E2)[#]	<1	0.00139 *10*	B(M1)(W.u.)>0.00100; B(E2)(W.u.)<6.6 α(K)=0.00124 *9*; α(L)=0.000133 *10*; α(M)=2.15×10^{-5} *17* α(N)=2.17×10^{-6} *16*
809.5	1/2$^-$	425.6 *5*	100	384.11	3/2$^-$	[#]			
		626.7[@c]		182.78	3/2$^-$				
		662.0[@] *5*	14	147.06	5/2$^-$				
		809.6[@] *5*	10	0.0	1/2$^-$				
814.27	9/2$^-$	364.3 *1*	12.3 *4*	449.95	7/2$^-$	M1+E2	+0.50 *12*	0.0054 *4*	B(M1)(W.u.)=0.008 *3*; B(E2)(W.u.)=20 *11* α(K)=0.0048 *3*; α(L)=0.00052 *4*; α(M)=8.5×10^{-5} *6* α(N)=8.5×10^{-6} *6*
		667.2 *1*	100 *1*	147.06	5/2$^-$	E2		1.38×10^{-3}	B(E2)(W.u.)=39 *13* α(K)=0.001226 *18*; α(L)=0.0001334 *19*; α(M)=2.16×10^{-5} *3* α(N)=2.16×10^{-6} *3*
		684.5 *2*	17 *2*	129.77	7/2$^+$	(E1)			B(E1)(W.u.)=3.6×10^{-5} *13*
835.5	(3/2)	199.5[@c]		635.79	5/2$^+$				
		301.8[@] *5*		533.41	1/2$^+$				
		433.5 *5*		401.92	5/2$^-$				
		451.8 *5*	100	384.11	3/2$^-$	[#]			
		652.7[@c]		182.78	3/2$^-$				
		705.8[@] *5*		129.77	7/2$^+$				
		835.6[@c]		0.0	1/2$^-$				
896.69	11/2$^+$	747.8 *1*	100 *2*	148.88	9/2$^+$	M1+E2	−0.55 *7*		B(M1)(W.u.)=0.022 *3*; B(E2)(W.u.)=16 *4*
		767.0 *2*	20 *1*	129.77	7/2$^+$	E2			B(E2)(W.u.)=11.8 *14*
907.23	(3/2,5/2$^-$)	505.0[@] *5*		401.92	5/2$^-$				
		524.0[@c]		384.11	3/2$^-$				
		616.8 *5*		290.52	5/2$^+$				
		724.4 *2*	75 *8*	182.78	3/2$^-$				
		907.3 *2*	100 *11*	0.0	1/2$^-$				
931.1	(1/2,3/2,5/2$^-$)	243 *1*		688.17	3/2$^+$				
		931 *1*		0.0	1/2$^-$				
958.31	(9/2$^+$)	285.2 *1*	26 *1*	673.14	7/2$^{(+)}$	M1+E2	−0.24 *7*	0.0089 *5*	B(M1)(W.u.)<0.06; B(E2)(W.u.)<50

From ENSDF

$^{79}_{36}Kr_{43}$-9

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
									α(K)=0.0079 4; α(L)=0.00086 5; α(M)=0.000140 8 α(N)=1.41×10^{-5} 7
958.31	(9/2$^+$)	809.3 2	100 2	148.88	9/2$^+$				Additional information 6.
975.92	(13/2)$^+$	79.3 1	0.7 2	896.69	11/2$^+$	(M1)		0.245	B(M1)(W.u.)=0.16 5 α(K)=0.217 4; α(L)=0.0244 4; α(M)=0.00396 6 α(N)=0.000396 6
		827.0 1	100 1	148.88	9/2$^+$	E2			B(E2)(W.u.)=36 2
983.71	(7/2)$^-$	324.4 1	16 6	659.28	(5/2)$^-$	M1+E2		0.0095 35	B(M1)(W.u.)=0.009 6; B(E2)(W.u.)=100 70 α(K)=0.0084 31; α(L)=9.4×10^{-4} 37; α(M)=1.53×10^{-4} 60 α(N)=1.51×10^{-5} 57
		581.8 2	100 4	401.92	5/2$^-$	#			Additional information 7.
		599.6 5	≈38	384.11	3/2$^-$	#			
		800.0[@] 10		182.78	3/2$^-$				
		835.6[@] 5		148.88	9/2$^+$				
987.0	(1/2,3/2,5/2$^-$)	603 1		384.11	3/2$^-$				
		803 1		182.78	3/2$^-$				
		988 1		0.0	1/2$^-$				
1038.84	(11/2)$^+$	889.9 3	100 3	148.88	9/2$^+$	M1+E2	+0.18 4		
		909 1	98 3	129.77	7/2$^+$				
1063.48	9/2$^-$	368.6 1	21 2	694.90	(7/2)$^-$	M1+E2	+0.13 6	0.00447 10	B(M1)(W.u.)=0.031 11; B(E2)(W.u.)<10 α(K)=0.00397 9; α(L)=0.000429 10; α(M)=6.95×10^{-5} 16 α(N)=7.01×10^{-6} 16
		613.7 2	17[&] 2	449.95	7/2$^-$	M1+E2	+0.06 3	1.34×10^{-3}	B(M1)(W.u.)=0.0056 20; B(E2)(W.u.)<0.15 α(K)=0.001192 17; α(L)=0.0001271 18; α(M)=2.06×10^{-5} 3 α(N)=2.08×10^{-6} 3
		661.5 1	100 3	401.92	5/2$^-$	E2		1.42×10^{-3}	B(E2)(W.u.)=80 30 α(K)=0.001255 18; α(L)=0.0001366 20; α(M)=2.21×10^{-5} 3 α(N)=2.21×10^{-6} 3
		774.1[c]		290.52	5/2$^+$				
1064.68	(5/2$^+$,7/2)	312.7 3	11 2	752.04	5/2$^+$				
		428.7 2	23 4	635.79	5/2$^+$				
		663.1 2	12 4	401.92	5/2$^-$				
		774.1 1	100 3	290.52	5/2$^+$				
		915.8 1	100 2	148.88	9/2$^+$				
		934.9 1	55 1	129.77	7/2$^+$				
1079.13	(5/2$^+$,7/2)	788.3 2	100 5	290.52	5/2$^+$	#			
		930.5 2	25 3	148.88	9/2$^+$				

From ENSDF

$^{79}_{36}Kr_{43}$-10

Adopted Levels, Gammas (continued)

$\gamma(^{79}\mathrm{Kr})$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
1079.13	(5/2+,7/2)	949.6 3	38 9	129.77	7/2+				
1132.26	(3/2,5/2−)	841.6 1	100 12	290.52	5/2+				
		1132.4 1	96 12	0.0	1/2−				
1171.48	11/2−	357.0 3	4.4 22	814.27	9/2−				Additional information 8.
		721.5 1	100 4	449.95	7/2−	E2		1.12×10^{-3}	B(E2)(W.u.)=44 12 α(K)=0.000993 14; α(L)=0.0001076 15; α(M)=1.740×10^{-5} 25 α(N)=1.744×10^{-6} 25
		1022.9 3	12 2	148.88	9/2+	[E1]			B(E1)(W.u.)=1.3×10^{-5} 4 I_γ: 35 1 from ^{78}Se(α,3nγ). γ not seen in (^{18}O,p3nγ).
1200.4	(3/2,5/2,7/2−)	798[c]		401.92	5/2−				
		910[c]		290.52	5/2+				
		1018[c]		182.78	3/2−				
1299.91	(5/2+)	1009.4 4	84 21	290.52	5/2+				
		1117.0 5	100 16	182.78	3/2−				
		1151.4 9	32 16	148.88	9/2+				
		1170.1 2	95 16	129.77	7/2+				
1333.8?	(≤7/2)	1151[c]		182.78	3/2−				
1363.15	(9/2−)	379.4 2	92 50	983.71	(7/2)−	[#]			
		668 1	≈83	694.90	(7/2)−				
		703.9 2	100 17	659.28	(5/2)−	(Q)			
1428.17	(5/2+)	792.3 3	18 4	635.79	5/2+				
		1137.7 1	93 7	290.52	5/2+				
		1245.6 2	29 4	182.78	3/2−	[E1]			B(E1)(W.u.)=5.3×10^{-5} 20
		1279.7[bc] 4	<13[b]	148.88	9/2+	[E2]			B(E2)(W.u.)<0.11
		1298.3 1	100 5	129.77	7/2+				
1450.59	(11/2−)	387.1 1	12 1	1063.48	9/2−	M1(+E2)	+0.09 9	0.00394 10	B(M1)(W.u.)=0.034 12; B(E2)(W.u.)<7 α(K)=0.00350 9; α(L)=0.000377 10; α(M)=6.11×10^{-5} 16 α(N)=6.17×10^{-6} 15
		755.7 2	100[&] 2	694.90	(7/2)−	E2			B(E2)(W.u.)=80 30
1474.62	(3/2)	786.0 2	65 4	688.17	3/2+				
		815.1 3	8 3	659.28	(5/2)−				
		941.2 1	69 6	533.41	1/2+				
		1072.3[bc] 3	<15[b]	401.92	5/2−				
		1090.3 3	5 1	384.11	3/2−				
		1184.1 1	100 2	290.52	5/2+				
		1291.9 1	27 3	182.78	3/2−				
		1474.7 1	30 2	0.0	1/2−				
1502.4?	(1/2,3/2,5/2+)	969[c]		533.41	1/2+				

$^{79}_{36}\mathrm{Kr}_{43}$-11

Adopted Levels, Gammas (continued)

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
1507.9	(9/2,11/2)	834.8 *3*	100	673.14	$7/2^{(+)}$			
1549.8?	(≤7/2)	1367[c]		182.78	$3/2^-$			
1568.1	(≤7/2)	1184[c]		384.11	$3/2^-$			
1598.5?	(≤9/2)	1308[c]		290.52	$5/2^+$			
1606.5?	(≤9/2)	1316[c]		290.52	$5/2^+$			
1609.93	$(3/2^+,5/2^+)$	858.1 *2*	8 *3*	752.04	$5/2^+$			
		921.6 *1*	100 *3*	688.17	$3/2^+$			
		951.4 *10*	3.1 *5*	659.28	$(5/2)^-$			
		973.7[bc] *2*	<9[b]	635.79	$5/2^+$			
		1076.0 *2*	11 *2*	533.41	$1/2^+$			
		1161.7 *6*	3 *2*	449.95	$7/2^-$			
		1208.0 *1*	17 *2*	401.92	$5/2^-$			
		1225.8 *1*	19 *2*	384.11	$3/2^-$			
		1427.2 *1*	17 *1*	182.78	$3/2^-$			
		1480.3 *1*	38 *1*	129.77	$7/2^+$			
1662.05	$(13/2^+)$	623.3 *4*	100 *33*	1038.84	$(11/2)^+$	#		
		686.2 *2*	56 *20*	975.92	$(13/2)^+$	D		
		765.0 *3*	≈110	896.69	$11/2^+$	D+Q		
		1513.3 *3*	26 *8*	148.88	$9/2^+$			
1662.22	$(13/2)^-$	490.7 *1*	3 *1*	1171.48	$11/2^-$			
		765.5 *3*	7.5 *25*	896.69	$11/2^+$	[E1][#]		B(E1)(W.u.)=7.E−5 *3*
		848.0 *2*	100[&] *10*	814.27	$9/2^-$	E2		B(E2)(W.u.)=75 *21*
1707.35	$(5/2^+,7/2)$	955.3 *2*	67 *11*	752.04	$5/2^+$			
		1072.3[bc] *3*	<90[b]	635.79	$5/2^+$			
		1257.1 *3*	50 *11*	449.95	$7/2^-$			
		1416.9 *1*	100 *11*	290.52	$5/2^+$			
		1558.8 *5*	50 *11*	148.88	$9/2^+$			
		1576.6 *4*	39 *11*	129.77	$7/2^+$			
1803.1?		440[c] *1*	100	1363.15	$(9/2^-)$			
1812.42	$(5/2^+)$	1124.5 *6*	21 *10*	688.17	$3/2^+$			
		1140.7 *11*	26 *11*	673.14	$7/2^{(+)}$			
		1279.7[bc] *4*	<53[b]	533.41	$1/2^+$			
		1521.8 *2*	79 *16*	290.52	$5/2^+$			
		1629.7 *2*	37 *6*	182.78	$3/2^-$			
		1663.0 *4*	32 *11*	148.88	$9/2^+$			
		1665.5 *3*	47 *11*	147.06	$5/2^-$			
		1682.6 *2*	100 *11*	129.77	$7/2^+$			
1850.7?	(13/2)	954[c]		896.69	$11/2^+$			
1884.73	$15/2^+$	909.0 *2*	100 *20*	975.92	$(13/2)^+$	M1+E2	−0.16 *4*	B(M1)(W.u.)=0.043 *12*; B(E2)(W.u.)=1.7 *10*
		988.0 *2*	95 *20*	896.69	$11/2^+$	E2		B(E2)(W.u.)=43 *12*
1915.81	$13/2^-$	465.1 *5*	5[&] *3*	1450.59	$(11/2^-)$	#		

From ENSDF

$^{79}_{36}Kr_{43}$-12

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	α[a]	Comments
1915.81	$13/2^-$	744.3 *2*	11 *3*	1171.48	$11/2^-$	(M1)		B(M1)(W.u.)=0.0063 *24*
		852.4 *2*	100 *15*	1063.48	$9/2^-$	E2		B(E2)(W.u.)=66 *20*
2002.18	$(17/2)^+$	117.5 *1*	0.7 *3*	1884.73	$15/2^+$	(M1)	0.0830	B(M1)(W.u.)=0.17 *8* α(K)=0.0733 *11*; α(L)=0.00818 *12*; α(M)=0.001327 *19* α(N)=0.0001332 *19*
		1026.2 *2*	100.0 *11*	975.92	$(13/2)^+$	E2		B(E2)(W.u.)=45 *5* α(K)=0.000414 *6*; α(L)=4.42×10^{-5} *7*; α(M)=7.16×10^{-6} *10* α(N)=7.21×10^{-7} *10*
2056.72	$15/2^-$	394.4 *3*	2.4 *12*	1662.22	$(13/2)^-$			
		885.3 *2*	100 *3*	1171.48	$11/2^-$	E2		B(E2)(W.u.)=73 *8*
		1080.5 *3*	13 *4*	975.92	$(13/2)^+$	(E1)		B(E1)(W.u.)=5.4×10^{-5} *18*
2105.19	$(5/2^+,7/2^-)$	973.7[bc] *2*	<142[b]	1132.26	$(3/2,5/2^-)$			
		1922.5 *2*	100 *25*	182.78	$3/2^-$			
		1955.9 *4*	33 *8*	148.88	$9/2^+$			
		1974.7 *11*	67 *33*	129.77	$7/2^+$			
2135.6	$(15/2^+)$	1096.6 *4*	100 *18*	1038.84	$(11/2)^+$			
		1160.0 *5*	≈18	975.92	$(13/2)^+$			I_γ: 100 *6* in ^{78}Se(α,3nγ).
2366.58	(3/2,5/2)	892.5 *7*	24 *12*	1474.62	(3/2)			
		1678.4 *2*	100 *6*	688.17	$3/2^+$			
		1833.6[bc] *12*	<18[b]	533.41	$1/2^+$			
		1981.9 *6*	36 *18*	384.11	$3/2^-$			
		2183.7[bc] *2*	<58[b]	182.78	$3/2^-$			
2415.59	$(15/2^-)$	499.7[c] *2*	11 *4*	1915.81	$13/2^-$			
		965.0 *2*	100[&] *29*	1450.59	$(11/2^-)$	(E2)		B(E2)(W.u.)=49 *22*
2583.83	$(5/2^+)$	973.7[bc] *2*	<42[b]	1609.93	$(3/2^+,5/2^+)$			
		1504.7 *1*	100 *5*	1079.13	$(5/2^+,7/2)$			
		1925.3 *7*	12 *5*	659.28	$(5/2)^-$			
		1947.8 *4*	12 *3*	635.79	$5/2^+$			
		2293.9 *4*	20 *8*	290.52	$5/2^+$			
		2400.2 *5*	24 *8*	182.78	$3/2^-$			
		2434.1 *6*	34 *8*	148.88	$9/2^+$			
		2453.7 *16*	7 *5*	129.77	$7/2^+$			
2586.29	$(3/2^+)$	976.7 *4*	31 *6*	1609.93	$(3/2^+,5/2^+)$			
		1158.7 *5*	56 *19*	1428.17	$(5/2^+)$			
		1285.4 *12*	12	1299.91	$(5/2^+)$			
		1454.4 *4*	31 *6*	1132.26	$(3/2,5/2^-)$			
		1833.6[bc] *12*	<38[b]	752.04	$5/2^+$			
		1897.7 *9*	12 *6*	688.17	$3/2^+$			
		2052.7 *3*	69 *13*	533.41	$1/2^+$			
		2183.7[bc] *2*	<119[b]	401.92	$5/2^-$			
		2201.9 *2*	63 *19*	384.11	$3/2^-$			

$^{79}_{36}Kr_{43}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{79}Kr)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
2586.29	$(3/2^+)$	2296.1 *3*	100 *25*	290.52	$5/2^+$				
		2402.7 *12*	13	182.78	$3/2^-$				
		2456.9 *4*	38 *13*	129.77	$7/2^+$				
		2586.1 *2*	69 *7*	0.0	$1/2^-$				
2643.26	$(17/2)^-$	587.1[c] *6*	5.7 *29*	2056.72	$15/2^-$				
		758.6 *2*	8 *3*	1884.73	$15/2^+$	(E1)			B(E1)(W.u.)=7.E−5 *4*
		981.0 *2*	100[&] *2*	1662.22	$(13/2)^-$	E2			B(E2)(W.u.)=33 *9*
2857.32	$(17/2^-)$	800.3 *2*	33[&] *17*	2056.72	$15/2^-$				
		941.7 *4*	100 *17*	1915.81	$13/2^-$	(E2)			B(E2)(W.u.)=24 *17*
2930.24	$(17/2)^-$	873.7 *2*	15 *1*	2056.72	$15/2^-$	(M1)			B(M1)(W.u.)=0.005 *3*
		1014.4 *3*	100 *14*	1915.81	$13/2^-$	(E2)			B(E2)(W.u.)=28 *16*
2979.38	$(19/2)^+$	977.3 *2*	100 *7*	2002.18	$(17/2)^+$	M1(+E2)	−0.3 *5*		B(M1)(W.u.)=0.064 *23*; B(E2)(W.u.)<32
		1094.5 *2*	60 *7*	1884.73	$15/2^+$	(E2)			B(E2)(W.u.)=32 *8*
3061.92	$19/2^-$	1005.2 *2*	100 *3*	2056.72	$15/2^-$	E2			B(E2)(W.u.)=37 *12*
		1059.7 *3*	8 *4*	2002.18	$(17/2)^+$	[E1]			B(E1)(W.u.)=3.3×10^{-5} *20* I_γ: ≈45 in ^{77}Se(α,2nγ).
3146.07	$(21/2)^+$	166.6 *3*	2.9 *15*	2979.38	$(19/2)^+$				
		1144.0 *2*	100.0 *15*	2002.18	$(17/2)^+$	E2			B(E2)(W.u.)=46 *10*
3214.39	$19/2^-$	284.2 *1*	16 *3*	2930.24	$(17/2)^-$	M1+E2	−0.10 *6*	0.00845 *22*	B(M1)(W.u.)=0.05 *3*; B(E2)(W.u.)<17 α(K)=0.00749 *20*; α(L)=0.000815 *23*; α(M)=0.000132 *4* α(N)=1.33×10^{-5} *4*
		356.5 *3*	13 *7*	2857.32	$(17/2^-)$	#			
		571.2 *3*	13 *7*	2643.26	$(17/2)^-$	#			
		1157.7 *3*	100 *4*	2056.72	$15/2^-$	E2			B(E2)(W.u.)=4 *3*
		1212.4 *4*	29 *2*	2002.18	$(17/2)^+$	[E1]			B(E1)(W.u.)=1.8×10^{-5} *12*
3288.6	$(19/2^+)$	1153 *1*	100	2135.6	$(15/2^+)$	Q			
3383.2	$(19/2^-)$	967.6 *3*	100	2415.59	$(15/2^-)$	(Q)			
3585.58	$(21/2)^-$	371.2 *1*	100 *2*	3214.39	$19/2^-$	M1+E2	−0.19 *5*	0.00447 *10*	B(M1)(W.u.)=0.6 *5*; B(E2)(W.u.)<400 α(K)=0.00396 *9*; α(L)=0.000429 *10*; α(M)=6.95×10^{-5} *17* α(N)=7.00×10^{-6} *16*
		524[c] *1*	≈73	3061.92	$19/2^-$				E_γ: not reported in (^{18}O,p3nγ).
		655.3 *2*	44 *6*	2930.24	$(17/2)^-$	E2		1.45×10^{-3}	B(E2)(W.u.)=150 *130* α(K)=0.001288 *18*; α(L)=0.0001403 *20*; α(M)=2.27×10^{-5} *4* α(N)=2.27×10^{-6} *4*
		942.3 *5*	63 *12*	2643.26	$(17/2)^-$	[E2]			B(E2)(W.u.)<60
3618.88	$(21/2^+)$	473.0 *2*	100	3146.07	$(21/2)^+$				δ: RUL of 300 for E2 would suggest δ(E2/M1)(473γ)<0.5.
		637		2979.38	$(19/2)^+$				
		1615		2002.18	$(17/2)^+$				

Adopted Levels, Gammas (continued)

$\gamma(^{79}$Kr) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[a]	Comments
3655.4	$(21/2)^-$	1012.1 *3*	100	2643.26	$(17/2)^-$	E2			B(E2)(W.u.)=48 *19*
3846.08	$(23/2)^+$	227.2 *1*	7 *1*	3618.88	$(21/2^+)$	(M1)		0.01462	B(M1)(W.u.)=0.49 *18* α(K)=0.01295 *19*; α(L)=0.001417 *20*; α(M)=0.000230 *4* α(N)=2.31×10^{-5} *4*
		700.0 *1*	100 *4*	3146.07	$(21/2)^+$	M1+E2	−0.13 *5*	1.00×10^{-3} *2*	B(M1)(W.u.)=0.24 *8*; B(E2)(W.u.)=10 *9* α(K)=0.000891 *13*; α(L)=9.48×10^{-5} *14*; α(M)=1.535×10^{-5} *23* α(N)=1.553×10^{-6} *23*
		866.9 *3*	20 *3*	2979.38	$(19/2)^+$	E2			B(E2)(W.u.)=43 *16* I_γ: 5 *1* in ^{78}Se(α,3nγ).
4063.3?	$(21/2^-)$	1133[c] *1*	100	2930.24	$(17/2)^-$				
4087.65	$(23/2^-)$	502.1 *2*	15[&] *8*	3585.58	$(21/2)^-$	[#]			
		1025.5 *5*	100 *23*	3061.92	$19/2^-$	E2			B(E2)(W.u.)=50 *30*
4133.11	$(23/2^-)$	547.5 *2*	100 *4*	3585.58	$(21/2)^-$	D+Q	−0.3 *1*		
		1071.3 *4*	56 *8*	3061.92	$19/2^-$				E_γ: not reported in (^{18}O,p3nγ).
4299.70	$(25/2^+)$	453.6 *2*	38 *7*	3846.08	$(23/2)^+$	M1+E2	+0.12 *5*	0.00271 *5*	B(M1)(W.u.)=0.27 *7*; B(E2)(W.u.)=24 *21* α(K)=0.00241 *4*; α(L)=0.000259 *5*; α(M)=4.19×10^{-5} *7* α(N)=4.23×10^{-6} *7*
		1153.5 *2*	100 *7*	3146.07	$(21/2)^+$	E2			B(E2)(W.u.)=42 *8*
4657.6	$(25/2^+)$	357.7 *4*	100 *43*	4299.70	$(25/2^+)$	D			
		811.9 *5*	29 *14*	3846.08	$(23/2)^+$	D			
		1512[c] *1*	29 *14*	3146.07	$(21/2)^+$				
4708.8	$(25/2^-)$	1053.4 *3*	100	3655.4	$(21/2)^-$	Q			
4899.7	$(27/2^+)$	600.0 *2*	100 *12*	4299.70	$(25/2^+)$	D(+Q)	0.00 *5*		
		1053.8 *3*	90 *30*	3846.08	$(23/2)^+$	(E2)			B(E2)(W.u.)=49 *25*
5165.0	$(27/2^-)$	1077.3 *5*	100	4087.65	$(23/2^-)$	Q			
5524.0	$(29/2^+)$	624.3 *2*	100 *13*	4899.7	$(27/2^+)$	D			
		1224.0 *3*	73[&] *13*	4299.70	$(25/2^+)$	Q			
5547.4	$(27/2^+)$	890		4657.6	$(25/2^+)$				
		1701		3846.08	$(23/2)^+$				
5973.9	$(29/2^+)$	1073		4899.7	$(27/2^+)$				
		1317		4657.6	$(25/2^+)$				
		1675		4299.70	$(25/2^+)$				
5993.8	$(29/2^-)$	1285 *2*	100	4708.8	$(25/2^-)$				
6250.1	$(31/2^+)$	726.0 *4*	43 *7*	5524.0	$(29/2^+)$				
		1350.7 *5*	100 *14*	4899.7	$(27/2^+)$	Q			
6446.4	$(31/2^-)$	1281.4 *8*	100	5165.0	$(27/2^-)$	Q			
6890.7	$(33/2^+)$	640.6 *2*	100 *22*	6250.1	$(31/2^+)$	D			
		1366.6 *5*	89 *22*	5524.0	$(29/2^+)$	Q			
7056.7	$(31/2^+)$	1083[c]		5973.9	$(29/2^+)$				
		1509[c]		5547.4	$(27/2^+)$				
7903.7	$(35/2^+)$	(1013)	<25	6890.7	$(33/2^+)$				

$^{79}_{36}$Kr$_{43}$-15

Adopted Levels, Gammas (continued)

γ(^{79}Kr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	Comments
7903.7	(35/2+)	1653 *2*	100 *25*	6250.1	(31/2+)	Q	
8400.6	(37/2+)	497.1 *4*	29 *14*	7903.7	(35/2+)	D	
		1510.0 *8*	100 *29*	6890.7	(33/2+)	Q	
9650.7	(39/2+)	1251		8400.6	(37/2+)		
		1746		7903.7	(35/2+)		E_γ: from ^{70}Zn(^{13}C,4nγ). Other: 1800 *4* in ^{65}Cu(^{18}O,p3nγ).
10039.6	(41/2+)	1639 *2*	100	8400.6	(37/2+)	Q	
11822	(45/2+)	1782 *3*	100	10039.6	(41/2+)		

[†] Wherever possible weighted averages of values from various γ-ray studies. When energy uncertainty is not given by authors, 1.0 keV is generally assigned by the evaluator. Iγ values are photon branching ratios. Relative intensities from ^{79}Rb ε decay; ^{76}Se(α,nγ); ^{77}Se(α,2nγ); ^{78}Se(α,3nγ) and ^{79}Br(p,nγ) have been considered in calculating weighted averaged values.

[‡] For γ rays from low-spin states (J≤7/2), assignments are from ce data in ^{79}Rb ε decay and in (p,nγ) reaction. For γ rays from high-spin states the assignments are based on $\gamma(\theta)$, γ(lin pol) and $T_{1/2}$(level) data. For levels of known $T_{1/2}$, RUL (for E2 and M2) are used to restrict multipolarity assignments.

[#] $\gamma(\theta)$ data in (α,xnγ) gives negative A_2 which indicates ΔJ=0 or 1 transition.

[@] From (p,nγ) only.

[&] May be contributed by an impurity also.

[a] From BrIcc v2.3b (16-Dec-2014) 2008Ki07, "Frozen Orbitals" appr. If No δ(E2/M1) value given, α overlaps pure M1 and pure E2.

[b] Multiply placed with undivided intensity.

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

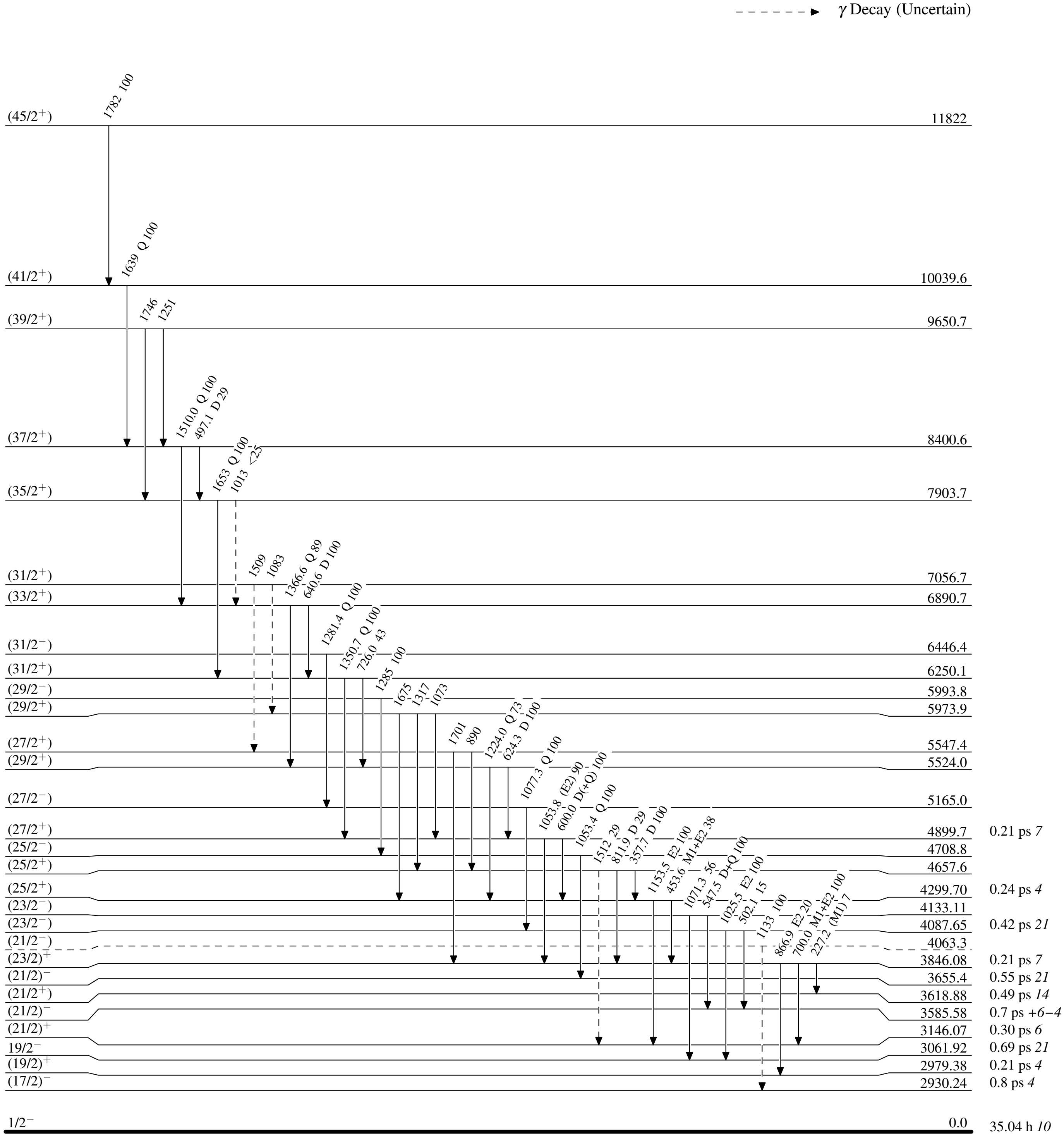
$^{79}_{36}Kr_{43}$-16

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level



$^{79}_{36}Kr_{43}$

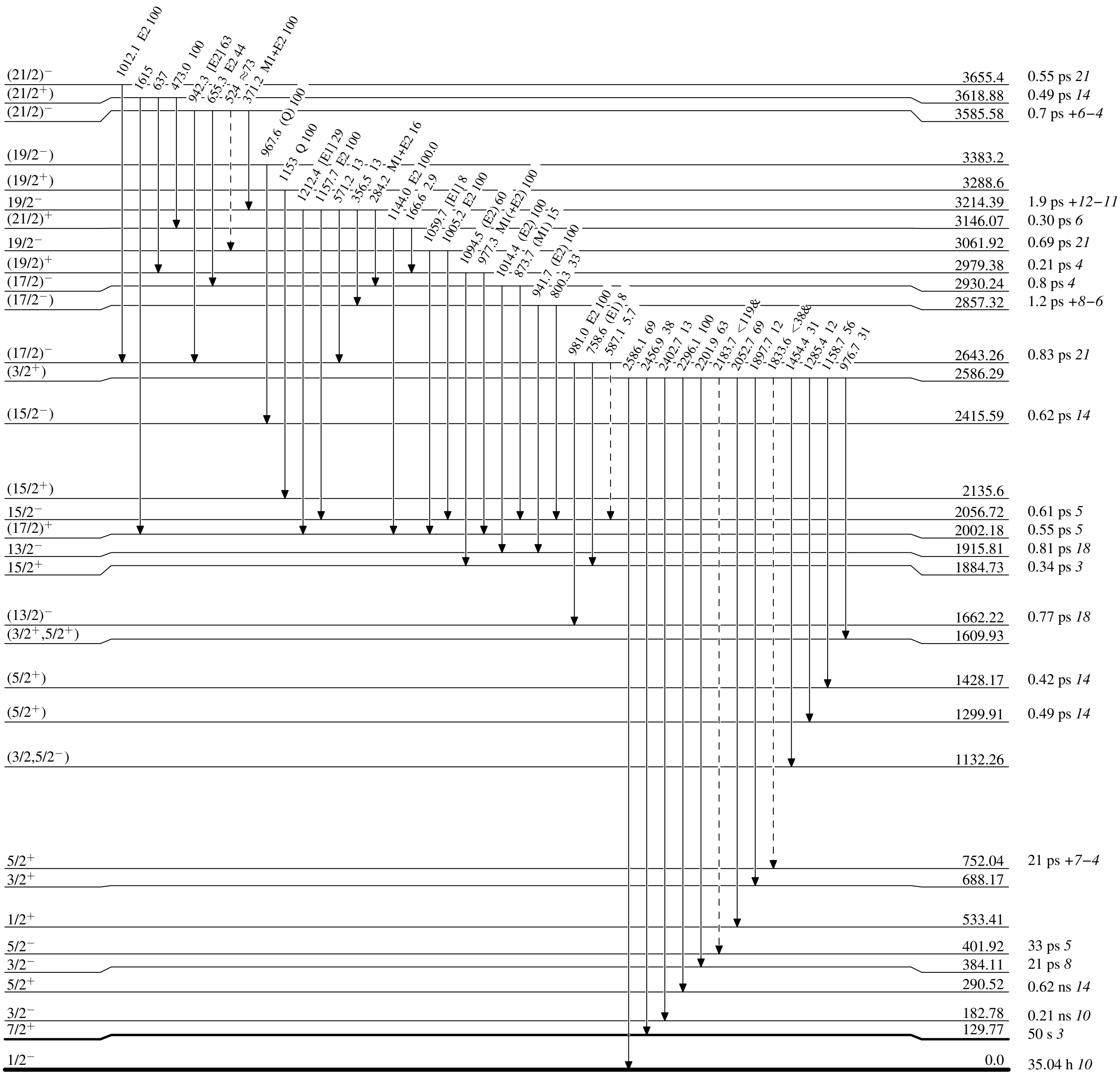
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

Legend

γ Decay (Uncertain)



$^{79}_{36}Kr_{43}$

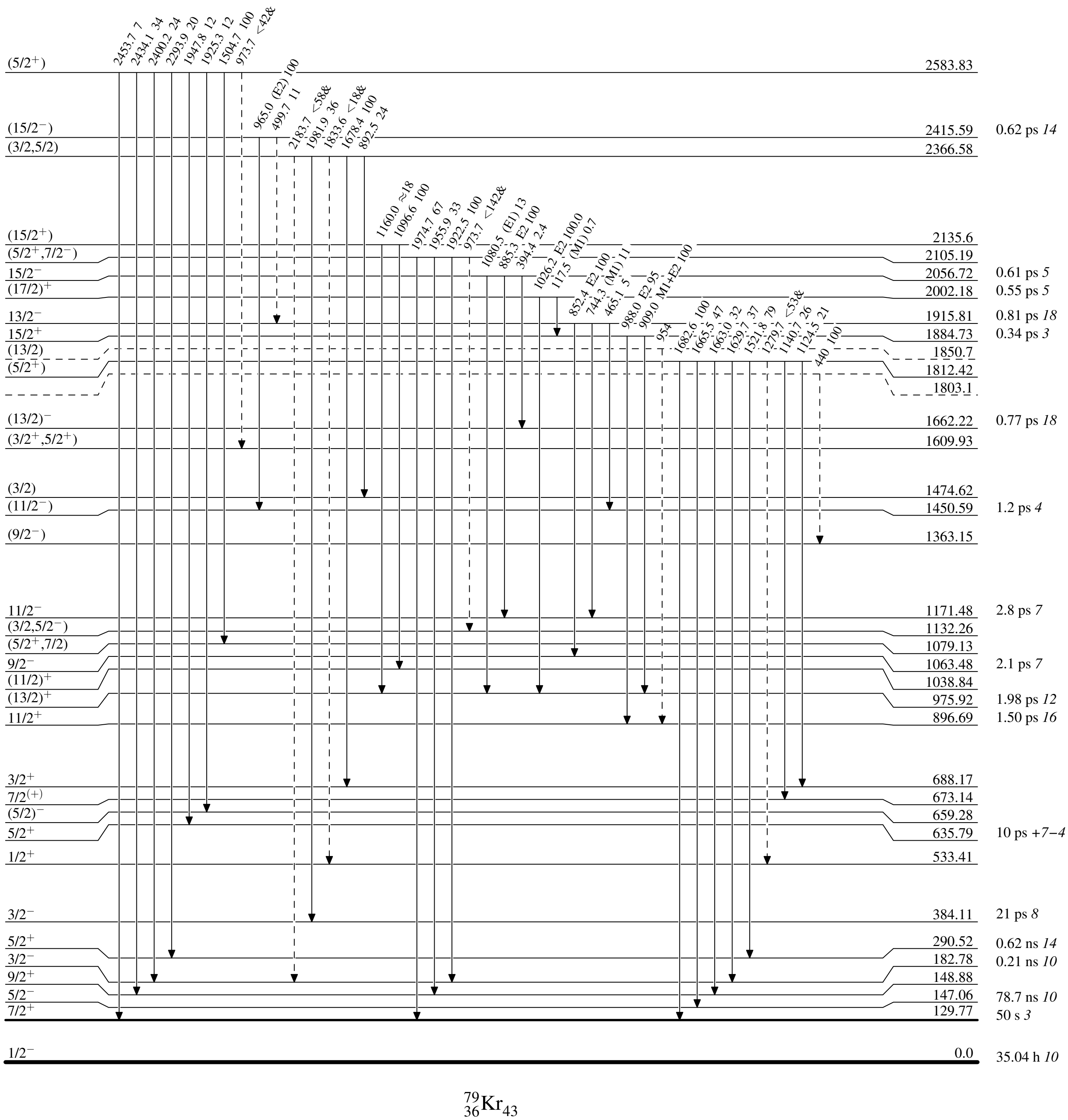
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



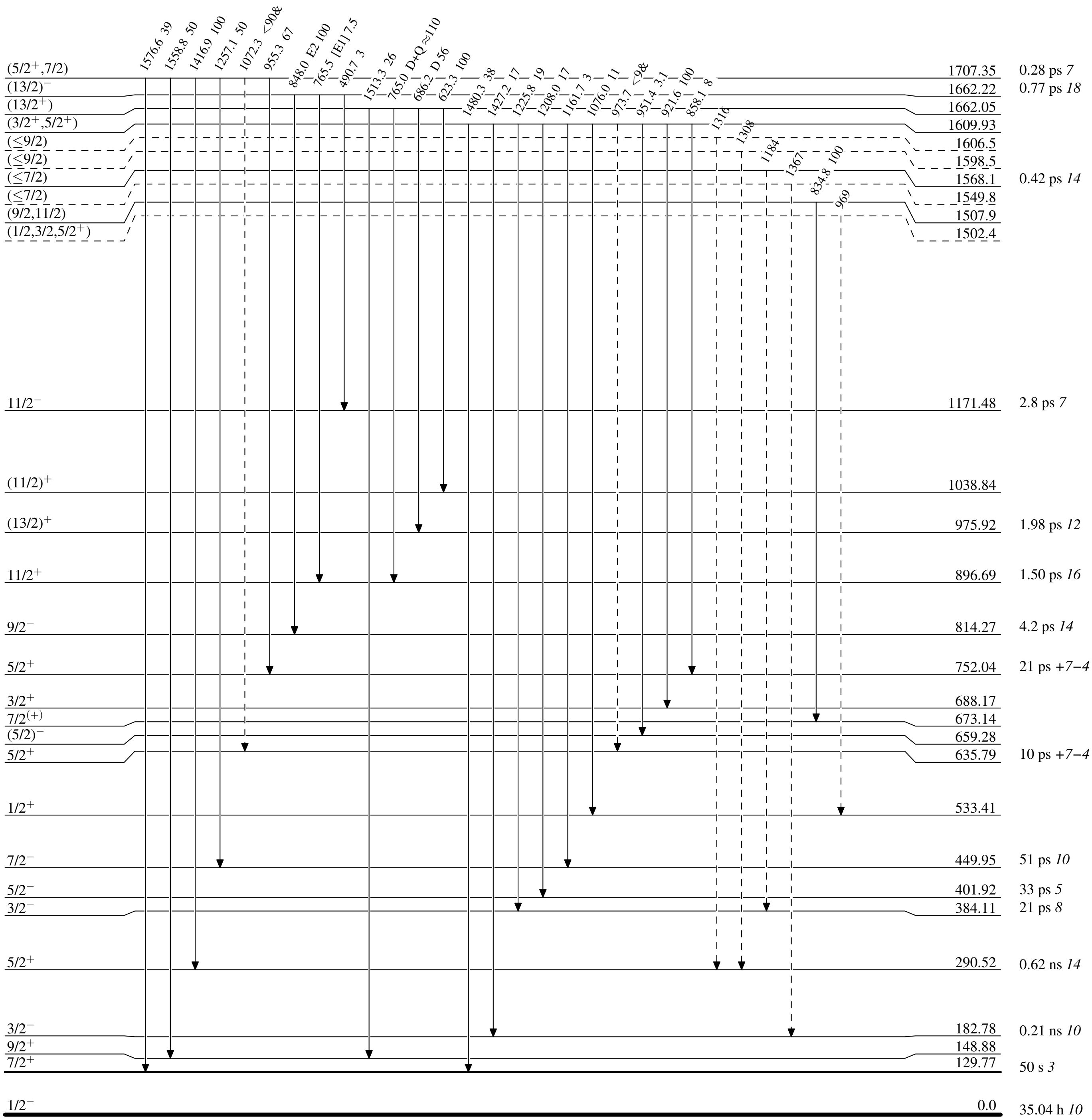
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{79}_{36}Kr_{43}$

$^{79}_{36}$Kr$_{43}$-21

Adopted Levels, Gammas

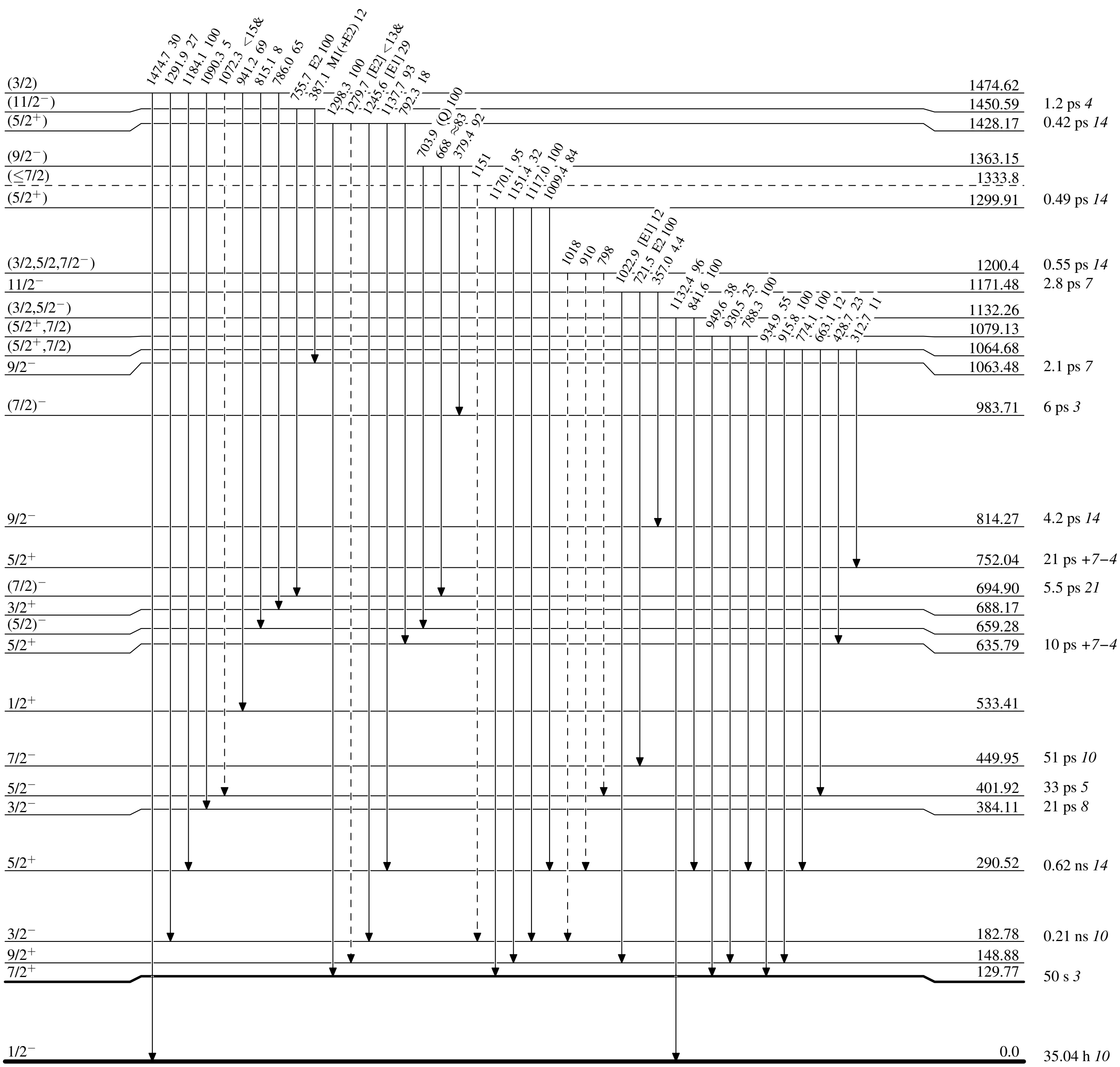
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

& Multiply placed: undivided intensity given

γ Decay (Uncertain)



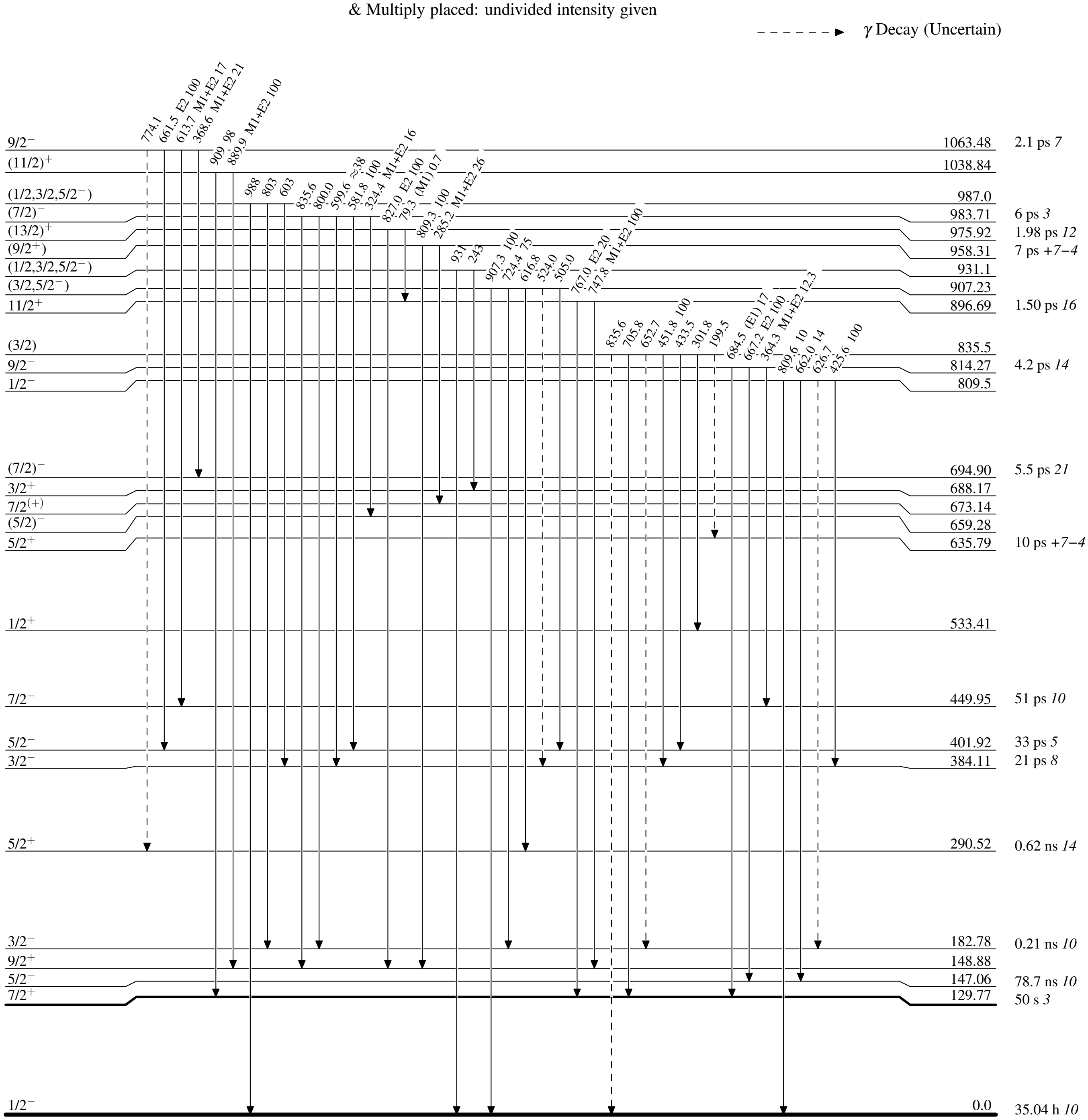
$^{79}_{36}$Kr$_{43}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

Legend



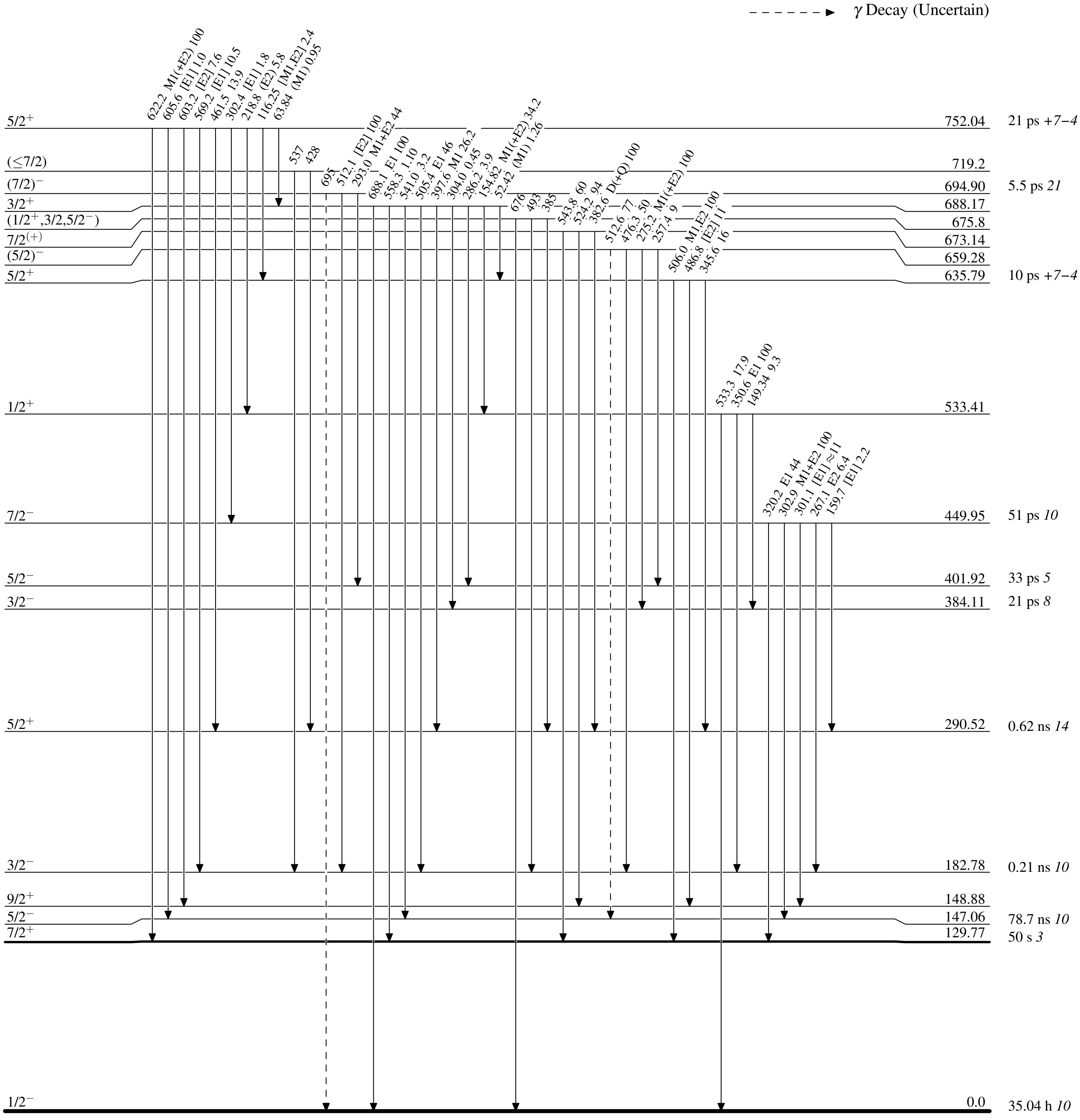
$^{79}_{36}Kr_{43}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{79}_{36}Kr_{43}$

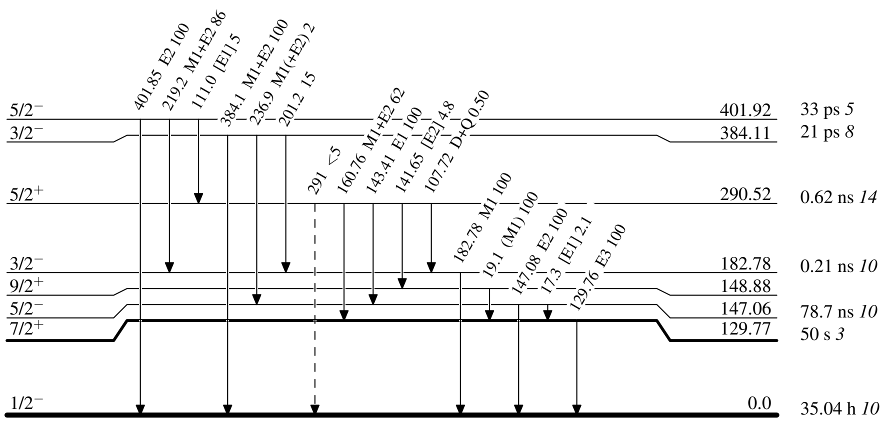
Adopted Levels, Gammas

Legend

Level Scheme (continued)

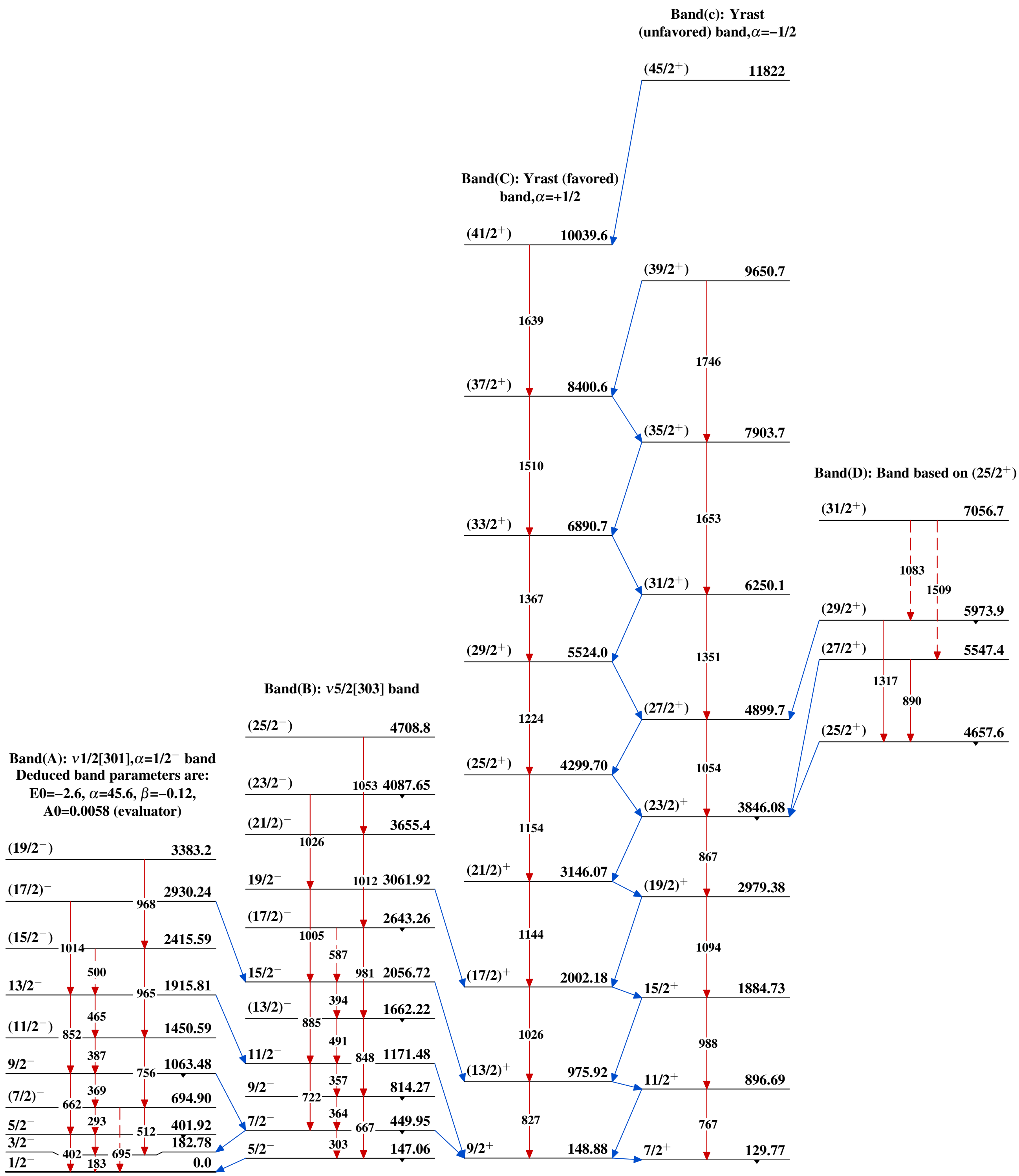
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



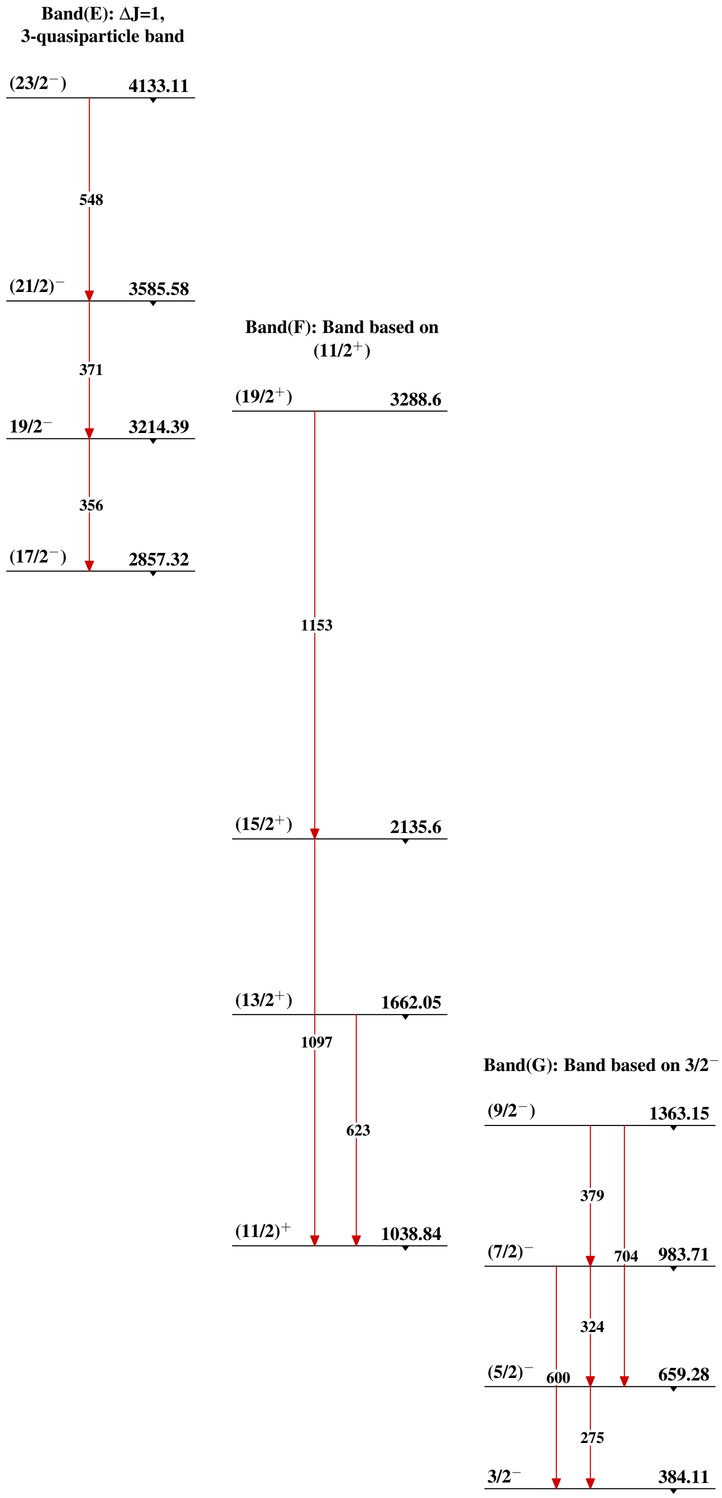
$^{79}_{36}Kr_{43}$

Adopted Levels, Gammas



$^{79}_{36}Kr_{43}$

Adopted Levels, Gammas (continued)



$^{79}_{36}Kr_{43}$