Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 116, 1 (2014)	31-Dec-2013

Q(β^-)=−3261 *19*; S(n)=8525 *3*; S(p)=8633 *4*; Q(α)=−5833 *3* 2012Wa38
S(2n)=20448 *7*, S(2p)=15691.1 *28* (2012Wa38).

^{85}Sr produced and identified by 1940Du05 in ^{85}Rb(p,n) reaction; measured β and γ activity, half-lives of ground state and isomer. Later decay measurements: 1971Vo06, 1980Me06, 1990Je03; and many references for half-life measurements of ground state and isomer.

Measurements of hyperfine structures, isotopes shifts, etc.: 1990Li28, 1990Bu12, 1986An39, 1992Li24 (compilation and review).

Data for high-spin (J>11/2) structures are mainly from recent work by 2012KuZX using ^{76}Ge(^{13}C,4nγ) reaction and a much larger detector array than the detector systems used in earlier experiments by 1988ZhZW, 1981Bu02, 1980Ek03 and 1977Ar04. Some of the γ rays and their placements are different in earlier studies; all these are now adopted from 2012KuZX due to better counting statistics in their $\gamma\gamma$-coincidence experiment.

^{85}Sr Levels

Cross Reference (XREF) Flags

A	^{85}Sr IT decay (67.63 min)	F	^{82}Kr(α,nγ)	K	^{85}Rb(p,nγ)
B	^{85}Y ε decay (2.68 h)	G	^{84}Kr(α,3nγ)	L	^{86}Sr(d,t)
C	^{85}Y ε decay (4.86 h)	H	^{83}Kr(^{3}He,n)	M	^{86}Sr(^{3}He,α)
D	^{76}Ge(^{12}C,3nγ)	I	^{84}Sr(n,γ),(n,n):resonances	N	^{86}Sr(^{3}He,$\alpha\gamma$)
E	^{76}Ge(^{13}C,4nγ)	J	^{84}Sr(d,p)	O	^{87}Sr(p,t)

E(level)[†]	J$^\pi$[&]	T$_{1/2}$[a]	XREF	Comments
0.0[f]	9/2$^+$	64.849[e] d *7*	ABCDEFGH JKLMNO	%ε=100 μ=−1.000 *2* (1990Bu12,2011StZZ) Q=+0.282 *15* (1990Bu12,2002Ma09,2011StZZ) RMS charge radius (<r^2>)$^{1/2}$=4.2304 fm *21* (2013An02 evaluation). J$^\pi$: spin from hyperfine structure using collinear laser spectroscopy (1990Bu12,1987Bu11); parity from L(^{3}He,α)=L(d,p)=4; L(^{3}He,n)=0 from 9/2$^+$ target. μ,Q: collinear fast beam laser spectroscopy (1990Bu12, also 1987Bu11). Q value=+0.29 *3* (1990Bu12) recalculated by 2002Ma09. Other: μ=−1.0005 *3*, Q=+0.323 *20* (1987An02,atomic beam with laser fluorescence spectroscopy). Additional information 1.
231.79 *4*	7/2$^+$	0.21 ns *5*	ABCDEFG K NO	XREF: O(236). J$^\pi$: ΔJ=1, M1+E2 γ to 9/2$^+$; γ(θ,pol) In (α,nγ).
238.79 *5*	1/2$^-$	67.63 min *4*	ABCD F JKLM	%IT=86.6 *4*; %ε=13.4 *4* μ=+0.600 *4* (1990Bu12,2011StZZ) J$^\pi$: spin from hyperfine structure using collinear laser spectroscopy (1990Bu12,1987Bu11); parity from L(^{3}He,α)=L(d,p)=1. μ: collinear fast beam laser spectroscopy (1990Bu12). Other: +0.599 *2* (1987An02,atomic beam with laser fluorescence spectroscopy). E(level): 240 *3* in (d,t) and 234 *8* in (^{3}He,α) are associated with 238.66 level on the basis of L=1 transfer in both the reactions. It is possible, however, that these groups also contain small contribution of known 231.6, (7/2$^+$) level. T$_{1/2}$: weighted average of 67.55 min *7* (1982Gr07), 67.66 min *7* (1970LyZZ), 67.66 min *7* (1972Em01: 4π ionization chambers), 67.92 min *25* (1972Em01: solid well-type scintillation counters), and 67.3 min *3* (1971Bu08). Others: 69.5 min *5* (1966Ka24,1964Gu08), 70 min (1940Du05).

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Adopted Levels, Gammas (continued)

^{85}Sr Levels (continued)

E(level)[†]	Jπ[&]	$T_{1/2}$[a]	XREF	Comments
				%IT,%ε: from normalization of decay schemes of ^{85}Sr IT decay (67.63 min) and ^{85}Sr ε decay (67.63 min); see these datasets for details.
743.25 *10*	3/2⁻	0.12 ps *8*	BCD F JKLMNO	XREF: L(760). Jπ: L(d,p)=L(^{3}He,α)=1; γ from 1355, 5/2⁺ not M2 from RUL.
767.34 *8*	5/2⁺	>7[c] ps	CD F JKL NO	XREF: L(750). Jπ: L(d,p)=2; γ to 9/2⁺; 3/2⁺ not possible as RUL for M3 would require $T_{1/2}$>57 μs.
785.52 *12*	(5/2⁻)		CD F JK O	Jπ: log *ft*=9.5 from (9/2)⁺; γ to 1/2⁻. But L(p,t)=(6) suggests positive parity.
936.83 *10*	5/2⁻		BCD KLM O	XREF: L(910)M(900). Jπ: L(d,t)=3; L(^{3}He,α)=3,(4); D+Q γ to 3/2⁻.
111×10[1] *10*	(9/2⁺)		H o	Jπ: L(^{3}He,n)=0 from 9/2⁺ target.
1111.46[f] *21*	13/2⁺	2.56 ps *21*	DEFG o	Jπ: ΔJ=2, E2 γ to 9/2⁺; band member.
1152.73 *11*	3/2⁻	0.13 ps *4*	B F JKLMNO	Jπ: L(d,t)=L(d,p)=L(^{3}He,α)=1; 1/2⁻ not allowed by RUL(E2) for 215.9γ to 5/2⁻. $T_{1/2}$: weighted average of 0.14 ps *+6−3* from (p,nγ) and 0.11 ps *5* from (^{3}He,αγ).
1220.82 *13*	(11/2)⁺	0.73 ps *17*	CDEFG K O	Jπ: ΔJ=1, M1+E2 γ to 9/2⁺. $T_{1/2}$: other: 0.21 ps *+9−6* from (p,nγ).
1262.01 *10*	9/2⁺	0.60 ps *16*	CDEF H K M O	XREF: H(1110)M(1230). Jπ: ΔJ=1, M1+E2 γ to 7/2⁺; M1+E2 γ to 9/2⁺ and (7/2)⁺; L(^{3}He,α)=4,(3) for a 1230 *15* group. E(level): 1110 In (^{3}He,n) with L=0 probably corresponds to this level. Uncertainty In (^{3}He,n) is≈100 keV. $T_{1/2}$: other: 0.18 ps *+9−5* from (p,nγ).
1355.15 *9*	5/2⁺	≥0.13 ps	C F JKL O	Jπ: L(d,t)=2; L(p,t)=(2) from 9/2⁺.
1403 *5*	1/2⁺		J o	Jπ: L(d,p)=0. L(p,t)=(6) from 9/2⁺ target is inconsistent.
1405.17 *18*	(5/2⁻,7/2⁻)		C o	Jπ: log *ft*=7.6 from (9/2)⁺; gammas to 3/2⁻ and 5/2⁺.
1453.0 *3*	(5/2⁻,7/2,9/2⁻)		C	Jπ: log *ft*=8.1 from (9/2)⁺; γ to (5/2⁻).
1485.7 *3*	(3/2⁺)		JK O	Jπ: gammas to 7/2⁺ and 1/2⁻; L(p,t)=(2+4).
1516.9 *4*	(1/2,3/2)		B	Jπ: log *ft*=7.1 (log $f^{1u}t$=7.9) from (1/2)⁻.
1555.35 *10*	(5/2⁺,7/2)	≥0.11[b] ps	C jK o	XREF: j(1556). Jπ: γ to 9/2⁺, (5/2)⁺ and (5/2⁻). L(d,p)=2 gives 5/2⁺ if the level seen in (d,p) corresponds to 1555.3 level.
1559.4 *4*	(1/2,3/2)		B jK o	XREF: j(1556). Jπ: log *ft*=6.9 (log $f^{1u}t$=7.6) from (1/2)⁻. L(d,p)=2 gives (3/2)⁺ if the level seen in (d,p) corresponds to 1559.3 level.
1588.56 *13*	(7/2,9/2⁺)		C K O	Jπ: log *ft*=7.3 (log $f^{1u}t$=8.2) from (9/2)⁺; γ to (5/2)⁺.
1627.11 *12*	(9/2)⁺	0.23 ps *6*	CD F O	Jπ: M1+E2 γ to (7/2)⁺; L(p,t)=(0) from 9/2⁺ target.
1648.8 *10*	1/2⁻,3/2⁻	0.2 ps *+3−1*	LMN	XREF: L(1670)M(1620). Jπ: L(d,t)=L(^{3}He,α)=1.
1658.08 *18*	11/2⁺	0.8 ps *5*	CDEFG O	Jπ: ΔJ=1, M1+E2 γ to 9/2⁺; ΔJ=2, E2 γ to 7/2⁺.
1684.2 *4*			O	
1700.98 *22*	(5/2⁻,7/2,9/2⁻)		C	Jπ: log *ft*=7.7 from (9/2)⁺; γ to (5/2)⁻.
1712[‡] *5*			J O	
179×10[1] *10*	(9/2⁺)		H	Jπ: L(^{3}He,n)=0.
1793 *5*	3/2⁺,5/2⁺		J	Jπ: L(d,p)=2.
1793.68 *19*	(5/2⁻,7/2,9/2⁺)		C	Jπ: log *ft*=7.9 from (9/2)⁺; γ to (5/2)⁺.
1827 *5*	3/2⁺,5/2⁺		J L	Jπ: L(d,p)=L(d,t)=2.
1842[‡] *5*	1/2⁺		J O	XREF: O(1853). Jπ: L(d,p)=0.

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Adopted Levels, Gammas (continued)

^{85}Sr Levels (continued)

E(level)[†]	Jπ[&]	$T_{1/2}$[a]	XREF	Comments
1850.3 *3*	13/2+	1.7[d] ps *4*	DE	Jπ: ΔJ=0, M1+E2 γ to 13/2+; ΔJ=2, (E2)γ to 9/2+.
1919.74 *20*	(7/2,9/2,11/2+)		C o	Jπ: log *ft*=7.0 (log $f^{1u}t$=7.8) from (9/2)+; γ to 7/2+; L(p,t)=(2) for 1919.68 and/or 1928 levels.
1928[‡] *5*	3/2+,5/2+		J o	Jπ: L(d,p)=2. L(p,t)=(2) gives 5/2+ if levels in (d,p) and (p,t) are the same.
1954 *12*	1/2−,3/2−		LM	Jπ: L(d,t)=1; L(^{3}He,α)=(1).
1982.1 *4*	(7/2+,9/2+)		C J O	Jπ: log *ft*=7.5 (log $f^{1u}t$=8.3) from (9/2)+; γ to (5/2)+; L(p,t)=(2).
2046.61 *24*	(9/2+)		C O	Jπ: L(p,t)=(0) from 9/2+ target.
2046.9 *11*	(3/2+,5/2+)		J	Jπ: L(d,p)=(2).
2086.20 *14*	(7/2+,9/2,11/2+)		C J	Jπ: log *ft*=6.5 (log $f^{1u}t$=7.3) from (9/2)+; gammas to 11/2+ and 7/2+.
2102.06[g] *23*	13/2−		DEFG O	Jπ: ΔJ=1, E1 γ to 11/2+; ΔJ=0, E1 γ to 13/2+ in (α,nγ).
2123.78 *9*	(7/2)+		C J O	Jπ: log *ft*=5.3 from (9/2)+; γ to 5/2−.
2141 *9*	5/2−,7/2−		LM	XREF: L(2090). Jπ: L(d,t)=3; L(^{3}He,α)=3,(4).
2165.91 *12*	(7/2+,9/2+)		C O	Jπ: log *ft*=6.2 (log $f^{1u}t$=6.9) from (9/2)+; gammas to (11/2)+ and (5/2)+.
2172.03 *10*	(7/2)+		C	Jπ: log *ft*=5.4 from (9/2)+; γ to 5/2−.
2204[‡] *5*			J O	
2238[‡] *5*	(5/2+)		J O	Jπ: L(d,p)=(2); L(p,t)=(2) from 9/2+ target.
2290[‡] *5*	(−)		J O	Jπ: L(p,t)=(5) from 9/2+ target.
2325.1 *7*	(5/2)+		F J O	Jπ: L(d,p)=2; L(p,t)=(2) from 9/2+ target.
2351.74 *9*	(7/2)+		C J	Jπ: log *ft*=5.4 from (9/2)+; γ to 5/2−.
2367.1[g] *3*	(17/2)−	1.2 ns *4*	DEFG O	Jπ: ΔJ=2, E2 γ to 13/2−; band member. $T_{1/2}$: Doppler shift method, weighted average of 1.1 ns *4* In (α,nγ) and 2.4 ns *12* In (^{12}C,3nγ).
2378 *5*	(3/2+,5/2+)		J L	XREF: L(2360). Jπ: L(d,p)=L(d,t)=(2).
2400.1[f] *3*	(17/2)+	2.25 ps *21*	DEFG	Jπ: ΔJ=2, E2 γ to 13/2+; band member.
2406 *5*	(+)		O	Jπ: L(p,t)=(2) from 9/2+ target.
2458 *5*	(+)		O	Jπ: L(p,t)=(2) from 9/2+ target.
2471.0 *3*	(7/2,9/2,11/2+)		C O	Jπ: log *ft*=7.3 (log $f^{1u}t$=7.7) from (9/2)+; γ to 7/2+.
2496 *5*	1/2+		J	Jπ: L(d,p)=0.
2501 *5*	3/2+,5/2+		J	Jπ: L(d,p)=2.
2525.5 *4*	(15/2)+	0.139[d] ps *35*	DE	Jπ: ΔJ=1, M1 γ to 13/2+; ΔJ=(2), (E2) γ to 11/2+.
2527 *5*	3/2+,5/2+		J O	Jπ: L(d,p)=2; L(p,t)=(3+5) is In disagreement.
2560 *5*	(−)		O	Jπ: L(p,t)=(3+5) from 9/2+ target.
2602[‡] *5*	1/2+		J O	Jπ: L(d,p)=0.
2628 *5*	(3/2+,5/2+)		J O	Jπ: L(d,p)=(2).
2642.21 *17*	(7/2,9/2−)		C	Jπ: log *ft*=5.9 (log $f^{1u}t$=6.1) from (9/2)+; γ to 5/2−.
2661.0 *3*	(15/2)−	0.42[d] ps *14*	DE	Jπ: ΔJ=1, E1 γ to 13/2+; ΔJ=1, (M1) γ to 13/2−.
2696 *5*			J	
2717.6 *4*	(7/2,9/2,11/2+)		C	Jπ: log *ft*=7.1 (log $f^{1u}t$=7.2) from (9/2)+; γ to 7/2+.
2748 *5*	1/2+		J	Jπ: L(d,p)=0.
2768.2 *3*	(7/2,9/2,11/2+)		C	Jπ: log *ft*=6.7 (log $f^{1u}t$=6.7) from (9/2)+; γ to 7/2+.
2782.02 *15*	(7/2+,9/2+)		C	Jπ: log *ft*=5.8 from (9/2)+; γ to (3/2+,5/2+).
2810.02 *23*	(7/2,9/2+)		C	Jπ: log *ft*=6.2 (log $f^{1u}t$=6.1) from (9/2)+; γ to 5/2+.
2814.4 *3*	(7/2,9/2,11/2+)		C	Jπ: log *ft*=6.4 (log $f^{1u}t$=6.3) from (9/2)+; γ to 7/2+.
2840.0 *3*	(17/2)+		E	Jπ: ΔJ=2, E2 γ to 13/2+; ΔJ=0, M1(+E2) γ to (17/2)+.
285×10[1] *10*	(9/2+)		H	Jπ: L(^{3}He,n)=0 from 9/2+ target.

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Adopted Levels, Gammas (continued)

^{85}Sr Levels (continued)

E(level)[†]	Jπ[&]	$T_{1/2}$[a]	XREF	Comments
2861.1 *4*	$(17/2)^-$	0.83[d] ps *35*	DE G	Jπ: ΔJ=0, M1(+E2) γ to $(17/2)^-$; DJ=1 G TO $(15/2)^-$.
2882 *5*	$1/2^+$		J	Jπ: L(d,p)=0.
2952 *5*	$(3/2^+,5/2^+)$		J	Jπ: L(d,p)=(2).
2975.25 *20*	$(7/2,9/2^-)$		C	Jπ: log *ft*=5.9 (log $f^{1u}t$=5.4) from $(9/2)^+$; γ to $5/2^-$.
2980.26 *24*	(7/2,9/2)		C	Jπ: log *ft*=6.0 (log $f^{1u}t$=5.5) from $(9/2)^+$; γ to $7/2^+$; weak γ to $(5/2^-,7/2^-)$.
2990.7 *3*	$(7/2,9/2^-)$		C J	Jπ: log *ft*=6.4 (log $f^{1u}t$=5.9) from $(9/2)^+$; gammas to $7/2^+$ and $(5/2^-)$.
3018.1 *5*	$(7/2,9/2,11/2^+)$		C	Jπ: log *ft*=6.5 (log $f^{1u}t$=5.8) from $(9/2)^+$; γ to $7/2^+$.
3027.8[g] *4*	$(19/2)^-$	1.9 ps *4*	DEFG	Jπ: ΔJ=1, M1+E2 γ to $(17/2)^-$; ΔJ=1, E1 γ to $(17/2)^+$.
3031.2 *3*	$(7/2,9/2^-)$		C	Jπ: log *ft*=6.2 (log $f^{1u}t$=5.5) from $(9/2)^+$; γ to $5/2^-$.
3048 *5*			J	
3063.2 *4*	(7/2,9/2,11/2)		C j	XREF: j(3065). Jπ: log *ft*=6.4 (log $f^{1u}t$=5.7) from $(9/2)^+$.
3071.6 *3*	$(17/2)^+$		DE	Jπ: ΔJ=1, M1+E2 γ to $(15/2)^+$; ΔJ=0, M1+E2 γ to $(17/2)^+$.
3075.3 *3*	$(7/2,9/2^-)$		C j	XREF: j(3065). Jπ: log *ft*=6.2 (log $f^{1u}t$=5.4) from $(9/2)^+$; γ to $(5/2^-)$.
3079.9[f] *4*	$(21/2)^+$	51 ps *7*	DE G	Jπ: ΔJ=2, E2 γ to $(17/2)^+$; band member.
3088.6 *4*	$(7/2,9/2,11/2^+)$		C	Jπ: log *ft*=5.9 (log $f^{1u}t$=5.0) from $(9/2)^+$; γ to $7/2^+$.
3105 *5*			J	
3129.1 *5*	$(7/2,9/2,11/2^+)$		C	Jπ: log *ft*=6.3 (log $f^{1u}t$=5.4) from $(9/2)^+$; γ to $7/2^+$.
3136 *5*	$(1/2^+)$		J	Jπ: L(d,p)=(0).
3169 *5*			J	
3227.2 *4*	$(21/2)^-$	>2.8[d] ps	DE	Jπ: ΔJ=2, E2 γ to $(17/2)^-$.
3301 *5*	$1/2^+$		J	Jπ: L(d,p)=0.
3336 *5*			J	
3380 *5*	$(3/2^+,5/2^+)$		J	Jπ: L(d,p)=(2).
3383.9[i] *3*	$(19/2)^+$	6.2 ps *14*	DE G	Jπ: ΔJ=1, M1+E2 γ rays to $(17/2)^+$; ΔJ=(2) γ to $(15/2)^+$.
3396.5[g] *4*	$(21/2)^-$	2.27 ps *21*	DE G	Jπ: ΔJ=1, M1+E2 γ to $(19/2)^-$.
3408 *5*			J	
3426 *5*			J	
3455 *5*	$1/2^+$		J	Jπ: L(d,p)=0.
3503 *5*			J	
3510.0 *6*			J	
3511.5[i] *4*	$(21/2)^+$		E G	Jπ: ΔJ=2, E2 γ to $(17/2)^+$; ΔJ=0, M1+E2 γ to $(21/2)^+$.
3532 *5*	$3/2^+,5/2^+$		J	Jπ: L(d,p)=2.
3563 *5*	$(1/2^+)$		J	Jπ: L(d,p)=(0).
3582 *5*	$1/2^+$		J	Jπ: L(d,p)=0.
3598 *5*			J	
3645 *5*			J	
3672 *5*			J	
3965.7[i] *5*	$(23/2)^+$	0.55[d] ps *21*	DE	Jπ: ΔJ=1, M1 γ to $(21/2)^+$.
3970.8 *11*	$(21/2^-)$		D	E(level): level and 943γ not reported in (^{13}C,4nγ) (2012KuZX). Jπ: γ to $(19/2)^-$.
4104.5 *11*	$(23/2^-)$	0.21[d] ps *7*	D	E(level): level and 708γ not reported in (^{13}C,4nγ) (2012KuZX). Jπ: γ to $(21/2)^-$.
4361.3[g] *5*	$(23/2)^-$	1.6[d] ps *7*	DE	Jπ: ΔJ=1, M1+E2 γ to $(21/2)^-$; ΔJ=(2), (E2) γ to $(19/2)^-$.
4491.4[i] *5*	$(25/2)^+$	0.45[d] ps *17*	DE	Jπ: ΔJ=1, M1 γ to $(23/2)^+$.
4779.5[h] *5*	$(21/2^+)$		E	Jπ: γ to $(21/2)^+$.
4793.2[g] *5*	$(25/2)^-$		E	Jπ: ΔJ=1, M1+E2 γ to $(23/2)^-$; ΔJ=2, E2 γ to $(21/2)^-$.

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Adopted Levels, Gammas (continued)

^{85}Sr Levels (continued)

E(level)[†]	J$^{\pi}$[&]	T$_{1/2}$[a]	XREF	Comments
4845.0 *5*	(25/2)$^+$		E	J$^{\pi}$: ΔJ=(2), (E2) γ to (21/2)$^+$.
4968.9[h] *5*	(23/2$^+$)		E	J$^{\pi}$: ΔJ=1, (M1) γ to (21/2)$^+$; γ to (23/2)$^+$.
5006.9 *7*	(25/2$^-$)		E	J$^{\pi}$: ΔJ=(2), (E2) γ to (21/2)$^-$.
5036.4 *5*	(25/2)$^+$		E	J$^{\pi}$: ΔJ=1, M1 γ to (23/2)$^+$.
5071.5 *15*	(25/2$^-$)	0.9[d] ps *4*	D	E(level): level and 967γ not reported in (^{13}C,4nγ) (2012KuZX). J$^{\pi}$: ΔJ=1, dipole γ to (23/2$^-$).
5091.1[i] *6*	(27/2)$^+$	0.17[d] ps *6*	E G	J$^{\pi}$: ΔJ=1, M1 γ to (25/2)$^+$.
5180.9[h] *5*	(25/2)$^+$		E	J$^{\pi}$: ΔJ=0, M1+E2 γ to (25/2)$^+$; ΔJ=1, (M1) γ to (23/2)$^+$.
5422.8[h] *5*	(27/2)$^+$		E	J$^{\pi}$: ΔJ=1, M1+E2 γ to (25/2)$^+$.
5699.4[g] *5*	(27/2)$^-$		E	J$^{\pi}$: ΔJ=1, M1+E2 γ to (25/2)$^-$; ΔJ=2, (E2) γ to (23/2)$^-$.
5703.4 *7*	(27/2)		E	J$^{\pi}$: ΔJ=1, dipole γ to (25/2)$^+$.
5749.6[i] *8*	(29/2)$^+$		E	J$^{\pi}$: ΔJ=1, M1 γ to (27/2)$^+$.
5939.4[g] *5*	(29/2)$^-$		E	J$^{\pi}$: ΔJ=2, E2 γ to (25/2)$^-$; ΔJ=1, M1+E2 γ to (27/2)$^-$.
6007.8[h] *6*	(29/2$^+$)		E	J$^{\pi}$: ΔJ=1, (M1) γ to (27/2)$^+$.
6203.4 *9*	(29/2)		E	J$^{\pi}$: γ to (27/2).
6360.7[i] *9*	(31/2$^+$)		E	J$^{\pi}$: γ to (29/2)$^+$; band member.
6466.6[h] *8*	(31/2$^+$)		E	J$^{\pi}$: ΔJ=1, dipole γ to (29/2)$^+$; band member.
6626.2[g] *6*	(31/2)$^-$		E	J$^{\pi}$: ΔJ=1, M1+E2 γ to (29/2)$^-$; γ to (27/2)$^-$.
7221.8[g] *8*	(33/2)$^-$		E	J$^{\pi}$: ΔJ=1, M1+E2 γ to (31/2)$^-$.
7554.9[g] *8*	(35/2)$^-$		E	J$^{\pi}$: ΔJ=1, M1+E2 γ to (33/2)$^-$.
8525.36[#]	1/2$^+$[@]		I	
8525.48[#]			I	
8525.51[#]			I	
8525.63[#]	1/2$^+$[@]		I	
8525.70[#]	1/2$^+$[@]		I	
8526.58[#]	1/2$^+$[@]		I	
8526.96[#]	1/2$^+$[@]		I	
8527.22[#]	1/2$^+$[@]		I	
8527.96[#]	1/2$^+$[@]		I	
8528.31[#]	1/2$^+$[@]		I	
8528.56[#]	1/2$^+$[@]		I	
8528.90[#]	1/2$^+$[@]		I	

[†] From least-squares fit to Eγ data for levels populated in γ-ray studies. For others, values are from averages from reaction data when possible.
[‡] From (d,p).
[#] Excitation energy deduced from neutron resonance, absolute uncertainty is 3 keV as for S(n)(^{85}Sr).
[@] From s-wave assignment to the neutron resonance.
[&] From γ angular distribution and linear polarization in (α,nγ), (α,3nγ), (^{12}C,3nγ) and (^{13}C,4nγ) unless indicated otherwise. When L-transfer arguments are used, target J$^{\pi}$=9/2$^+$ for ^{87}Sr in (p,t); 9/2$^+$ for ^{83}Kr in (^{3}He,n) reactions and J$^{\pi}$=0$^+$ (^{84}Sr,^{86}Sr targets) in (d,p), (d,t) and (^{3}He,α) reactions.
[a] From DSAM in ^{82}Kr(α,nγ) unless indicated otherwise.
[b] From DSAM in (p,nγ).
[c] From DSAM in (^{3}He,αγ).
[d] From DSAM (1988ZhZV) in ^{76}Ge(^{12}C,3nγ).
[e] Weighted average (Rajeval technique) of 64.848 d *8* (2012Fi12, correction of original value of 64.853 d *8* in 2002Un02,

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{85}Sr Levels (continued)

1992Un02 and 64.851 d *6* in 1982HoZJ), 64.85 d *14* (1983Wa26), 64.845 d *9* (1980RuZY, earlier value of 64.84 d *3* in 1976MeZR), 64.856 d *7* (1980Ho17), 64.84 d *1* (1978Th06), 64.68 d *23* (1972La14), 64.93 d *22* (1972Em01, 1967Gl05), 65.19 d *13* (1965An07), 63.90 d *27* (1962Sa12,1962Sa18), 64.0 d *2* (1957Wr37), 65.0 d *7* (1956He77). Reduced χ^2=1.3 as compared to critical χ^2 of 1.8 at 95% confidence level. Others: 65 d *5* (1973ArZI,1974Va02), 66.6 d *6* (1969Gr12), 65 d *3* (1951Te11), 66 d (1940Du05); value from 1969Gr12 is considered as an outlier, other values are in agreement but less precise. 2004Wo02 evaluation gives 64.851 d *5*, and 2004BeZR evaluation gives 64.850 d *7*. Both used value from 2002Un02, which has now been adjusted to a slightly lower value (2012Fi12).

[f] Band(A): Band based on $9/2^+$ g.s..

[g] Band(B): Band based on $13/2^-$.

[h] Band(C): Band based on $(21/2^+)$.

[i] Band(D): Band based on $(19/2)^+$. Possible magnetic-rotational dipole band.

Adopted Levels, Gammas (continued)

γ(^{85}Sr)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#]	α[@]	$I_{(\gamma+ce)}$	Comments
231.79	7/2$^+$	231.77 *5*	100	0.0	9/2$^+$	M1+E2	−0.45 *6*	0.0224 *12*		α(K)=0.0196 *11*; α(L)=0.00228 *14*; α(M)=0.000383 *23* α(N)=4.7×10^{-5} *3*; α(O)=2.89×10^{-6} *14* B(M1)(W.u.)=0.0069 *17*; B(E2)(W.u.)=30 *10* E_γ: LWM average of values from (α,nγ), IT decay, ε decay (2.68 h), (4.86 h), and (^{13}C,4nγ). δ: from α(K)exp in IT decay. Other: −0.18 *+9−18* from ^{82}Kr(α,nγ).
238.79	1/2$^-$	(7.00 *6*)		231.79	7/2$^+$	[E3]		2.02×10^7 *12*	100.0 *20*	ce(L)/(γ+ce)=0.82 *3*; ce(M)/(γ+ce)=0.164 *12* ce(N)/(γ+ce)=0.0157 *13*; ce(O)/(γ+ce)=3.1×10^{-6} *3* α(L)=1.66×10^7 *10*; α(M)=3.31×10^6 *19*; α(N)=3.17×10^5 *18*; α(O)=63 *4* B(E3)(W.u.)=0.037 *4* E_γ: from level-energy difference, no γ-transitions observed. $I_{(\gamma+ce)}$: from IT decay.
		238.78 *5*		0.0	9/2$^+$	M4		1.95 *4*	0.98 *4*	ce(K)/(γ+ce)=0.544 *6*; ce(L)/(γ+ce)=0.0976 *18*; ce(M)/(γ+ce)=0.0170 *4* ce(N)/(γ+ce)=0.00203 *4*; ce(O)/(γ+ce)=0.0001024 *20* α(K)=1.61 *3*; α(L)=0.288 *5*; α(M)=0.0500 *9*; α(N)=0.00599 *10*; α(O)=0.000302 *5* B(M4)(W.u.)=8.1 *4* E_γ: weighted average from (α,nγ), (p,nγ), IT decay, and β$^+$ decay (2.68 h) and (4.86 h). I_γ: from intensity balance in IT decay. For α an uncertainty of 1.4% is assumed. Mult.: from α(K)exp/(α(L)exp + α(M)exp) in IT decay.
743.25	3/2$^-$	504.45 *10*	100	238.79	1/2$^-$	[M1]				B(M1)(W.u.)=1.4 *10* E_γ: weighted average from (α,nγ), (p,nγ) and β$^+$ decay (2.68 h) and (4.86 h).
767.34	5/2$^+$	535.61 *18*	95 *10*	231.79	7/2$^+$	(M1)				B(M1)(W.u.)<0.0100
		767.40 *19*	100 *10*	0.0	9/2$^+$	(E2)				B(E2)(W.u.)<7.0
785.52	(5/2$^-$)	546.7 *2*	100	238.79	1/2$^-$					
936.83	5/2$^-$	151.0 *10*	1.5 *6*	785.52	(5/2$^-$)					
		193.4 *4*	26.7 *17*	743.25	3/2$^-$	D+Q				
		698.0 *2*	100 *4*	238.79	1/2$^-$					
1111.46	13/2$^+$	1111.5 *3*	100	0.0	9/2$^+$	E2				B(E2)(W.u.)=5.9 *5*
1152.73	3/2$^-$	215.9 *4*	2.13 *23*	936.83	5/2$^-$	[M1]		0.0207		B(M1)(W.u.)=0.32 *11* α(K)=0.0183 *3*; α(L)=0.00204 *3*; α(M)=0.000344

$^{85}_{38}Sr_{47}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{85}Sr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[#]	α[@]	Comments
									5 α(N)=4.31×10^{-5} *7*; α(O)=2.78×10^{-6} *5*
1152.73	3/2$^-$	409.5 *3*	9.3 *8*	743.25	3/2$^-$	[M1]			B(M1)(W.u.)=0.20 *8* RUL=300 for E2 gives δ(E2/M1)<0.5.
		913.93 *11*	100 *5*	238.79	1/2$^-$	[M1+E2]			B(M1)(W.u.)=0.10 *4*; B(E2)(W.u.)=1.4×10^2 *5* E_γ: weighted average from ^{82}Kr(α,nγ), (p,nγ), and ε decay (2.68 h).
1220.82	(11/2)$^+$	989.0 *3*	3.0 *3*	231.79	7/2$^+$	[E2]			B(E2)(W.u.)=1.1 *3* E_γ,I_γ: from ^{85}Y ε decay (4.86 h). γ also reported in (p,nγ) but the intensity is a factor of 30 larger. γ not reported in any of the other in-beam γ-ray studies.
		1220.6 *2*	100 *4*	0.0	9/2$^+$	M1+E2	−0.95 *+17−9*		B(M1)(W.u.)=0.0085 *25*; B(E2)(W.u.)=5.9 *18*
1262.01	9/2$^+$	1030.2 *2*	100.0 *15*	231.79	7/2$^+$	M1+E2	−0.16 *+2−6*		B(M1)(W.u.)=0.025 *7*; B(E2)(W.u.)=0.7 *3*
		1261.9 *2*	30.9 *15*	0.0	9/2$^+$	M1+E2	−2.3 *+4−14*		B(M1)(W.u.)=0.0007 *3*; B(E2)(W.u.)=2.6 *8*
1355.15	5/2$^+$	587.5 *4*	6.7 *7*	767.34	5/2$^+$	[M1+E2]			If M1, B(M1)(W.u.)<0.034. If E2, B(E2)(W.u.)<112.
		611.9 *2*	61 *4*	743.25	3/2$^-$	[E1]			B(E1)(W.u.)<0.0043
		1123.34 *14*	100 *4*	231.79	7/2$^+$	[M1+E2]			If M1, B(M1)(W.u.)<0.072. If E2, B(E2)(W.u.)<66.
1405.17	(5/2$^-$,7/2$^-$)	468.4 *4*	100 *9*	936.83	5/2$^-$				
		637.5 *4*	82 *16*	767.34	5/2$^+$				
		662.0 *6*	68 *15*	743.25	3/2$^-$				
		1172.9 *6*	42 *9*	231.79	7/2$^+$				
1453.0	(5/2$^-$,7/2,9/2$^-$)	667.5 *4*	100	785.52	(5/2$^-$)				
1485.7	(3/2$^+$)	718.4 *5*	32	767.34	5/2$^+$				
		1247.0 *5*	22	238.79	1/2$^-$				
		1253.9 *5*	100	231.79	7/2$^+$				
1516.9	(1/2,3/2)	1278.1 *4*	100	238.79	1/2$^-$				E_γ: γ only from ε decay (2.68 h).
1555.35	(5/2$^+$,7/2)	769.7 *10*	19 *4*	785.52	(5/2$^-$)				
		787.95 *14*	100 *6*	767.34	5/2$^+$				
		1323.4 *2*	44 *3*	231.79	7/2$^+$				
		1555.3 *3*	13.8 *11*	0.0	9/2$^+$				
1559.4	(1/2,3/2)	1320.6 *4*	100	238.79	1/2$^-$				
1588.56	(7/2,9/2$^+$)	821.6 *2*	65 *6*	767.34	5/2$^+$				
		1356.3 *2*	39	231.79	7/2$^+$				I_γ: only from (p,nγ).
		1588.7 *3*	100 *6*	0.0	9/2$^+$				
1627.11	(9/2)$^+$	1395.46 *19*	100 *6*	231.79	7/2$^+$	M1+E2	−0.8 *5*		B(M1)(W.u.)=0.013 *8*; B(E2)(W.u.)=5 *5* E_γ: weighted average from ^{82}Kr(α,nγ) and ε decay (4.68 h).
		1626.8 *2*	61 *5*	0.0	9/2$^+$	[M1+E2]			B(M1)(W.u.)=0.0042 *12*; B(E2)(W.u.)=1.8 *6* If M1, B(M1)(W.u.)=0.0084 *24*. If E2, B(E2)(W.u.)=3.6 *12*.
1648.8	1/2$^-$,3/2$^-$	1410	100	238.79	1/2$^-$	[M1]			B(M1)(W.u.)=0.039 *+20−39*
1658.08	11/2$^+$	396.2 *5*	6.2 *18*	1262.01	9/2$^+$	(M1)		0.00456	α(K)=0.00403 *6*; α(L)=0.000443 *7*; α(M)=7.44×10^{-5} *11*

Adopted Levels, Gammas (continued)

γ(^{85}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	δ#	Comments
								α(N)=9.35×10^{-6} *14*; α(O)=6.09×10^{-7} *9* B(M1)(W.u.)=0.017 *12*
1658.08	11/2$^+$	1426.3 *3*	56 *10*	231.79	7/2$^+$	E2		B(E2)(W.u.)=1.9 *13* I_γ: unweighted average of all available data.
		1658.0 *3*	100.0 *20*	0.0	9/2$^+$	M1+E2	−1.40 +*20*−*8*	B(M1)(W.u.)=0.0013 *9*; B(E2)(W.u.)=1.0 *7*
1700.98	(5/2$^-$,7/2,9/2$^-$)	914.5 *10*	100 *29*	785.52	(5/2$^-$)			
		1700.8 *3*	63 *20*	0.0	9/2$^+$			
1793.68	(5/2$^-$,7/2,9/2$^+$)	438.4 *5*	100 *6*	1355.15	5/2$^+$			
		1026.8 *3*	65 *8*	767.34	5/2$^+$			
		1561.4 *4*	24 *4*	231.79	7/2$^+$			
1850.3	13/2$^+$	738.8 *3*	100 *5*	1111.46	13/2$^+$	M1+E2		If M1, B(M1)(W.u.)=0.019 *5*. If E2, B(E2)(W.u.)=40 *10*.
		1850.4 *5*	71 *7*	0.0	9/2$^+$	(E2)		B(E2)(W.u.)=0.29 *8* Mult.: ΔJ=(2), quadrupole in (^{12}C,3nγ) and RUL.
1919.74	(7/2,9/2,11/2$^+$)	658.4 *6*	41 *8*	1262.01	9/2$^+$			
		1687.8 *3*	100 *7*	231.79	7/2$^+$			
		1919.7 *3*	96 *10*	0.0	9/2$^+$			
1982.1	(7/2$^+$,9/2$^+$)	1215.0 *8*	55 *13*	767.34	5/2$^+$			
		1750.3 *4*	100 *13*	231.79	7/2$^+$			
2046.61	(9/2$^+$)	1814.7 *4*	100 *19*	231.79	7/2$^+$			
		2046.6 *3*	92 *12*	0.0	9/2$^+$			
2086.20	(7/2$^+$,9/2,11/2$^+$)	865.5 *3*	29 *3*	1220.82	(11/2)$^+$			
		1854.3 *2*	100 *5*	231.79	7/2$^+$			
		2086.2 *2*	36 *3*	0.0	9/2$^+$			
2102.06	13/2$^-$	444.0 *3*	70.2 *20*	1658.08	11/2$^+$	E1		I_γ: from weighted average of values from (^{13}C,4nγ) and (^{12}C,3nγ). Values in (α,nγ) are generally much higher at different beam energies.
		881.0 *5*	4.9 *10*	1220.82	(11/2)$^+$	D		
		990.5 *3*	100.0 *20*	1111.46	13/2$^+$	E1		Mult.,δ: DCO and pol in (^{13}C,4nγ). δ(M2/E1)=+0.65 *30* from (^{12}C,3nγ), but δ(M2/E1)≤0.05 from RUL assuming level half-life<20 ns.
2123.78	(7/2)$^+$	568.4 *2*	33.7 *23*	1555.35	(5/2$^+$,7/2)			
		718.4 *3*	1.63 *23*	1405.17	(5/2$^-$,7/2$^-$)			
		768.6 *8*	26 *3*	1355.15	5/2$^+$			
		861.6 *2*	19.6 *13*	1262.01	9/2$^+$			
		1186.9 *2*	5.5 *4*	936.83	5/2$^-$			
		1338.4 *2*	3.4 *3*	785.52	(5/2$^-$)			
		1356.3 *2*	10.8 *10*	767.34	5/2$^+$			
		1892.2 *2*	36 *3*	231.79	7/2$^+$			
		2123.8 *2*	100 *5*	0.0	9/2$^+$			
2165.91	(7/2$^+$,9/2$^+$)	810.8 *2*	43 *5*	1355.15	5/2$^+$			
		944.5 *3*	38 *4*	1220.82	(11/2)$^+$			
		1934.2 *2*	49 *5*	231.79	7/2$^+$			
		2166.0 *2*	100 *6*	0.0	9/2$^+$			

$^{85}_{38}Sr_{47}$-9

Adopted Levels, Gammas (continued)

γ(^{85}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	α@	Comments
2172.03	(7/2)$^+$	616.5 *2*	28.1 *18*	1555.35	(5/2$^+$,7/2)			
		816.8 *2*	25.3 *14*	1355.15	5/2$^+$			
		910.0 *3*	6.5 *5*	1262.01	9/2$^+$			
		1235.5 *6*	1.28 *25*	936.83	5/2$^-$			
		1404.6 *2*	100 *4*	767.34	5/2$^+$			
		1940.4 *2*	18.6 *11*	231.79	7/2$^+$			
		2172.1 *2*	74 *4*	0.0	9/2$^+$			
2325.1	(5/2)$^+$	698.0 *6*	100	1627.11	(9/2)$^+$			
2351.74	(7/2)$^+$	558.2 *3*	22.3 *18*	1793.68	(5/2$^-$,7/2,9/2$^+$)			
		667.5 *4*	12.3 *15*	1712				
		724.5 *2*	37 *3*	1627.11	(9/2)$^+$			
		763.2 *5*	14.5 *20*	1588.56	(7/2,9/2$^+$)			
		796.4 *3*	20.0 *17*	1555.35	(5/2$^+$,7/2)			
		898.7 *3*	7.3 *5*	1453.0	(5/2$^-$,7/2,9/2$^-$)			
		996.5 *2*	45 *3*	1355.15	5/2$^+$			
		1089.9 *4*	5.0 *9*	1262.01	9/2$^+$			
		1131.0 *4*	2.9 *6*	1220.82	(11/2)$^+$			
		1414.8 *2*	34 *3*	936.83	5/2$^-$			
		1566.2 *3*	19.1 *14*	785.52	(5/2$^-$)			
		1584.4 *2*	100 *5*	767.34	5/2$^+$			
		2120.2 *3*	66 *6*	231.79	7/2$^+$			
		2351.7 *2*	47 *4*	0.0	9/2$^+$			
2367.1	(17/2)$^-$	265.1 *3*	100	2102.06	13/2$^-$	E2	0.0296	α(K)=0.0259 *4*; α(L)=0.00314 *5*; α(M)=0.000528 *8* α(N)=6.43×10^{-5} *10*; α(O)=3.63×10^{-6} *6* B(E2)(W.u.)=16 *6*
2400.1	(17/2)$^+$	1288.8 *3*	100	1111.46	13/2$^+$	E2		B(E2)(W.u.)=3.2 *3*
2471.0	(7/2,9/2,11/2$^+$)	2239.2 *3*	100	231.79	7/2$^+$			
2525.5	(15/2)$^+$	1304.6 *5*	69 *8*	1220.82	(11/2)$^+$	(E2)		B(E2)(W.u.)=20 *6* Mult.: From γ(θ) and RUL in (^{12}C,3nγ).
		1414.0 *5*	100 *8*	1111.46	13/2$^+$	M1		B(M1)(W.u.)=0.033 *9*
2642.21	(7/2,9/2$^-$)	941.0 *3*	14.5 *17*	1700.98	(5/2$^-$,7/2,9/2$^-$)			
		1705.4 *2*	100 *5*	936.83	5/2$^-$			
		2642.3 *3*	21.8 *22*	0.0	9/2$^+$			
2661.0	(15/2)$^-$	558.2 *5*	97 *11*	2102.06	13/2$^-$	(M1)		B(M1)(W.u.)=0.15 *6*
		810.8 *3*	100 *8*	1850.3	13/2$^+$	E1		B(E1)(W.u.)=0.0008 *3* Mult.: γ(θ) in (^{12}C,3nγ) and POL in (^{13}C,4nγ).
2717.6	(7/2,9/2,11/2$^+$)	2485.8 *4*	100 *11*	231.79	7/2$^+$			
		2717.6 *6*	47 *10*	0.0	9/2$^+$			
2768.2	(7/2,9/2,11/2$^+$)	1067.1 *6*	100 *25*	1700.98	(5/2$^-$,7/2,9/2$^-$)			
		2536.1 *5*	42 *12*	231.79	7/2$^+$			
		2768.3 *4*	71 *19*	0.0	9/2$^+$			
2782.02	(7/2$^+$,9/2$^+$)	735.0 *10*	6 *3*	2046.61	(9/2$^+$)			
		800.4 *9*	12 *4*	1982.1	(7/2$^+$,9/2$^+$)			

$^{85}_{38}Sr_{47}$-10

Adopted Levels, Gammas (continued)

γ(^{85}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	α@	Comments
2782.02	(7/2$^+$,9/2$^+$)	1377.0 *5*	8.9 *21*	1405.17	(5/2$^-$,7/2$^-$)			
		1519.7 *3*	10.5 *22*	1262.01	9/2$^+$			
		2550.2 *2*	68 *6*	231.79	7/2$^+$			
		2782.2 *3*	100 *5*	0.0	9/2$^+$			
2810.02	(7/2,9/2$^+$)	1254.4 *3*	100 *11*	1555.35	(5/2$^+$,7/2)			
		2042.0 *11*	17 *6*	767.34	5/2$^+$			
		2578.6 *4*	78 *14*	231.79	7/2$^+$			
		2810.3 *6*	24 *5*	0.0	9/2$^+$			
2814.4	(7/2,9/2,11/2$^+$)	2582.0 *5*	23 *5*	231.79	7/2$^+$			
		2814.6 *3*	100 *7*	0.0	9/2$^+$			
2840.0	(17/2)$^+$	440.0 *3*	67 *4*	2400.1	(17/2)$^+$	M1(+E2)	0.0045 *10*	α(K)=0.0040 *9*; α(L)=0.00045 *11*; α(M)=7.5×10^{-5} *18* α(N)=9.3×10^{-6} *21*; α(O)=5.8×10^{-7} *11*
		989.6 *5*	24 *5*	1850.3	13/2$^+$			
		1728.4 *5*	100 *6*	1111.46	13/2$^+$	E2		
2861.1	(17/2)$^-$	200.0 *3*	48 *6*	2661.0	(15/2)$^-$	(M1(+E2))	0.05 *3*	α(K)=0.046 *24*; α(L)=0.006 *4*; α(M)=0.0010 *6* α(N)=0.00012 *7*; α(O)=7.E−6 *4* B(M1)(W.u.)=1.1 *5* δ: RUL=300 for E2 gives δ<0.1.
		494.2 *3*	100 *11*	2367.1	(17/2)$^-$	M1(+E2)	0.0033 *6*	α(K)=0.0029 *5*; α(L)=0.00032 *6*; α(M)=5.4×10^{-5} *11* α(N)=6.7×10^{-6} *13*; α(O)=4.2×10^{-7} *7* B(M1)(W.u.)=0.15 *7* δ: +0.30 *15* if ΔJ=1 as In (^{12}C,3nγ) (1981Bu02), but ΔJ=0 In (^{12}C,4nγ) (2012KuZX).
2975.25	(7/2,9/2$^-$)	1055.6 *6*	50 *14*	1919.74	(7/2,9/2,11/2$^+$)			
		1570.0 *10*	24 *17*	1405.17	(5/2$^-$,7/2$^-$)			
		2038.1 *3*	100 *9*	936.83	5/2$^-$			
		2189.5 *4*	43 *7*	785.52	(5/2$^-$)			
		2744.2 *8*	32 *6*	231.79	7/2$^+$			
		2975.7 *4*	26 *4*	0.0	9/2$^+$			
2980.26	(7/2,9/2)	1574.0 *10*	9 *8*	1405.17	(5/2$^-$,7/2$^-$)			
		2748.3 *3*	100 *5*	231.79	7/2$^+$			
		2980.6 *4*	14.5 *21*	0.0	9/2$^+$			
2990.7	(7/2,9/2$^-$)	2205.0 *4*	100 *11*	785.52	(5/2$^-$)			
		2760.0 *15*	9 *4*	231.79	7/2$^+$			
		2990.8 *4*	53 *9*	0.0	9/2$^+$			
3018.1	(7/2,9/2,11/2$^+$)	2785.0 *20*	100 *75*	231.79	7/2$^+$			
		3018.1 *5*	65 *50*	0.0	9/2$^+$			
3027.8	(19/2)$^-$	166.6 *3*	23.7 *20*	2861.1	(17/2)$^-$	(M1(+E2))	0.10 *6*	α(K)=0.09 *5*; α(L)=0.011 *7*; α(M)=0.0019 *12* α(N)=0.00022 *14*; α(O)=1.2×10^{-5} *7* B(M1)(W.u.)=0.30 *8* δ: RUL=300 for E2 gives δ<0.18.
		627.8 *3*	70 *3*	2400.1	(17/2)$^+$	E1		B(E1)(W.u.)=0.00027 *6*

$^{85}_{38}Sr_{47}$-11

Adopted Levels, Gammas (continued)

γ(^{85}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	δ#	α@	Comments
3027.8	(19/2)$^-$	660.5 *5*	100 *2*	2367.1	(17/2)$^-$	M1+E2	−0.09 *3*		B(M1)(W.u.)=0.020 *5*; B(E2)(W.u.)=0.4 *3*
3031.2	(7/2,9/2$^-$)	2095.3 *7*	63 *18*	936.83	5/2$^-$				
		2798.5 *5*	76 *11*	231.79	7/2$^+$				
		3031.4 *4*	100 *10*	0.0	9/2$^+$				
3063.2	(7/2,9/2,11/2)	3063.1 *4*	100	0.0	9/2$^+$				
3071.6	(17/2)$^+$	231.6 *5*	6.9 *24*	2840.0	(17/2)$^+$				
		546.0 *5*	36 *9*	2525.5	(15/2)$^+$	M1+E2		0.0025 *4*	α(K)=0.0022 *3*; α(L)=0.00024 *4*; α(M)=4.1×10^{-5} *7* α(N)=5.1×10^{-6} *8*; α(O)=3.2×10^{-7} *4*
		671.6 *5*	100 *7*	2400.1	(17/2)$^+$	M1+E2			
		1221.2 *5*	38 *3*	1850.3	13/2$^+$	(E2)			
3075.3	(7/2,9/2$^-$)	2289.6 *4*	100 *15*	785.52	(5/2$^-$)				
		2843.8 *7*	19 *5*	231.79	7/2$^+$				
		3075.4 *6*	30 *8*	0.0	9/2$^+$				
3079.9	(21/2)$^+$	679.7 *3*	100	2400.1	(17/2)$^+$	E2			B(E2)(W.u.)=3.4 *5* E_γ: from (^{13}C,4nγ). Other: 681.5 *5* In (α,3nγ).
3088.6	(7/2,9/2,11/2$^+$)	965.0 *10*	25 *13*	2123.78	(7/2)$^+$				
		1827.0 *5*	100 *18*	1262.01	9/2$^+$				
		2857.0 *6*	25 *6*	231.79	7/2$^+$				
		3087.8 *6*	22 *6*	0.0	9/2$^+$				
3129.1	(7/2,9/2,11/2$^+$)	2897.1 *5*	100 *17*	231.79	7/2$^+$				
		3130.0 *12*	72 *46*	0.0	9/2$^+$				
3227.2	(21/2)$^-$	860.2 *3*	100	2367.1	(17/2)$^-$	E2			B(E2)(W.u.)<19
3383.9	(19/2)$^+$	312.3 *3*	96 *11*	3071.6	(17/2)$^+$	M1+E2	−0.12 *7*	0.00827 *22*	α(K)=0.00730 *19*; α(L)=0.000810 *23*; α(M)=0.000136 *4* α(N)=1.71×10^{-5} *5*; α(O)=1.10×10^{-6} *3* B(M1)(W.u.)=0.038 *10*; B(E2)(W.u.)=6 *+8−6*
		543.9 *5*	80 *9*	2840.0	(17/2)$^+$	M1+E2		0.0025 *4*	α(K)=0.0022 *3*; α(L)=0.00025 *4*; α(M)=4.1×10^{-5} *7* α(N)=5.2×10^{-6} *8*; α(O)=3.3×10^{-7} *4* if M1, B(M1)(W.u.)=0.0060 *16*. If E2, B(E2)(W.u.)=24 *6*.
		858.3 *5*	14 *5*	2525.5	(15/2)$^+$	(E2)			B(E2)(W.u.)=0.42 *19*
		983.9 *3*	100 *11*	2400.1	(17/2)$^+$	M1+E2	1.000 *1*		if M1, B(M1)(W.u.)=0.00128 *34*. If E2, B(E2)(W.u.)=1.54 *40*.
3396.5	(21/2)$^-$	368.5 *3*	100	3027.8	(19/2)$^-$	M1+E2	−0.09 *3*	0.00546 *9*	α(K)=0.00483 *8*; α(L)=0.000532 *8*; α(M)=8.95×10^{-5} *14* α(N)=1.123×10^{-5} *17*; α(O)=7.30×10^{-7} *11* B(M1)(W.u.)=0.191 *18*; B(E2)(W.u.)=13 *9*
3511.5	(21/2)$^+$	127.7 *3*	17.9 *10*	3383.9	(19/2)$^+$	(M1+E2)		0.25 *17*	α(K)=0.21 *14*; α(L)=0.030 *22*; α(M)=0.005 *4* α(N)=0.0006 *5*; α(O)=2.9×10^{-5} *18*
		431.6 *3*	10.3 *13*	3079.9	(21/2)$^+$	M1+E2		0.0048 *11*	α(K)=0.0042 *9*; α(L)=0.00047 *12*; α(M)=7.9×10^{-5} *19* α(N)=9.9×10^{-6} *23*; α(O)=6.2×10^{-7} *12*
		1111.9 *5*	100 *7*	2400.1	(17/2)$^+$	E2			
3965.7	(23/2)$^+$	454.2 *3*	100	3511.5	(21/2)$^+$	M1		0.00329	α(K)=0.00291 *4*; α(L)=0.000319 *5*; α(M)=5.35×10^{-5}

$^{85}_{38}Sr_{47}$-12

Adopted Levels, Gammas (continued)

γ(^{85}Sr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[@]	Comments
								8 α(N)=6.73×10^{-6} *10*; α(O)=4.39×10^{-7} *7* B(M1)(W.u.)=0.43 *17*
3970.8	(21/2$^-$)	943	100	3027.8	(19/2)$^-$			
4104.5	(23/2$^-$)	708	100	3396.5	(21/2)$^-$			if M1, B(M1)(W.u.)=0.30 *10*. RUL=300 FOR E2 LIMITS MR(E2/M1)<0.9.
4361.3	(23/2)$^-$	964.6 *3*	100 *10*	3396.5	(21/2)$^-$	M1+E2		if M1, B(M1)(W.u.)=0.012 *6*. If E2, B(E2)(W.u.)=14 *8*.
		1334.0 *5*	35 *10*	3027.8	(19/2)$^-$	(E2)		B(E2)(W.u.)=1.0 *6*
4491.4	(25/2)$^+$	525.7 *3*	100	3965.7	(23/2)$^+$	M1	0.00234	α(K)=0.00207 *3*; α(L)=0.000225 *4*; α(M)=3.79×10^{-5} *6* α(N)=4.76×10^{-6} *7*; α(O)=3.11×10^{-7} *5* B(M1)(W.u.)=0.34 *13*
4779.5	(21/2$^+$)	1268.4 *5*	100 *30*	3511.5	(21/2)$^+$			
		1698.9 *5*	89 *26*	3079.9	(21/2)$^+$			
4793.2	(25/2)$^-$	432.0 *5*	23.6 *24*	4361.3	(23/2)$^-$	M1+E2	0.0047 *11*	α(K)=0.0042 *9*; α(L)=0.00047 *12*; α(M)=7.9×10^{-5} *19* α(N)=9.8×10^{-6} *23*; α(O)=6.1×10^{-7} *12*
		1396.6 *3*	100 *6*	3396.5	(21/2)$^-$	E2		
		1566.0 *5*	4.1 *18*	3227.2	(21/2)$^-$			
4845.0	(25/2)$^+$	1765.0 *5*	100	3079.9	(21/2)$^+$	E2		
4968.9	(23/2$^+$)	189.2 *5*	24 *8*	4779.5	(21/2$^+$)			
		1003.2 *5*	14 *7*	3965.7	(23/2)$^+$			
		1457.4 *5*	59 *15*	3511.5	(21/2)$^+$			
		1889.0 *5*	100 *21*	3079.9	(21/2)$^+$	(M1)		
5006.9	(25/2$^-$)	1779.6 *5*	100	3227.2	(21/2)$^-$	(E2)		
5036.4	(25/2)$^+$	1070.7 *3*	100	3965.7	(23/2)$^+$	M1		
5071.5	(25/2$^-$)	967	100	4104.5	(23/2$^-$)	(M1)		B(M1)(W.u.)=0.027 *12*
5091.1	(27/2)$^+$	599.7 *3*	100	4491.4	(25/2)$^+$	M1	1.72×10^{-3}	α(K)=0.001527 *22*; α(L)=0.0001660 *24*; α(M)=2.79×10^{-5} *4* α(N)=3.51×10^{-6} *5*; α(O)=2.30×10^{-7} *4* B(M1)(W.u.)=0.60 *22*
5180.9	(25/2)$^+$	212.0 *5*	31.7 *25*	4968.9	(23/2$^+$)	D+Q		
		336.0 *5*	20 *5*	4845.0	(25/2)$^+$	M1+E2	0.010 *4*	α(K)=0.009 *3*; α(L)=0.0010 *4*; α(M)=0.00017 *6* α(N)=2.1×10^{-5} *7*; α(O)=1.3×10^{-6} *4*
		689.5[&] *5*	5.6 *28*	4491.4	(25/2)$^+$			
		1215.2 *5*	100 *14*	3965.7	(23/2)$^+$	(M1)		
		1669.4 *5*	7.2 *22*	3511.5	(21/2)$^+$			
5422.8	(27/2)$^+$	241.9 *3*	100 *11*	5180.9	(25/2)$^+$	M1	0.01547	α(K)=0.01366 *20*; α(L)=0.001522 *22*; α(M)=0.000256 *4* α(N)=3.21×10^{-5} *5*; α(O)=2.07×10^{-6} *3*
		386.4 *5*	21 *5*	5036.4	(25/2)$^+$	D		
		931.4 *3*	51 *4*	4491.4	(25/2)$^+$	M1+E2		
5699.4	(27/2)$^-$	906.3 *5*	100 *14*	4793.2	(25/2)$^-$	M1+E2		
		1338.0 *5*	91 *32*	4361.3	(23/2)$^-$	(E2)		
5703.4	(27/2)	667.0 *5*	100	5036.4	(25/2)$^+$	D		
5749.6	(29/2)$^+$	658.5 *5*	100	5091.1	(27/2)$^+$	M1	1.40×10^{-3}	α(K)=0.001236 *18*; α(L)=0.0001341 *19*; α(M)=2.25×10^{-5} *4* α(N)=2.83×10^{-6} *4*; α(O)=1.86×10^{-7} *3*

$^{85}_{38}Sr_{47}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{85}Sr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[@]	Comments
5939.4	$(29/2)^-$	240.0 *5*	24 *6*	5699.4	$(27/2)^-$	M1+E2	0.029 *14*	α(K)=0.025 *12*; α(L)=0.0030 *15*; α(M)=0.00051 *25* α(N)=6.E−5 *3*; α(O)=3.6×10^{-6} *15*
		1146.3 *3*	100 *5*	4793.2	$(25/2)^-$	E2		
6007.8	$(29/2^+)$	585.0 *3*	100	5422.8	$(27/2)^+$	(M1)	0.00183	α(K)=0.001616 *23*; α(L)=0.0001758 *25*; α(M)=2.95×10^{-5} *5* α(N)=3.71×10^{-6} *6*; α(O)=2.43×10^{-7} *4*
6203.4	(29/2)	500.0 *5*	100	5703.4	(27/2)			
6360.7	$(31/2^+)$	611.1 *5*	100	5749.6	$(29/2)^+$			
6466.6	$(31/2^+)$	458.8 *5*	100	6007.8	$(29/2^+)$	D		
6626.2	$(31/2)^-$	686.8 *3*	100 *14*	5939.4	$(29/2)^-$	M1+E2	0.00138 *11*	α(K)=0.00122 *10*; α(L)=0.000134 *12*; α(M)=2.24×10^{-5} *20* α(N)=2.81×10^{-6} *24*; α(O)=1.81×10^{-7} *12*
		926.8 *5*	12 *4*	5699.4	$(27/2)^-$			
7221.8	$(33/2)^-$	595.6 *5*	100	6626.2	$(31/2)^-$	M1+E2	0.00198 *23*	α(K)=0.00175 *20*; α(L)=0.000193 *25*; α(M)=3.2×10^{-5} *5* α(N)=4.1×10^{-6} *5*; α(O)=2.6×10^{-7} *3*
7554.9	$(35/2)^-$	333.1 *3*	100	7221.8	$(33/2)^-$	M1+E2	0.010 *4*	α(K)=0.009 *3*; α(L)=0.0010 *4*; α(M)=0.00017 *6* α(N)=2.2×10^{-5} *8*; α(O)=1.3×10^{-6} *4*

[†] Values represent weighted averages of all available data from γ-ray studies. High-spin (J>11/2) data are mainly from (^{13}C,4nγ).
[‡] From DCO and POL in (^{13}C,4nγ), unless otherwise stated.
[#] From $\gamma(\theta)$ in (^{12}C,3nγ), (α,nγ) and (α,3nγ).
[@] If No δ value given for M1+E2, α overlaps values for M1 and E2.
[&] Placement of transition in the level scheme is uncertain.

$^{85}_{38}Sr_{47}$-14

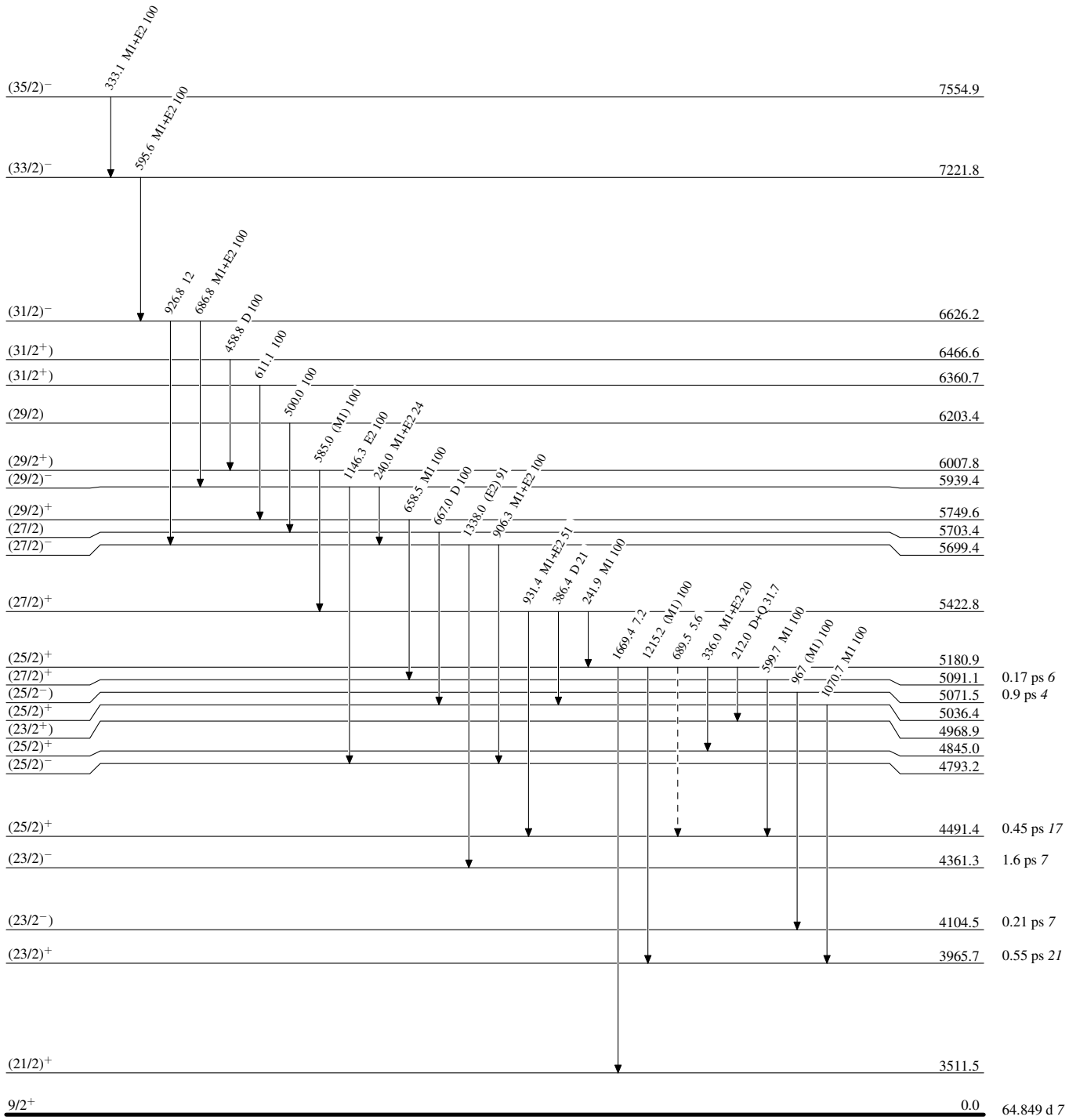
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

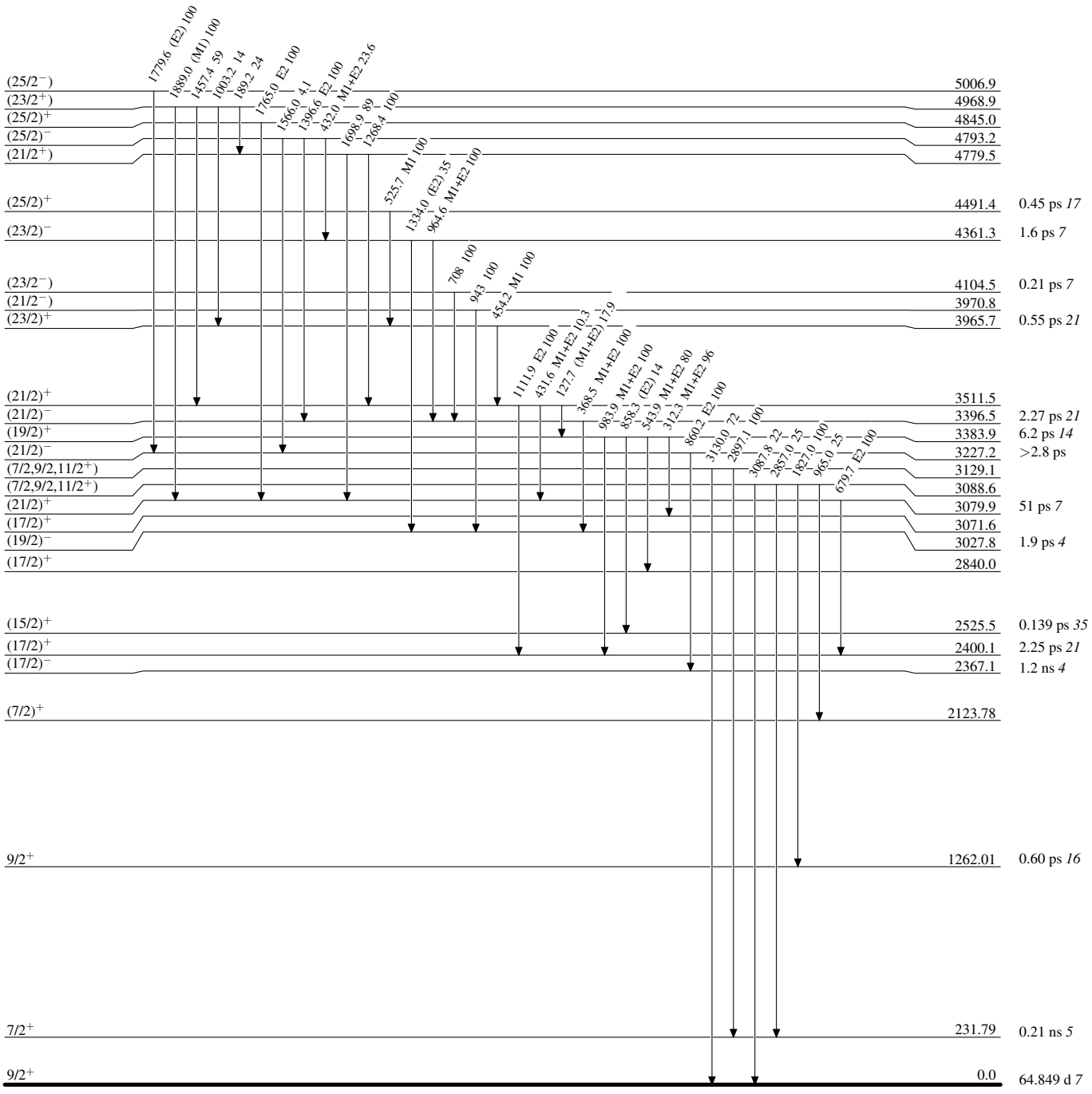


$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

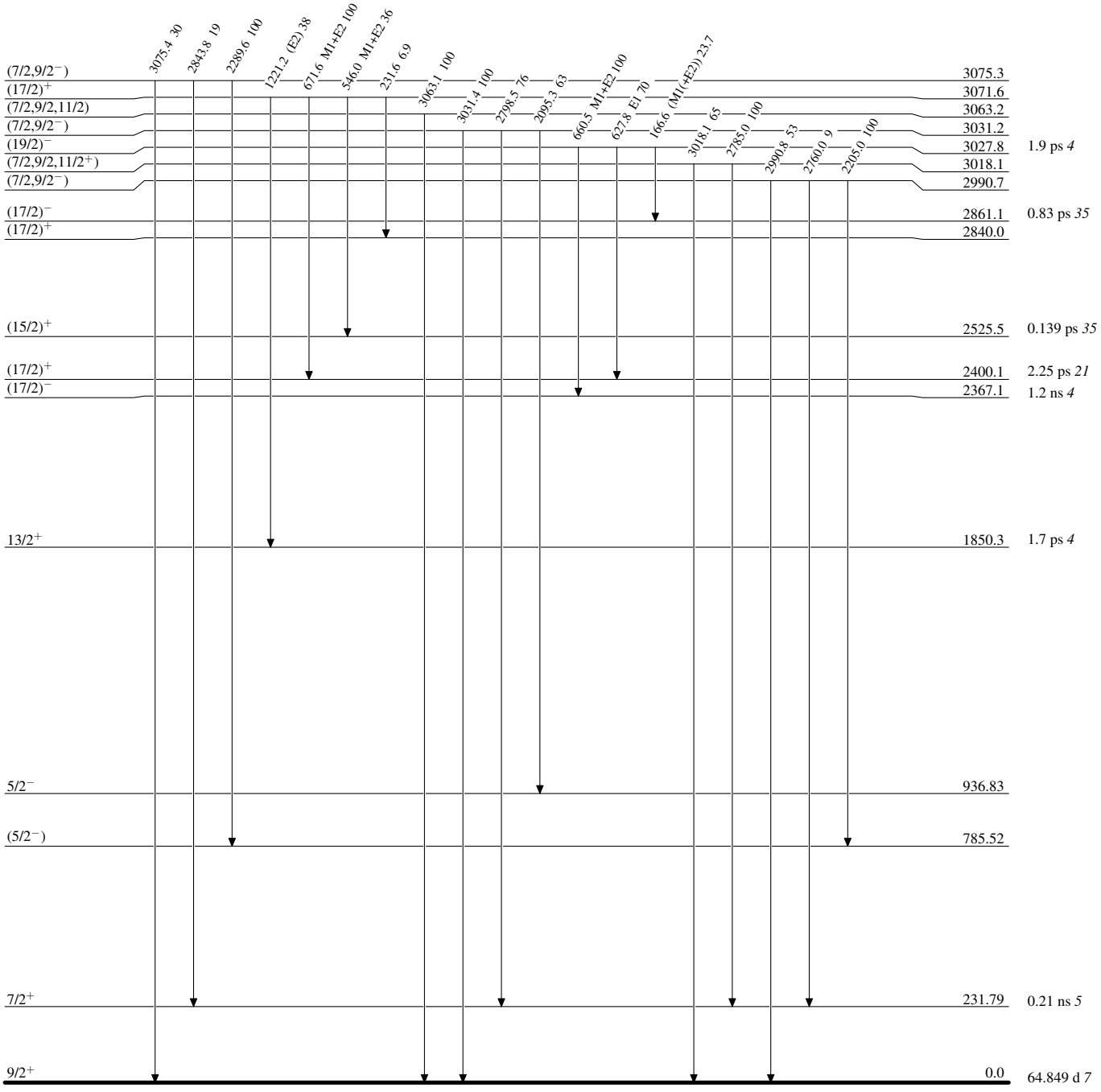


$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

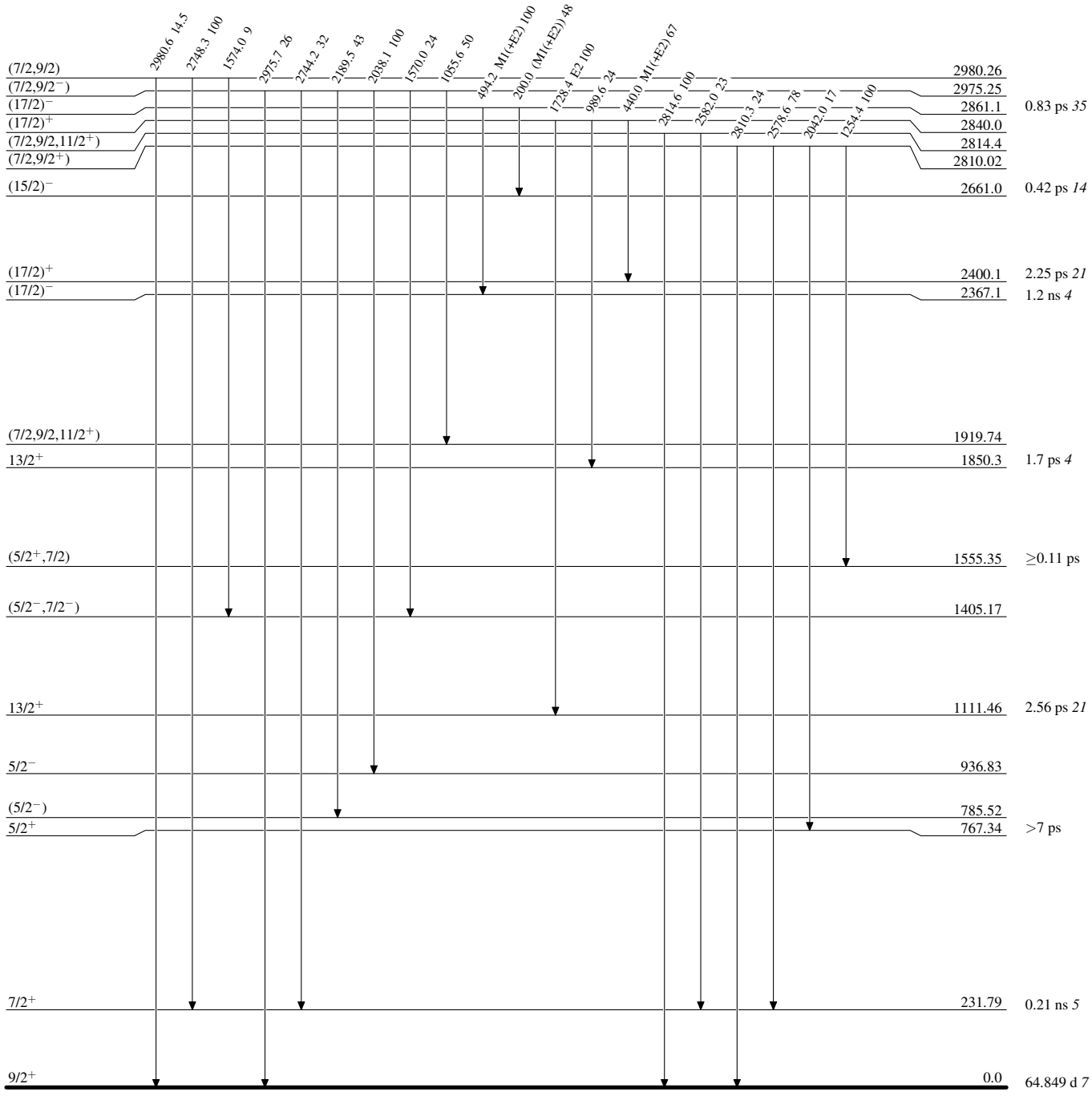


$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

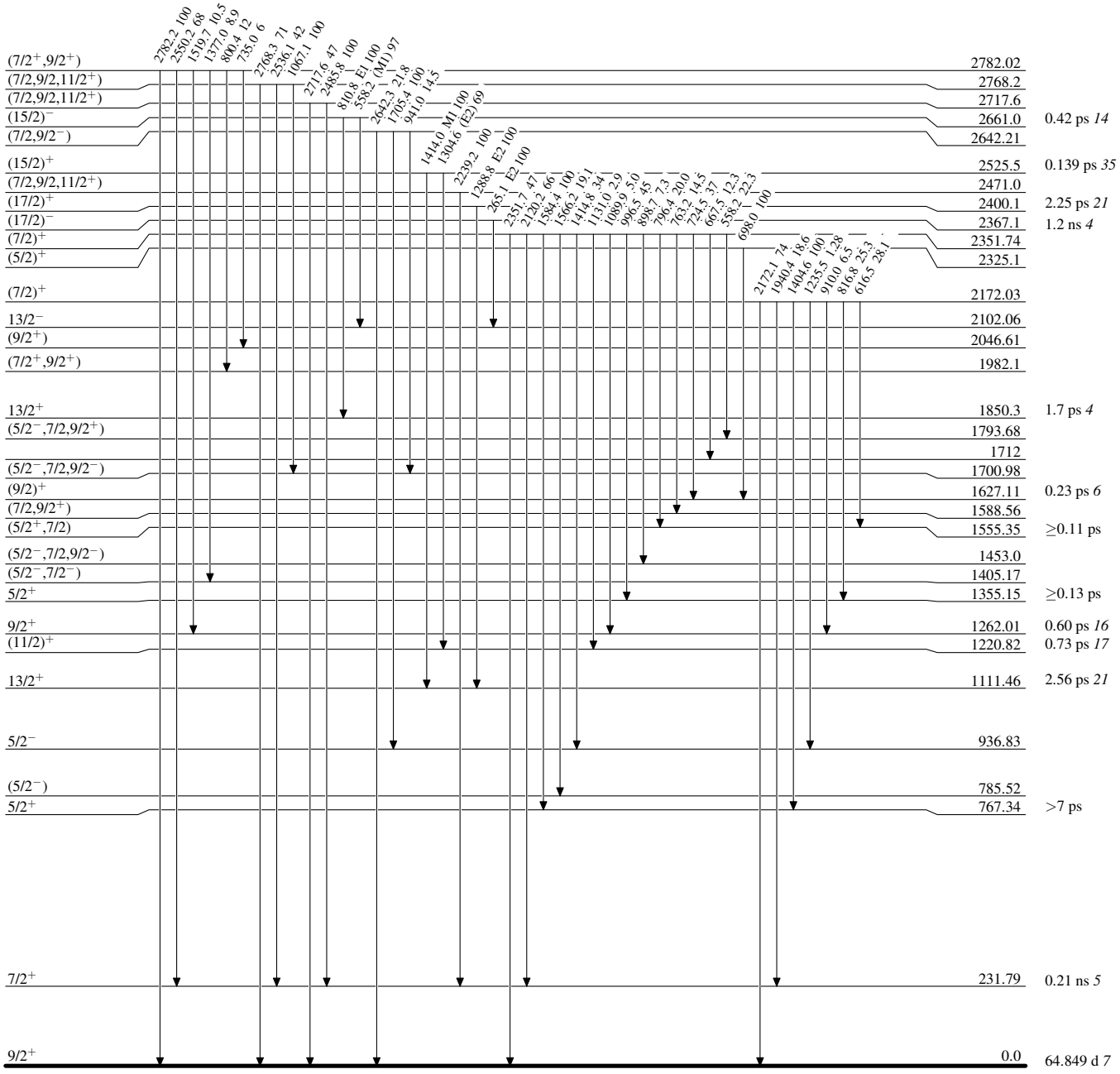


$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

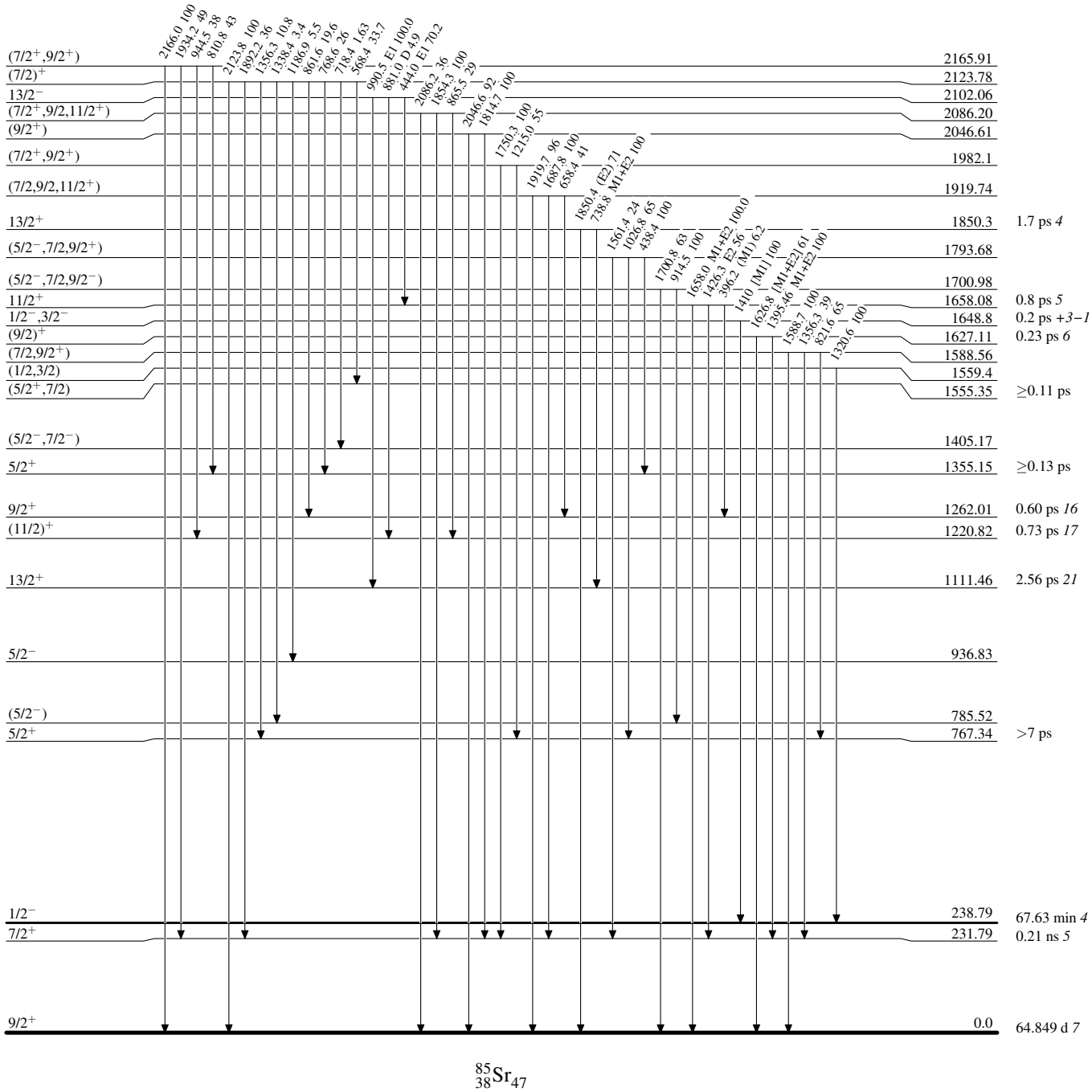


$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{85}_{38}Sr_{47}$

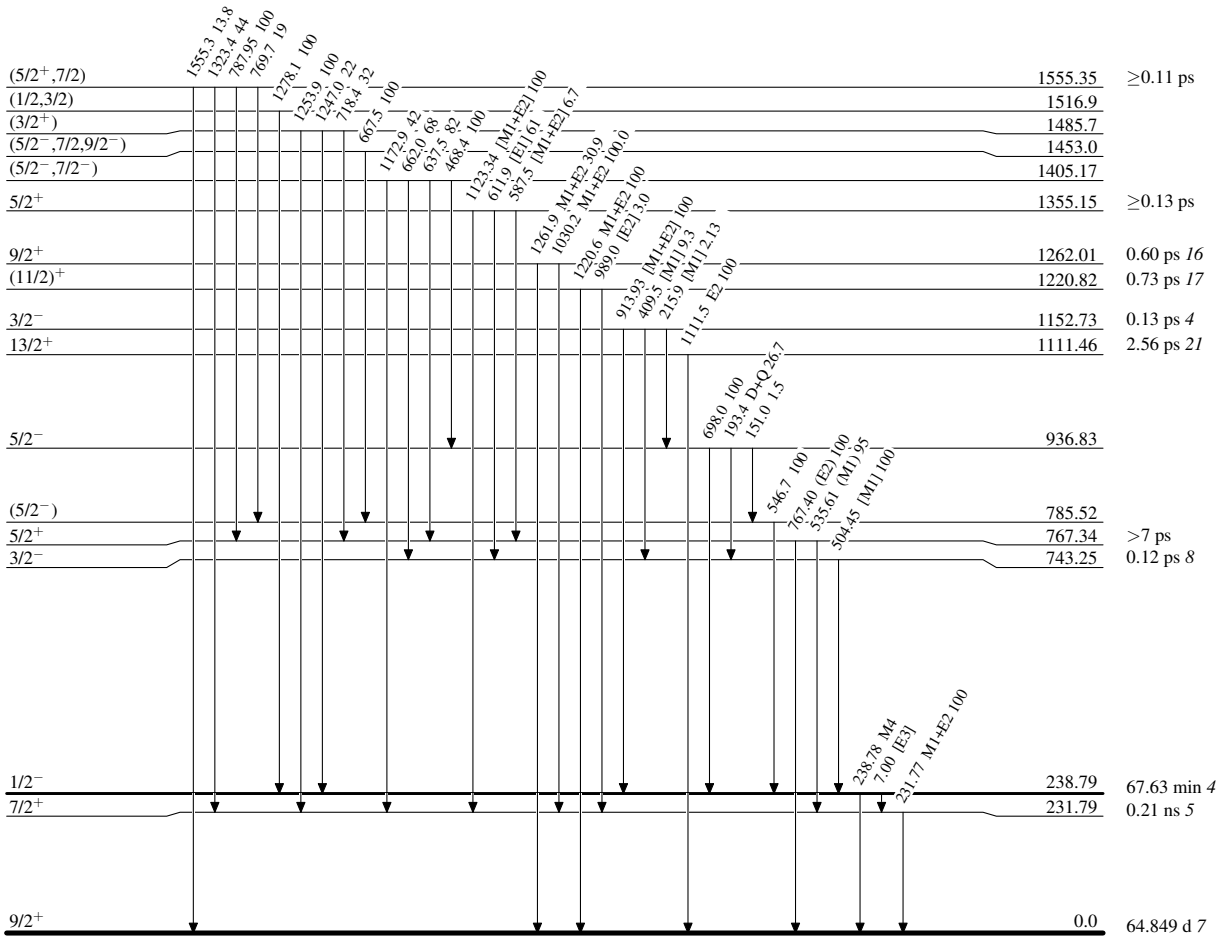
Adopted Levels, Gammas

Legend

Level Scheme (continued)

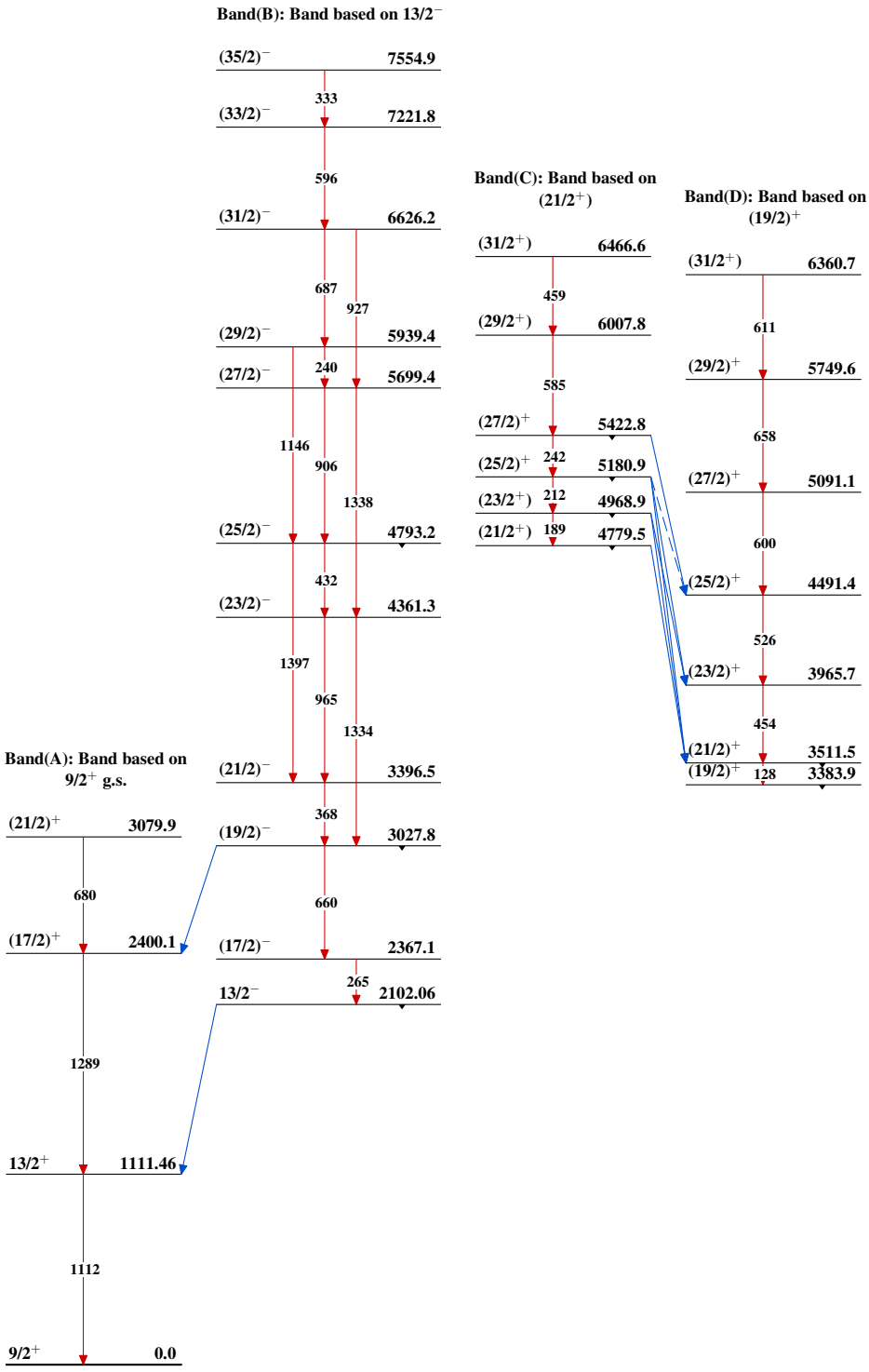
Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{85}_{38}Sr_{47}$

Adopted Levels, Gammas



$^{85}_{38}Sr_{47}$