

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan		NDS 194,3 (2024)	8-Jan-2024

Q(β^-)=-8535 4; S(n)=12761 9; S(p)=7196 6; Q(α)=-3570 4 [2021Wa16](#)Q(ε)=1275 10, S(2n)=22824 4, S(2p)=11378 4 ([2021Wa16](#)).[1954Ca03](#): ^{76}Kr produced and identified in spallation reaction: Y(p,X),E=150, 175, 240 MeV from Rochester cyclotron. Measured half-life of 9.7 h 5 for the decay of ^{76}Kr . Later studies of decay of ^{76}Kr : [1955Th01](#), [1963Do04](#), [1973Lo07](#), [1973Pa02](#).

Other reactions:

[1983Ga19](#) (also [1984Sn01](#)): $^{64}\text{Zn}(^{12}\text{C},\gamma)$, $^{58}\text{Ni}(^{18}\text{O},\gamma)$, E=42-6 MeV, GDR study.[1993HuZZ](#): $^{76}\text{Kr}(\pi^+,\pi^-)$, E=294 MeV. Measured $\sigma(\theta)$.**Additional information 1.**Mass measurements: [2008Go23](#), [2006Ro11](#), [2005Ch60](#), [2002He23](#).[2007Ya06](#), [2007Ya20](#): $^{12}\text{C}(^{76}\text{Kr},X)$, E \leq 1.05 GeV/nucleon; measured σ ; deduced rms matter radius, Glauber model. **^{76}Kr Levels****Cross Reference (XREF) Flags**

A	$^{76}\text{Rb} \varepsilon+\beta^+$ decay (36.5 s)	F	$^{66}\text{Zn}(^{12}\text{C},2n\gamma)$, $^{58}\text{Ni}(^{24}\text{Mg},\alpha 2p\gamma)$
B	$^{77}\text{Sr} \varepsilon p$ decay (9.0 s)	G	$^{78}\text{Kr}(p,t)$
C	$^{1}\text{H}(^{76}\text{Kr},^{76}\text{Kr}'\gamma)$	H	$^{78}\text{Kr}(\alpha,^{6}\text{He})$
D	$^{40}\text{Ca}(^{40}\text{Ca},4p\gamma)$	I	Coulomb excitation
E	$^{54}\text{Fe}(^{28}\text{Si},\alpha 2p\gamma)$		

E(level) [†]	J ^π #	T _{1/2} [‡]	XREF	Comments
0.0 ^{&}	0 ⁺	14.79 h 5	ABCDEFGHI	% ε +% β^+ =100 RMS charge radius ($\langle r^2 \rangle^{1/2}$)=4.2020 fm 36 (2013An02 evaluation). T _{1/2} : weighted average of 14.82 h 5 (1963Do04 , from parent-daughter separations); 14.7 h 1 (1963Do04 , growth-decay curve for annihilation radiation, using 16.2 h half-life for ^{76}Br decay); 14.6 h 2 (1973Pa02 , γ -decay curves). 1963Do04 measured decay curves for three prominent γ rays and reported T _{1/2} =14.1 h, 14.2 h, and 14.3 h, with a counting uncertainty of 0.1 h but an overall uncertainty of 0.5 h in each value. Others: 10.5 h (1955Th01), 9.7 h 5 (1954Ca03). μ =+0.74 22 (2004Ku11 , 2005Be61 , 2020StZV) Q=-0.7 2 (2007Cl02) J ^π : E2 γ to 0 ⁺ . μ : transient-field technique in Coul. ex. (2004Ku11 , 2005Be61). Q: from Coulomb excitation (2007Cl02). No value is given in 2021StZZ compilation. T _{1/2} : from recommended B(E2) \uparrow =0.758 26 (2016Pr01 evaluation), based on the following measurements: RDDS measurements, mean lifetime τ =41.5 ps 8 (2005Go43), 37.7 ps 30 (1990He04), 36 ps 1 (1984Wo10) and 35 ps 3 (1982Ke01). B(E2) \uparrow =0.721 10 (2007Cl02), Coul. ex. with incident energy above Coulomb barrier). Other: τ =53 ps 7 (1974No08) from RDDS seems discrepant.
424.05 ^{&} 7	2 ⁺	27.1 ps 10	ABCDEFGHI	μ =+0.74 22 (2004Ku11 , 2005Be61 , 2020StZV) Q=-0.7 2 (2007Cl02) J ^π : E2 γ to 0 ⁺ . μ : transient-field technique in Coul. ex. (2004Ku11 , 2005Be61). Q: from Coulomb excitation (2007Cl02). No value is given in 2021StZZ compilation. T _{1/2} : from recommended B(E2) \uparrow =0.758 26 (2016Pr01 evaluation), based on the following measurements: RDDS measurements, mean lifetime τ =41.5 ps 8 (2005Go43), 37.7 ps 30 (1990He04), 36 ps 1 (1984Wo10) and 35 ps 3 (1982Ke01). B(E2) \uparrow =0.721 10 (2007Cl02), Coul. ex. with incident energy above Coulomb barrier). Other: τ =53 ps 7 (1974No08) from RDDS seems discrepant.
769.94 ^k 9	0 ⁺	42 ps 6	A FG I	XREF: F(?). J ^π : (346 γ)(424 γ)(θ) in ^{76}Br ε decay (1978LiZU). Also L=0 in (p,t). T _{1/2} : from $\beta\gamma(t)$ in ^{76}Rb ε decay. Other: 47.3 ps 17 (2007Cl02), Coulomb excitation using GOSIA analysis.
1034.75 ^{&} 9	4 ⁺	2.72 ps 17	A CDEFG I	Q=-1.7 3 (2007Cl02) B(E2)(from 424,2 ⁺)=0.444 6 (2007Cl02 from Coulomb excitation). J ^π : $\Delta J=2$, E2 γ to 2 ⁺ ; rotational band member.

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Adopted Levels, Gammas (continued) **^{76}Kr Levels (continued)**

E(level) [†]	J ^π #	T _{1/2} [‡]	XREF	Comments
1221.72 ^c 7	2 ⁺	1.11 ps 7	A CDEFGHI	T _{1/2} : weighted average of 3.05 ps 14 (2007CI02), Coulomb excitation, free fit analysis by GOSIA code), 2.54 ps 6 (RDDS, 2005Go43), 2.08 ps 21 (RDDS, 1998Sk01), 3.4 ps 3 (RDDS, 1984Wo10); 3.5 ps 14 (DSA, 1982Pi01); 2.9 ps 7 (RDDS, 1982WiZS), uncertainty in 2005Go43 was increased to 5%. Others: 5.7 ps 16 (RDDS, 1974No08) seems discrepant; and 4.30 ps 14 (RDDS, 1982Ke01) is effective half-life. Q: from Coulomb excitation (2007CI02). No value is given in 2021StZZ compilation. J ^π : L(p,t)=2 from 0 ⁺ .
1598.07 8	(0) ⁺	<4.7 [@] ps	A	T _{1/2} : from Coulomb excitation using GOSIA analysis (2007CI02). Other: ≈1 ps (RDDS, 1982Ke01). Q: from Coulomb excitation (2007CI02). No value is given in 2021StZZ compilation.
1687.32 ^k 8	2 ⁺	0.326 ps 35	A FGH	J ^π : E2 γ to 2 ⁺ ; possible 828-keV E0 transition to 0 ⁺ . Q=+1.0 4 (2007CI02) J ^π : L(p,t)=2 from 0 ⁺ . T _{1/2} : from Coulomb excitation using GOSIA analysis (2007CI02). Q: from Coulomb excitation (2007CI02). Other: <4.8 ps from βγ(t) in ε decay. No value is given in 2021StZZ compilation.
1733.26 ^d 10	3 ⁺	≈1 ps	A DEF	J ^π : ΔJ=1, M1+E2 γ to 2 ⁺ , M1,E2 γ to 4 ⁺ . T _{1/2} : from RDDS (1982Ke01).
1859.7 ^{&} 4	6 ⁺	0.72 ps 8	DEF I	Q=−2.0 3 (2007CI02) J ^π : ΔJ=2, E2 γ to 4 ⁺ ; member of rotational band. T _{1/2} : weighted average (NRM) of 0.67 ps 20 (RDDS, 2005Go43); 0.55 ps 21 (RDDS, 1998Sk01); 0.82 ps 9 (DSA, 1989Gr21); 1.04 ps 14 (RDDS, 1984Wo10); 0.87 ps 8 (DSA, 1982Pi01); 0.55 ps 14 (RDDS, 1982WiZS); and 0.568 ps 35 (2007CI02 , Coulomb excitation, free fit analysis by GOSIA code). Q: from Coulomb excitation (2007CI02). J ^π : ΔJ=2, E2 γ to 2 ⁺ ; ΔJ=1, M1+E2 γ to 4 ⁺ . T _{1/2} : from Coul. ex. (2007CI02) using GOSIA analysis. Other: <0.90 ps 28 (effective half-life from DSAM in (¹² C,2ny), 1982Pi01).
1957.4 ^c 3	4 ⁺	0.90 ps 14	CDEF I	J ^π : 1321.6γ M1,E2 to 0 ⁺ ; L(p,t)=(2,3,4) for a 2079 15 group would support 2 ⁺ . T _{1/2} : from Coul. ex. (2007CI02) using GOSIA analysis. Other: <0.90 ps 28 (effective half-life from DSAM in (¹² C,2ny), 1982Pi01).
2091.49 10	(2) ⁺	<34 [@] ps	A GH	J ^π : 1321.6γ M1,E2 to 0 ⁺ ; L(p,t)=(2,3,4) for a 2079 15 group would support 2 ⁺ . J ^π : E1 γ to 0 ⁺ . J ^π : 2140.5γ to 0 ⁺ .
2104.33 9	1 ⁻	16 [@] ps 5	A	J ^π : E1 γ to 0 ⁺ .
2140.17 16	(1,2 ⁺)		A	J ^π : 2140.5γ to 0 ⁺ .
2192.50 12			A	
2227.27 ^g 9	2 ⁻	25 [@] ps 6	A DEF	J ^π : log f _t =6.2 from 1 ⁻ ; E1(+M2) γ to 2 ⁺ ; 493.8γ to 3 ⁺ can only be D,E2 from RUL.
2257.55 ^h 9	3 ⁻	<5.7 [@] ps	A CDEFG	J ^π : L(p,t)=3 from 0 ⁺ . J ^π : 2333.2γ to 0 ⁺ ; 1270.1γ M1,E2 from 1 ⁻ .
2332.70 16	(1 ⁻)		A	
2452.4 ^d 4	5 ⁺	<1.04 ps	DEF	T _{1/2} : effective half-life=0.76 ps 28 from DSAM in (¹² C,2ny) (1982Pi01). J ^π : ΔJ=1, M1+E2 γ to 4 ⁺ ; ΔJ=2, E2 γ to 3 ⁺ .
2571.01 8	1 ⁻	16 [@] ps 4	A	J ^π : 973.0γ E1 to 0 ⁺ .
2581.12 10	(2 ⁺)		A	J ^π : γs to 4 ⁺ and 2 ⁺ ; possible β feeding from 1 ⁻ parent.
2601 15	(3 ⁻ ,4 ⁺)		G	J ^π : L(p,t)=(3,4) from 0 ⁺ .
2622.0 ^g 4	4 ⁽⁻⁾		DEF	J ^π : ΔJ=2, quadrupole γ to 2 ⁻ ; ΔJ=1, dipole γs to 4 ⁺ and 3 ⁺ ; band assignment.
2683.7 ^h 5	(5 ⁻)		DEF	J ^π : ΔJ=1 γ to 4 ⁺ ; band assignment.
2700.16 13	2 ⁺	<27 [@] ps	A G	J ^π : L(p,t)=2 from 0 ⁺ .

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Adopted Levels, Gammas (continued) **^{76}Kr Levels (continued)**

E(level) [†]	J ^π #	T _{1/2} [‡]	XREF	Comments
2742.20 ⁱ 21	(4 ⁻)		A DE	J ^π : $\gamma \Delta J=1$ to 3 ⁺ ; band assignment.
2763.2 ^c 5	(6 ⁺)		DEF I	
2774.94 12	0 ^{+,1,2}	22 [@] ps 10	A	J ^π : log ft=6.4 from 1 ⁻ ; 1553.2 γ to 2 ⁺ can only be D,E2 from RUL.
2816.57 18	(1,2 ⁺)	<13 [@] ps	A	J ^π : 2046.5 γ to 0 ⁺ .
2845.1 ^a 5	(4 ⁺)		DE	
2872 15	3 ⁻		G	J ^π : L(p,t)=3 from 0 ⁺ .
2879.4 ^{&} 5	8 ⁺	0.21 ps 2	DEF I	J ^π : $\Delta J=2$, E2 γ to 6 ⁺ ; member of rotaional band. T _{1/2} : weighted average of 0.23 ps 2 (DSA, 1989Gr21); 0.208 ps 21 (DSA, 1982Pi01); 0.22 ps 3 (RDDS, 1982WiZS); 0.173 ps 21 (from Coul. ex. using GOSIA analysis, 2007Cl02). Other: 0.31 ps 5 (DSA, 1984Wo10 , effective half-life).
2926.59 12	0 ^{-,1^-,2^-}	21 [@] ps 5	A	J ^π : allowed ε decay (log ft=5.8) from 1 ⁻ ; 822.2 γ M1 to 1 ⁻ .
2944.4 ^j 6	(5 ⁻)		DE	
2970.1 3	(0 ^{+,1,2})	<39 [@] ps	A	J ^π : 2546 γ to 2 ⁺ ; possible ε feeding from 1 ⁻ parent.
3024.42 9	(2) ⁻	18 [@] ps 6	A	J ^π : 766.7 γ M1,E2 to 3 ⁻ ; strong ε feeding (log ft=5.9) from 1 ⁻ ; 1291.3 γ to 3 ⁺ .
3096.1 ^b 5	5 ⁽⁺⁾		DE	J ^π : 1236 γ D+Q to 6 ⁺ , 2062 γ D to 4 ⁺ ; band assignment.
3175.2 ^g 5	6 ⁽⁻⁾		DEF	J ^π : 553.1 γ Q, $\Delta J=2$ to 4 ⁽⁻⁾ ; 723.5 γ D, $\Delta J=1$ to 5 ⁺ ; band assignment.
3242.1 3	(1,2 ⁺)	<23 [@] ps	A G	J ^π : ε feeding from 1 ⁻ (log ft=6.5); 3242.3 γ to 0 ⁺ .
3275.90 21	(1 ^{+,2})		A	J ^π : possible ε feeding from 1 ⁻ (log ft=6.9); γ to 3 ⁺ .
3288.4 ^h 5	(7 ⁻)	1.80 ps +76–44	DEF	J ^π : $\Delta J=2$, E2 γ to (5 ⁻) and $\Delta J=1$ γ to 6 ⁺ ; T _{1/2} : from DSAM in (²⁸ Si,p2ny) (1999Mu21) (See (¹² C,2ny) dataset). Other: 0.256 ps 42 (DSAM, 1982Pi01).
3296.3 ⁱ 7	6 ⁽⁻⁾		DE	J ^π : 675 γ Q, $\Delta J=2$ to 4 ⁽⁻⁾ ; 1436 γ D to 6 ⁺ ; band assignment.
3332.7 ^d 6	7 ⁺	<0.92 ps	DEF	J ^π : 879.9 γ E2, $\Delta J=2$ to 5 ⁺ ; 1474 γ D+Q to 6 ⁺ . T _{1/2} : effective half-life=0.71 ps 21 from DSAM in (¹² C,2ny) (1982Pi01).
3406.2 ^a 6	(6 ⁺)		DE	
3421.6 5	(0 ^{+,1,2})	<24 [@] ps	A	J ^π : possible ε feedig from 1 ⁻ (log ft=7.1); γ to 2 ⁺ .
3456.1 5	(0 ^{-,1,2})		A G	J ^π : possible ε feedig from 1 ⁻ (log ft=7.2); γ to 2 ⁻ .
3571.2 ^c 8	(8 ⁺)		DEF	
3573.8 ^j 7	(7 ⁻)		DE	
3602.81 13	1 ⁻	<9.7 [@] ps	A	J ^π : E1 γ to 0 ⁺ .
3636.3 3	1,2 ⁽⁺⁾		A G	J ^π : ε feeding from 1 ⁻ (log ft=6.4); γ to 0 ⁺ .
3672.24 22	(0,1,2)		A	J ^π : possible ε feeding from 1 ⁻ (log ft=6.8).
3781.9 ^b 8	7 ⁽⁺⁾		DE	J ^π : 686 γ Q, $\Delta J=2$ to 5 ⁽⁺⁾ ; 376 γ D, $\Delta J=1$ to 6 ⁺ ; band assignment.
3900.9 ^g 8	8 ⁽⁻⁾	1.12 ps +28–19	DEF	J ^π : E2, $\Delta J=2$ γ to 6 ⁽⁻⁾ ; 568 γ D, $\Delta J=1$ to 7 ⁺ .
3978.0 3	1,2 ⁽⁺⁾	<17 [@] ps	A G	J ^π : ε feeding from 1 ⁻ (log ft=6.4); 3978.2 γ to 0 ⁺ .
3986.6 3	1,2 ⁽⁺⁾	27 [@] ps 18	A	J ^π : ε feeding from 1 ⁻ (log ft=6.3); 3216.3 γ to 0 ⁺ .
4026.72 17	1,2 ⁽⁺⁾	<17 [@] ps	A	J ^π : ε feeding from 1 ⁻ (log ft=6.1); γs to 0 ⁺ .
4068.4 ^{&} 11	10 ⁺	0.102 ps 14	DEF I	J ^π : $\Delta J=2$, E2 γ to 8 ⁺ ; member of rotational band. T _{1/2} : from DSA method. Weighted average of 0.097 ps 14 (1982Pi01); 0.12 ps 3 (1982WiZS); 0.104 ps 21 (Coul. ex. using GOSIA analysis, 2007Cl02). Others (effective half-lives): 0.56 ps 11 (1989Gr21), 0.14 ps 4 (1984Wo10).
4072.8 ^h 6	(9 ⁻)	0.56 ps +9–8	DEF	T _{1/2} : from DSAM in (²⁸ Si,p2ny) (1999Mu21) (See (¹² C,2ny) dataset). Other: 0.35 ps 8 (effective half-life, and 0.111 ps 42 from gating above, both from DSAM in (¹² C,2ny), 1982Pi01).
4097.75 20	1,2 ⁽⁺⁾	<18 [@] ps	A	J ^π : ε feeding from 1 ⁻ (log ft=6.0); 3327.6 γ to 0 ⁺ .

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Adopted Levels, Gammas (continued) **^{76}Kr Levels (continued)**

E(level) [†]	J ^π #	T _{1/2} [‡]	XREF	Comments
4118.3 ⁱ 12	(8 ⁻)		DE	
4217.8 ^a 9	(8 ⁺)		DE	
4289.42 22	(0,1,2) ⁻		A	J^π : ε feeding from 1 ⁻ ($\log ft=5.8$); 686.5 γ M1,E2 to 1 ⁻ .
4380.1 ^d 8	(9 ⁺)		D	
4403.7 12	(9 ⁺)	<0.36 ps	F	E(level): this level is only from (¹² C,2n γ),(²⁴ Mg, α 2p γ) (1982Pi01 , 1989Gr21). It is not reported in more recent studies with high statistics: ⁵⁴ Fe(²⁸ Si, α 2p γ) (1996Do07) and ⁴⁰ Ca(⁴⁰ Ca,4p γ) (2005Va09). T _{1/2} : effective half-life=0.29 ps 7 from DSAM in (¹² C,2n γ) (1982Pi01).
4433.8 ^c 9	(10 ⁺)		DE	
4469.8 ^j 9	(9 ⁻)		DE	
4700.5 ^b 10	(9 ⁺)		DE	
4806.4 ^g 10	(10 ⁻)	0.55 ps +12–16	DEF	
5051.3 ^h 9	(11 ⁻)	0.163 ps 27	DEF	T _{1/2} : from DSAM in (¹² C,2n γ); weighted average of 0.180 ps +35–28 (1999Mu21) and 0.12 ps 5 (1982Pi01).
5106.3 ⁱ 16	(10 ⁻)		DE	
5240.5 ^a 11	10 ⁽⁺⁾		DE	
5348.4 ^{&} 15	12 ⁺	<0.20 ps	DEF	J^π : member of rotational band. T _{1/2} : effective half-life=0.166 ps 35 from DSAM in (¹² C,2n γ) (1982Pi01).
5528.8 ^j 14	(11 ⁻)		DE	
5566.8 ^c 14	(12 ⁺)		D	
5589.1 ^d 13	(11 ⁺)		D	
5795.7 ^b 12	11 ⁽⁺⁾		D	
5873.1 ^g 11	(12 ⁻)	0.173 ps +35–28	DEF	
6218.3 ⁱ 19	(12 ⁻)		DE	
6222.3 ^h 13	(13 ⁻)	0.090 ps 28	DEF	T _{1/2} : from DSAM in (²⁸ Si,p2n γ) (1999Mu21) (See (¹² C,2n γ) dataset). Other: 0.24 ps 6 (effective half-life from DSAM in (¹² C,2n γ), 1982Pi01).
6390.2 ^a 13	(12 ⁺)		D	
6605.4 ^e 18	(12 ⁺)		D	
6650.4 ^{&} 18	14 ⁺		DEF	J^π : $\Delta J=2$ γ to 12 ⁺ ; member of rotational band.
6681.8 ^j 17	(13 ⁻)		DE	
6937.1 ^d 17	(13 ⁺)		D	
7032.4 ^b 14	(13 ⁺)		D	
7034.9 ^c 17	(14 ⁺)		D	
7110.1 ^g 15	(14 ⁻)	<0.19 ps	DEF	
7435.3 ⁱ 21	(14 ⁻)		D	
7554.3 ^a 15	(14 ⁺)		D	
7583.3 ^h 17	(15 ⁻)	<0.14 ps	DEF	
7606.4 ^e 21	(14 ⁺)		D	
7870.9 ^j 20	(15 ⁻)		D	
8000.4 ^{&} 21	16 ⁺		DEF	J^π : $\Delta J=2$ γ to 14 ⁺ ; member of rotational band.
8432.1 ^d 19	(15 ⁺)		D	
8521.1 ^g 18	(16 ⁻)		DEF	
8666.9 ^c 20	(16 ⁺)		D	
8717.4 ⁱ 24	(16 ⁻)		D	
8798.5 ^e 23	(16 ⁺)		D	

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Adopted Levels, Gammas (continued) **^{76}Kr Levels (continued)**

E(level) [†]	J ^π #	XREF	Comments
8829.3 ^a 18	(16 ⁺)	D	
9117.4 ^b 20	(17 ⁻)	DEF	
9217.9 ^j 22	(17 ⁻)	D	
9400.5 ^{&} 23	18 ⁺	DEF	J ^π : E2, ΔJ=2 γ to 16 ⁺ ; member of rotational band.
10050.1 ^d 22	(17 ⁺)	D	
10059.1 ^g 21	(18 ⁻)	DEF	
10135 ⁱ 3	(18 ⁻)	D	
10139.5 ^e 25	(18 ⁺)	D	
10470.9 ^c 22	(18 ⁺)	D	
10640.4 ^b 22	(19 ⁻)	D F	
10773.9 ^j 24	(19 ⁻)	D	
10936.5 ^{&} 25	20 ⁺	D F	J ^π : E2, ΔJ=2 γ to 18 ⁺ ; member of rotational band.
11655.1 ^g 23	(20 ⁻)	D F	
11664 ^e 3	(20 ⁺)	D	
11719 ⁱ 3	(20 ⁻)	D	
11785.1 ^d 24	(19 ⁺)	D	
12254.4 ^b 24	(21 ⁻)	D F	
12397.9 ^c 24	(20 ⁺)	D	
12493 ^j 3	(21 ⁻)	D	
12695 ^{&} 3	22 ⁺	D F	J ^π : E2, ΔJ=2 γ to 20 ⁺ ; member of rotational band.
13352.1 ^g 25	(22 ⁻)	D F	
13388 ^e 3	(22 ⁺)	D	
13500 ⁱ 3	(22 ⁻)	D	
13613 ^d 3	(21 ⁺)	D	
14026 ^b 3	(23 ⁻)	D	
14440 ^j 3	(23 ⁻)	D	
14751 ^{&} 3	24 ⁺	D F	J ^π : E2, ΔJ=2 γ to 22 ⁺ ; member of rotational band.
15225 ^g 3	(24 ⁻)	D	
15346 ^e 3	(24 ⁺)	D	
15503 ⁱ 3	(24 ⁻)	D	
16009 ^b 3	(25 ⁻)	D	
16650 ^j 3	(25 ⁻)	D	
17157 ^{&} 3	26 ⁺	D	J ^π : E2, ΔJ=2 γ to 24 ⁺ ; member of rotational band.
17327 ^g 3	(26 ⁻)	D	
17550 ^e 4	(26 ⁺)	D	
17859 ⁱ 4	(26 ⁻)	D	
18256 ^b 3	(27 ⁻)	D	
19172 ^j 4	(27 ⁻)	D	
19741 ^g 3	(28 ⁻)	D	
19950 ^{&} 4	28 ⁺	D	J ^π : E2, ΔJ=2 γ to 26 ⁺ ; member of rotational band.
20045 ^e 4	(28 ⁺)	D	
20538 ⁱ 4	(28 ⁻)	D	
20815 ^b 4	(29 ⁻)	D	
22583 ^g 4	(30 ⁻)	D	
22790 ^e 4	(30 ⁺)	D	
23157 ^{&} 4	(30 ⁺)	D	J ^π : possible member of rotaional band.
23742 ^b 4	(31 ⁻)	D	

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Adopted Levels, Gammas (continued) **^{76}Kr Levels (continued)**

E(level) [†]	J ^{π#}	XREF	E(level) [†]	J ^{π#}	XREF
25868 ^g 4	(32 ⁻)	D	4847.0+x ^f 20	(19 ⁺)	D
27083 ^h 4	(33 ⁻)	D	6472.1+x ^f 23	(21 ⁺)	D
x ^f	(11 ⁺)	D	8309.1+x ^f 25	(23 ⁺)	D
966.0+x ^f 10	(13 ⁺)	D	10382+x ^f 3	(25 ⁺)	D
2097.0+x ^f 15	(15 ⁺)	D	12696+x ^f 3	(27 ⁺)	D
3390.0+x ^f 18	(17 ⁺)	D	15234+x ^f 3	(29 ⁺)	D

[†] From a least squares fit to Eγ data.[‡] From DSAM data in ($^{28}\text{Si},\text{p}2\gamma$) ([1999Mu21](#)) (see ($^{12}\text{C},2\gamma$) dataset), unless otherwise stated.[#] For low-spin (J<4), assignments are from ^{76}Rb ε decay based on transition multipolarities, log ft values, and decay pattern. For high-spin (J≥4) levels, assignments are based on transition multipolarities from $\gamma(\theta)$ and $\gamma\gamma(\theta)$ (DCO) values, and band structures.[@] From $\beta\gamma(t)$ data in ^{76}Rb ε decay.[&] Band(A): g.s. band. Terminating state at 30⁺ is proposed ([2005Va09](#)) with configuration= $\pi[((g_{9/2})^2_8)((f_{5/2},p_{3/2})^6_6)]_{14}$ $\otimes\nu[((g_{9/2})^4_{12})((f_{5/2},p_{3/2})^8_4)]_{16}$ and for 26⁺ state: $\pi[((g_{9/2})^2_8)((f_{5/2},p_{3/2})^6_4)]_{12} \otimes\nu[((g_{9/2})^4_{12})((f_{5/2},p_{3/2})^8_2)]_{14}$.Q(transition) decreases from 2.3 to 1.8 from 18⁺ to 30⁺. Band crossings are attributed to alignments of pairs of g_{9/2} protons and neutrons ([1989Gr21](#)). Q(intrinsic)=2.90 4 ([1989Gr21](#)).^a Band(B): Band based on 4^{+,α=0}.^b Band(b): Band based on 5^{+,α=1}.^c Band(C): Band based on 2^{+,α=0}.^d Band(c): Band based on 3^{+,α=1}.^e Band(D): Band based on 12^{+,α=0}.^f Band(d): Band based on 11^{+,α=1}.^g Band(E): $\pi3/2[431]\otimes\pi3/2[312],\alpha=0$. Q(transition) decreases from 2.6 to 1.8 from 16⁻ to 30⁻. Terminating state at 32⁻ is proposed ([2005Va09](#)) with configuration= $\pi[((g_{9/2})^3_{21/2})((f_{5/2},p_{3/2})^5_{11/2})]_{16} \otimes\nu[((g_{9/2})^4_{12})((f_{5/2},p_{3/2})^6_4)]_{16}$.^h Band(e): $\pi3/2[431]\otimes\pi3/2[312],\alpha=1$. Q(transition) decreases from 2.9 to 2.2 from 17⁻ to 31⁻.ⁱ Band(F): $\nu3/2[301]\otimes\nu5/2[422],\alpha=0$.^j Band(f): $\nu3/2[301]\otimes\nu5/2[422],\alpha=1$.^k Band(G): Band based on 770, 0⁺.

Adopted Levels, Gammas (continued) $\gamma(^{76}\text{Kr})$

Additional information 2.

$E_i(\text{level})$	J_i^π	E_γ^\dagger	$I_\gamma^\#$	E_f	J_f^π	Mult.&	$\delta^\&$	α^\ddagger	$I_{(\gamma+ce)}$	Comments
424.05	2 ⁺	424.0 1	100	0.0	0 ⁺	E2		0.00535 8		B(E2)(W.u.)=79.3 +30–28 $\alpha(K)=0.00473$ 7; $\alpha(L)=0.000529$ 7; $\alpha(M)=8.55\times 10^{-5}$ 12 $\alpha(N)=8.46\times 10^{-6}$ 12
769.94	0 ⁺	345.9 1	100 [@] 3	424.05	2 ⁺	E2		0.01045 15		B(E2)(W.u.)=141 +24–18 $\alpha(K)=0.00922$ 13; $\alpha(L)=0.001049$ 15; $\alpha(M)=0.0001696$ 24 $\alpha(N)=1.666\times 10^{-5}$ 23
		770		0.0	0 ⁺	(E0)			0.26	$\rho^2(E_0^0 \rightarrow 0^+) = 0.079$ 11; $X(E0/E2) = 0.020$ 1 (2005Gi17). $q_K^2(E0/E2) = 0.203$ 8, $X(E0/E2) = 0.0188$ 12, $\rho^2(E0) = 0.077$ 12 (2022Ki03 evaluation).
1034.75	4 ⁺	610.6 1	100	424.05	2 ⁺	E2		1.77×10^{-3} 3		B(E2)(W.u.)=128.0 +86–75 $\alpha(K)=0.001570$ 22; $\alpha(L)=0.0001716$ 24; $\alpha(M)=2.78\times 10^{-5}$ 4 $\alpha(N)=2.77\times 10^{-6}$ 4
1221.72	2 ⁺	797.6 1	100 [@] 3	424.05	2 ⁺	M1+E2	+0.2 1	0.000755 12		B(M1)(W.u.)=0.0222 17; B(E2)(W.u.)=1.9 +22–14 $\alpha(K)=0.000671$ 10; $\alpha(L)=7.12\times 10^{-5}$ 11; $\alpha(M)=1.153\times 10^{-5}$ 18 $\alpha(N)=1.168\times 10^{-6}$ 18
		1221.6 1	69 [@] 4	0.0	0 ⁺	E2		0.000328 5		Mult., δ : from ce data in ^{76}Rb ε decay and $\gamma(\theta)$ in ($^{12}\text{C},2\text{n}\gamma$) Large M1 component seems inconsistent with systematics of δ values for second 2 ⁺ to first 2 ⁺ transitions. B(E2)(W.u.)=4.00 +31–28 $\alpha(K)=0.000281$ 4; $\alpha(L)=2.98\times 10^{-5}$ 4; $\alpha(M)=4.82\times 10^{-6}$ 7 $\alpha(N)=4.87\times 10^{-7}$ 7; $\alpha(IPF)=1.163\times 10^{-5}$ 16
1598.07	(0) ⁺	376.4 1	8.1 [@] 4	1221.72	2 ⁺	E2		0.00788 11		B(E2)(W.u.)>58 $\alpha(K)=0.00696$ 10; $\alpha(L)=0.000786$ 11; $\alpha(M)=0.0001271$ 18 $\alpha(N)=1.252\times 10^{-5}$ 18
		828		769.94	0 ⁺	(E0)			0.0039	$q_K^2(E0/E2)=0.11$ 2, $X(E0/E2)=0.140$ 26, $\rho^2(E0)<0.60$ (2022Ki03 evaluation).
		1174.0 1	100 3	424.05	2 ⁺	E2		0.000350 5		B(E2)(W.u.)>2.6

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult.&	$\delta^&$	α^\dagger	Comments
8	1687.32	2+	466.0 3	4.6@ 16	1221.72 2+	[M1,E2]		0.0032 7	$\alpha(K)=0.000306\ 4; \alpha(L)=3.25\times 10^{-5}\ 5; \alpha(M)=5.26\times 10^{-6}\ 7$ $\alpha(N)=5.31\times 10^{-7}\ 7; \alpha(IPF)=5.02\times 10^{-6}\ 7$
		652.6 1	9.2@ 3	1034.75 4+	[E2]		$1.47\times 10^{-3}\ 2$	0.0001303 18	$\alpha(K)=0.0001303\ 18; \alpha(L)=0.0001419\ 20; \alpha(M)=2.296\times 10^{-5}\ 32$ $\alpha(N)=2.297\times 10^{-6}\ 32$ $B(E2)(W.u.)=43.1\ +57-47$
		917.4 1	100@ 6	769.94 0+	[E2]		0.000608 9	0.000540 8	$\alpha(K)=0.000540\ 8; \alpha(L)=5.79\times 10^{-5}\ 8; \alpha(M)=9.37\times 10^{-6}\ 13$ $\alpha(N)=9.42\times 10^{-7}\ 13$ $B(E2)(W.u.)=85\ +10-9$
		1263.2 2	21.2@ 7	424.05 2+	M1,E2		0.000308 7	0.000258 5	$\alpha(K)=0.000258\ 5; \alpha(L)=2.73\times 10^{-5}\ 6; \alpha(M)=4.42\times 10^{-6}\ 9$ $\alpha(N)=4.47\times 10^{-7}\ 9; \alpha(IPF)=1.73\times 10^{-5}\ 23$ $B(M1)(W.u.)=0.00433\ +57-47$ if M1, $B(E2)(W.u.)=3.65\ +48-40$ if E2.
		1687.1 2	28.8@ 10	0.0 0+	[E2]		0.000327 5	0.0001454 20	$\alpha(K)=0.0001454\ 20; \alpha(L)=1.531\times 10^{-5}\ 21; \alpha(M)=2.476\times 10^{-6}\ 35$ $\alpha(N)=2.506\times 10^{-7}\ 35; \alpha(IPF)=0.0001633\ 23$ $B(E2)(W.u.)=1.17\ +15-13$
		1733.26	3+	511.6 2	20@ 12	1221.72 2+	[M1,E2]	0.0025 5	$\alpha(K)=0.0022\ 4; \alpha(L)=0.00024\ 5; \alpha(M)=3.9\times 10^{-5}\ 8$ $\alpha(N)=3.9\times 10^{-6}\ 8$ $B(M1)(W.u.)\approx 0.026$ if M1, $B(E2)(W.u.)\approx 1.3\times 10^2$ if E2.
		698.4 1	8.7@ 8	1034.75 4+	M1,E2		0.00111 11	0.00099 10	$\alpha(K)=0.00099\ 10; \alpha(L)=0.000106\ 11; \alpha(M)=1.72\times 10^{-5}\ 18$ $\alpha(N)=1.73\times 10^{-6}\ 18$ I $_\gamma$: 18.2 in $^{40}\text{Ca}({}^{40}\text{Ca},4\gamma\gamma)$. $B(M1)(W.u.)\approx 0.0044$ if M1, $B(E2)(W.u.)\approx 12$ if E2.
		1309.3 1	100 4	424.05 2+	M1+E2	+0.38 4	0.000292 4	0.0002381 33	$B(M1)(W.u.)\approx 0.0067; B(E2)(W.u.)\approx 0.75$ $\alpha(K)=0.0002381\ 33; \alpha(L)=2.508\times 10^{-5}\ 35; \alpha(M)=4.06\times 10^{-6}\ 6$ $\alpha(N)=4.11\times 10^{-7}\ 6; \alpha(IPF)=2.39\times 10^{-5}\ 4$ $B(E2)(W.u.)=108\ +14-11$
		1859.7	6+	824.4 7	100	1034.75 4+	E2	0.000792 11	$\alpha(K)=0.000703\ 10; \alpha(L)=7.57\times 10^{-5}\ 11; \alpha(M)=1.225\times 10^{-5}\ 17$ $\alpha(N)=1.230\times 10^{-6}\ 17$ $B(E2)(W.u.)=46.6\ +99-75$
		1957.4	4+	736.0 5	57 6	1221.72 2+	E2	$1.06\times 10^{-3}\ 2$	$\alpha(K)=0.000942\ 13; \alpha(L)=0.0001019\ 14; \alpha(M)=1.649\times 10^{-5}\ 23$ $\alpha(N)=1.654\times 10^{-6}\ 23$ I $_\gamma$: 81.6 in $^{40}\text{Ca}({}^{40}\text{Ca},4\gamma\gamma)$. $B(M1)(W.u.)=0.0098\ +20-15; B(E2)(W.u.)=10.9\ +22-18$
		922.6 5	100 10	1034.75 4+	M1+E2	-0.84 5	0.000570 8		

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J^π_i	E_γ^\ddagger	$I_\gamma^\#$	E_f	J^π_f	Mult. &	α^\dagger	Comments
1957.4	4 ⁺	1532.9 5	29 3	424.05 2 ⁺	[E2]	0.000295 4		$\alpha(K)=0.000507\ 7; \alpha(L)=5.39\times 10^{-5}\ 8; \alpha(M)=8.73\times 10^{-6}\ 13$ $\alpha(N)=8.81\times 10^{-7}\ 13$ B(E2)(W.u.)=0.61 +14-10 $\alpha(K)=0.0001755\ 25; \alpha(L)=1.851\times 10^{-5}\ 26; \alpha(M)=2.99\times 10^{-6}\ 4$ $\alpha(N)=3.03\times 10^{-7}\ 4; \alpha(IPF)=9.75\times 10^{-5}\ 14$
2091.49	(2) ⁺	403.9 3	20.7 [@] 11	1687.32 2 ⁺	[M1,E2]	0.0049 14		$\alpha(K)=0.0043\ 12; \alpha(L)=4.8\times 10^{-4}\ 14; \alpha(M)=7.8\times 10^{-5}\ 23$ $\alpha(N)=7.7\times 10^{-6}\ 22$ B(M1)(W.u.)>8.7\times 10^{-4} if M1, B(E2)(W.u.)>7.2 if E2.
	493.4 1	14 [@] 5		1598.07 (0) ⁺	[E2]	0.00333 5		$\alpha(K)=0.00294\ 4; \alpha(L)=0.000326\ 5; \alpha(M)=5.27\times 10^{-5}\ 7$ $\alpha(N)=5.24\times 10^{-6}\ 7$ B(E2)(W.u.)>1.3
	870 ^a			1221.72 2 ⁺	M1,E2	0.00066 4		$\alpha(K)=0.000584\ 32; \alpha(L)=6.2\times 10^{-5}\ 4; \alpha(M)=1.01\times 10^{-5}\ 6$ $\alpha(N)=1.02\times 10^{-6}\ 6$
	1321.6 3	100 [@] 3		769.94 0 ⁺	(E2)	0.000300 4		B(E2)(W.u.)>0.096 $\alpha(K)=0.0002376\ 33; \alpha(L)=2.515\times 10^{-5}\ 35; \alpha(M)=4.07\times 10^{-6}\ 6$ $\alpha(N)=4.11\times 10^{-7}\ 6; \alpha(IPF)=3.27\times 10^{-5}\ 5$ Mult.: $\alpha(K)$ exp from 2005Gi17 in ^{76}Rb ε decay gives M1,E2; ΔJ^π requires E2.
	1667.6 3	78.7 [@] 6		424.05 2 ⁺	[M1,E2]	0.000308 15		$\alpha(K)=0.0001484\ 21; \alpha(L)=1.560\times 10^{-5}\ 23; \alpha(M)=2.52\times 10^{-6}\ 4$ $\alpha(N)=2.56\times 10^{-7}\ 4; \alpha(IPF)=0.000141\ 14$ B(M1)(W.u.)>4.9\times 10^{-5} if M1, B(E2)(W.u.)>0.024 if E2.
2104.33	1 ⁻	417.1 1	2.0 2	1687.32 2 ⁺	[E1]	$1.53\times 10^{-3}\ 2$		$\alpha(K)=0.001362\ 19; \alpha(L)=0.0001447\ 20; \alpha(M)=2.338\times 10^{-5}\ 33$ $\alpha(N)=2.349\times 10^{-6}\ 33$ B(E1)(W.u.)=4.2\times 10^{-6} +20-11
	506.0 9	7 3		1598.07 (0) ⁺	[E1]	0.000944 14		$\alpha(K)=0.000839\ 12; \alpha(L)=8.89\times 10^{-5}\ 13; \alpha(M)=1.437\times 10^{-5}\ 21$ $\alpha(N)=1.446\times 10^{-6}\ 21$ B(E1)(W.u.)=8.3\times 10^{-6} +55-36
	882.4 2	22 5		1221.72 2 ⁺	[E1]	0.000273 4		$\alpha(K)=0.0002430\ 34; \alpha(L)=2.56\times 10^{-5}\ 4; \alpha(M)=4.13\times 10^{-6}\ 6$ $\alpha(N)=4.17\times 10^{-7}\ 6$ B(E1)(W.u.)=4.9\times 10^{-6} +25-15
	1334.4 3	6.3 23		769.94 0 ⁺	[E1]	0.000261 4		$\alpha(K)=0.0001124\ 16; \alpha(L)=1.177\times 10^{-5}\ 16; \alpha(M)=1.902\times 10^{-6}\ 27$ $\alpha(N)=1.926\times 10^{-7}\ 27; \alpha(IPF)=0.0001343\ 19$ B(E1)(W.u.)=4.1\times 10^{-7} +25-17
	1680.3 2	100 5		424.05 2 ⁺	E1	0.000478 7		B(E1)(W.u.)=3.2\times 10^{-6} +15-8 $\alpha(K)=7.68\times 10^{-5}\ 11; \alpha(L)=8.01\times 10^{-6}\ 11; \alpha(M)=1.295\times 10^{-6}\ 18$ $\alpha(N)=1.312\times 10^{-7}\ 18; \alpha(IPF)=0.000391\ 5$
	2104.3 5	16.0 5		0.0 0 ⁺	[E1]	0.000761 11		B(E1)(W.u.)=2.6\times 10^{-7} +12-7

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^{\ddagger}	$I_\gamma^{\#}$	E_f	J_f^π	Mult. ^{&}	$\delta^{\&}$	α^{\dagger}	Comments
2140.17	(1,2 ⁺)	918.5 7	100 33	1221.72	2 ⁺				$\alpha(K)=5.43\times 10^{-5}$ 8; $\alpha(L)=5.66\times 10^{-6}$ 8; $\alpha(M)=9.14\times 10^{-7}$ 13 $\alpha(N)=9.27\times 10^{-8}$ 13; $\alpha(IPF)=0.000700$ 10
2192.50		2140.5 2	26 3		0.0 0 ⁺				
2227.27	2 ⁻	1768.4 2	100	424.05	2 ⁺				
		493.8 7	6.4 @ 18	1733.26	3 ⁺	[E1]		1.00×10^{-3} 1	$\alpha(K)=0.000890$ 13; $\alpha(L)=9.44\times 10^{-5}$ 14; $\alpha(M)=1.526\times 10^{-5}$ 22 $\alpha(N)=1.535\times 10^{-6}$ 22 $B(E1)(W.u.)=6.3\times 10^{-6}$ +26-21
		540.0 1	2.2 @ 2	1687.32	2 ⁺	[E1]		0.000806 11	$\alpha(K)=0.000717$ 10; $\alpha(L)=7.59\times 10^{-5}$ 11; $\alpha(M)=1.227\times 10^{-5}$ 17 $\alpha(N)=1.235\times 10^{-6}$ 17 $B(E1)(W.u.)=1.65\times 10^{-6}$ +52-36
		1005.5 1	19.1 @ 6	1221.72	2 ⁺	[E1]		0.0002113 30	$\alpha(K)=0.0001881$ 26; $\alpha(L)=1.975\times 10^{-5}$ 28; $\alpha(M)=3.19\times 10^{-6}$ 4 $\alpha(N)=3.23\times 10^{-7}$ 5 $B(E1)(W.u.)=2.22\times 10^{-6}$ +67-45
		1803.2 1	100 @ 3	424.05	2 ⁺	E1(+M2)	0.33 +18-33	0.000540 23	$B(E1)(W.u.)=1.82\times 10^{-6}$ +91-56; $B(M2)(W.u.)<0.79$ $\alpha(K)=8.6\times 10^{-5}$ 19; $\alpha(L)=9.0\times 10^{-6}$ 20; $\alpha(M)=1.45\times 10^{-6}$ 32 $\alpha(N)=1.47\times 10^{-7}$ 33; $\alpha(IPF)=0.00044$ 4
2257.55	3 ⁻	1035.5 1	11.8 @ 9	1221.72	2 ⁺	[E1]		0.0001998 28	$\alpha(K)=0.0001778$ 25; $\alpha(L)=1.867\times 10^{-5}$ 26; $\alpha(M)=3.02\times 10^{-6}$ 4 $\alpha(N)=3.05\times 10^{-7}$ 4 $B(E1)(W.u.)>4.2\times 10^{-6}$ $E_\gamma:$ level-energy difference=1035.8, energy uncertainty is probably underestimated.
		1222.6 6	26 @ 15	1034.75	4 ⁺	[E1]		0.0002066 29	$\alpha(K)=0.0001311$ 18; $\alpha(L)=1.373\times 10^{-5}$ 19; $\alpha(M)=2.220\times 10^{-6}$ 31 $\alpha(N)=2.246\times 10^{-7}$ 32; $\alpha(IPF)=5.94\times 10^{-5}$ 9 $B(E1)(W.u.)>3.1\times 10^{-6}$
		1833.6 1	100 @ 3	424.05	2 ⁺	E1(+M2)	0.12 +28-12	0.000577 29	$B(E1)(W.u.)>6.0\times 10^{-6}$ $\alpha(K)=6.9\times 10^{-5}$ 21; $\alpha(L)=7.2\times 10^{-6}$ 22; $\alpha(M)=1.17\times 10^{-6}$ 35 $\alpha(N)=1.2\times 10^{-7}$ 4; $\alpha(IPF)=0.00050$ 5
2332.70	(1 ⁻)	1908.5 2	100 5	424.05	2 ⁺				
		2333.2 4	31 8		0.0 0 ⁺				

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

		<u>$\gamma(^{76}\text{Kr})$ (continued)</u>									
		E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult.	$\delta^\&$	α^\dagger	Comments
		2452.4	5 ⁺	719.9 10	50	1733.26	3 ⁺	E2		1.13×10 ⁻³ 2	B(E2)(W.u.)>37 $\alpha(K)=0.000998$ 14; $\alpha(L)=0.0001082$ 16; $\alpha(M)=1.751\times10^{-5}$ 25 $\alpha(N)=1.755\times10^{-6}$ 25 I _γ : from ⁴⁰ Ca/ ⁴⁰ Ca,4pγ).
		1417.2 5	100	1034.75	4 ⁺	M1+E2		+4 2		0.000288 5	B(M1)(W.u.)>1.2×10 ⁻⁴ ; B(E2)(W.u.)>2.3 $\alpha(K)=0.0002055$ 29; $\alpha(L)=2.170\times10^{-5}$ 31; $\alpha(M)=3.51\times10^{-6}$ 5 $\alpha(N)=3.55\times10^{-7}$ 5; $\alpha(IPF)=5.66\times10^{-5}$ 19
11	2571.01	1 ⁻	378.5 1	0.70 3	2192.50	M1+E2		0.9 +8-5	0.0057 11		B(M1)(W.u.)=7.8×10 ⁻⁵ +51-43; B(E2)(W.u.)=0.59 +46-42 $\alpha(K)=0.0051$ 10; $\alpha(L)=0.00056$ 12; $\alpha(M)=9.1\times10^{-5}$ 19 $\alpha(N)=9.1\times10^{-6}$ 18
		466.9 13	0.3 1	2104.33	1 ⁻	[M1,E2]			0.0032 7	$\alpha(K)=0.0029$ 6; $\alpha(L)=0.00031$ 7; $\alpha(M)=5.1\times10^{-5}$ 12 $\alpha(N)=5.1\times10^{-6}$ 12	
		479.5 1	2.25 8	2091.49	(2) ⁺	E1(+M2)		<0.17	0.00117 10	B(M1)(W.u.)=3.2×10 ⁻⁵ +16-12 if M1, B(E2)(W.u.)=0.199 +98-73 if E2. B(E1)(W.u.)=3.8×10 ⁻⁶ +17-11 $\alpha(K)=0.00104$ 9; $\alpha(L)=0.000111$ 10; $\alpha(M)=1.80\times10^{-5}$ 16 $\alpha(N)=1.81\times10^{-6}$ 16	
		883.6 1	12.5 4	1687.32	2 ⁺	E1			0.000272 4	B(M2)(W.u.)<3.1 upper limit exceeds RUL=1. B(E1)(W.u.)=3.4×10 ⁻⁶ +12-7 $\alpha(K)=0.0002423$ 34; $\alpha(L)=2.55\times10^{-5}$ 4; $\alpha(M)=4.12\times10^{-6}$ 6 $\alpha(N)=4.16\times10^{-7}$ 6	
		973.0 1	6.1 2	1598.07	(0) ⁺	E1			0.0002251 32	B(E1)(W.u.)=1.24×10 ⁻⁶ +42-26 $\alpha(K)=0.0002004$ 28; $\alpha(L)=2.105\times10^{-5}$ 29; $\alpha(M)=3.40\times10^{-6}$ 5 $\alpha(N)=3.44\times10^{-7}$ 5	
		1349.3 1	2.22 7	1221.72	2 ⁺	[E1]			0.000268 4	$\alpha(K)=0.0001103$ 15; $\alpha(L)=1.154\times10^{-5}$ 16; $\alpha(M)=1.866\times10^{-6}$ 26 $\alpha(N)=1.889\times10^{-7}$ 26; $\alpha(IPF)=0.0001437$ 20	
		2147.2 3	1.39 7	424.05	2 ⁺	[E1]			0.000788 11	B(E1)(W.u.)=1.70×10 ⁻⁷ +58-35 $\alpha(K)=5.27\times10^{-5}$ 7; $\alpha(L)=5.49\times10^{-6}$ 8; $\alpha(M)=8.87\times10^{-7}$ 12 $\alpha(N)=8.99\times10^{-8}$ 13; $\alpha(IPF)=0.000729$ 10	
		2571.1 2	100 4	0.0	0 ⁺	[E1]			1.04×10 ⁻³ 2	B(E1)(W.u.)=2.63×10 ⁻⁸ +91-55 $\alpha(K)=4.07\times10^{-5}$ 6; $\alpha(L)=4.23\times10^{-6}$ 6; $\alpha(M)=6.83\times10^{-7}$ 10	

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E _i (level)	J ^π _i	E _γ [‡]	I _γ [#]	E _f	J ^π _f	Mult.&	δ&	a [†]	Comments
2581.12	(2 ⁺)	1359.4 1 1546.1 3	100 4 47 19	1221.72 2 ⁺ 1034.75 4 ⁺					$\alpha(N)=6.93\times 10^{-8}$ 10; $\alpha(IPF)=0.000999$ 14 $B(E1)(W.u.)=1.10\times 10^{-6}$ +37-22
2622.0	4 ⁽⁻⁾	364 395.2 6 888 1 1588 1	26 60 100	2257.55 3 ⁻ 2227.27 2 ⁻ 1733.26 3 ⁺ 1034.75 4 ⁺		Q D D			E_γ : from ⁵⁴ Fe(²⁸ Si, α 2p γ) only.
2683.7	(5 ⁻)	426 1 1649 1	6.7 100	2257.55 3 ⁻ 1034.75 4 ⁺		D+Q	+0.04 3		
2700.16	2 ⁺	1665.6 5	25 [@] 4	1034.75 4 ⁺	[E2]		0.000321 5		$\alpha(K)=0.0001491$ 2I; $\alpha(L)=1.570\times 10^{-5}$ 22; $\alpha(M)=2.54\times 10^{-6}$ 4 $\alpha(N)=2.57\times 10^{-7}$ 4; $\alpha(IPF)=0.0001539$ 22 $B(E2)(W.u.)>0.014$
		2276.6 4	100 [@] 5	424.05 2 ⁺	[M1,E2]		0.000510 28		$\alpha(K)=8.34\times 10^{-5}$ 12; $\alpha(L)=8.73\times 10^{-6}$ 13; $\alpha(M)=1.412\times 10^{-6}$ 20 $\alpha(N)=1.432\times 10^{-7}$ 20; $\alpha(IPF)=0.000417$ 28 $B(M1)(W.u.)>5.3\times 10^{-5}$ if M1, $B(E2)(W.u.)>0.014$ if E2.
2742.20	(4 ⁻)	483 1009.0 2	100	2257.55 3 ⁻ 1733.26 3 ⁺		D			E_γ : from ⁵⁴ Fe(²⁸ Si, α 2p γ) only.
2763.2	(6 ⁺)	805.7 5	100	1957.4 4 ⁺		Q			
2774.94	0 ^{+,1,2}	1553.2 1	56 3	1221.72 2 ⁺					
2816.57	(1,2 ⁺)	2350.9 4 2046.5 2 2392.8 4	100 4 30 2 100 3	424.05 2 ⁺ 769.94 0 ⁺ 424.05 2 ⁺					
2845.1	(4 ⁺)	2816.6 4 223 1 1112 1	<56 7.7 100	0.0 0 ⁺ 2622.0 4 ⁽⁻⁾ 1733.26 3 ⁺		D+Q			
2879.4	8 ⁺	1811 1 1019.7 2	7.7 100	1034.75 4 ⁺ 1859.7 6 ⁺		D	0.000473 7		$B(E2)(W.u.)=128$ +13-11 $\alpha(K)=0.000421$ 6; $\alpha(L)=4.49\times 10^{-5}$ 6; $\alpha(M)=7.26\times 10^{-6}$ 10 $\alpha(N)=7.32\times 10^{-7}$ 10
2926.59	0 ^{-,1⁻,2⁻}	355.6 1 822.2 2	100 3 14 4	2571.01 1 ⁻ 2104.33 1 ⁻	M1(+E2) M1	<0.12	0.00484 8 0.000703 10		$B(M1)(W.u.)=0.0203$ +75-47; $B(E2)(W.u.)<4.2$ $\alpha(K)=0.00429$ 7; $\alpha(L)=0.000464$ 7; $\alpha(M)=7.52\times 10^{-5}$ 12 $\alpha(N)=7.58\times 10^{-6}$ 12 $\alpha(K)=0.000625$ 9; $\alpha(L)=6.63\times 10^{-5}$ 9; $\alpha(M)=1.073\times 10^{-5}$ 15 $\alpha(N)=1.086\times 10^{-6}$ 15 $B(M1)(W.u.)=2.31\times 10^{-4}$ +95-72
2944.4	(5 ⁻)	261 1 987	39	2683.7 (5 ⁻) 1957.4 4 ⁺		D			E_γ : from ⁵⁴ Fe(²⁸ Si, α 2p γ) only.
2970.1	(0 ^{+,1,2})	1084 1 2546.0 3	100	1859.7 6 ⁺ 424.05 2 ⁺		D			

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J^π_i	E_γ^\ddagger	$I_\gamma^\#$	E_f	J^π_f	Mult. &	$\delta^&$	α^\dagger	Comments
3024.42	(2) ⁻	324.3 <i>I</i>	14.5 8	2700.16	2 ⁺	[E1]		0.00299 4	$\alpha(K)=0.00265$ 4; $\alpha(L)=0.000283$ 4; $\alpha(M)=4.56\times 10^{-5}$ 6 $\alpha(N)=4.57\times 10^{-6}$ 6 $B(E1)(W.u.)=3.4\times 10^{-5}$ +17-9
		443.3 <i>I</i>	5.0 5	2581.12 (2 ⁺)	[E1]		1.31×10^{-3} 2	$\alpha(K)=0.001166$ 16; $\alpha(L)=0.0001238$ 17; $\alpha(M)=2.000\times 10^{-5}$ 28 $\alpha(N)=2.010\times 10^{-6}$ 28 $B(E1)(W.u.)=4.6\times 10^{-6}$ +24-12	
	453.5 2	100 4	2571.01 1 ⁻	M1(+E2)	0.3 3	0.00282 30			$B(M1)(W.u.)=0.0046$ +33-20; $B(E2)(W.u.)<14$ $\alpha(K)=0.00251$ 26; $\alpha(L)=0.000270$ 31; $\alpha(M)=4.4\times 10^{-5}$ 5 $\alpha(N)=4.4\times 10^{-6}$ 5
	766.7 <i>I</i>	56.6 <i>I</i> 7	2257.55 3 ⁻	M1,E2		0.00089 7			$\alpha(K)=0.00079$ 6; $\alpha(L)=8.4\times 10^{-5}$ 7; $\alpha(M)=1.36\times 10^{-5}$ 12 $\alpha(N)=1.37\times 10^{-6}$ 11 $B(M1)(W.u.)=5.8\times 10^{-4}$ +30-15 if M1, $B(E2)(W.u.)=1.34$ +69-34 if E2.
	920.2 <i>I</i>	16.8 8	2104.33 1 ⁻	M1,E2		0.000578 27			$\alpha(K)=0.000513$ 24; $\alpha(L)=5.47\times 10^{-5}$ 28; $\alpha(M)=8.9\times 10^{-6}$ 5 $\alpha(N)=8.9\times 10^{-7}$ 4 $B(M1)(W.u.)=1.00\times 10^{-4}$ +52-26 if M1, $B(E2)(W.u.)=0.159$ +82-41 if E2.
	1291.3 3	8.5 <i>I</i> 3	1733.26 3 ⁺	[E1]		0.0002397 34			$\alpha(K)=0.0001190$ 17; $\alpha(L)=1.246\times 10^{-5}$ 17; $\alpha(M)=2.014\times 10^{-6}$ 28 $\alpha(N)=2.039\times 10^{-7}$ 29; $\alpha(IPF)=0.0001060$ 15 $B(E1)(W.u.)=3.2\times 10^{-7}$ +17-9
	2600.2 4	61 2	424.05 2 ⁺	[E1]		1.06×10^{-3} 2			$\alpha(K)=4.0\times 10^{-5}$ 6; $\alpha(L)=4.16\times 10^{-6}$ 6; $\alpha(M)=6.72\times 10^{-7}$ 9 $\alpha(N)=6.82\times 10^{-8}$ 10; $\alpha(IPF)=0.001016$ 14 $B(E1)(W.u.)=2.8\times 10^{-7}$ +14-7
3096.1	5 ⁽⁺⁾	252 <i>I</i>	100	2845.1 (4 ⁺)	D				
		354 <i>I</i>	20	2742.20 (4 ⁻)	D				
		412 <i>I</i>	53	2683.7 (5 ⁻)	D				
		1236 <i>I</i>	53	1859.7 6 ⁺	D+Q				
		1363 <i>I</i>	13	1733.26 3 ⁺					
		2062 <i>I</i>	67	1034.75 4 ⁺	D				
3175.2	6 ⁽⁻⁾	433		2742.20 (4 ⁻)	Q				E_γ : from $^{54}\text{Fe}(^{28}\text{Si},\alpha 2\text{p}\gamma)$ only.
		491		2683.7 (5 ⁻)					E_γ : from $^{54}\text{Fe}(^{28}\text{Si},\alpha 2\text{p}\gamma)$ only.
		553.1 6	90	2622.0 4 ⁽⁻⁾	Q				
		723.5 <i>I</i> 0	100	2452.4 5 ⁺	D				
3242.1	(1,2 ⁺)	2817.3 9	100 @ 29	424.05 2 ⁺					
		3242.3 3	57 @ 9	0.0 0 ⁺					
3275.90	(1 ^{+,} 2)	1542.6 2	35 4	1733.26 3 ⁺					
		2054.3 5	100 5	1221.72 2 ⁺					

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult. &	$\delta^\&$	α^\dagger	Comments
3288.4	(7 ⁻)	525 604.9 5	85	2763.2 2683.7	(6 ⁺) (5 ⁻)	E2		1.82×10 ⁻³ 3	E_γ : from ⁵⁴ Fe(²⁸ Si, α 2py) only. $B(E2)(\text{W.u.})=93 +34-30$ $\alpha(K)=0.001613\ 23$; $\alpha(L)=0.0001763\ 25$; $\alpha(M)=2.85\times10^{-5}\ 4$ $\alpha(N)=2.85\times10^{-6}\ 4$ $B(E1)(\text{W.u.})=3.9\times10^{-5} +14-12$; $B(M2)(\text{W.u.})<0.27$ $\alpha(K)=0.0001001\ 15$; $\alpha(L)=1.047\times10^{-5}\ 16$; $\alpha(M)=1.692\times10^{-6}\ 25$ $\alpha(N)=1.714\times10^{-7}\ 26$; $\alpha(\text{IPF})=0.0001951\ 28$
3296.3	6 ⁽⁻⁾	554 1 675 1	24 100	2742.20 2622.0	(4 ⁻) 4 ⁽⁻⁾	Q Q			
3332.7	7 ⁺	1436 1 879.9 5	62 100	1859.7 2452.4	6 ⁺ 5 ⁺	D E2		0.000673 9	$B(E2)(\text{W.u.})>29$ $\alpha(K)=0.000598\ 8$; $\alpha(L)=6.42\times10^{-5}\ 9$; $\alpha(M)=1.038\times10^{-5}\ 15$ $\alpha(N)=1.044\times10^{-6}\ 15$ $\alpha(K)=0.0001889\ 28$; $\alpha(L)=1.990\times10^{-5}\ 31$; $\alpha(M)=3.22\times10^{-6}\ 5$ $\alpha(N)=3.26\times10^{-7}\ 5$; $\alpha(\text{IPF})=6.8\times10^{-5}\ 8$ Mult.: D+Q, $\Delta J=1$ from $\gamma\gamma$ (DCO) in (⁴⁰ Ca,4py); $\Delta\pi=\text{no}$ from level scheme. $B(M1)(\text{W.u.})>0.0024$ if M1, $B(E2)(\text{W.u.})>1.5$ if E2.
3406.2	(6 ⁺)	231 1 311 1 461 1 561 1	31 100 31 56	3175.2 3096.1 2944.4 2845.1	6 ⁽⁻⁾ 5 ⁽⁺⁾ (5 ⁻) (4 ⁺)	D D D Q			
3421.6	(0 ^{+,1,2} ,1,2)	2997.5 5	100	424.05	2 ⁺				
3456.1	(0 ^{-,1,2} ,1,2)	431.7 5	100	3024.42	(2) ⁻				
3571.2	(8 ⁺)	808 1 1712 1	53 100	2763.2 1859.7	(6 ⁺) 6 ⁺	Q Q			
3573.8	(7 ⁻)	285 1 630 1 890	47 100 2683.7	3288.4 2944.4 (5 ⁻)	(7 ⁻) (5 ⁻)				
3602.81	1 ⁻	1270.1 2	4.0 3	2332.70	(1 ⁻)	M1,E2		0.000306 7	E_γ : from ⁵⁴ Fe(²⁸ Si, α 2py) only. $\alpha(K)=0.000255\ 5$; $\alpha(L)=2.70\times10^{-5}\ 6$; $\alpha(M)=4.37\times10^{-6}\ 9$ $\alpha(N)=4.42\times10^{-7}\ 8$; $\alpha(\text{IPF})=1.86\times10^{-5}\ 25$ $B(M1)(\text{W.u.})>2.4\times10^{-5}$ if M1, $B(E2)(\text{W.u.})>0.02$ if E2.
		1463.0 2 1498.4 3	4.2 9 3.4 4	2140.17 2104.33	(1,2 ⁺) 1 ⁻	[M1,E2]		0.000282 10	$\alpha(K)=0.0001829\ 27$; $\alpha(L)=1.925\times10^{-5}\ 30$;

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult.	α^\dagger	Comments
3602.81	1 ⁻	3178.3 2	100 12	424.05 2 ⁺		[E1]	1.35×10^{-3} 2	$\alpha(M)=3.11 \times 10^{-6}$ 5 $\alpha(N)=3.15 \times 10^{-7}$ 5; $\alpha(IPF)=7.6 \times 10^{-5}$ 8 B(M1)(W.u.)> 1.2×10^{-5} if M1, B(E2)(W.u.)>0.0072 if E2. $\alpha(K)=3.04 \times 10^{-5}$ 4; $\alpha(L)=3.16 \times 10^{-6}$ 4; $\alpha(M)=5.10 \times 10^{-7}$ 7 $\alpha(N)=5.18 \times 10^{-8}$ 7; $\alpha(IPF)=0.001313$ 18 B(E1)(W.u.)> 7.4×10^{-7} B(E1)(W.u.)> 1.6×10^{-7} $\alpha(K)=2.58 \times 10^{-5}$ 4; $\alpha(L)=2.67 \times 10^{-6}$ 4; $\alpha(M)=4.32 \times 10^{-7}$ 6 $\alpha(N)=4.38 \times 10^{-8}$ 6; $\alpha(IPF)=0.001512$ 21
		3602.8 10	36 7	0.0 0 ⁺		E1	1.54×10^{-3} 2	
3636.3	1,2 ⁽⁺⁾	3214.2 14	100 @ 23	424.05 2 ⁺				
		3636.1 3	44 @ 8	0.0 0 ⁺				
3672.24	(0,1,2)	432.0 9	19 10	3242.1 (1,2 ⁺)				
		1567.8 2	100 6	2104.33 1 ⁻				
3781.9	7 ⁽⁺⁾	376 1	100	3406.2 (6 ⁺)		D		
		686 1	60	3096.1 5 ⁽⁺⁾		Q		
3900.9	8 ⁽⁻⁾	568 1	15	3332.7 7 ⁺		(E1)	0.000715 10	B(E1)(W.u.)= 2.39×10^{-4} +84-72 $\alpha(K)=0.000636$ 9; $\alpha(L)=6.73 \times 10^{-5}$ 10; $\alpha(M)=1.087 \times 10^{-5}$ 16 $\alpha(N)=1.095 \times 10^{-6}$ 16
		726 1	100	3175.2 6 ⁽⁻⁾		E2	1.10×10^{-3} 2	B(E2)(W.u.)=113 24 $\alpha(K)=0.000976$ 14; $\alpha(L)=0.0001058$ 15; $\alpha(M)=1.711 \times 10^{-5}$ 25 $\alpha(N)=1.716 \times 10^{-6}$ 25
3978.0	1,2 ⁽⁺⁾	3553.6 4	100 @ 17	424.05 2 ⁺				
		3978.2 4	93 @ 14	0.0 0 ⁺				
3986.6	1,2 ⁽⁺⁾	3216.3 4	100 16	769.94 0 ⁺				
		3562.7 4	93 14	424.05 2 ⁺				
4026.72	1,2 ⁽⁺⁾	2805.5 3	32 3	1221.72 2 ⁺				
		3257.4 5	27 9	769.94 0 ⁺				
		3602.2 2	100 24	424.05 2 ⁺				
		4026.8 6	51 9	0.0 0 ⁺				
4068.4	10 ⁺	1189 1	100	2879.4 8 ⁺		E2	0.000342 5	B(E2)(W.u.)=122 +19-15 $\alpha(K)=0.000298$ 4; $\alpha(L)=3.16 \times 10^{-5}$ 4; $\alpha(M)=5.12 \times 10^{-6}$ 7 $\alpha(N)=5.16 \times 10^{-7}$ 7; $\alpha(IPF)=6.76 \times 10^{-6}$ 16
4072.8	(9 ⁻)	784.4 4	100	3288.4 (7 ⁻)		[E2]	0.000899 13	B(E2)(W.u.)=178 +30-25 $\alpha(K)=0.000798$ 11; $\alpha(L)=8.61 \times 10^{-5}$ 12; $\alpha(M)=1.393 \times 10^{-5}$ 20 $\alpha(N)=1.398 \times 10^{-6}$ 20
4097.75	1,2 ⁽⁺⁾	3327.6 5	13 4	769.94 0 ⁺				
		3673.6 2	100 11	424.05 2 ⁺				
		4098.8 17	46 8	0.0 0 ⁺				

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult. &	α^\dagger	Comments
4118.3	(8 ⁻)	822 1	100	3296.3	6(⁻)	Q		
4217.8	(8 ⁺)	436 1	100	3781.9	7(⁺)	D		
		811 1	91	3406.2	(6 ⁺)	Q		
4289.42	(0,1,2) ⁻	686.5 4	14.4 11	3602.81	1 ⁻	M1,E2	0.00116 12	$\alpha(K)=0.00103$ 10; $\alpha(L)=0.000111$ 12; $\alpha(M)=1.80\times 10^{-5}$ 20 $\alpha(N)=1.81\times 10^{-6}$ 19
		1718.6 4	100 4	2571.01	1 ⁻	M1,E2	0.000319 16	$\alpha(K)=0.0001401$ 20; $\alpha(L)=1.472\times 10^{-5}$ 21; $\alpha(M)=2.381\times 10^{-6}$ 34 $\alpha(N)=2.413\times 10^{-7}$ 34; $\alpha(IPF)=0.000162$ 15
4380.1	(9 ⁺)	2185.0 3	55 3	2104.33	1 ⁻			
		1047 1	100	3332.7	7 ⁺			
		1501 1	45	2879.4	8 ⁺			
4403.7	(9 ⁺)	1071 1	100	3332.7	7 ⁺	[E2]	0.000423 6	$\alpha(K)=0.000376$ 5; $\alpha(L)=4.01\times 10^{-5}$ 6; $\alpha(M)=6.48\times 10^{-6}$ 9 $\alpha(N)=6.53\times 10^{-7}$ 9 B(E2)(W.u.)>58
4433.8	(10 ⁺)	863 1	54	3571.2	(8 ⁺)			
		1554 1	100	2879.4	8 ⁺			
4469.8	(9 ⁻)	397		4072.8	(9 ⁻)			E_γ : from $^{54}\text{Fe}(^{28}\text{Si},\alpha 2\gamma)$ only.
		896 1	100	3573.8	(7 ⁻)	Q		
4700.5	(9 ⁺)	483 1	58	4217.8	(8 ⁺)	D		
		919 1	100	3781.9	7(⁺)	Q		
4806.4	(10 ⁻)	905.5 5	100	3900.9	8(⁻)	[E2]	0.000628 9	B(E2)(W.u.)=88 +35-16 $\alpha(K)=0.000557$ 8; $\alpha(L)=5.98\times 10^{-5}$ 8; $\alpha(M)=9.67\times 10^{-6}$ 14 $\alpha(N)=9.73\times 10^{-7}$ 14
5051.3	(11 ⁻)	978.5 6	100	4072.8	(9 ⁻)	E2	0.000521 7	B(E2)(W.u.)=202 +41-29 $\alpha(K)=0.000463$ 7; $\alpha(L)=4.95\times 10^{-5}$ 7; $\alpha(M)=8.01\times 10^{-6}$ 11 $\alpha(N)=8.07\times 10^{-7}$ 11
5106.3	(10 ⁻)	988 1	100	4118.3	(8 ⁻)			
5240.5	10 ⁽⁺⁾	541 1	42	4700.5	(9 ⁺)	D		
		1022 1	100	4217.8	(8 ⁺)	Q		
5348.4	12 ⁺	1280 1	100	4068.4	10 ⁺	[E2]	0.000309 4	B(E2)(W.u.)>43 $\alpha(K)=0.000254$ 4; $\alpha(L)=2.69\times 10^{-5}$ 4; $\alpha(M)=4.36\times 10^{-6}$ 6 $\alpha(N)=4.40\times 10^{-7}$ 6; $\alpha(IPF)=2.32\times 10^{-5}$ 4
5528.8	(11 ⁻)	1059 1	100	4469.8	(9 ⁻)	Q		
5566.8	(12 ⁺)	1133 1	100	4433.8	(10 ⁺)	Q		
5589.1	(11 ⁺)	1209 1	100	4380.1	(9 ⁺)	Q		
5795.7	11 ⁽⁺⁾	555 1	38	5240.5	10 ⁽⁺⁾	D		
		1095 1	100	4700.5	(9 ⁺)	Q		
5873.1	(12 ⁻)	1066.6 4	100	4806.4	10 ⁻	E2	0.000427 6	B(E2)(W.u.)=124 +24-21 $\alpha(K)=0.000379$ 5; $\alpha(L)=4.04\times 10^{-5}$ 6; $\alpha(M)=6.54\times 10^{-6}$ 9 $\alpha(N)=6.59\times 10^{-7}$ 9
6218.3	(12 ⁻)	1112 1	100	5106.3	(10 ⁻)	Q		

Adopted Levels, Gammas (continued) **$\gamma(^{76}\text{Kr})$ (continued)**

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult.&	α^\dagger	Comments
6222.3	(13 ⁻)	1171 <i>I</i>	100	5051.3	(11 ⁻)	E2	0.000351 5	B(E2)(W.u.)=149 +68-35 $\alpha(K)=0.000308$ 4; $\alpha(L)=3.27\times 10^{-5}$ 5; $\alpha(M)=5.29\times 10^{-6}$ 7 $\alpha(N)=5.34\times 10^{-7}$ 8; $\alpha(IPF)=4.71\times 10^{-6}$ 12 Additional information 3.
6390.2	(12 ⁺)	596 <i>I</i>	25	5795.7	11 ⁽⁺⁾	(D)		
		1150 <i>I</i>	100	5240.5	10 ⁽⁺⁾	Q		
6605.4	(12 ⁺)	1257 <i>I</i>	100	5348.4	12 ⁺	D		
6650.4	14 ⁺	1302 <i>I</i>	100	5348.4	12 ⁺	Q		
6681.8	(13 ⁻)	1153 <i>I</i>	100	5528.8	(11 ⁻)	Q		
6937.1	(13 ⁺)	1348 <i>I</i>	100	5589.1	(11 ⁺)	Q		
7032.4	(13 ⁺)	643 <i>I</i>	100	6390.2	(12 ⁺)	D		
		1235 <i>I</i>	40	5795.7	11 ⁽⁺⁾	Q		
7034.9	(14 ⁺)	1468 <i>I</i>	100	5566.8	(12 ⁺)	Q		
7110.1	(14 ⁻)	1237 <i>I</i>	100	5873.1	(12 ⁻)	E2	0.000322 5	B(E2)(W.u.)>54 $\alpha(K)=0.000273$ 4; $\alpha(L)=2.90\times 10^{-5}$ 4; $\alpha(M)=4.69\times 10^{-6}$ 7 $\alpha(N)=4.74\times 10^{-7}$ 7; $\alpha(IPF)=1.438\times 10^{-5}$ 28 Additional information 5.
7435.3	(14 ⁻)	1217 <i>I</i>	100	6218.3	(12 ⁻)	Q		
7554.3	(14 ⁺)	521 <i>I</i>	38	7032.4	(13 ⁺)	D		
		1165 <i>I</i>	100	6390.2	(12 ⁺)	Q		
7583.3	(15 ⁻)	1361 <i>I</i>	100	6222.3	(13 ⁻)	E2	0.000294 4	B(E2)(W.u.)>45 $\alpha(K)=0.0002235$ 31; $\alpha(L)=2.364\times 10^{-5}$ 33; $\alpha(M)=3.82\times 10^{-6}$ 5 $\alpha(N)=3.86\times 10^{-7}$ 5; $\alpha(IPF)=4.22\times 10^{-5}$ 6 Additional information 6.
7606.4	(14 ⁺)	1001 <i>I</i>	100	6605.4	(12 ⁺)			
7870.9	(15 ⁻)	1189 <i>I</i>	100	6681.8	(13 ⁻)	Q		
8000.4	16 ⁺	1350 <i>I</i>	100	6650.4	14 ⁺	Q		
8432.1	(15 ⁺)	1495 <i>I</i>	100	6937.1	(13 ⁺)	Q		
8521.1	(16 ⁻)	1411 <i>I</i>	100	7110.1	(14 ⁻)	E2	0.000289 4	$\alpha(K)=0.0002075$ 29; $\alpha(L)=2.192\times 10^{-5}$ 31; $\alpha(M)=3.55\times 10^{-6}$ 5 $\alpha(N)=3.59\times 10^{-7}$ 5; $\alpha(IPF)=5.55\times 10^{-5}$ 8
8666.9	(16 ⁺)	1632 <i>I</i>	100	7034.9	(14 ⁺)	Q		
8717.4	(16 ⁻)	1282 <i>I</i>	100	7435.3	(14 ⁻)	Q		
8798.5	(16 ⁺)	1192 <i>I</i>	100	7606.4	(14 ⁺)	Q		
8829.3	(16 ⁺)	1275 <i>I</i>	100	7554.3	(14 ⁺)	Q		
9117.4	(17 ⁻)	1534 <i>I</i>	100	7583.3	(15 ⁻)	E2	0.000295 4	$\alpha(K)=0.0001753$ 25; $\alpha(L)=1.848\times 10^{-5}$ 26; $\alpha(M)=2.99\times 10^{-6}$ 4 $\alpha(N)=3.02\times 10^{-7}$ 4; $\alpha(IPF)=9.80\times 10^{-5}$ 14
9217.9	(17 ⁻)	1347 <i>I</i>	100	7870.9	(15 ⁻)	Q		
9400.5	18 ⁺	1400 <i>I</i>	100	8000.4	16 ⁺	E2	0.000289 4	$\alpha(K)=0.0002108$ 30; $\alpha(L)=2.228\times 10^{-5}$ 31; $\alpha(M)=3.60\times 10^{-6}$ 5 $\alpha(N)=3.64\times 10^{-7}$ 5; $\alpha(IPF)=5.23\times 10^{-5}$ 8
10050.1	(17 ⁺)	1618 <i>I</i>	100	8432.1	(15 ⁺)	Q		

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult. &	α^\ddagger	Comments
10059.1	(18 ⁻)	1538 <i>I</i>	100	8521.1	(16 ⁻)	E2	0.000296 4	$\alpha(K)=0.0001744$ 25; $\alpha(L)=1.839\times 10^{-5}$ 26; $\alpha(M)=2.97\times 10^{-6}$ 4 $\alpha(N)=3.01\times 10^{-7}$ 4; $\alpha(IPF)=9.96\times 10^{-5}$ 15 Additional information 7.
10135	(18 ⁻)	1418 <i>I</i>	100	8717.4	(16 ⁻)	Q		
10139.5	(18 ⁺)	1341 <i>I</i>	100	8798.5	(16 ⁺)	Q		
10470.9	(18 ⁺)	1804 <i>I</i>	100	8666.9	(16 ⁺)			
10640.4	(19 ⁻)	1523 <i>I</i>	100	9117.4	(17 ⁻)	E2	0.000294 4	$\alpha(K)=0.0001778$ 25; $\alpha(L)=1.875\times 10^{-5}$ 26; $\alpha(M)=3.03\times 10^{-6}$ 4 $\alpha(N)=3.07\times 10^{-7}$ 4; $\alpha(IPF)=9.37\times 10^{-5}$ 14
10773.9	(19 ⁻)	1556 <i>I</i>	100	9217.9	(17 ⁻)	(Q)		
10936.5	20 ⁺	1536 <i>I</i>	100	9400.5	18 ⁺	E2	0.000295 4	$\alpha(K)=0.0001748$ 25; $\alpha(L)=1.844\times 10^{-5}$ 26; $\alpha(M)=2.98\times 10^{-6}$ 4 $\alpha(N)=3.02\times 10^{-7}$ 4; $\alpha(IPF)=9.88\times 10^{-5}$ 14 Additional information 8.
11655.1	(20 ⁻)	1596 <i>I</i>	100	10059.1	(18 ⁻)	E2	0.000306 4	$\alpha(K)=0.0001621$ 23; $\alpha(L)=1.708\times 10^{-5}$ 24; $\alpha(M)=2.76\times 10^{-6}$ 4 $\alpha(N)=2.79\times 10^{-7}$ 4; $\alpha(IPF)=0.0001237$ 18
11664	(20 ⁺)	1525 <i>I</i>	100	10139.5	(18 ⁺)	Q		
11719	(20 ⁻)	1584 <i>I</i>	100	10135	(18 ⁻)	Q		
11785.1	(19 ⁺)	1735 <i>I</i>	100	10050.1	(17 ⁺)			
12254.4	(21 ⁻)	1614 <i>I</i>	100	10640.4	(19 ⁻)	E2	0.000310 4	$\alpha(K)=0.0001585$ 22; $\alpha(L)=1.670\times 10^{-5}$ 23; $\alpha(M)=2.70\times 10^{-6}$ 4 $\alpha(N)=2.73\times 10^{-7}$ 4; $\alpha(IPF)=0.0001314$ 19
12397.9	(20 ⁺)	1927 <i>I</i>	100	10470.9	(18 ⁺)			
12493	(21 ⁻)	1719 <i>I</i>	100	10773.9	(19 ⁻)			
12695	22 ⁺	1759 <i>I</i>	100	10936.5	20 ⁺	E2	0.000346 5	$\alpha(K)=0.0001343$ 19; $\alpha(L)=1.412\times 10^{-5}$ 20; $\alpha(M)=2.284\times 10^{-6}$ 32 $\alpha(N)=2.312\times 10^{-7}$ 32; $\alpha(IPF)=0.0001952$ 28 Additional information 9.
13352.1	(22 ⁻)	1697 <i>I</i>	100	11655.1	(20 ⁻)	E2	0.000329 5	$\alpha(K)=0.0001438$ 20; $\alpha(L)=1.514\times 10^{-5}$ 21; $\alpha(M)=2.448\times 10^{-6}$ 34 $\alpha(N)=2.478\times 10^{-7}$ 35; $\alpha(IPF)=0.0001677$ 24
13388	(22 ⁺)	1723 <i>I</i>	100	11664	(20 ⁺)	Q		
13500	(22 ⁻)	1781 <i>I</i>	100	11719	(20 ⁻)			
13613	(21 ⁺)	1828 <i>I</i>	100	11785.1	(19 ⁺)			
14026	(23 ⁻)	1772 <i>I</i>	100	12254.4	(21 ⁻)	E2	0.000350 5	$\alpha(K)=0.0001324$ 19; $\alpha(L)=1.392\times 10^{-5}$ 20; $\alpha(M)=2.251\times 10^{-6}$ 32 $\alpha(N)=2.280\times 10^{-7}$ 32; $\alpha(IPF)=0.0002011$ 29
14440	(23 ⁻)	1947 <i>I</i>	100	12493	(21 ⁻)			
14751	24 ⁺	2055 <i>I</i>	100	12695	22 ⁺			E_γ : tentative 2049 in ($^{24}\text{Mg},\alpha 2\gamma$).
15225	(24 ⁻)	1873 <i>I</i>	100	13352.1	(22 ⁻)	E2	0.000382 5	$\alpha(K)=0.0001193$ 17; $\alpha(L)=1.253\times 10^{-5}$ 18; $\alpha(M)=2.026\times 10^{-6}$ 28 $\alpha(N)=2.052\times 10^{-7}$ 29; $\alpha(IPF)=0.0002479$ 35
15346	(24 ⁺)	1958 <i>I</i>	100	13388	(22 ⁺)	Q		
15503	(24 ⁻)	2003 <i>I</i>	100	13500	(22 ⁻)			
16009	(25 ⁻)	1983 <i>I</i>	100	14026	(23 ⁻)	E2	0.000421 6	$\alpha(K)=0.0001073$ 15; $\alpha(L)=1.126\times 10^{-5}$ 16; $\alpha(M)=1.821\times 10^{-6}$ 26 $\alpha(N)=1.845\times 10^{-7}$ 26; $\alpha(IPF)=0.000301$ 4

Adopted Levels, Gammas (continued)

 $\gamma(^{76}\text{Kr})$ (continued)

E_i (level)	J_i^π	E_γ^\ddagger	$I_\gamma^\#$	E_f	J_f^π	Mult.&	α^\dagger	Comments
16650	(25 ⁻)	2210 <i>I</i>	100	14440	(23 ⁻)			
17157	26 ⁺	2406 <i>I</i>	100	14751	24 ⁺	E2	0.000591 8	$\alpha(K)=7.60\times 10^{-5}$ 11; $\alpha(L)=7.94\times 10^{-6}$ 11; $\alpha(M)=1.285\times 10^{-6}$ 18 $\alpha(N)=1.303\times 10^{-7}$ 18; $\alpha(IPF)=0.000506$ 7
17327	(26 ⁻)	2102 <i>I</i>	100	15225	(24 ⁻)	E2	0.000467 7	$\alpha(K)=9.65\times 10^{-5}$ 14; $\alpha(L)=1.011\times 10^{-5}$ 14; $\alpha(M)=1.636\times 10^{-6}$ 23 $\alpha(N)=1.658\times 10^{-7}$ 23; $\alpha(IPF)=0.000358$ 5
17550	(26 ⁺)	2204 <i>I</i>	100	15346	(24 ⁺)	Q		
17859	(26 ⁻)	2356 <i>I</i>	100	15503	(24 ⁻)			
18256	(27 ⁻)	2247 <i>I</i>	100	16009	(25 ⁻)	E2	0.000525 7	$\alpha(K)=8.56\times 10^{-5}$ 12; $\alpha(L)=8.97\times 10^{-6}$ 13; $\alpha(M)=1.450\times 10^{-6}$ 20 $\alpha(N)=1.470\times 10^{-7}$ 21; $\alpha(IPF)=0.000429$ 6
19172	(27 ⁻)	2522 <i>I</i>	100	16650	(25 ⁻)			
19741	(28 ⁻)	2414 <i>I</i>	100	17327	(26 ⁻)	E2	0.000595 8	$\alpha(K)=7.55\times 10^{-5}$ 11; $\alpha(L)=7.90\times 10^{-6}$ 11; $\alpha(M)=1.277\times 10^{-6}$ 18 $\alpha(N)=1.295\times 10^{-7}$ 18; $\alpha(IPF)=0.000510$ 7
19950	28 ⁺	2793 <i>I</i>	100	17157	26 ⁺	E2	0.000752 11	$\alpha(K)=5.89\times 10^{-5}$ 8; $\alpha(L)=6.15\times 10^{-6}$ 9; $\alpha(M)=9.94\times 10^{-7}$ 14 $\alpha(N)=1.008\times 10^{-7}$ 14; $\alpha(IPF)=0.000686$ 10
20045	(28 ⁺)	2495 <i>I</i>	100	17550	(26 ⁺)			
20538	(28 ⁻)	2678 <i>I</i>	100	17859	(26 ⁻)			
20815	(29 ⁻)	2558 <i>I</i>	100	18256	(27 ⁻)	E2	0.000655 9	$\alpha(K)=6.83\times 10^{-5}$ 10; $\alpha(L)=7.14\times 10^{-6}$ 10; $\alpha(M)=1.155\times 10^{-6}$ 16 $\alpha(N)=1.171\times 10^{-7}$ 16; $\alpha(IPF)=0.000578$ 8
22583	(30 ⁻)	2842 <i>I</i>	100	19741	(28 ⁻)			
22790	(30 ⁺)	2745 <i>I</i>	100	20045	(28 ⁺)			
23157	(30 ⁺)	3207 <i>I</i>	100	19950	28 ⁺			
23742	(31 ⁻)	2927 <i>I</i>	100	20815	(29 ⁻)			
25868	(32 ⁻)	3285 <i>I</i>	100	22583	(30 ⁻)			
27083	(33 ⁻)	3341 <i>I</i>	100	23742	(31 ⁻)			
966.0+x	(13 ⁺)	966 <i>I</i>	100	x	(11 ⁺)			
2097.0+x	(15 ⁺)	1131 <i>I</i>	100	966.0+x	(13 ⁺)	Q		
3390.0+x	(17 ⁺)	1293 <i>I</i>	100	2097.0+x	(15 ⁺)	Q		
4847.0+x	(19 ⁺)	1457 <i>I</i>	100	3390.0+x	(17 ⁺)	Q		
6472.1+x	(21 ⁺)	1625 <i>I</i>	100	4847.0+x	(19 ⁺)	Q		
8309.1+x	(23 ⁺)	1837 <i>I</i>	100	6472.1+x	(21 ⁺)	Q		
10382+x	(25 ⁺)	2073 <i>I</i>	100	8309.1+x	(23 ⁺)	Q		
12696+x	(27 ⁺)	2314 <i>I</i>	100	10382+x	(25 ⁺)			
15234+x	(29 ⁺)	2538 <i>I</i>	100	12696+x	(27 ⁺)			

[†] Additional information 10.[‡] Values for low-spin ($J \leq 4$) states are from ^{76}Rb ε decay, whereas data for higher-spin states are from ^{40}Ca ($^{40}\text{Ca}, 4\text{py}$), ^{54}Fe ($^{28}\text{Si}, \alpha, 2\text{py}$), and ($^{24}\text{Mg}, \alpha, 2\text{py}$), unless otherwise noted.[#] Detailed intensity data are available for γ rays from low-spin ($J \leq 4$) states populated in ^{76}Rb ε decay. Note that for γ rays from some of the levels, more precise

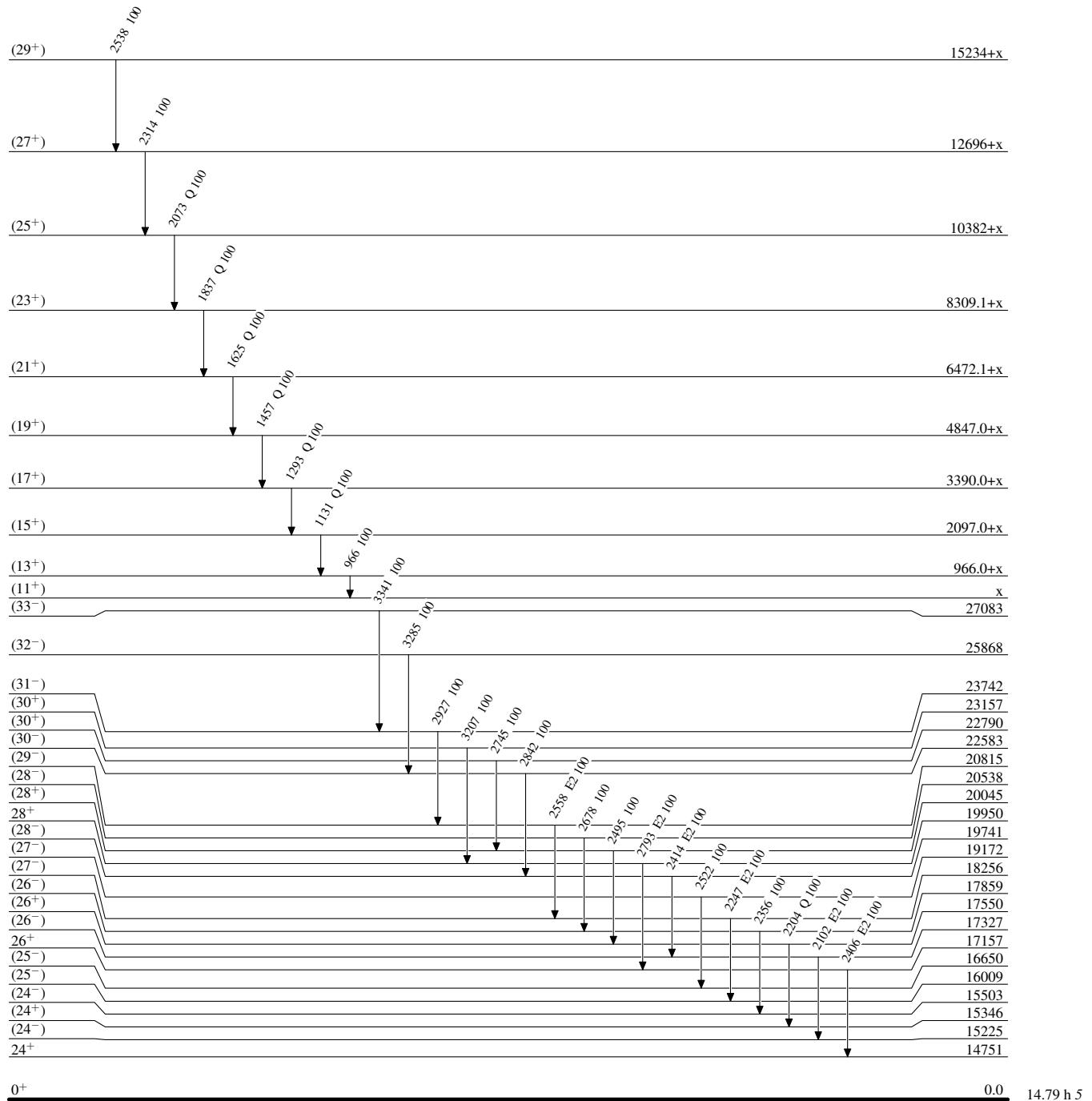
Adopted Levels, Gammas (continued) $\gamma(^{76}\text{Kr})$ (continued)

branching ratios (listed under comments in ^{76}Rb ε decay dataset) are available which are adopted here in place of branching ratios deduced from relative intensity data. For high-spin states, only nominal intensities, without explicitly quoted uncertainties, are available from only $^{40}\text{Ca}(^{40}\text{Ca},4\text{p}\gamma)$ and $(^{12}\text{C},2\text{n}\gamma)$. For the latter dataset, evaluators assigned 10% uncertainty for Iy values taken from (1982Pi01). Intensity data were not provided in $^{54}\text{Fe}(^{28}\text{Si},\alpha 2\text{p}\gamma)$ reaction.

- @ From ^{76}Rb ε decay, when a level is also populated in other reactions. Branching ratios listed in comments in ^{76}Rb ε decay dataset are used in place of relative intensities.
- & From $\gamma(\theta)$ and $\gamma\gamma(\theta)$ in $(^{12}\text{C},2\text{n}\gamma)$ for high-spin ($J>4$) states. Transitions with dominant quadrupole content are assumed as E2 from comparison of T1/2(level) and RUL for E2 and M2. For low-spin ($J\leq 4$) levels, multipolarity assignments are generally from conversion coefficients deduced from ce data in ^{76}Rb ε decay.
- ^a Placement of transition in the level scheme is uncertain.

Adopted Levels, GammasLevel Scheme

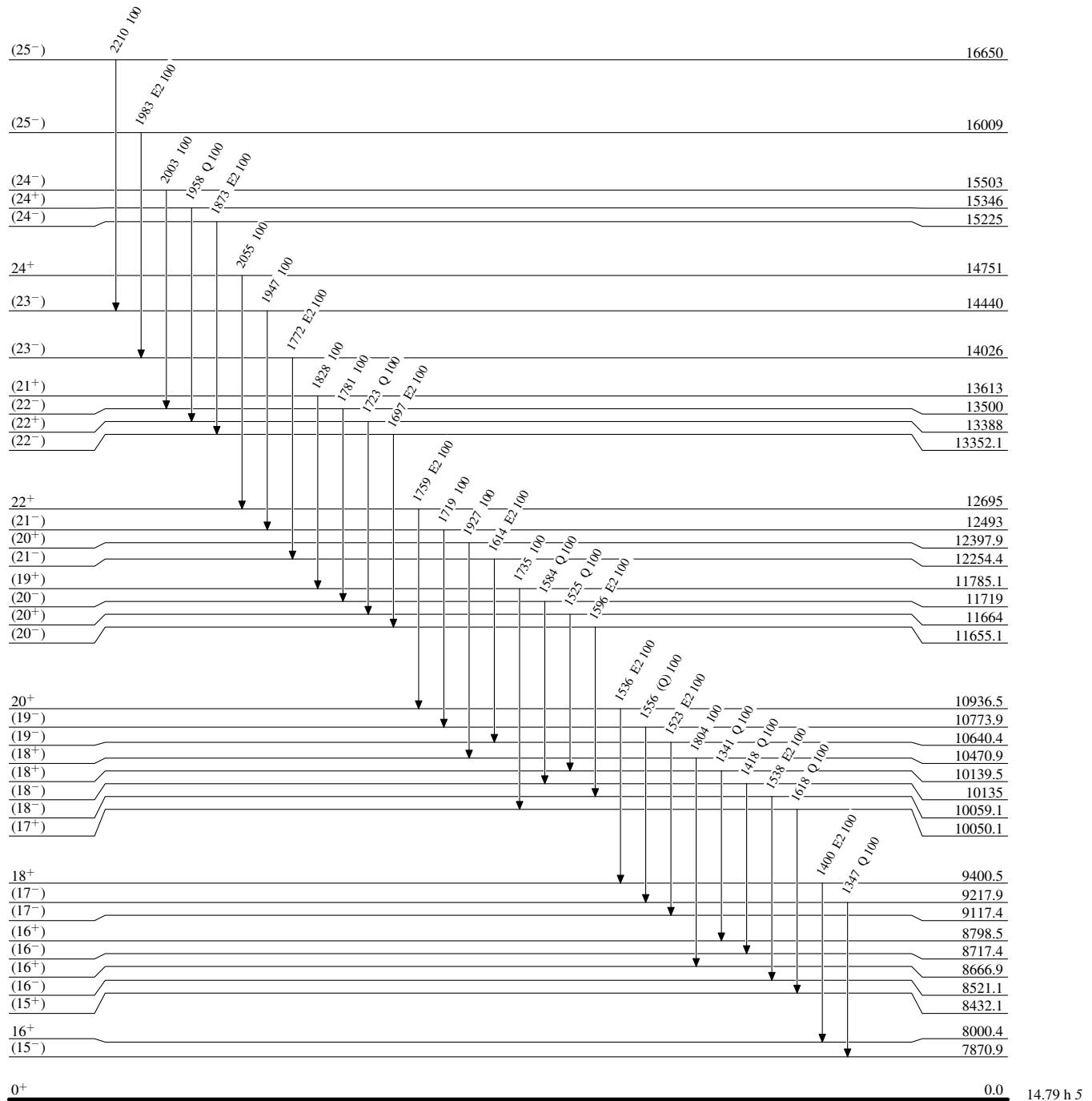
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

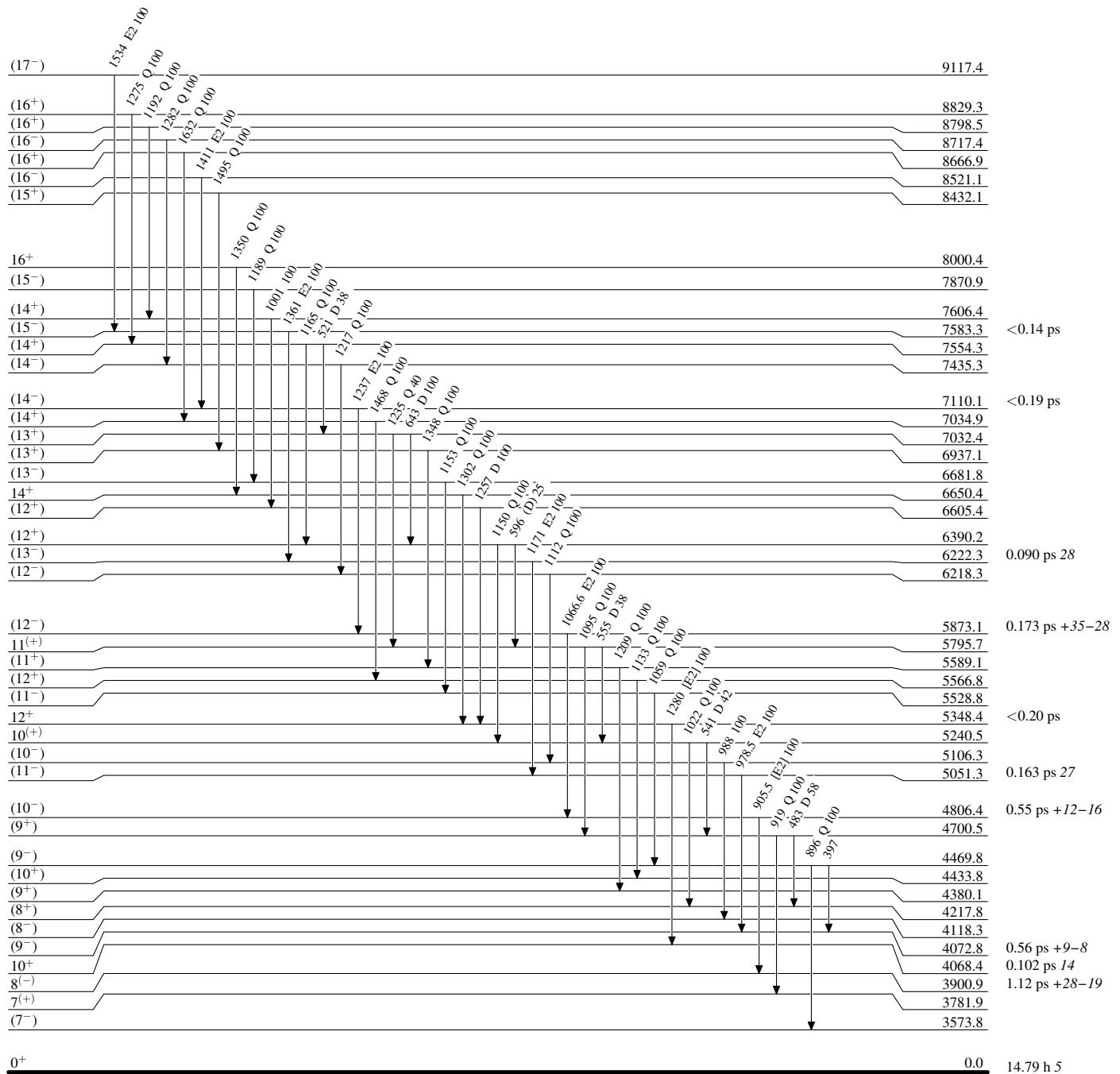
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

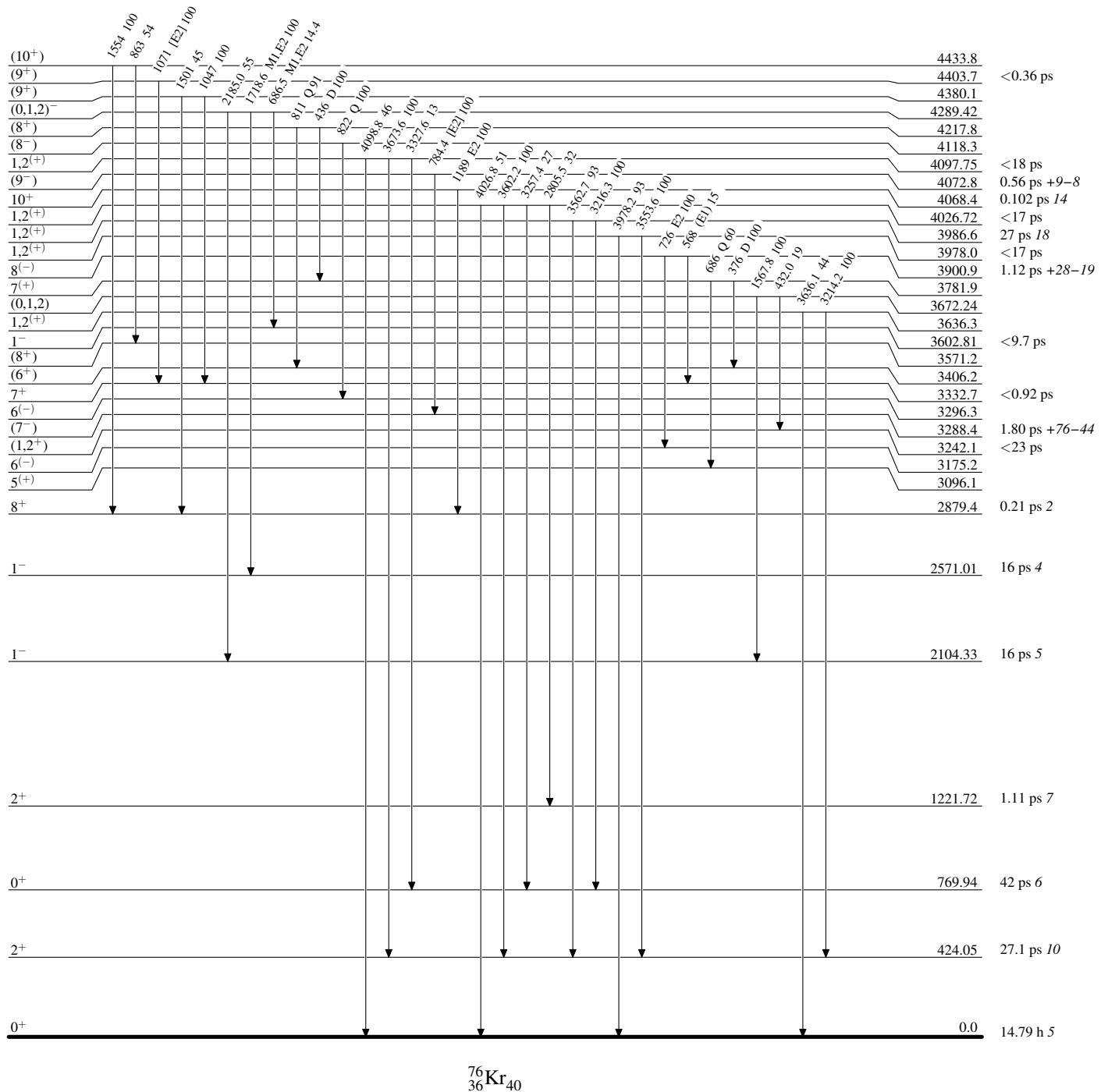
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

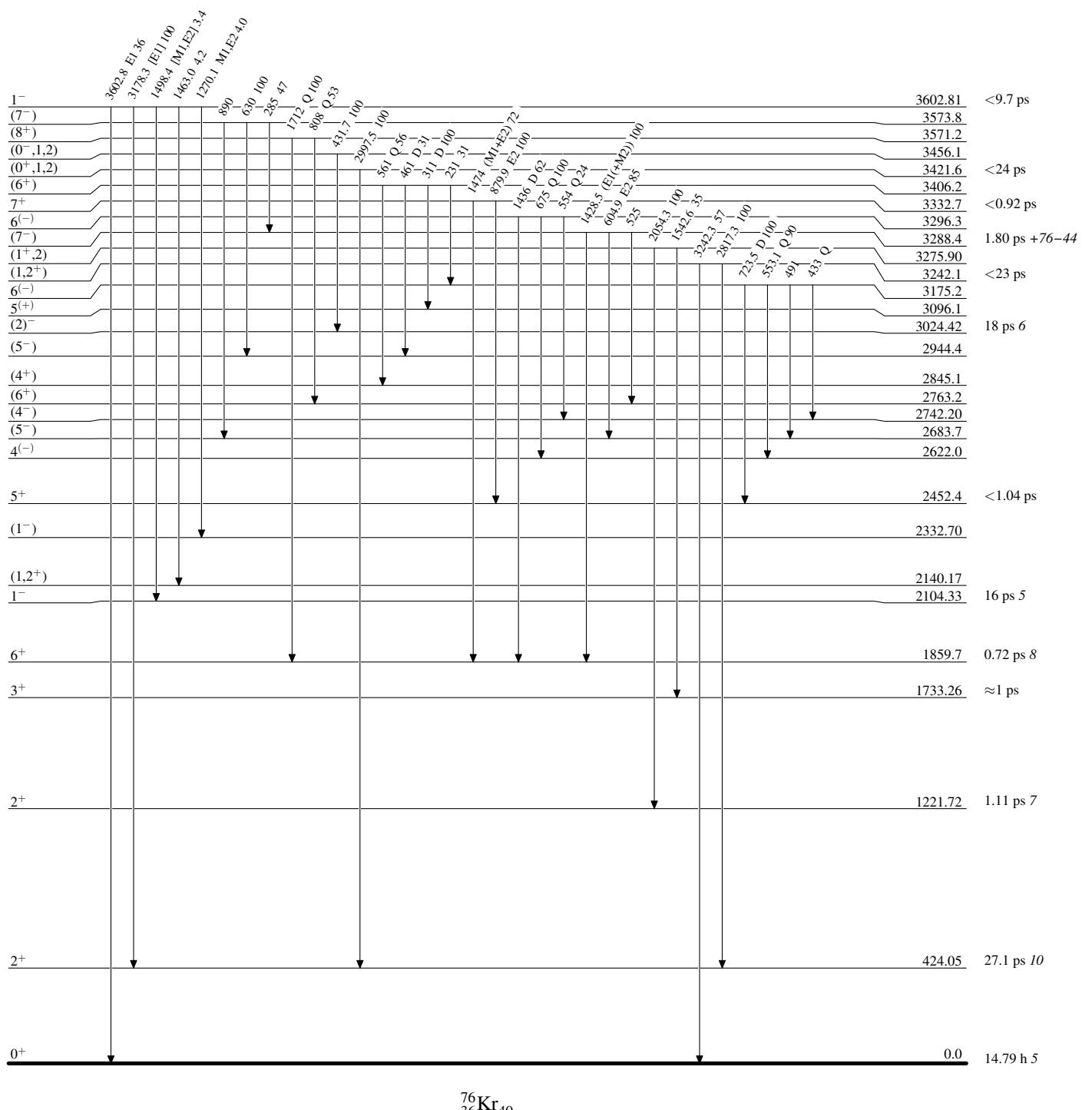
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

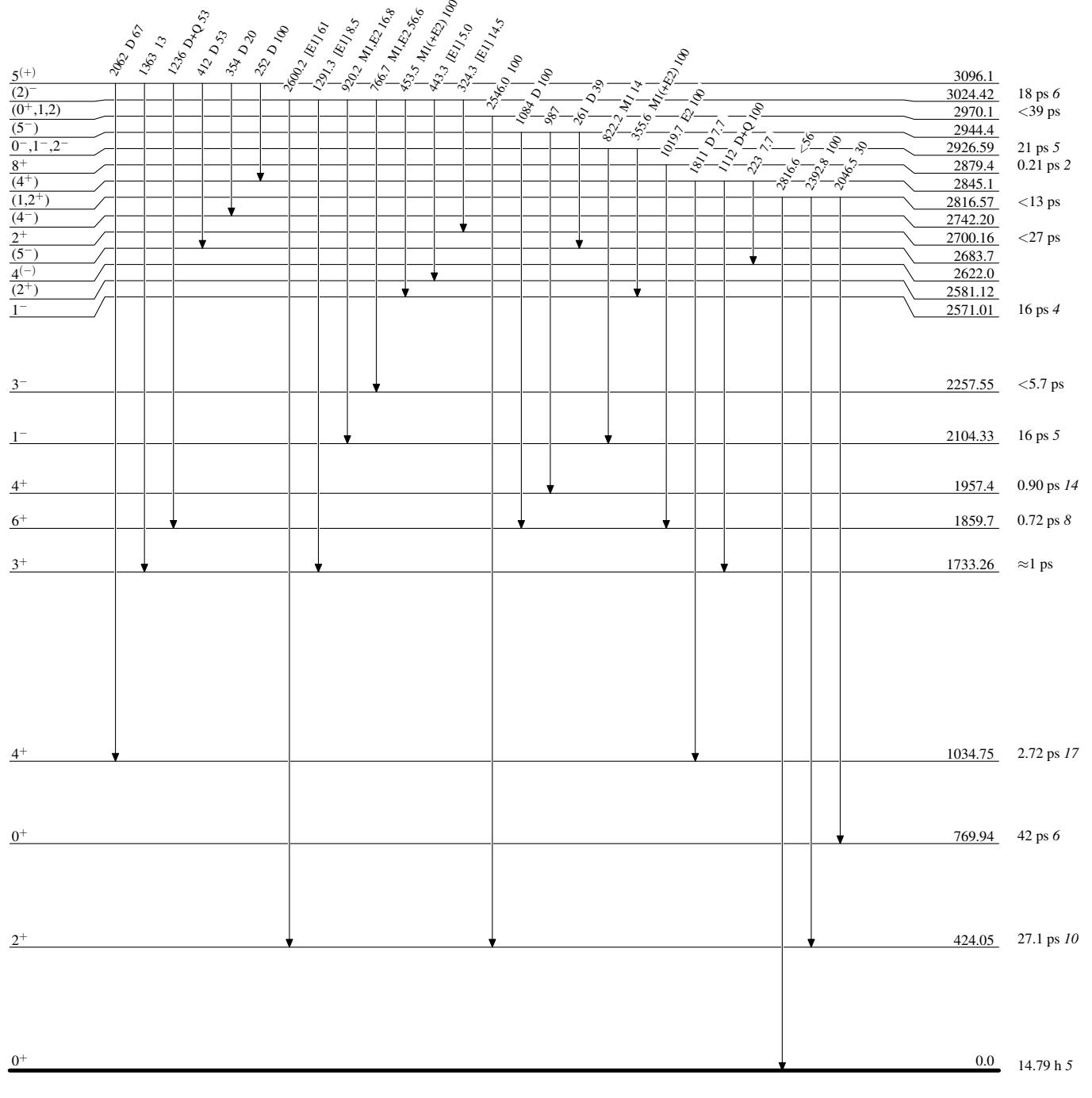
Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, GammasLevel Scheme (continued)

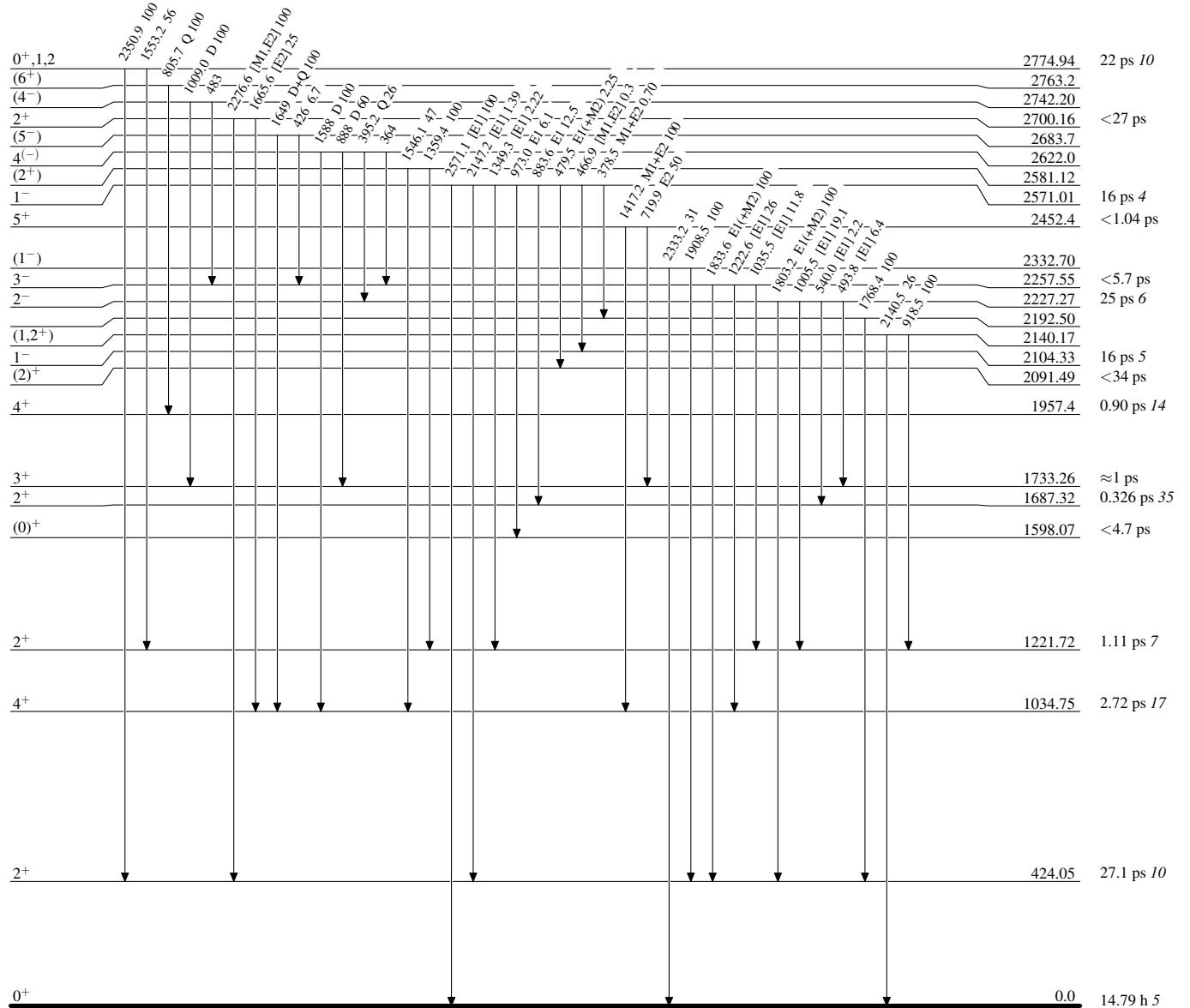
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

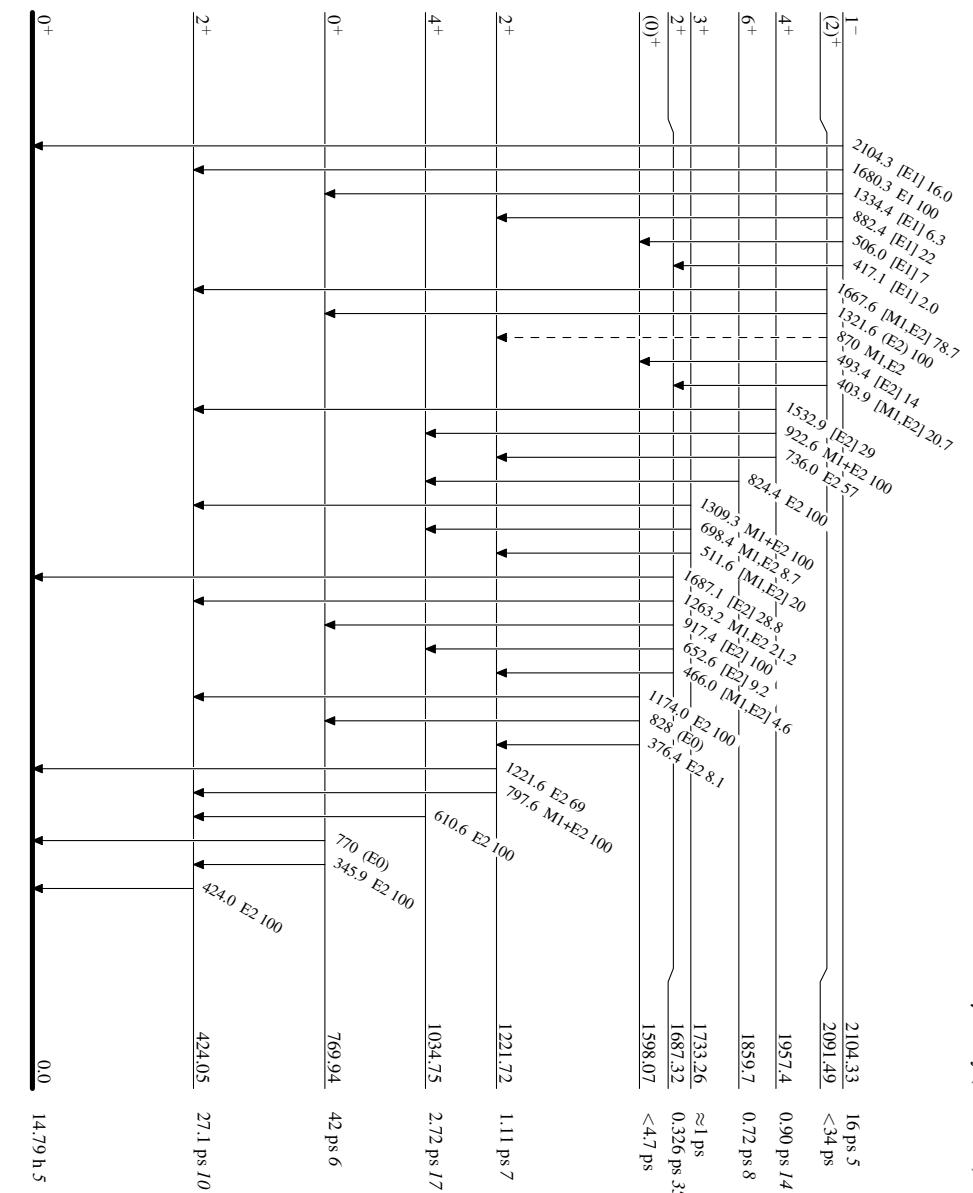


Adopted Levels, Gammas

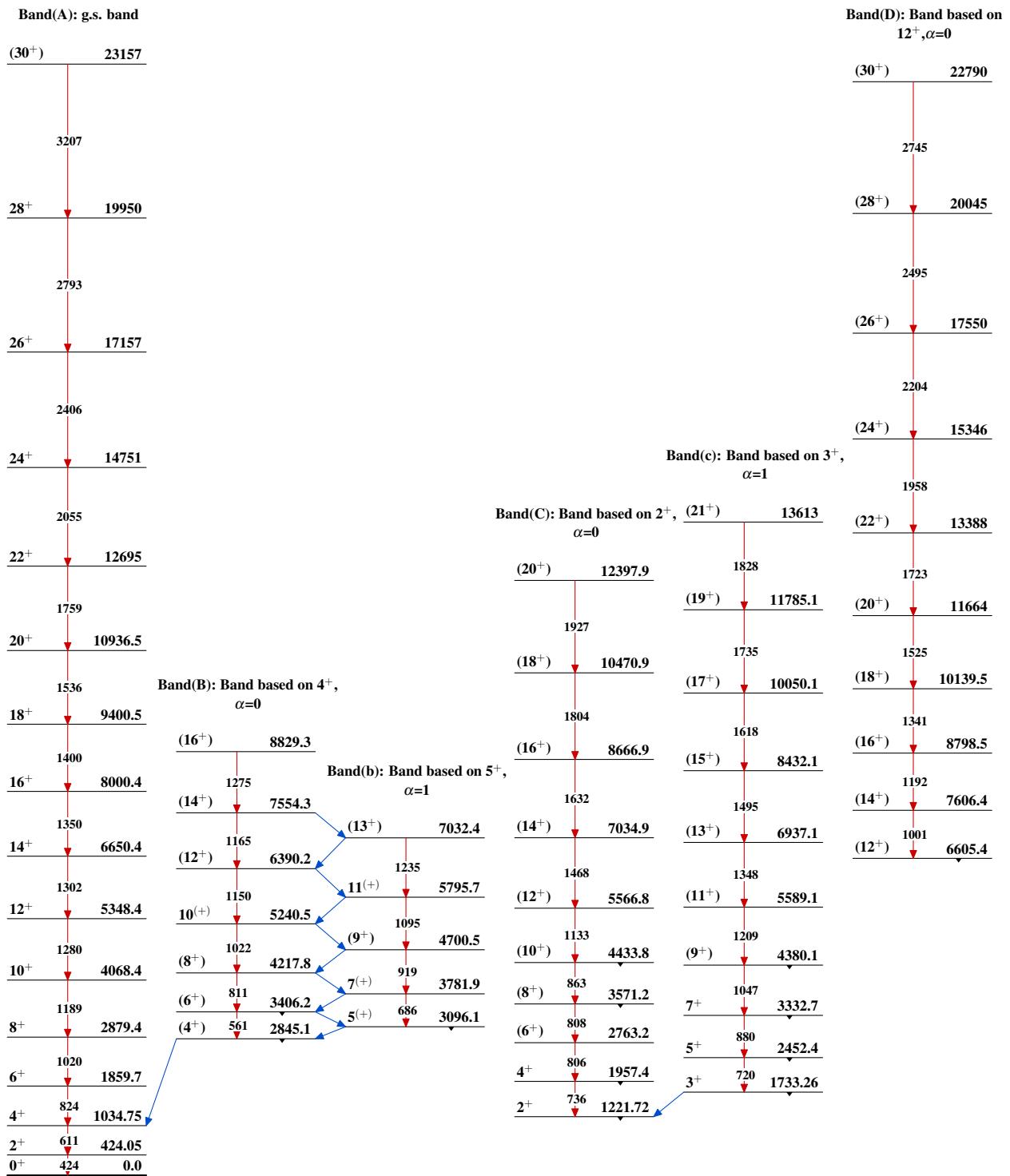
8

Intensities: Relative photon branching from each level

→ **γ Decay (Uncertain)**



76
36 Kr 40

Adopted Levels, Gammas

Adopted Levels, Gammas (continued)

Band(d): Band based on
 $11^+, \alpha=1$

(29 ⁺)	15234+x
	2538
(27 ⁺)	12696+x
	2314
(25 ⁺)	10382+x
	2073
(23 ⁺)	8309.1+x
	1837
(21 ⁺)	6472.1+x
	1625
(19 ⁺)	4847.0+x
	1457
(17 ⁺)	3390.0+x
	1293
(15 ⁺)	2097.0+x
	1131
(13 ⁺)	966.0+x
	966
	x

Band(E): $\pi 3/2[431] \otimes \pi 3/2[312], \alpha=0$

(32 ⁻)	25868
	3285
(30 ⁻)	22583
	2842
(28 ⁻)	19741
	2414
(26 ⁻)	17327
	2102
(24 ⁻)	15225
	1873
(22 ⁻)	13352.1
	1697
(20 ⁻)	11655.1
	1596
(18 ⁻)	10059.1
	1538
(16 ⁻)	8521.1
	1411
(14 ⁻)	7110.1
	1237
(12 ⁻)	5873.1
	1067
(10 ⁻)	4806.4
8 ⁽⁻⁾	3900.9
6 ⁽⁻⁾	3175.2
4 ⁽⁻⁾	2622.0
2	2227.27

Band(e): $\pi 3/2[431] \otimes \pi 3/2[312], \alpha=1$

(33⁻) 27083

(32 ⁻)	25868
	3285
(31 ⁻)	23742
	3341
(30 ⁻)	22583
	2927
(29 ⁻)	20815
	2558
(28 ⁻)	18256
	2247
(27 ⁻)	16009
	1983
(25 ⁻)	14026
	1772
(24 ⁻)	12254.4
	1614
(23 ⁻)	10640.4
	1523
(22 ⁻)	9117.4
	1534
(21 ⁻)	7583.3
	1534
(20 ⁻)	7435.3
	1418
(19 ⁻)	6218.3
	1282
(18 ⁻)	6222.3
	1361
(17 ⁻)	5051.3
	1171
(16 ⁻)	4072.8
	978
(15 ⁻)	3288.4
	784
(14 ⁻)	2683.7
	605
(13 ⁻)	2742.20
	554
(12 ⁻)	2944.4
	630
(11 ⁻)	2227.27
	395

Band(F): $\nu 3/2[301] \otimes \nu 5/2[422], \alpha=0$

(27 ⁻)	19172
	2522
(25 ⁻)	16650
	2210
(23 ⁻)	14440
	1947
(21 ⁻)	12493
	1719
(19 ⁻)	10773.9
	1556
(17 ⁻)	9217.9
	1347
(15 ⁻)	7870.9
	1189
(13 ⁻)	6681.8
	1153
(11 ⁻)	5528.8
	1059
(9 ⁻)	4469.8
	896
(7 ⁻)	3573.8
	630
(5 ⁻)	2944.4
	630

Band(G): Band based on
770, 0⁺

2 ⁺	1687.32
0 ⁺	917

0 ⁺	769.94
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