

Energy levels and branching ratios [92Si19, 05Si20].

⁸⁰Sr
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E^*	J^π	L	σ (τ, n)	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)	Γ_{cm}		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	385.9 2 ⁺	980.9 4 ⁺	1142 1571 $\langle 3^+ \rangle$
0.0	0 ⁺	0	880	2.84	106.3(15) m	79Al19					
385.88(8)	2 ⁺				35.0(13) ps			100			
980.68(10)	4 ⁺				2.90(14) ps				100		
1000(100)	$\langle 0^+ \rangle$	0	130	0.44		79Al19					
1142.40(9)	$\langle 2^+ \rangle$					05Si20			100		
1571.06(10)	$\langle 3^+ \rangle$								100		
1653.6(1)	$\langle 2^+ \rangle$					05Si20			100		
1763.6(2)	6 ⁺				0.82(8) ps					100	
1780.5(3)*								100			
1832.9(1)*										75	25
2296.35(14)	$\langle 5^+ \rangle$								49(6)		51(4)
2301.13(13)	$\langle 3, 4^+ \rangle$					05Si20					
2418.86(12)	$\langle 3, 4^+ \rangle$					05Si20					
2492.54(13)	$\langle 0-2 \rangle$					05Si20					
2641.8(2)	$\langle 6^+ \rangle$					05Si20					
2700.4(2)	$\langle 8^+ \rangle$				0.47(6) ps						
2836.2(2)	(4)					05Si20					
2898.1(2)	(5)					05Si20					
2958.3(2)	$\langle 3-5^+ \rangle$					05Si20					
3048.1(3)	$\langle 5^- \rangle$					05Si20					
3058.1(2)	$\langle 3-5^+ \rangle$					05Si20					
3094.6(4)	$\langle 3-5^+ \rangle$					05Si20					
3163.0(4)	$\langle 3-5^+ \rangle$					05Si20					
3172.6(2)	$\langle 7^+ \rangle$				0.8(6) ps						
3283.9(2)	$\langle 3^+-5 \rangle$					05Si20					
3311.6(4)	$\langle 3, 4^+ \rangle$					05Si20					
3313.8(2)	$\langle 6^- \rangle$					05Si20					
3377.1(4)	$\langle 3-5^+ \rangle$					05Si20					
3394.3(2)	(6)					05Si20					
3580.8(3)	$\langle 7^- \rangle$				>21 ps	05Si20					
3585.6(3)	$\langle 8^+ \rangle$					05Si20					
3602.6(2)	$\langle 7^- \rangle$				>21 ps	05Si20					
3638.9(3)*											
3715.2(3)						05Si20					
3765.7(3)	$\langle 10^+ \rangle$				0.24(3) ps						
4057.0(2)	(8)					05Si20					
4157.0(3)	$\langle 8^- \rangle$					05Si20					
4169.5(3)	$\langle 9^+ \rangle$				<3.2 ps						
4301.0(3)*					0.5(+15-5) ps						
4379.4(3)	$\langle 9^- \rangle$				0.9(+12-6) ps	05Si20					
4470.7(4)	(9)					05Si20					
4633.2(4)	$\langle 9^- \rangle$					05Si20					
4951.3(5)	(9)				0.079(17) ps	05Si20					
4897.6(4)						05Si20					
4923.3(2)	$\langle 10 \rangle$					05Si20					

(continued)

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E^*	J^π	L	σ (τ, n)	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)	Γ_{cm}		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	385.9 2 ⁺	980.9 4 ⁺	1142 1571 $\langle 3^+ \rangle$
4952.0(4)	$\langle 12^+ \rangle$					05Si20					
5149.8(4)	$\langle 10^- \rangle$				1.2(+15-5) ps	05Si20					
5274.4(3)	$\langle 11^+ \rangle$										
5349.7(4)	$\langle 11^- \rangle$				0.35(6) ps	05Si20					
5501.2(5)	$\langle 11 \rangle$					05Si20					
5958.6(4)						05Si20					
6202.5(4)*					<1.1 ps						
6276.6(4)	$\langle 14^+ \rangle$				0.037(11) ps						
6289.0(5)	$\langle 12^- \rangle$					05Si20					
6469.7(4)	$\langle 13^- \rangle$				0.16(+3-6) ps	05Si20					
6495.4(5)	$\langle 13^+ \rangle$										
6667.6(5)	$\langle 13 \rangle$					05Si20					
7107.4(6)						05Si20					
7156.6(4)	$\langle 14 \rangle$					05Si20					
7308.3(9)						05Si20					
7400.7(5)*											
7631.8(6)	$\langle 14^- \rangle$					05Si20					
7730.6(5)	$\langle 15^- \rangle$				<0.27 ps	05Si20					
7752.6(5)	$\langle 16^+ \rangle$				0.013(13) ps						
7835.2(5)	$\langle 15^+ \rangle$										
7867.3(5)	$\langle 15^+ \rangle$					05Si20					
7974.8(6)	$\langle 15 \rangle$					05Si20					
8141.6(11)						05Si20					
8500.4(5)	$\langle 16 \rangle$					05Si20					
8715.5(10)						05Si20					
8782.4(6)*											
9098.9(5)	$\langle 17^- \rangle$				<0.31 ps	05Si20					
9322.6(10)	$\langle 17^+ \rangle$					05Si20					
9331.2(6)	$\langle 18^+ \rangle$				0.040(21) ps						
9341.9(6)	$\langle 17^+ \rangle$					05Si20					
9418.0(7)	$\langle 17 \rangle$					05Si20					
9487.5(7)						05Si20					
9845.5(7)						05Si20					
9882.7(7)	$\langle 18 \rangle$					05Si20					
10538.8(7)	$\langle 19^- \rangle$				<0.27 ps	05Si20					
10879.0(6)	$\langle 20^+ \rangle$					05Si20					
10957.2(7)	$\langle 19^+ \rangle$					05Si20					
10963.1(10)						05Si20					
11074.2(7)	$\langle 20^+ \rangle$				<0.14 ps						
11307.9(11)						05Si20					
11359.3(9)						05Si20					
12072.0(8)	$\langle 21^- \rangle$					05Si20					
12630.3(10)	$\langle 22 \rangle$					05Si20					
12709.2(12)	$\langle 21^+ \rangle$					05Si20					
12814.4(7)						05Si20					

(continued)

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E^*	J^π	L	σ (τ, n)	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0 ⁺	385.9 2 ⁺	980.9 4 ⁺	1142 $\langle 3^+ \rangle$	1571 $\langle 3^+ \rangle$
12922.1(15)*	$\langle 22^+ \rangle$											
13722.6(9)	$\langle 23^- \rangle$					05Si20						
14746.8(12)	$\langle 24 \rangle$					05Si20						
14942.9(16)*	$\langle 24^+ \rangle$											
15464.6(24)*	$\langle 25^+ \rangle$											
15575.8(11)	$\langle 25^- \rangle$					05Si20						
17095.4(19)*	$\langle 26^+ \rangle$											
0+X	$J \approx \langle 18 \rangle$											
1443.0+X	$J+2$											
3054.0+X	$J+4$											
4829.0+X	$J+6$											
6777.1+X	$J+8$											
8895.1+X	$J+10$											
11179.1+X	$J+12$											
13620+X	$J+14$											
16215+X	$J+16$											
18958+X	$J+18$											
21818+X	$J+20$											
0+Y	$J \approx \langle 18 \rangle$											
1688.0+Y	$J+2$											
3509.0+Y	$J+4$											
5459.1+Y	$J+6$											
7549.1+Y	$J+8$											
9805.1+Y	$J+10$											
12169.1+Y	$J+12$											
12231.2+Y	$J+12$											
14743+Y	$J+14$											
0+Z	$J \approx \langle 22 \rangle$											
1846.0+Z	$J+2$											
3885.1+Z	$J+4$											
6101.1+Z	$J+6$											
8492.1+Z	$J+8$											
11064.2+Z	$J+10$											
13811.2+Z	$J+12$											
0+U	$J \approx \langle 20 \rangle$											
2140.0+U	$J+2$											
4432.1+U	$J+4$											
6891.1+U	$J+6$											
9512.2+U	$J+8$											
12275.2+U	$J+10$											
			79Al19	79Al19		Ref.						

Additional data on this isotope can be found in [03Si06, 03Le08, 00Wi01, 00Do10, 90He04, 82Li08].

* Absent in [05Si20]; the high-energy part of the level scheme is tentative.

12 bands (A-L) are assigned in excited states of this nucleus in [05Si20].

Energy levels and branching ratios [92Si19, 05Si20]. Part 2

 $^{80}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1763.6 6 ⁺	2295.89 ⟨5 ⁺ ⟩	2700.4 ⟨8 ⁺ ⟩	3172.5 ⟨7 ⁺ ⟩	3580.3 ⟨7 ⁺ ⟩	3601.8 ⟨7 ⁺ ⟩	3638.9	3765.7 ⟨10 ⁺ ⟩	4169.2 ⟨9 ⁺ ⟩	4301.0
2700.4(2)	⟨8 ⁺ ⟩		100									
3172.6(2)	⟨7 ⁺ ⟩			100								
3580.8(3)	⟨7 ⁻ ⟩		100									
3602.6(2)	⟨7 ⁻ ⟩		100									
3638.9(3)*				100								
3765.7(3)	⟨10 ⁺ ⟩				100							
4169.5(3)	⟨9 ⁺ ⟩					100						
4301.0(3)*									100			
4379.4(3)	⟨9 ⁻ ⟩				19(5)		42(4)	40(7)				
4951.3(5)	⟨9⟩									100		
5149.8(4)	⟨10 ⁻ ⟩											100
5274.4(3)	⟨11 ⁺ ⟩										100	

Energy levels and branching ratios [92Si19, 05Si20]. Part 3

 $^{80}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	4378.6 ⟨9 ⁺ ⟩	4951.9 ⟨12 ⁺ ⟩	5167.6	5273.9 ⟨11 ⁺ ⟩	5348.6 ⟨11 ⁺ ⟩	6202.5	6276.2 ⟨14 ⁺ ⟩	6468.4 ⟨13 ⁺ ⟩	6494.1 ⟨13 ⁺ ⟩	7400.7
5349.7(4)	⟨11 ⁻ ⟩		100									
6202.5(4)*					100							
6276.6(4)	⟨14 ⁺ ⟩			100								
6469.7(4)	⟨13 ⁻ ⟩						100					
6495.4(5)	⟨13 ⁺ ⟩					100						
7400.7(5)*								100				
7730.6(5)	⟨15 ⁻ ⟩									100		
7752.6(5)	⟨16 ⁺ ⟩								100			
7835.2(5)	⟨15 ⁺ ⟩										100	
8782.4(6)*												100

Energy levels and branching ratios [92Si19, 05Si20]. Part 4

 $^{80}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	7728.8 ⟨15 ⁺ ⟩	7750.3 ⟨16 ⁺ ⟩	9096.5 ⟨17 ⁺ ⟩	9328.8 ⟨18 ⁺ ⟩	10537.3 ⟨19 ⁺ ⟩	11065.1 ⟨20 ⁺ ⟩	12069.8 ⟨21 ⁺ ⟩	12922.1 ⟨22 ⁺ ⟩	13718.5 ⟨23 ⁺ ⟩	14942.9 ⟨24 ⁺ ⟩
9098.9(5)	⟨17 ⁻ ⟩		100									
9331.2(6)	⟨18 ⁺ ⟩			100								
10538.8(7)	⟨19 ⁻ ⟩				100							
11074.2(7)	⟨20 ⁺ ⟩					100						
12072.0(8)	⟨21 ⁻ ⟩						100					

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E^*	J^π	Branching ratios in percentage										
		E_f^* :	7728.8	7750.3	9096.5	9328.8	10537.3	11065.1	12069.8	12922.1	13718.5	14942.9
[keV]		J_f^π :	$\langle 15^+ \rangle$	$\langle 16^+ \rangle$	$\langle 17^+ \rangle$	$\langle 18^+ \rangle$	$\langle 19^+ \rangle$	$\langle 20^+ \rangle$	$\langle 21^+ \rangle$	$\langle 22^+ \rangle$	$\langle 23^+ \rangle$	$\langle 24^+ \rangle$
12922.1(15)*	$\langle 22^+ \rangle$							100				
13722.6(9)	$\langle 23^- \rangle$								100			
14942.9(16)*	$\langle 24^+ \rangle$									100		
15464.6(24)*	$\langle 25^+ \rangle$										100	
17095.4(19)*	$\langle 26^+ \rangle$											100

Energy levels and branching ratios [92Si19, 05Si20]. Part 5

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E^*	J^π	Branching ratios in percentage									
[keV]	E_f^* : 0+X J_f^π : $J\approx\langle 18 \rangle$	1443+X $J+2$	3054+X $J+4$	4829+X $J+6$	6777+X $J+8$	8895+X $J+10$	11179+X $J+12$	13620+X $J+14$	16215+X $J+16$	18958+X $J+18$	
1443.0+X	$J+2$	x									
3054.0+X	$J+4$		x								
4829.0+X	$J+6$			x							
6777.1+X	$J+8$				x						
8895.1+X	$J+10$					x					
11179.1+X	$J+12$						x				
13620+X	$J+14$							x			
16215+X	$J+16$								x		
18958+X	$J+18$									x	
21818+X	$J+20$										

Energy levels and branching ratios [92Si19, 05Si20]. Part 6

⁸⁰₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	0+Y $J \approx \langle 18 \rangle$	1688+Y $J+2$	3509+Y $J+4$	5459+Y $J+6$	7549+Y $J+8$	9805+Y $J+10$	12169+Y $J+12$	0+Z $J \approx \langle 22 \rangle$	1846+Z $J+2$
1688.0+Y	$J+2$	x									
3509.0+Y	$J+4$			x							
5459.1+Y	$J+6$				x						
7549.1+Y	$J+8$					x					
9805.1+Y	$J+10$						x				
12169.1+Y	$J+12$							x			
12231.2+Y	$J+12$							x			
14743+Y	$J+14$								x		
1846.0+Z	$J+2$									x	
3885.1+Z	$J+4$										x

Energy levels and branching ratios [92Si19, 05Si20]. Part 7

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E^*	J^π	Branching ratios in percentage								
	E_f^* :	3885+Z	6101+Z	8492+Z	11064+Z	0+U	2140+U	4432+U	6891+U	9512+U
[keV]	J_f^π :	$J+4$	$J+6$	$J+8$	$J+10$	$J \approx \langle 20 \rangle$	$J+2$	$J+4$	$J+6$	$J+8$
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6101.1+Z	$J+6$	x								
8492.1+Z	$J+8$		x							
11064.2+Z	$J+10$			x						
13811.2+Z	$J+12$				x					
2140.0+U	$J+2$					x				
4432.1+U	$J+4$						x			
6891.1+U	$J+6$							x		
9512.2+U	$J+8$								x	
12275.2+U	$J+10$									x
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Energy levels and branching ratios [96Ba89].

⁸¹Sr
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E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}
0.0	1^-	22.3(4) m
79.23(4)	$\langle 5 \rangle^-$	0.39(5) μs
89.05(7)	$\langle 7^+ \rangle$	6.4(5) μs
119.76(4)	$\langle 1^+ \rangle$	24(4) ns
132.2(4)	$\langle 9^+ \rangle$	<9 ns
155.21(10)	$\langle 3^- \rangle$	74(20) ps
203.39(5)	$\langle 5^+ \rangle$	1.1(3) ns
220.82(7)	$\langle 3^+ \rangle$	0.63(20) ns
294.9(4)	$\langle 3^- \rangle$	
336.22(9)	$\langle 5^+ \rangle$	0.16(5) ns
366.5(3)	$\langle 7 \rangle^-$	53(15) ps
379.25(22)	$\langle 5^- \rangle$	12(6) ps
535.8(6)	$\langle 5^- \rangle$	
558.2(3)	$\langle 7^+ \rangle$	17(17) ps
611.57(8)	$\langle 7^+ \rangle$	<7 ns
632.6(3)	$\langle 7^- \rangle$	
707.0(4)	$\langle 9 \rangle^-$	
796.5(4)	$\langle 9^+ \rangle$	
810.7(5)	$\langle 11^+ \rangle$	2.8(9) ps
904.6(5)	$\langle 13^+ \rangle$	4.6(13) ps
999.9(4)	$\langle 9^- \rangle$	
1055.5(5)	$\langle 11^- \rangle$	
1109.2(5)	$\langle 11^+ \rangle$	
1332.6(5)	$\langle 11^- \rangle$	
1470.5(5)	$\langle 13^+ \rangle$	≥ 0.76 ps
1505.7(6)	$\langle 13^- \rangle$	
1739.8(6)	$\langle 15^+ \rangle$	

(continued)

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E^*	$2J^\pi$	$T_{1/2}$ or
[keV]		Γ_{cm}
1804.1(6)	$\langle 13^- \rangle$	
1862.2(6)	$\langle 15^+ \rangle$	0.62(14) ps
1865.3(6)	$\langle 17^+ \rangle$	1.0(3) ps
1910.2(10)	$\langle 15^- \rangle$	≥ 1.2 ps
2212.6(6)	$\langle 15^- \rangle$	
2324.4(12)	$\langle 17^+ \rangle$	0.30(8) ps
2447.7(7)	$\langle 17^- \rangle$	0.60(21) ps
2739.6(12)	$\langle 17^- \rangle$	
2791.3(12)	$\langle 19^+ \rangle$	0.14(4) ps
2904.0(11)	$\langle 19^- \rangle$	0.36(10) ps
2962.7(7)	$\langle 21^+ \rangle$	0.22(5) ps
3145.1(10)	$\langle 19^- \rangle$	
3330.2(15)	$\langle 21^+ \rangle$	0.17(5) ps
3406.6(9)	$\langle 21^+ \rangle$	
3496.1(11)	$\langle 21^- \rangle$	0.38(14) ps
3713.6(9)	$\langle 23^+ \rangle$	0.40(16) ps
3799.6(16)	$\langle 21^- \rangle$	
3857.6(13)	$\langle 23^- \rangle$	
3887.3(16)	$\langle 23^+ \rangle$	0.13(4) ps
3977.6(13)	$\langle 23^- \rangle$	< 0.55 ps
4044.2(12)	$\langle 23^- \rangle$	
4059.0(15)	$\langle 23^- \rangle$	
4107.0(8)	$\langle 25^+ \rangle$	0.17(4) ps
4143.4(15)	$\langle 23^- \rangle$	
4473.3(18)	$\langle 25^+ \rangle$	0.09(3) ps
4551.4(12)	$\langle 25^- \rangle$	< 0.55 ps
4730.2(15)	$\langle 25^- \rangle$	
4752.6(10)	$\langle 27^+ \rangle$	0.20(4) ps
4934.4(19)	$\langle 25^- \rangle$	
4998.2(11)	$\langle 27^- \rangle$	
5084.4(19)	$\langle 27^+ \rangle$	< 0.21 ps
5102.6(16)	$\langle 27^- \rangle$	
5174.4(19)	$\langle 27^+ \rangle$	
5242.3(11)	$\langle 29^+ \rangle$	< 0.35 ps
5248.4(18)	$\langle 27^- \rangle$	
5264.0(18)	$\langle 27^- \rangle$	
5705.4(15)	$\langle 29^- \rangle$	
5752.7(21)	$\langle 29^+ \rangle$	< 0.07 ps
6002.0(12)	$\langle 31^+ \rangle$	< 0.28 ps
6068.4(21)	$\langle 29^- \rangle$	
6114.4(18)	$\langle 29^- \rangle$	
6134.2(15)	$\langle 31^- \rangle$	
6265.6(21)	31^+	
6357.6(19)	$\langle 31^- \rangle$	
6465.0(21)	$\langle 31^+ \rangle$	

(continued)		⁸¹ ₃₈ Sr
E^*	$2J^\pi$	$T_{1/2}$ or
[keV]		Γ_{cm}
6484.2(13)	$\langle 33^+ \rangle$	
6520.0(21)	$\langle 31^- \rangle$	
6792.6(24)	$\langle 33^+ \rangle$	
6989.5(19)	$\langle 33^- \rangle$	
7135.7(23)	$\langle 33^+ \rangle$	
7184.2(23)	$\langle 33^+ \rangle$	
7402.2(18)	$\langle 35^- \rangle$	
7448.8(14)	$\langle 35^+ \rangle$	
7642.1(21)	$\langle 33^- \rangle$	
7760.6(22)	$\langle 35^- \rangle$	
7860.3(15)	$\langle 37^+ \rangle$	
7935.3(24)	$\langle 35^+ \rangle$	
8403.5(21)	$\langle 37^- \rangle$	
8673.7(25)	$\langle 37^+ \rangle$	
8771.5(25)	$\langle 37^+ \rangle$	
8822.2(21)	$\langle 39^- \rangle$	
9249.6(24)	$\langle 39^- \rangle$	
9313.5(23)	$\langle 37^- \rangle$	
9405.3(18)	$\langle 41^+ \rangle$	
9475(3)	$\langle 39^+ \rangle$	
9929.5(23)	$\langle 41^- \rangle$	
10396.2(23)	$\langle 43^- \rangle$	
10483(3)	$\langle 41^+ \rangle$	
10829(3)	$\langle 43^- \rangle$	
11257.3(20)	$\langle 45^+ \rangle$	
11615(3)	$\langle 45^- \rangle$	
12114.3(25)	$\langle 47^- \rangle$	
12376(3)	$\langle 45^+ \rangle$	
12525(3)	$\langle 47^- \rangle$	
13427.4(23)	$\langle 49^+ \rangle$	
13487(3)	$\langle 49^- \rangle$	
14010(3)	$\langle 51^- \rangle$	
14424(3)	$\langle 51^- \rangle$	
15577(3)	$\langle 53^- \rangle$	
15924.4(25)	$\langle 53^+ \rangle$	
16176(3)	$\langle 55^- \rangle$	
16794(3)	$\langle 55^- \rangle$	
17957(3)	$\langle 57^- \rangle$	
18720(3)	$\langle 59^- \rangle$	
0+X	$2J \approx \langle 31 \rangle$	
1215.0+X	$2J+4$	
2586.0+X	$2J+8$	
2591.3+X	$2J+8$	
4105.7+X	$2J+12$	
4119.4+X	$2J+12$	

(continued)

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	0.0 1 ⁻	79.2 ⟨5 ⁻ ⟩	89.0 ⟨7 ⁺ ⟩	119.8 ⟨1 ⁺ ⟩	132.2 ⟨9 ⁺ ⟩	155.2 ⟨3 ⁻ ⟩	203.4 ⟨5 ⁺ ⟩	220.8 ⟨3 ⁺ ⟩	294.9 ⟨3 ⁻ ⟩	336.2 ⟨5 ⁺ ⟩
119.76(4)	⟨1 ⁺ ⟩		100									
132.2(4)	⟨9 ⁺ ⟩				100							
155.21(10)	⟨3 ⁻ ⟩		100									
203.39(5)	⟨5 ⁺ ⟩			90.7(7)	9.3(3)							
220.82(7)	⟨3 ⁺ ⟩		56(4)			44(4)						
294.9(4)	⟨3 ⁻ ⟩		100									
336.22(9)	⟨5 ⁺ ⟩					<39				100		
366.5(3)	⟨7 ⁻ ⟩			64(3)	36(3)							
379.25(22)	⟨5 ⁻ ⟩		45(9)	9				46(6)				
535.8(6)	⟨5 ⁻ ⟩										100	
558.2(3)	⟨7 ⁺ ⟩									87(8)		13(3)
611.57(8)	⟨7 ⁺ ⟩						x		100(2)			
632.6(3)	⟨7 ⁻ ⟩							76(11)				
707.0(4)	⟨9 ⁻ ⟩			96(6)								
796.5(4)	⟨9 ⁺ ⟩											85(8)
810.7(5)	⟨11 ⁺ ⟩						100					
904.6(5)	⟨13 ⁺ ⟩						100					

Energy levels and branching ratios [96Ba89]. Part 3

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	366.5 ⟨7 ⁻ ⟩	379.2 ⟨5 ⁻ ⟩	558.2 ⟨7 ⁺ ⟩	632.6 ⟨7 ⁻ ⟩	707.0 ⟨9 ⁻ ⟩	796.5 ⟨9 ⁺ ⟩	810.7 ⟨11 ⁺ ⟩	904.6 ⟨13 ⁺ ⟩	999.9 ⟨9 ⁻ ⟩	1055.5 ⟨11 ⁻ ⟩
632.6(3)	⟨7 ⁻ ⟩			24(7)								
707.0(4)	⟨9 ⁻ ⟩		3.7(13)									
796.5(4)	⟨9 ⁺ ⟩				15(3)							
999.9(4)	⟨9 ⁻ ⟩			100		<14						
1055.5(5)	⟨11 ⁻ ⟩		100				<2.4					
1109.2(5)	⟨11 ⁺ ⟩				100			<4.1				
1332.6(5)	⟨11 ⁻ ⟩					x					x	
1470.5(5)	⟨13 ⁺ ⟩							x				
1505.7(6)	⟨13 ⁻ ⟩						100					
1739.8(6)	⟨15 ⁺ ⟩								29	71		
1804.1(6)	⟨13 ⁻ ⟩										100	
1865.3(6)	⟨17 ⁺ ⟩									100		
1910.2(10)	⟨15 ⁻ ⟩											100

Energy levels and branching ratios [96Ba89]. Part 4

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1109.2 $\langle 11^+ \rangle$	1332.6 $\langle 11^- \rangle$	1470.5 $\langle 13^+ \rangle$	1505.7 $\langle 13^- \rangle$	1804.1 $\langle 13^- \rangle$	1862.2 $\langle 15^+ \rangle$	1865.3 $\langle 17^+ \rangle$	1910.2 $\langle 15^- \rangle$	2212.6 $\langle 15^- \rangle$	2324.4 $\langle 17^+ \rangle$
1470.5(5)	$\langle 13^+ \rangle$	x										
1862.2(6)	$\langle 15^+ \rangle$	100										
2212.6(6)	$\langle 15^- \rangle$			100								
2324.4(12)	$\langle 17^+ \rangle$				100							
2447.7(7)	$\langle 17^- \rangle$					100						
2739.6(12)	$\langle 17^- \rangle$						100					
2791.3(12)	$\langle 19^+ \rangle$							100				
2904.0(11)	$\langle 19^- \rangle$									100		
2962.7(7)	$\langle 21^+ \rangle$								100			
3145.1(10)	$\langle 19^- \rangle$										100	
3330.2(15)	$\langle 21^+ \rangle$											100
3406.6(9)	$\langle 21^+ \rangle$								x			

Energy levels and branching ratios [96Ba89]. Part 5

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2447.7 $\langle 17^- \rangle$	2739.6 $\langle 17^- \rangle$	2791.3 $\langle 19^+ \rangle$	2904.0 $\langle 19^- \rangle$	2962.7 $\langle 21^+ \rangle$	3145.1 $\langle 19^- \rangle$	3330.2 $\langle 21^+ \rangle$	3406.6 $\langle 21^+ \rangle$	3496.1 $\langle 21^- \rangle$	3713.6 $\langle 23^+ \rangle$
3406.6(9)	$\langle 21^+ \rangle$						x					
3496.1(11)	$\langle 21^- \rangle$	100										
3713.6(9)	$\langle 23^+ \rangle$						90(4)			10.5(8)		
3799.6(16)	$\langle 21^- \rangle$			100								
3857.6(13)	$\langle 23^- \rangle$					100						
3887.3(16)	$\langle 23^+ \rangle$				100							
3977.6(13)	$\langle 23^- \rangle$					100						
4044.2(12)	$\langle 23^- \rangle$							100				
4059.0(15)	$\langle 23^- \rangle$					100						
4107.0(8)	$\langle 25^+ \rangle$						88(4)					12.0(5)
4143.4(15)	$\langle 23^- \rangle$							100				
4473.3(18)	$\langle 25^+ \rangle$								100			
4551.4(12)	$\langle 25^- \rangle$										100	
4730.2(15)	$\langle 25^- \rangle$										100	
4752.6(10)	$\langle 27^+ \rangle$											44(2)

Energy levels and branching ratios [96Ba89]. Part 6

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	3799.6 ⟨21 ⁻ ⟩	3857.6 ⟨23 ⁻ ⟩	3887.3 ⟨23 ⁺ ⟩	3977.6 ⟨23 ⁻ ⟩	4044.2 ⟨23 ⁻ ⟩	4059.0 ⟨23 ⁻ ⟩	4107.0 ⟨25 ⁺ ⟩	4143.4 ⟨23 ⁻ ⟩	4473.3 ⟨25 ⁺ ⟩	4551.4 ⟨25 ⁻ ⟩
4752.6(10)	⟨27 ⁺ ⟩								56(2)			
4934.4(19)	⟨25 ⁻ ⟩		100									
4998.2(11)	⟨27 ⁻ ⟩			x		69(3)	5.3(9)					26(3)
5084.4(19)	⟨27 ⁺ ⟩				100							
5102.6(16)	⟨27 ⁻ ⟩					100						
5174.4(19)	⟨27 ⁺ ⟩				100							
5242.3(11)	⟨29 ⁺ ⟩								<25			
5248.4(18)	⟨27 ⁻ ⟩									100		
5264.0(18)	⟨27 ⁻ ⟩							100				
5705.4(15)	⟨29 ⁻ ⟩											100
5752.7(21)	⟨29 ⁺ ⟩										100	

Energy levels and branching ratios [96Ba89]. Part 7

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	4730.2 ⟨25 ⁻ ⟩	4752.6 ⟨27 ⁺ ⟩	4934.4 ⟨25 ⁻ ⟩	4998.2 ⟨27 ⁻ ⟩	5084.4 ⟨27 ⁺ ⟩	5102.6 ⟨27 ⁻ ⟩	5242.3 ⟨29 ⁺ ⟩	5264.0 ⟨27 ⁻ ⟩	5705.4 ⟨29 ⁻ ⟩	5752.7 ⟨29 ⁺ ⟩
5242.3(11)	⟨29 ⁺ ⟩			100								
6002.0(12)	⟨31 ⁺ ⟩			88(10)					12(4)			
6068.4(21)	⟨29 ⁻ ⟩				100							
6114.4(18)	⟨29 ⁻ ⟩		100									
6134.2(15)	⟨31 ⁻ ⟩					100						
6265.6(21)	31 ⁺						100					
6357.6(19)	⟨31 ⁻ ⟩							100				
6465.0(21)	⟨31 ⁺ ⟩						100					
6484.2(13)	⟨33 ⁺ ⟩								71(9)			
6520.0(21)	⟨31 ⁻ ⟩									100		
6989.5(19)	⟨33 ⁻ ⟩										100	
7135.7(23)	⟨33 ⁺ ⟩											100
7184.2(23)	⟨33 ⁺ ⟩											100

Energy levels and branching ratios [96Ba89]. Part 8

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	6002.0 ⟨31 ⁺ ⟩	6114.4 ⟨29 ⁻ ⟩	6134.2 ⟨31 ⁻ ⟩	6265.6 31 ⁺	6357.6 ⟨31 ⁻ ⟩	6465.0 ⟨31 ⁺ ⟩	6484.2 ⟨33 ⁺ ⟩	6989.5 ⟨33 ⁻ ⟩	7135.7 ⟨33 ⁺ ⟩	7184.2 ⟨33 ⁺ ⟩
6484.2(13)	⟨33 ⁺ ⟩		28.6(14)									
6792.6(24)	⟨33 ⁺ ⟩					100						
7402.2(18)	⟨35 ⁻ ⟩				100							

(continued)

⁸¹Sr

E^*	$2J^\pi$	Branching ratios in percentage									
[keV]	$E_f^*:$ $2J_f^\pi:$	6002.0 $\langle 31^+ \rangle$	6114.4 $\langle 29^- \rangle$	6134.2 $\langle 31^- \rangle$	6265.6 31^+	6357.6 $\langle 31^- \rangle$	6465.0 $\langle 31^+ \rangle$	6484.2 $\langle 33^+ \rangle$	6989.5 $\langle 33^- \rangle$	7135.7 $\langle 33^+ \rangle$	7184.2 $\langle 33^+ \rangle$
7448.8(14)	$\langle 35^+ \rangle$	57(7)						43(3)			
7642.1(21)	$\langle 33^- \rangle$		100								
7760.6(22)	$\langle 35^- \rangle$					100					
7860.3(15)	$\langle 37^+ \rangle$							89(6)			
7935.3(24)	$\langle 35^+ \rangle$						100				
8403.5(21)	$\langle 37^- \rangle$								100		
8673.7(25)	$\langle 37^+ \rangle$									100	
8771.5(25)	$\langle 37^+ \rangle$										100

Energy levels and branching ratios [96Ba89]. Part 9

⁸¹Sr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_{f}^* : $2J_{\text{f}}^\pi$:	7402.2 $\langle 35^- \rangle$	7448.8 $\langle 35^+ \rangle$	7642.1 $\langle 33^- \rangle$	7760.6 $\langle 35^- \rangle$	7860.3 $\langle 37^+ \rangle$	7935.3 $\langle 35^+ \rangle$	8403.5 $\langle 37^- \rangle$	8771.5 $\langle 37^+ \rangle$	8822.2 $\langle 39^- \rangle$	9249.6 $\langle 39^- \rangle$
7860.3(15)	$\langle 37^+ \rangle$			10.7(12)								
8822.2(21)	$\langle 39^- \rangle$		100									
9249.6(24)	$\langle 39^- \rangle$					100						
9313.5(23)	$\langle 37^- \rangle$				100							
9405.3(18)	$\langle 41^+ \rangle$						100					
9475(3)	$\langle 39^+ \rangle$							100				
9929.5(23)	$\langle 41^- \rangle$								100			
10396.2(23)	$\langle 43^- \rangle$										100	
10483(3)	$\langle 41^+ \rangle$									100		
10829(3)	$\langle 43^- \rangle$											100

Energy levels and branching ratios [96Ba89]. Part 10

⁸¹Sr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	9405.3 $\langle 41^+ \rangle$	9929.5 $\langle 41^- \rangle$	10396 $\langle 43^- \rangle$	10483 $\langle 41^+ \rangle$	10829 $\langle 43^- \rangle$	11257 $\langle 45^+ \rangle$	11615 $\langle 45^- \rangle$	12114 $\langle 47^- \rangle$	12525 $\langle 47^- \rangle$	13427 $\langle 49^+ \rangle$
11257.3(20)	$\langle 45^+ \rangle$		100									
11615(3)	$\langle 45^- \rangle$			100								
12114.3(25)	$\langle 47^- \rangle$				100							
12376(3)	$\langle 45^+ \rangle$					100						
12525(3)	$\langle 47^- \rangle$						100					
13427.4(23)	$\langle 49^+ \rangle$							100				
13487(3)	$\langle 49^- \rangle$								100			
14010(3)	$\langle 51^- \rangle$									100		

(continued)

⁸¹Sr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	9405.3	9929.5	10396	10483	10829	11257	11615	12114	12525	13427
		$2J_f^\pi$:	$\langle 41^+ \rangle$	$\langle 41^- \rangle$	$\langle 43^- \rangle$	$\langle 41^+ \rangle$	$\langle 43^- \rangle$	$\langle 45^+ \rangle$	$\langle 45^- \rangle$	$\langle 47^- \rangle$	$\langle 47^- \rangle$	$\langle 49^+ \rangle$
14424(3)	$\langle 51^- \rangle$										100	
15924.4(25)	$\langle 53^+ \rangle$											100

Energy levels and branching ratios [96Ba89]. Part 11

⁸¹Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	13487 $\langle 49^- \rangle$	14010 $\langle 51^- \rangle$	14424 $\langle 51^- \rangle$	15577 $\langle 53^- \rangle$	16176 $\langle 55^- \rangle$	0+X	1215+X $2J+4$	2586+X $2J+8$	2591+X $2J+8$
15577(3)	$\langle 53^- \rangle$		100								
16176(3)	$\langle 55^- \rangle$			100							
16794(3)	$\langle 55^- \rangle$				100						
17957(3)	$\langle 57^- \rangle$					100					
18720(3)	$\langle 59^- \rangle$						100				
1215.0+X	$2J+4$							100(15)			
2586.0+X	$2J+8$								100(11)		
4105.7+X	$2J+12$									100(12)	
4119.4+X	$2J+12$									x	x

Energy levels and branching ratios [96Ba89]. Part 12

⁸¹Sr

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]		$E_f^*:$ $2J_f^\pi:$	4106+X $2J+12$	4119+X $2J+12$	5785+X $2J+16$	5797+X $2J+16$	7625+X $2J+20$	7680+X $2J+20$	9613+X $2J+24$	9715+X $2J+24$
5785.4+X	$2J+16$		100(9)	x						
5796.7+X	$2J+16$		x	x						
7625.1+X	$2J+20$				100(10)	x				
7679.7+X	$2J+20$					100(33)				
9613.1+X	$2J+24$						100(10)			
9714.8+X	$2J+24$							100(25)		
11753.1+X	$2J+28$								100(9)	
11918.8+X	$2J+28$									100(30)

Energy levels and branching ratios [96Ba89]. Part 13

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		E_f^* : $2J_f^\pi$:	11753+X $2J+28$	11919+X $2J+28$	14047+X $2J+32$	14288+X $2J+32$	16488+X $2J+36$	16823+X $2J+36$	19052+X $2J+40$	19519+X $2J+40$
14047.1+X	$2J+32$		100(9)							
14288+X	$2J+32$			100(30)						
16488+X	$2J+36$				100(13)					
16823+X	$2J+36$					100(33)				
19052+X	$2J+40$						100(13)			
19519+X	$2J+40$							100(50)		
21713+X	$2J+44$								100(50)	
22364+X	$2J+44$									x

Energy levels and branching ratios [96Ba89]. Part 14

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		E_f^* : $2J_f^\pi$:	21713+X $2J+44$	0+Y	1646+Y $2J+4$	3420+Y $2J+8$	5346+Y $2J+12$	7430+Y $2J+16$	9670+Y $2J+20$	12068+Y $2J+24$
24460+X	$2J+48$		100(50)							
1646.0+Y	$2J+4$			x						
3420.0+Y	$2J+8$				100(16)					
5346.1+Y	$2J+12$					100(17)				
7430.1+Y	$2J+16$						100(17)			
9670.1+Y	$2J+20$							100(25)		
12068.1+Y	$2J+24$								100(27)	
14608+Y	$2J+28$									100(44)

Energy levels and branching ratios [96Ba89]. Part 15

⁸¹₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		E_f^* : $2J_f^\pi$:	14608+Y $2J+28$	0+Z	1940+Z $2J+4$	4042+Z $2J+8$	6302+Z $2J+12$	8711+Z $2J+16$	11253+Z $2J+20$	
17305+Y	$2J+32$		x							
1940.0+Z	$2J+4$			100(40)						
4042.1+Z	$2J+8$				100(28)					
6302.1+Z	$2J+12$					100(36)				
8711.1+Z	$2J+16$						100(21)			
11253.2+Z	$2J+20$							100(36)		
13852.2+Z	$2J+20$									x

Energy levels and branching ratios [03Tu03].

⁸²Sr
₃₈

E^* [keV]	J^π	L (τ, n)	σ (τ, n) $\mu\text{b/sr}$	ε (τ, n)	L	ε (p, t)	B^2	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
										E_f^* : 0 J_f^π : 0 ⁺	573 2 ⁺	1176 2 ⁺	1328 4 ⁺	1689 3 ⁺
0	0 ⁺	0	840	1.75	0	15.8	1.0	25.6(2) d	73Ba56					
573.54(8)	2 ⁺				2	2.6	5.0	8.9(4) ps	73Ba56	100				
1175.7(1)	2 ⁺				2	1.0	5.0	7.5(24) ps	73Ba56	9.4(7)	91(6)			
1310.9(1)	0 ⁺				0	1.8	1.0	<3.5 ns	73Ba56		100			
1328.5(1)	4 ⁺							1.0(2) ps			100			
1689.0(1)	3 ⁺											53(8)	42(6)	5(2)
1865(5)	2 ⁺				2	0.2	5.0		73Ba56	19(12)	62(12)	19(12)		
1996.0(1)	4 ⁺							1.3(4) ps			3(1)	61(7)	36(5)	
2195(5)	2 ⁺				2	0.2	5.0		73Ba56					
2229.5(1)	6 ⁺							0.4(1) ps					100	
2401.8(1)	3 ⁻				3	0.9	7.0		73Ba56		22(6)			78(6)
2525.8(1)	5 ⁺												16(4)	75(16)
2665(5)	0 ⁺				0	0.7	1.0		73Ba56					
2817.3(1)	5 ⁻				$\langle 4, 5 \rangle$			3.0(6) ps					88(12)	
2824.4(1)	4 ⁻												4(2)	78(10)
2836.3(1)	6 ⁺							0.6(4) ps						
2885(5)	$\langle 2^+ \rangle$				$\langle 2 \rangle$	0.8	5.0		73Ba56					
2920(5)														
3006.9(1)	4 ⁻												18(5)	45(9)
3073.3(1)	$\langle 5^- \rangle$													
3086.2(1)	6 ⁻													
3142.3(2)	$\langle 5^- \rangle$												100	
3242.8(1)	8 ⁺							0.2(1) ps						
3339.6(1)	6 ⁻													
3477.0(2)	7 ⁺													
3511.1(1)	$\langle 7^- \rangle$													
3525.7(1)	7 ⁻													
3565.7(1)	7 ⁻													
3607.9(1)	7 ⁻													
3622.8(1)	8 ⁺							0.7(4) ps						
3686.07(15)	$\langle 8^+ \rangle$													
4033.49(15)	8 ⁻													
4142.60(14)	8 ⁻													
4248.4(10)														
4350.30(15)	10 ⁺							0.14(+6-4) ps						
4366.82(14)	9 ⁻													
4387.09(14)	$\langle 9^- \rangle$													
4423.85(14)	$\langle 10^+ \rangle$							0.9(2) ps						
4472.85(14)	9 ⁻													
4492.5(4)	9 ⁺													
4637.34(18)	$\langle 10^+ \rangle$													
4909.39(18)	10 ⁻							0.36(+11-8) ps						
5237.4(4)	10 ⁻													
5308.15(17)	11 ⁻							0.30(+10-7) ps						
5333.8(15)														

(continued)

⁸²₃₈Sr

E^*	J^π	L	σ (τ ,n)	ε	L	ε	B^2	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(τ ,n)	$\mu\text{b/sr}$	(τ ,n)		(p,t)		Γ_{cm}		E^*_f :	0	573	1176	1328	1689
										J^π_f :	0 ⁺	2 ⁺	2 ⁺	4 ⁺	3 ⁺
5392.31(18)															
5427.12(17)	12 ⁺							0.33(+11-8) ps							
5468.9(10)															
5479.09(25)	$\langle 11^- \rangle$														
5569.0(4)	12 ⁺							0.06(6) ps							
5738.2(5)	$\langle 12^+ \rangle$														
5913.9(4)	12 ⁻							0.27(+11-8) ps							
6367.2(3)	13 ⁻							0.15(+8-6) ps							
6450.1(11)															
6543.6(4)	14 ⁺							0.25(+11-9) ps							
6556.4(18)															
6564.8(4)	$\langle 13^- \rangle$														
6937.0(5)	$\langle 14^+ \rangle$							0.04(+6-3) ps							
7066.5(5)	14 ⁻							0.08(+5-4) ps							
7534.6(11)															
7545.5(4)	15 ⁻							0.12(5) ps							
7788.2(5)	$\langle 15^- \rangle$														
7812.0(6)	16 ⁺							0.09(+5-4) ps							
7936.1(20)															
8377.6(6)	16 ⁻							0.14(6) ps							
8434.6(6)	$\langle 16^+ \rangle$							<0.18 ps							
8842.0(7)	17 ⁻							0.08(6) ps							
9167.4(7)	$\langle 17^- \rangle$														
9237.8(7)	18 ⁺							0.05(+7-4) ps							
9478.1(23)															
9842.6(12)	$\langle 18^- \rangle$							<0.19 ps							
10061.6(12)	$\langle 18^+ \rangle$														
10258.8(9)	$\langle 19^- \rangle$							0.08(+6-4) ps							
10709.4(12)	$\langle 19^- \rangle$														
10872.4(9)	$\langle 20^+ \rangle$							<0.21 ps							
11379.6(16)	$\langle 20^- \rangle$														
11798.4(10)	$\langle 21^- \rangle$							<0.06 ps							
11837.6(16)	$\langle 20^+ \rangle$														
12758.8(13)	$\langle 22^+ \rangle$														
13005.7(19)	$\langle 22^- \rangle$														
13489.4(14)	$\langle 23^- \rangle$														
14832.7(21)	$\langle 24 \rangle$														
14910.8(17)	$\langle 24^+ \rangle$														
15409.4(17)	$\langle 25 \rangle$														
17246.9(20)	$\langle 26^- \rangle$														
17616.5(20)	$\langle 27 \rangle$														
0+X	$J \approx \langle 18 \rangle$														
1432.0+X	$J+2$														
3027.0+X	$J+4$														
4783.0+X	$J+6$														

(continued)

⁸²Sr
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E^*	J^π	L	σ (τ ,n)	ε	L	ε	B^2	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(τ ,n)	$\mu\text{b/sr}$	(τ ,n)		(p,t)		Γ_{cm}		E_{f}^* :	0	573	1176	1328	1689
										J_{f}^π :	0 ⁺	2 ⁺	2 ⁺	4 ⁺	3 ⁺
6703.1+X	$J+8$														
8780.1+X	$J+10$														
11010.1+X	$J+12$														
13393+X	$J+14$														
15938+X	$J+16$														
18674+X	$J+18$														
		79Al19	79Al19	79Al19		73Ba56	73Ba56		Ref.						

Additional data on this isotope can be found in [03Le08, 96Jo05, 94Ta01, 91Ba12].

Parameter ε , two-particle spectroscopic amplitude $B^2(j_1 j_2 J)$ and the normalization factor D_o^2 are interconnected as $\sigma_{exp}=2D_o^2\varepsilon B^2(j_1 j_2 J)\sigma_{DWBA}$ [73Ba56]; see also data in vol. LB I/18B.

Energy levels and branching ratios [03Tu03]. Part 2

⁸²Sr
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E^*	J^π	Branching ratios in percentage									
		E_f^* :	1996	2229	2401.8	2525.8	2817.3	2824.4	2836.3	3006.9	3073.3
[keV]		J_f^π :	4 ⁺	6 ⁺	3 ⁻	5 ⁺	5 ⁻	4 ⁻	6 ⁺	4 ⁻	$\langle 5^- \rangle$
2525.8(1)	5 ⁺		10(3)								
2817.3(1)	5 ⁻				12(12)						
2824.4(1)	4 ⁻		12(3)		5(2)						
2836.3(1)	6 ⁺		67(5)	33(2)							
3006.9(1)	4 ⁻		9(5)		27(9)						
3073.3(1)	$\langle 5^- \rangle$		58(12)	37(8)			4(4)				
3086.2(1)	6 ⁻					11(2)	39(4)	50(4)			
3242.8(1)	8 ⁺			100							
3339.6(1)	6 ⁻			11(2)		11(2)	69(8)			6(1)	3(1)
3477.0(2)	7 ⁺					100					
3511.1(1)	$\langle 7^- \rangle$			4.4(8)			96(7)				
3525.7(1)	7 ⁻			84(10)			6(2)				3(1)
3565.7(1)	7 ⁻			76(10)			11(1)				1(1)
3607.9(1)	7 ⁻			22(6)			9(2)		20(20)		10(2)
3622.8(1)	8 ⁺			14(5)					79(6)		
3686.07(15)	$\langle 8^+ \rangle$			26(8)							

Energy levels and branching ratios [03Tu03]. Part 3

 $^{82}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	3086.2 6 ⁻	3142.3 ⟨5 ⁻ ⟩	3242.8 8 ⁺	3339.6 6 ⁻	3477.0 7 ⁺	3511.1 ⟨7 ⁻ ⟩	3525.7 7 ⁻	3565.7 7 ⁻	3607.9 7 ⁻
3511.1(1)	⟨7 ⁻ ⟩		x								
3525.7(1)	7 ⁻		7(2)								
3565.7(1)	7 ⁻		13(5)								
3607.9(1)	7 ⁻		30(4)	9(2)							
3622.8(1)	8 ⁺				6.9(7)						
3686.07(15)	⟨8 ⁺ ⟩				74(11)						
4033.49(15)	8 ⁻					93(20)			7(2)		
4142.60(14)	8 ⁻		61(14)						5(2)	19(5)	16(5)
4248.4(10)					100						
4350.30(15)	10 ⁺				100						
4366.82(14)	9 ⁻								20(2)	62(5)	19(2)
4387.09(14)	⟨9 ⁻ ⟩				47(4)			53(10)			
4423.85(14)	⟨10 ⁺ ⟩				14(2)						
4472.85(14)	9 ⁻				49(4)				21(2)	30(4)	
4492.5(4)	9 ⁺						100				
4637.34(18)	⟨10 ⁺ ⟩				33(5)						

Energy levels and branching ratios [03Tu03]. Part 4

 $^{82}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	3622.8 8 ⁺	3686.1 ⟨8 ⁺ ⟩	4033.5 8 ⁻	4142.6 8 ⁻	4248.4	4350.3 10 ⁺	4366.8 9 ⁻	4387.1 ⟨9 ⁻ ⟩	4423.8 ⟨10 ⁺ ⟩
4423.85(14)	⟨10 ⁺ ⟩		86(10)								
4637.34(18)	⟨10 ⁺ ⟩			45(5)				17(3)			5(1)
4909.39(18)	10 ⁻				100					x	
5237.4(4)	10 ⁻					100					
5308.15(17)	11 ⁻								100		
5333.8(15)							100				
5392.31(18)										100	
5427.12(17)	12 ⁺										100
5468.9(10)											100
5479.09(25)	⟨11 ⁻ ⟩							38(2)			
5569.0(4)	12 ⁺							100			

Energy levels and branching ratios [03Tu03]. Part 5

⁸²Sr
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E^*	J^π	Branching ratios in percentage									
		E_f^* :	4472.8	4637.3	4909.4	5308.1	5333.8	5427.1	5479.1	5569.0	5913.9
[keV]		J_f^π :	9 ⁻	⟨10 ⁺ ⟩	10 ⁻	11 ⁻		12 ⁺	⟨11 ⁻ ⟩	12 ⁺	12 ⁻
5479.09(25)	⟨11 ⁻ ⟩		62(4)								
5738.2(5)	⟨12 ⁺ ⟩			100							
5913.9(4)	12 ⁻				100						
6367.2(3)	13 ⁻					100					
6450.1(11)								100			
6543.6(4)	14 ⁺							100			
6556.4(18)							100				
6564.8(4)	⟨13 ⁻ ⟩								100		
6937.0(5)	⟨14 ⁺ ⟩									100	
7066.5(5)	14 ⁻										100

Energy levels and branching ratios [03Tu03]. Part 6

⁸²Sr
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E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	6367.2 13 ⁻	6543.6 14 ⁺	6556.4 	6564.8 $\langle 13^- \rangle$	6937.0 $\langle 14^+ \rangle$	7066.5 14 ⁻	7545.5 15 ⁻	7788.2 $\langle 15^- \rangle$	7812.0 16 ⁺
7534.6(11)				100							
7545.5(4)	15 ⁻		100								
7788.2(5)	$\langle 15^- \rangle$					100					
7812.0(6)	16 ⁺			100							
7936.1(20)					100						
8377.6(6)	16 ⁻							100			
8434.6(6)	$\langle 16^+ \rangle$						100				
8842.0(7)	17 ⁻								100		
9167.4(7)	$\langle 17^- \rangle$									100	
9237.8(7)	18 ⁺										100

Energy levels and branching ratios [03Tu03]. Part 7

⁸²Sr
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E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	7936.1	8377.6	8434.6	8842.0	9167.4	9237.8	9842.6	10062	10259
					$\langle 16^+ \rangle$	17^-	$\langle 17^- \rangle$	18^+	$\langle 18^- \rangle$	$\langle 18^+ \rangle$	$\langle 19^- \rangle$
9478.1(23)			100								
9842.6(12)	$\langle 18^- \rangle$			100							
10061.6(12)	$\langle 18^+ \rangle$				100						
10258.8(9)	$\langle 19^- \rangle$					100					
10709.4(12)	$\langle 19^- \rangle$						100				
10872.4(9)	$\langle 20^+ \rangle$							100			
11379.6(16)	$\langle 20^- \rangle$								100		

(continued)

⁸²₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	7936.1	8377.6	8434.6	8842.0	9167.4	9237.8	9842.6	10062
				16^-	$\langle 16^+ \rangle$	17^-	$\langle 17^- \rangle$	18^+	$\langle 18^- \rangle$	$\langle 18^+ \rangle$
11798.4(10)	$\langle 21^- \rangle$									100
11837.6(16)	$\langle 20^+ \rangle$									100

Energy levels and branching ratios [03Tu03]. Part 8

⁸²₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	10872	11380	11798	12759	13006	13489	14911	15409
			$\langle 20^+ \rangle$	$\langle 20^- \rangle$	$\langle 21^- \rangle$	$\langle 22^+ \rangle$	$\langle 22^- \rangle$	$\langle 23^- \rangle$	$\langle 24^+ \rangle$	$\langle 25 \rangle$
12758.8(13)	$\langle 22^+ \rangle$		100							
13005.7(19)	$\langle 22^- \rangle$			100						
13489.4(14)	$\langle 23^- \rangle$				100					
14832.7(21)	$\langle 24 \rangle$						100			
14910.8(17)	$\langle 24^+ \rangle$					100				
15409.4(17)	$\langle 25 \rangle$							100		
17246.9(20)	$\langle 26^- \rangle$								100	
17616.5(20)	$\langle 27 \rangle$									100
1432.0+X	$J+2$									100

Energy levels and branching ratios [03Tu03]. Part 9

⁸²₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage								
		$E_f^*:$ $J_f^\pi:$	1432+X	3027+X	4783+X	6703+X	8780+X	11010+X	13393+X	15938+X
			$J+2$	$J+4$	$J+6$	$J+8$	$J+10$	$J+12$	$J+14$	$J+16$
3027.0+X	$J+4$		100							
4783.0+X	$J+6$			100						
6703.1+X	$J+8$				100(7)					
8780.1+X	$J+10$					100(7)				
11010.1+X	$J+12$						100(7)			
13393+X	$J+14$							100(9)		
15938+X	$J+16$								100(14)	
18674+X	$J+18$									100(20)

Energy levels and branching ratios [01Wu02].

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E^* [keV]	$2J^\pi$	L	S_N (d,t)	L	C^2S (τ, α)	$T_{1/2}$ or Γ_{cm}	Ref.	$E_f^*:$ $2J_f^\pi:$	Branching ratios in percentage				
									0.0 7 ⁺	35.5 9 ⁺	259 1 ⁻	490	545
0.0	7 ⁺					32.41(3) h							
35.47(6)	9 ⁺	4	6.10	4	$\langle 6 \rangle$	<15 ns	70Be24		100				
259.15(9)	1 ⁻	1	0.96	1	1.5	4.95(12) s	70Be24		100				
489.92(8)		3	3.66				70Be24		70(2)	30.2(8)			
545.4(3)				3	3.4		78Me01		100				
650.81(15)	$\langle 3, 5^- \rangle$										100		
681.11(23)	$\langle 3^-, 5^- \rangle$	1	1.34	1	1.6		70Be24				100		
717.53(9)	$\langle 7, 9, 11^+ \rangle$								25(1)	69(3)		6.3(7)	
753.72(16)	$\langle 3^- \rangle$										100		
790.83(17)				$\langle 3 \rangle$	0.34		78Me01		100				
800.41(10)	$\langle 11 \rangle^+$					3.7(25) ps			56(3)	44(6)			
835.2(7)	$\langle 9^- \rangle$								x	x			
846.3(3)	$\langle 5^-, 7, 9^- \rangle$												
894.15(11)	11 ⁺					1.6(6) ps			3.4(8)	97(4)			
910.4(6)	13 ⁺					3.5(2) ps				100			
951.77(9)	$\langle 5^+, 7^- \rangle$	$\langle 1 \rangle$	0.87	$\langle 3+1 \rangle$	1.9+1.1		78Me01		90(4)	3.8(9)			
962.79(8)	$\langle 7, 9, 11^+ \rangle$								36(2)	59(3)			
1092.8(3)									50(15)			50(10)	
1098.06(12)	$\langle 7, 9, 11^+ \rangle$								44(22)	56(18)			
1140.71(25)	$\langle 7, 9^- \rangle$												
1233.40(11)	$\langle 7, 9, 11^+ \rangle$								3.8(7)	22(2)		74(4)	
1239.19(19)	$\langle 7, 9, 11^+ \rangle$								89(4)	11(2)			
1365.9(3)	$\langle 7, 9, 11^+ \rangle$								25(7)			75(13)	
1371.98(7)	$\langle 7^+ \rangle$								7.0(3)	21.3(9)		44(1)	x
1434.12(19)	$\langle 7, 9, 11^+ \rangle$			$\langle 3 \rangle$	$\langle 0.27 \rangle$		78Me01		79(7)			21(6)	
1447.9(8)	$\langle 9^- \rangle$												
1498.83(15)	$\langle 7, 9 \rangle$								36(3)	39(5)			
1574.7(8)	$\langle 9 \rangle^+$												
1590.1(9)	$\langle 11^- \rangle$												
1604.8(5)	$\langle 7, 9, 11^+ \rangle$								42(12)			58(17)	
1745.4(8)	$\langle 7, 9, 11^+ \rangle$			3	1.5		78Me01		64(19)	36(18)			
1752.6(4)	$\langle 7, 9, 11^+ \rangle$			3	1.5		78Me01		82(13)	18(6)			
1856.6(6)	15 ⁺												
1882.50(23)	$\langle 7, 9 \rangle$								13(5)	22(5)		39(4)	
1915.4(3)	$\langle 7, 9^- \rangle$			$\langle 3 \rangle$	$\langle 0.30 \rangle$		78Me01		54(7)	26(5)			
1964.1(5)	$\langle 7, 9, 11^+ \rangle$			$\langle 3 \rangle$	$\langle 0.42 \rangle$		78Me01		46(7)	15(7)		40(7)	
1987.1(8)	17 ⁺					0.7(2) ps							
2017.0(6)	$\langle 7, 9, 11^+ \rangle$								75(12)			25(7)	
2045.8(6)	$\langle 13^- \rangle$												
2074.0(8)	$\langle 7, 9, 11^+ \rangle$								59(24)			41(19)	
2089.7(8)	$\langle 7, 9, 11^+ \rangle$								39(20)	61(20)			
2107.0(6)	$\langle 13^+ \rangle$												
2373.2(6)	$\langle 7, 9, 11^+ \rangle$												
2539.4(7)	$\langle 15^- \rangle$												
2643.1(6)	17 ⁻												

(continued)

⁸³₃₈Sr

E^*	$2J^\pi$	L	S_N	L	C^2S	$T_{1/2}$ or Ref.	E_f^* : $2J_f^\pi$:	Branching ratios in percentage				
[keV]			(d,t)		(τ, α)	Γ_{cm}		0.0 7 ⁺	35.5 9 ⁺	259 1 ⁻	490	545
2847.7(9)	$\langle 17^- \rangle$											
2905.2(3)	$\langle 7^+ - 11^+ \rangle$							39(5)	8(2)			
2943.9(8)	$\langle 7^+ - 11^+ \rangle$							75(9)	12(6)			
3008.9(9)	$\langle 19^+ \rangle$											
3046.7(9)	$\langle 19^- \rangle$											
3116.0(11)	$\langle 21^+ \rangle$					<0.7 ps						
3349.3(11)	$\langle 21^+ \rangle$											
3469.5(11)	21 ⁻											
3525.6(10)	$\langle 21^- \rangle$											
3643.8(12)	23 ⁺					8.7(4) ps						
4043.5(12)	23 ⁻											
4168.0(13)	25 ⁺											
4195.3(11)	$\langle 23^- \rangle$											
4395.8(13)	$\langle 25^+ \rangle$											
4633.5(12)	$\langle 25^- \rangle$											
4752.0(13)	27 ⁺											
4947.6(14)	X $\langle^- \rangle$											
5090.8(15)	$\langle 27^+ \rangle$											
5207.7(13)	27 ⁻											
5378.0(14)	29 ⁺											
5394.4(13)	X $\langle^- \rangle$											
5611.7(14)	$\langle 29^+ \rangle$											
5855.1(14)	$\langle 29^- \rangle$											
6204.3(14)	31 ⁺											
6427.7(16)	31 ⁻											
6752.0(15)	33 ⁺											
7101.7(17)	X $\langle^+ \rangle$											
7234.1(17)	X $\langle^- \rangle$											
7739.1(19)	35 ⁻											
7770.7(19)												
7797.1(19)												
7805.9(18)	35 ⁻											
7853.5(16)	35 ⁺											
8119.8(17)	37 ⁺											
9189.1(21)												
9276.5(19)	39 ⁻											
9289.5(19)	39 ⁻											
9351.7(22)												
9467.7(22)												
9649.8(20)	41 ⁺											
9781.6(19)	39 ⁺											
10859.5(20)	43 ⁻											
10951.5(20)	43 ⁻											
11103.7(24)												
11461.8(22)	45 ⁺											

(continued)

⁸³₃₈Sr

E^* [keV]	$2J^\pi$	L	S_N (d,t)	L	C^2S (τ, α)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* :	0.0	35.5	259	490	545
								$2J_f^\pi$:	7 ⁺	9 ⁺	1 ⁻		
11856.8(22)													
12566.5(21)	47 ⁻												
12846.6(23)	47 ⁻												
13425.9(24)	49 ⁺												
14130.9(24)													
14295.9(24)													
14343.6(23)	51 ⁻												
14898.6(25)	51 ⁻												
15539(3)													
15755(3)	53 ⁺												
16223(3)													
16611.6(25)	55 ⁻												
18115(3)													
19436(3)	59 ⁻												
0+X	$2J \approx \langle 41 \rangle$												
1306.0+X	$2J+4$												
2767.0+X	$2J+8$												
4380.0+X	$2J+12$												
6142.1+X	$2J+16$												
8054.1+X	$2J+20$												
10114.1+X	$2J+24$												
12319+X	$2J+28$												
14666+X	$2J+32$												
17157+X	$2J+36$												
19803+X	$2J+40$												
		70Be24	70Be24	78Me01	78Me01		Ref.						

Additional data on this isotope can be found in [03Le08].

Energy levels and branching ratios [01Wu02]. Part 2

⁸³₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	651	681	717	753.7	790.8	800.4	835.2	846.3	894.1	910.4
		$2J_f^\pi$:	$\langle 3, 5^- \rangle$	$\langle X^- \rangle$		$\langle 3^- \rangle$		$\langle 11 \rangle^+$	$\langle 9^- \rangle$		11 ⁺	13 ⁺
846.3(3)	$\langle 5^-, 7, 9^- \rangle$		100									
951.77(9)	$\langle 5^+, 7^- \rangle$			3.5(4)	2.9(5)							
962.79(8)	$\langle 7, 9, 11^+ \rangle$				4.3(13)							
1140.71(25)	$\langle 7, 9^- \rangle$		100									
1371.98(7)	$\langle 7^+ \rangle$		7.3(3)		1.3(1)	4.2(3)	1.0(1)			0.5(1)		
1447.9(8)	$\langle 9^- \rangle$					x						
1574.7(8)	$\langle 9 \rangle^+$										100	
1590.1(9)	$\langle 11^- \rangle$								x			
1856.6(6)	15 ⁺							x			x	100

(continued)

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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	651 $\langle 3, 5^- \rangle$	681 $\langle X^- \rangle$	717	753.7 $\langle 3^- \rangle$	790.8	800.4 $\langle 11 \rangle^+$	835.2 $\langle 9^- \rangle$	846.3	894.1 11^+	910.4 13^+
1915.4(3)	$\langle 7, 9^- \rangle$		20(3)									
1987.1(8)	17^+											100
2045.8(6)	$\langle 13^- \rangle$							x			x	x
2107.0(6)	$\langle 13^+ \rangle$									100		x
2539.4(7)	$\langle 15^- \rangle$											x
2905.2(3)	$\langle 7^+ - 11^+ \rangle$				6(2)			11(2)			22(4)	
2943.9(8)	$\langle 7^+ - 11^+ \rangle$										13(6)	

Energy levels and branching ratios [01Wu02]. Part 3

⁸³Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	951.8 $\langle 5^+, 7^- \rangle$	962.8	1233.4	1372.0 $\langle 7^+ \rangle$	1447.9 $\langle 9^- \rangle$	1498.8 $\langle 7, 9 \rangle$	1574.7 $\langle 9 \rangle^+$	1590.1 $\langle 11^- \rangle$	1856.6 15^+	1987.1 17^+
1371.98(7)	$\langle 7^+ \rangle$		12.7(9)	0.5(1)	0.7(1)							
1498.83(15)	$\langle 7, 9 \rangle$		24(5)									
1882.50(23)	$\langle 7, 9 \rangle$		27(7)									
2107.0(6)	$\langle 13^+ \rangle$						x			x		
2373.2(6)	$\langle 7, 9, 11^+ \rangle$					100						
2539.4(7)	$\langle 15^- \rangle$								x			
2643.1(6)	17^-										x	x
2905.2(3)	$\langle 7^+ - 11^+ \rangle$			5(2)		4(2)		6(2)				
3008.9(9)	$\langle 19^+ \rangle$										x	x
3116.0(11)	$\langle 21 \rangle^+$											100
3349.3(11)	$\langle 21^+ \rangle$											x

Energy levels and branching ratios [01Wu02]. Part 4

⁸³Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2045.8 $\langle 13^- \rangle$	2107.0 $\langle 13^+ \rangle$	2539.4 $\langle 15^- \rangle$	2643.1 17^-	2847.7 $\langle 17^- \rangle$	3046.7 $\langle 19^- \rangle$	3116.0 $\langle 21 \rangle^+$	3349.3 $\langle 21^+ \rangle$	3469.5 21^-	3525.6 $\langle 21^- \rangle$
2539.4(7)	$\langle 15^- \rangle$			x								
2643.1(6)	17^-		x	x	x							
2847.7(9)	$\langle 17^- \rangle$				x	x						
3046.7(9)	$\langle 19^- \rangle$						x					
3349.3(11)	$\langle 21^+ \rangle$								x			
3469.5(11)	21^-							x				
3525.6(10)	$\langle 21^- \rangle$					x		x				
3643.8(12)	23^+								100	x		
4043.5(12)	23^-										x	

(continued)

 $^{83}_{38}\text{Sr}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2045.8 $\langle 13^- \rangle$	2107.0 $\langle 13^+ \rangle$	2539.4 $\langle 15^- \rangle$	2643.1 17^-	2847.7 $\langle 17^- \rangle$	3046.7 $\langle 19^- \rangle$	3116.0 $\langle 21^+ \rangle$	3349.3 $\langle 21^+ \rangle$	3469.5 21^-	3525.6 $\langle 21^- \rangle$
4168.0(13)	25^+								x			
4195.3(11)	$\langle 23^- \rangle$							x			x	x
4395.8(13)	$\langle 25^+ \rangle$								x			
4633.5(12)	$\langle 25^- \rangle$										x	x

Energy levels and branching ratios [01Wu02]. Part 5

 $^{83}_{38}\text{Sr}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	3643.8 23^+	4043.5 23^-	4168.0 25^+	4195.3 $\langle 23^- \rangle$	4395.8 $\langle 25^+ \rangle$	4633.5 $\langle 25^- \rangle$	4752.0 27^+	4947.6 $X^{\langle - \rangle}$	5090.8 $\langle 27^+ \rangle$	5207.7 27^-
4168.0(13)	25^+		x									
4395.8(13)	$\langle 25^+ \rangle$		x									
4633.5(12)	$\langle 25^- \rangle$			x								
4752.0(13)	27^+		x		x							
4947.6(14)	$X^{\langle - \rangle}$			x								
5090.8(15)	$\langle 27^+ \rangle$						x					
5207.7(13)	27^-			x				x		x		
5378.0(14)	29^+				x				x			
5394.4(13)	$X^{\langle - \rangle}$			x		x						
5611.7(14)	$\langle 29^+ \rangle$						x		x		x	
5855.1(14)	$\langle 29^- \rangle$							x				x
6204.3(14)	31^+								x		x	
6427.7(16)	31^-											x

Energy levels and branching ratios [01Wu02]. Part 6

 $^{83}_{38}\text{Sr}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	5378.0 29^+	5611.7 $\langle 29^+ \rangle$	5855.1 $\langle 29^- \rangle$	6204.3 31^+	6427.7 31^-	6752.0 33^+	7739.1 35^-	7770.7	7797.1	7805.9 35^-
6204.3(14)	31^+		x	x								
6752.0(15)	33^+		x			x						
7101.7(17)	$X^{\langle + \rangle}$			x								
7234.1(17)	$X^{\langle - \rangle}$				x							
7739.1(19)	35^-						x					
7770.7(19)							x					
7797.1(19)							x					
7805.9(18)	35^-						x					
7853.5(16)	35^+					x						
8119.8(17)	37^+							x				

(continued)

⁸³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	5378.0 29 ⁺	5611.7 ⟨29 ⁺ ⟩	5855.1 ⟨29 ⁻ ⟩	6204.3 31 ⁺	6427.7 31 ⁻	6752.0 33 ⁺	7739.1 35 ⁻	7770.7	7797.1	7805.9 35 ⁻
9189.1(21)											x	
9276.5(19)	39 ⁻								x			x
9289.5(19)	39 ⁻										x	x
9351.7(22)										x		
9467.7(22)										x		

Energy levels and branching ratios [01Wu02]. Part 7

⁸³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	7853.5 35 ⁺	8119.8 37 ⁺	9276.5 39 ⁻	9289.5 39 ⁻	9351.7	9649.8 41 ⁺	10859.5 43 ⁻	10951.5 43 ⁻	11461.8 45 ⁺	11856.8
8119.8(17)	37 ⁺		x									
9649.8(20)	41 ⁺			x								
9781.6(19)	39 ⁺		x									
10859.5(20)	43 ⁻					x						
10951.5(20)	43 ⁻				x							
11103.7(24)							x					
11461.8(22)	45 ⁺							x				
11856.8(22)								x				
12566.5(21)	47 ⁻								x	x		
12846.6(23)	47 ⁻									x		
13425.9(24)	49 ⁺										x	
14130.9(24)												x
14295.9(24)											x	

Energy levels and branching ratios [01Wu02]. Part 8

⁸³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	12566.5 47 ⁻	12846.6 47 ⁻	13425.9 49 ⁺	14343.6 51 ⁻	15539	16611.6 55 ⁻	0+X	1306+X 2J+4	2767+X 2J+8	4380+X 2J+12
14343.6(23)	51 ⁻		x									
14898.6(25)	51 ⁻			x								
15539(3)					x							
15755(3)	53 ⁺				x							
16223(3)					x							
16611.6(25)	55 ⁻					x						
18115(3)							x					
19436(3)	59 ⁻							x				
1306.0+X	2J+4									x		

(continued)

⁸³Sr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	12566.5	12846.6	13425.9	14343.6	15539	16611.6	0+X	1306+X	2767+X	4380+X
		$2J_f^\pi$:	47 ⁻	47 ⁻	49 ⁺	51 ⁻		55 ⁻		2J+4	2J+8	2J+12
2767.0+X	2J+8									x		
4380.0+X	2J+12										x	
6142.1+X	2J+16											x

Energy levels and branching ratios [01Wu02]. Part 9

⁸³Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage						
		E_f^* : $2J_f^\pi$:	6142+X 2J+16	8054+X 2J+20	10114+X 2J+24	12319+X 2J+28	14666+X 2J+32	17157+X 2J+36
8054.1+X	2J+20		x					
10114.1+X	2J+24			x				
12319+X	2J+28				x			
14666+X	2J+32					x		
17157+X	2J+36						x	
19803+X	2J+40							x

Energy levels and branching ratios [97Tu02].

⁸⁴Sr

E^* [keV]	J^π	L	σ (τ ,n) (τ ,n) μ b/sr	ε (τ ,n)	L	β_L (d,d')	L	ε (p,t)	B^2 (p,t)	$T_{1/2}$ or Γ_{cm}	Ref.
0	0 ⁺	0	730	2.66			0	13.0	1.0	Stable	
793.30(9)	2 ⁺				2	0.154(15)	2	3.0	5.0	5.3(+17-13) ps	73Re01
1454.21(12)	(2 ⁺)						(2)	0.4	5.0		
1502(2)	0 ⁺						0	1.0	1.0		
1767.92(13)	4 ⁺						(4)	0.4	9.0	4.2(14) ps	
2056.71(14)	(3 ⁺)										
2075(5)	0 ⁺						0	1.0	1.0		
2298.22(15)											
2390(5)	2 ⁺						2	0.5	5.0		
2448.31(17)	3 ⁻				3	0.129(13)	3	1.4	7.0		73Re01
2525(5)	(0 ⁺)						(0)	0.4	1.0		
2598.72(23)	(4 ⁺)										
2735.83(15)	(5 ⁺)										
2769.33(15)	5 ⁻						(5)	0.3	11.0	9.5(6) ps	
2808.15(15)	6 ⁺									1.01(17) ps	
2887.8(5)	2 ⁺						2	0.7	5.0		
3041.54(17)	5 ⁻						(4)	1.3	9.0		
3098.94(16)	(6 ⁺)										

(continued)

⁸⁴Sr
₃₈

E^*	J^π	L	σ (τ, n)	ε	L	β_L	L	ε	B^2	$T_{1/2}$ or	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d, d')	(p, t)	(p, t)	(p, t)	Γ_{cm}	
3157.63(18)	$\langle 7^+ \rangle$										
3175(5)	$\langle 2^+ \rangle$						$\langle 2 \rangle$	0.6	5.0		
3250(17)	3^-										
3270.84(22)	$\langle 4^+ - 6^+ \rangle$										
3279.44(17)	6^-										
3320(30)	$\langle 0^+ \rangle$	0	100	0.31							
3332.25(17)	8^+									163(4) ps	
3455(21)											
3488.24(16)	7^-									4.4(5) ps	
3512.9(5)	$4^+, 5^-, 6^+$										
3650.44(17)	$\langle 7^- \rangle$										
3680.25(17)	8^+									3.33(14) ps	
3749.3(3)	$\langle 4^+ \rangle$										
3820.0(6)											
3918.6(6)											
3960(30)											
4029.06(25)											
4063.8(5)	4^+										
4253.9(6)											
4268.35(19)	$\langle 8^- \rangle$										
4360(30)											
4370.9(3)	$\langle 9^+ \rangle$										
4447.95(19)	10^+									2.2(3) ps	
4534.45(19)	10^+									1.66(14) ps	
4540(21)											
4636.45(19)	9^-									2.5(4) ps	
4660(30)											
4740(30)											
4746.1(3)											
5444.85(20)	11^-									7.5(10) ps	
5653.56(20)	12^+									0.61(17) ps	
5891	12^+									0.24(10) ps	
6069.1	12^-									0.42(14) ps	
6484.1	13^-									0.6(3) ps	
6739.2	14^+									0.42(14) ps	
6916.6	14^-										
7374	$\langle 15^- \rangle$										
8005.7	16^+									0.21(7) ps	
9424	18^+									0.14(6) ps	
11059	$\langle 20^+ \rangle$									0.14(4) ps	
12924	$\langle 22^+ \rangle$										

(continued)

⁸⁴Sr
₃₈

E^*	J^π	L	σ (τ, n)	ε	L	β_L	L	ε	B^2	$T_{1/2}$ or	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d, d')	(p, t)	(p, t)	(p, t)	Γ_{cm}	
15084	$\langle 24^+ \rangle$										
	94Ga15		79Al19	79Al19		73Re01		73Ba56	73Ba56		94Ga15 Ref.

Additional data on this isotope can be found in [00Do10, 94Ga15, 73Re01].

Abundance: 0.56(1) %.Parameter ε , two-particle spectroscopic amplitude $B^2(j_1 j_2 J)$ and the normalization factor D_o^2 are interconnected as $\sigma_{exp} = 2D_o^2 \varepsilon B^2(j_1 j_2 J) \sigma_{DWBA}$ [73Ba56].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [97Tu02]. Part 2

⁸⁴Sr
₃₈

E^*	J^π	Branching ratios in percentage										
		E_f^* :	0	793	1454	1768	2057	2448	2736	2769	2808.1	2887.8
[keV]		J_f^π :	0 ⁺	2 ⁺	$\langle 2^+ \rangle$	4 ⁺	$\langle 3^+ \rangle$	3 ⁻	$\langle 5^+ \rangle$	5 ⁻	6 ⁺	2 ⁺
793.30(9)	2 ⁺		100									
1454.21(12)	$\langle 2^+ \rangle$		12(1)	88(3)								
1502(2)	0 ⁺			100								
1767.92(13)	4 ⁺			100								
2056.71(14)	$\langle 3^+ \rangle$			10(1)	90(4)							
2298.22(15)					100							
2448.31(17)	3 ⁻			34(12)	66(7)							
2598.72(23)	$\langle 4^+ \rangle$				100							
2735.83(15)	$\langle 5^+ \rangle$					46(2)	54(6)					
2769.33(15)	5 ⁻					97(9)		2.7(5)				
2808.15(15)	6 ⁺					100						
2887.8(5)	2 ⁺					100						
3041.54(17)	5 ⁻							21(2)		79(2)		
3098.94(16)	$\langle 6^+ \rangle$					73(4)					27(2)	
3157.63(18)	$\langle 7^+ \rangle$								100			
3270.84(22)	$\langle 4^+ - 6^+ \rangle$					38(6)					62(6)	
3279.44(17)	6 ⁻									85(2)		
3332.25(17)	8 ⁺										100	
3488.24(16)	7 ⁻									83(4)	17.4(17)	
3512.9(5)	4 ⁺ , 5 ⁻ , 6 ⁺					27(9)					73(7)	
3650.44(17)	$\langle 7^- \rangle$									17(1)		
3680.25(17)	8 ⁺										75(2)	
3820.0(6)							83(28)					17(2)
3918.6(6)											100	
4029.06(25)											100	
4063.8(5)	4 ⁺					23(3)		14(4)			63(6)	

Energy levels and branching ratios [97Tu02]. Part 3

⁸⁴Sr

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	3041.5 5 ⁻	3098.9 6 ⁺	3157.6 7 ⁺	3279.4 6 ⁻	3332.2 8 ⁺	3488.2 7 ⁻	3680.2 8 ⁺	4447.9 10 ⁺	4534.4 10 ⁺	4636.4 9 ⁻
3279.44(17)	6 ⁻		15(2)									
3650.44(17)	7 ⁻		33(1)	13(1)		7(1)		30(1)				
3680.25(17)	8 ⁺			3.3(7)			21.9(7)					
3749.3(3)	4 ⁺			100								
4253.9(6)				100								
4268.35(19)	8 ⁻					68(3)		32(3)				
4370.9(3)	9 ⁺				100							
4447.95(19)	10 ⁺						100					
4534.45(19)	10 ⁺								88(3)	12(4)		
4636.45(19)	9 ⁻							100				
4746.1(3)							100					
5444.85(20)	11 ⁻									23(3)		77(7)
5653.56(20)	12 ⁺									25(3)	75(3)	
5891	12 ⁺									100		

Energy levels and branching ratios [97Tu02]. Part 4

⁸⁴Sr

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	5444.8 11 ⁻	5653.6 12 ⁺	6069.1 12 ⁻	6484.1 13 ⁻	6739.2 14 ⁺	6916.6 14 ⁻	8005.7 16 ⁺	9424 18 ⁺	11059 20 ⁺	12924 22 ⁺
6069.1	12 ⁻		100									
6484.1	13 ⁻		<13	<13	100							
6739.2	14 ⁺			100								
6916.6	14 ⁻					100						
7374	15 ⁻						x	x				
8005.7	16 ⁺						100					
9424	18 ⁺								100			
11059	20 ⁺									100		
12924	22 ⁺										100	
15084	24 ⁺											100

Energy levels and branching ratios [91Si01].

⁸⁵Sr

E^*	$2J^\pi$	L	σ (τ, n)	ε	L	S'	σ (d,p)	S_N	S'	L	S_N	L	S_N	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(d,t)	(d,t)	(τ, α)	(τ, α)	
0.0	9 ⁺	0	620	2.47	4	3.06	380	0.21	2.09	4	7.62	4	8.40	71Mo02
231.67(1)	7 ⁺													
238.66(6)	1 ⁻				1	0.40	1040	0.27	0.54	1	1.51	1	1.27	71Iv02

(continued)

⁸⁵₃₈Sr

E^*	$2J^\pi$	L	σ (τ, n)	ε	L	S'	σ (d,p)	S_N	S'	L	S_N	L	S_N	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(d,t)	(d,t)	(τ, α)	(τ, α)	
743.13(10)	3^-				1	0.25	830			1	2.11	1	2.72	71Iv02
767.27(8)	5^+				2	0.70	1090	0.14	0.86					71Mo02
785.44(12)	$\langle 5^- \rangle$													
936.75(11)	5^-									3	0.59	3	0.40	70Be24
1111.3(3)	$\langle 13 \rangle^+$													
1152.6(1)	3^-				1	0.05	180			1	0.68	1	0.39	70Be24
1220.7(1)	$\langle 11 \rangle^+$													
1261.9(1)	9^+	0	110	0.41								4	0.09	71Iv02
1355.1(1)	5^+				2	1.76	2950	0.33	1.99					71Mo02
1403(5)	1^+				0	0.42	8380							71Mo02
1404.9(6)	$X^{(+)}$													
1405.1(2)	$\langle 5^-, 7^- \rangle$													
1453.0(3)	$\langle 5^-, 7, 9^- \rangle$						40							71Mo02
1485.6(3)	$\langle 3^+ \rangle$						30							71Mo02
1516.8(4)	$\langle 1, 3 \rangle$													
1555.3(1)	$\langle 5^+, 7 \rangle$				2	0.10	170							71Mo02
1559.3(4)	$\langle 1, 3 \rangle$													
1588.5(1)	$\langle 7, 9^+ \rangle$													
1627.0(1)	9^+													
1648.7(10)	$1^-, 3^-$									1	≈ 0.8	1	≈ 0.7	70Be24
1657.7(3)	$\langle 11 \rangle^+$													
1684.2(4)														
1700.9(2)	$\langle 5^-, 7, 9^- \rangle$													
1712(5)							60							71Mo02
1793(5)	$3^+, 5^+$				2	0.47	850	0.10	0.59					71Mo02
1793.6(2)	$\langle 5^-, 7, 9^+ \rangle$	0	160	0.57		incl	incl	incl	incl					71Mo02
1827(5)	$3^+, 5^+$				2	0.08	140	incl	incl					71Mo02
1842(5)	1^+				0	0.02	380							71Mo02
1919.7(2)	$7, 9, 11^{(+)}$													
1928(5)	$3^+, 5^+$				2	0.10	190							71Mo02
1954(12)	$1^-, 3^-$									1	0.20		$\langle 0.14 \rangle$	70Be24
1982.0(4)	$\langle 7, 9, 11^+ \rangle$						30							71Mo02
2046.5(2)	9^+													
2046.9(11)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.06	100							71Mo02
2086.1(1)	$7^{(+)}-11^{(+)}$													
2101.8(4)	$\langle 13^- \rangle$													
2123.7(1)	$\langle 7 \rangle^+$													
2132(19)	$5^-, 7^-$									3	1.83	$\langle 3 \rangle$	0.80	70Be24
2165.8(1)	$\langle 7^+, 9^+ \rangle$													
2172.0(1)	$\langle 7 \rangle^+$													
2204(5)														
2238(5)	$\langle 5 \rangle^+$				$\langle 2 \rangle$	0.05	100							71Mo02
2290(5)	$X^{(-)}$													
2325.0(7)	5^+				2	0.34	720							71Mo02
2351.67(9)	$\langle 7 \rangle^+$													

(continued)

⁸⁵₃₈Sr

E^*	$2J^\pi$	L	$\sigma(\tau, n)$	ϵ	L	S'	$\sigma(d, p)$	S_N	S'	L	S_N	L	S_N	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d, p)	$\mu\text{b/sr}$	(d, p)	(d, p)	(d, t)	(d, t)	(τ, α)	(τ, α)	
2367.3(6)	$\langle 13^-, 17^- \rangle$													
2378(5)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.04	80							71Mo02
2400.3(7)	$\langle 17 \rangle^+$													
2406(5)	X^+													
2458(5)	X^+													
2470.9(3)	$7, 9, 11^{(+)}$													
2496(5)	1^+				0	0.05	1020							71Mo02
2501(5)	$3^+, 5^+$				2	0.11	230							71Mo02
2527(5)	$3^+, 5^+$				2	0.33	710							71Mo02
2533.7(8)	$\langle 13^-, 17^- \rangle$													
2560(5)	$X^{(-)}$													
2602(5)	1^+				0	0.06	1230							71Mo02
2626(5)	$\langle 9^+ \rangle$				$\langle 2 \rangle$	0.05	110							71Mo02
2628(5)	$\langle 3^+, 5^+ \rangle$													
2642.16(17)	$\langle 7, 9^- \rangle$													
2696(5)							90							71Mo02
2717.6(4)	$7, 9, 11^{(+)}$													
2748(5)	1^+				0	0.10	2080							71Mo02
2768.1(3)	$7, 9, 11^{(+)}$													
2781.94(15)	$\langle 7^+, 9^+ \rangle$													
2809.95(23)	$7, 9, 11^{(+)}$													
2814.4(3)	$7, 9, 11^{(+)}$													
2854.7(8)	$\langle 19^+ \rangle$													
2882(5)	1^+				0	0.03	570							71Mo02
2952(5)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.14	310							71Mo02
2975.19(20)	$\langle 7, 9^- \rangle$													
2980.19(24)	$7, 9, 11^{(+)}$													
2990.7(3)	$7, 9, 11^{(+)}$													
3018.1(5)	$7, 9, 11^{(+)}$													
3027.9(7)	$\langle 15^-, 19^- \rangle$													
3031.2(3)	$\langle 7, 9^- \rangle$													
3048(5)														
3063.2(4)	$7, 9, 11$													
3075.3(3)	$\langle 7, 9^- \rangle$													
3081.8(8)	$\langle 21^+ \rangle$													
3088.6(4)	$7, 9, 11^{(+)}$													
3105(5)							≈ 150							71Mo02
3129.0(5)	$7, 9, 11^{(+)}$													
3136(5)	$\langle 1^+ \rangle$				$\langle 0 \rangle$	0.04	840							71Mo02
3169(5)														
3301(5)	1^+				0	0.10	2100							71Mo02
3336(5)							120							71Mo02
3380(5)	$\langle 3^+, 5^+ \rangle$				$\langle 2 \rangle$	0.09	230							71Mo02
3381.0(10)	$\langle 21^- \rangle$													
3396.7(10)	$\langle 17, 19, 21 \rangle$													

(continued)

⁸⁵₃₈Sr

E^*	$2J^\pi$	L	σ (τ, n)	ε	L	S'	σ (d,p)	S_N	S'	L	S_N	L	S_N	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(d,t)	(d,t)	(τ, α)	(τ, α)	
3408(5)														
3426(5)														
3455(5)	1 ⁺				0	0.03	620							71Mo02
3503(5)														
3509.0(14)	$\langle 23 \rangle$													
3513(5)														
3532(5)	3 ⁺ , 5 ⁺				2	0.05	130							71Mo02
3563(5)	$\langle 1^+ \rangle$				$\langle 0 \rangle$	0.02	380							71Mo02
3582(5)	1 ⁺				0	0.02	480							71Mo02
3598(5)														
3645(5)														
3672(5)														
3821.5(17)	$\langle 25 \rangle$													
3980.9(14)	$\langle 19 \rangle - \langle 25 \rangle$													
			79Al19	79Al19		71Mo02			70Be24		70Be24		71Iv02	Ref.
							71Mo02	70Be24						Ref.

$E^*=1262$ keV [91Si01] and $E^*=1100$ keV observed in (τ, n) reaction [79Al19] could be the same.

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [91Si01]. Part 2

⁸⁵₃₈Sr

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
				E_f^* :	0.0	232	239	743	767	785	937
[keV]		Γ_{cm}		$2J_f^\pi$:	9 ⁺	7 ⁺	1 ⁻	3 ⁻	5 ⁺	$\langle 5^- \rangle$	5 ⁻
0.0	9 ⁺	64.84(2) d	71Mo02								
231.67(1)	7 ⁺	0.21(5) ns			100						
238.66(6)	1 ⁻	67.63(4) m	71Iv02	x		x					
743.13(10)	3 ⁻	0.12(8) ps	71Iv02				100				
767.27(8)	5 ⁺	>7 ps	71Mo02		51(5)	49(5)					
785.44(12)	$\langle 5^- \rangle$						100				
936.75(11)	5 ⁻		70Be24				78(3)	21(1)		1.2(5)	
1111.3(3)	$\langle 13 \rangle^+$	2.56(21) ps			100						
1152.6(1)	3 ⁻	0.13(4) ps	70Be24				90(4)	8.3(7)			1.9(2)
1220.7(1)	$\langle 11 \rangle^+$	0.73(17) ps			97(4)	2.9(3)					
1261.9(1)	9 ⁺	0.60(16) ps	71Iv02		23(1)	77(1)					
1355.1(1)	5 ⁺	≥ 0.13 ps	71Mo02			60(2)		36(2)	4.0(4)		
1403(5)	1 ⁺		71Mo02								
1404.9(6)	X ⁽⁺⁾										
1405.1(2)	$\langle 5^-, 7^- \rangle$					14(3)		23(5)	28(5)		34(3)
1453.0(3)	$\langle 5^-, 7, 9^- \rangle$		71Mo02							100	
1485.6(3)	$\langle 3^+ \rangle$		71Mo02			65	14		21		
1516.8(4)	$\langle 1, 3 \rangle$						100				

(continued)

⁸⁵Sr
₃₈

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E_f^* : $2J_f^\pi$:	0.0 9 ⁺	232 7 ⁺	239 1 ⁻	743 3 ⁻	767 5 ⁺	785 ⟨5 ⁻ ⟩	937 5 ⁻
1555.3(1)	⟨5 ⁺ ,7⟩	≥0.11 ps	71Mo02		7.8(6)	25(2)			57(3)	11(2)	
1559.3(4)	⟨1,3⟩						100				
1588.5(1)	⟨7,9 ⁺ ⟩				49(3)	19			32(3)		
1627.0(1)	9 ⁺	0.23(6) ps			38(3)	62(4)					
1648.7(10)	1 ⁻ ,3 ⁻	0.2(+3-1) ps	70Be24				100				
1657.7(3)	⟨11⟩ ⁺	0.8(5) ps			66(2)	34(2)					
1684.2(4)											
1700.9(2)	⟨5 ⁻ ,7,9 ⁻ ⟩				39(12)					61(18)	
1712(5)			71Mo02								
1793(5)	3 ⁺ ,5 ⁺		71Mo02								
1793.6(2)	⟨5 ⁻ ,7,9 ⁺ ⟩		71Mo02			13(2)			34(4)		
1827(5)	3 ⁺ ,5 ⁺		71Mo02								
1842(5)	1 ⁺		71Mo02								
1919.7(2)	7,9,11 ^{⟨+⟩}				41(4)	42(3)					
1928(5)	3 ⁺ ,5 ⁺		71Mo02								
1954(12)	1 ⁻ ,3 ⁻		70Be24								
1982.0(4)	⟨7,9,11 ⁺ ⟩		71Mo02			65(8)			35(8)		
2046.5(2)	9 ⁺				48(6)	52(10)					
2046.9(11)	⟨3 ⁺ ,5 ⁺ ⟩		71Mo02								
2086.1(1)	7 ^{⟨+⟩} -11 ^{⟨+⟩}				22(2)	61(3)					
2101.8(4)	⟨13 ⁻ ⟩	2.4(12) ps									
2123.7(1)	⟨7⟩ ⁺				42(2)	15(1)			4.6(4)	1.4(1)	2.3(2)
2132(19)	5 ⁻ ,7 ⁻		70Be24								
2165.8(1)	⟨7 ⁺ ,9 ⁺ ⟩				43(3)	21(2)					
2172.0(1)	⟨7⟩ ⁺				29(2)	7.3(4)			39(2)		0.50(10)
2204(5)											
2238(5)	⟨5⟩ ⁺		71Mo02								
2290(5)	X ^{⟨-⟩}										
2325.0(7)	5 ⁺		71Mo02								
2351.67(9)	⟨7⟩ ⁺				11(1)	15(1)			23(1)	4.4(3)	8(1)
2367.3(6)	⟨13 ⁻ ,17 ⁻ ⟩	1.2(4) ns									
2378(5)	⟨3 ⁺ ,5 ⁺ ⟩		71Mo02								
2400.3(7)	⟨17⟩ ⁺	2.25(16) ps									
2406(5)	X ⁺										
2458(5)	X ⁺										
2470.9(3)	7,9,11 ^{⟨+⟩}					100					
2496(5)	1 ⁺		71Mo02								
2501(5)	3 ⁺ ,5 ⁺		71Mo02								
2527(5)	3 ⁺ ,5 ⁺		71Mo02								
2533.7(8)	⟨13 ⁻ -17 ⁻ ⟩										
2560(5)	X ^{⟨-⟩}										
2602(5)	1 ⁺		71Mo02								
2626(5)	⟨9 ⁺ ⟩		71Mo02								
2628(5)	⟨3 ⁺ ,5 ⁺ ⟩										
2642.16(17)	⟨7,9 ⁻ ⟩				16.0(16)						73(4)

(continued)

⁸⁵Sr
₃₈

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
				E_f^* : $2J_f^\pi$:	0.0 9 ⁺	232 7 ⁺	239 1 ⁻	743 3 ⁻	767 5 ⁺	785 ⟨5 ⁻ ⟩	937 5 ⁻
2696(5)			71Mo02								
2717.6(4)	7,9,11 ⁽⁺⁾				32(7)	68(7)					
2748(5)	1 ⁺		71Mo02								
2768.1(3)	7,9,11 ⁽⁺⁾				33(9)	20(6)					
2781.94(15)	⟨7 ⁺ ,9 ⁺ ⟩				49(2)	33(3)					
2809.95(23)	7,9,11 ⁽⁺⁾				11(2)	36(6)			8(3)		
2814.4(3)	7,9,11 ⁽⁺⁾				81(6)	19(4)					
2854.7(8)	⟨19 ⁺ ⟩										
2882(5)	1 ⁺		71Mo02								
2952(5)	⟨3 ⁺ ,5 ⁺ ⟩		71Mo02								
2975.19(20)	⟨7,9 ⁻ ⟩				9(1)	12(2)				16(3)	36(3)
2980.19(24)	7,9,11 ⁽⁺⁾				11.7(17)	81(4)					
2990.7(3)	7,9,11 ⁽⁺⁾				33(6)	6(2)				62(7)	
3018.1(5)	7,9,11 ⁽⁺⁾				39(30)	61(45)					
3027.9(7)	⟨15 ⁻ -19 ⁻ ⟩	2.4(+4-3) ps									
3031.2(3)	⟨7,9 ⁻ ⟩				42(4)	32(5)					26(8)
3048(5)											
3063.2(4)	7,9,11				100						
3075.3(3)	⟨7,9 ⁻ ⟩				20(5)	13(3)				67(10)	
3081.8(8)	⟨21 ⁺ ⟩	52(5) ps									
3088.6(4)	7,9,11 ⁽⁺⁾				13(3)	15(3)					
3105(5)			71Mo02								
3129.0(5)	7,9,11 ⁽⁺⁾				42(27)	58(10)					
3136(5)	⟨1 ⁺ ⟩		71Mo02								
3169(5)											
3301(5)	1 ⁺		71Mo02								
3336(5)			71Mo02								
3380(5)	⟨3 ⁺ ,5 ⁺ ⟩		71Mo02								
3381.0(10)	⟨21 ⁻ ⟩										
3396.7(10)	⟨17,19,21⟩	2.2(3) ps									
3408(5)											
3426(5)											
3455(5)	1 ⁺		71Mo02								
3503(5)											
3509.0(14)	⟨23⟩										
3513(5)											
3532(5)	3 ⁺ ,5 ⁺		71Mo02								
3563(5)	⟨1 ⁺ ⟩		71Mo02								
3582(5)	1 ⁺		71Mo02								
3598(5)											
3645(5)											
3672(5)											
3821.5(17)	⟨25⟩	6.2(14) ps									
3980.9(14)	⟨19⟩-⟨25⟩										

(continued)

⁸⁵₃₈Sr

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
[keV]		Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	232 7 ⁺	239 1 ⁻	743 3 ⁻	767 5 ⁺	785 ⟨5 ⁻ ⟩	937 5 ⁻
			Ref.								
			Ref.								

Energy levels and branching ratios [91Si01]. Part 3

⁸⁵₃₈Sr

E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	1111 ⟨13⟩ ⁺	1220.72 ⟨11⟩ ⁺	1261.92 9 ⁺	1355.06 5 ⁺	1404.9 X ⁽⁺⁾	1405.11 ⟨5 ⁻ , 7 ⁻ ⟩	1453.0	1555.28 ⟨5 ⁺ , 7⟩	1588.48 ⟨7, 9 ⁺ ⟩
[keV]											
1793.6(2)	⟨5 ⁻ , 7, 9 ⁺ ⟩					53(3)					
1919.7(2)	7, 9, 11 ⁽⁺⁾				17(3)						
2086.1(1)	7 ⁽⁺⁾ –11 ⁽⁺⁾			18(2)							
2101.8(4)	⟨13 ⁻ ⟩		70.8(8)								
2123.7(1)	⟨7⟩ ⁺				8.3(5)	11(1)		0.69(10)		14.2(10)	
2165.8(1)	⟨7 ⁺ , 9 ⁺ ⟩			17(2)		19(2)					
2172.0(1)	⟨7⟩ ⁺				2.6(2)	10.0(6)				11.1(7)	
2351.67(9)	⟨7⟩ ⁺			0.7(1)	1.2(2)	10(1)			1.7(1)	4.6(4)	3.4(5)
2400.3(7)	⟨17⟩ ⁺	100									
2781.94(15)	⟨7 ⁺ , 9 ⁺ ⟩				5.1(11)		4.3(10)				
2809.95(23)	7, 9, 11 ⁽⁺⁾									46(5)	
2975.19(20)	⟨7, 9 ⁻ ⟩							9(6)			
2980.19(24)	7, 9, 11 ⁽⁺⁾							7(6)			
3088.6(4)	7, 9, 11 ⁽⁺⁾				58(10)						

Energy levels and branching ratios [91Si01]. Part 4

⁸⁵₃₈Sr

E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	1627.05 9 ⁺	1657.7 ⟨11⟩ ⁺	1684.2	1700.95	1793.60	1919.68	1982.0	2046.9 ⟨3 ⁺ , 5 ⁺ ⟩	2101.8 ⟨13 ⁻ ⟩	2123.70 ⟨7⟩ ⁺
[keV]												
2101.8(4)	⟨13 ⁻ ⟩			29.2(8)								
2325.0(7)	5 ⁺	100										
2351.67(9)	⟨7⟩ ⁺	9(1)			2.8(3)		5.2(4)					
2367.3(6)	⟨13 ⁻ , 17 ⁻ ⟩										100	
2642.16(17)	⟨7, 9 ⁻ ⟩					10.6(12)						
2768.1(3)	7, 9, 11 ⁽⁺⁾					47(12)						
2781.94(15)	⟨7 ⁺ , 9 ⁺ ⟩								6(2)	3(1)		
2975.19(20)	⟨7, 9 ⁻ ⟩							18(5)				
3088.6(4)	7, 9, 11 ⁽⁺⁾											15(8)

Energy levels and branching ratios [91Si01]. Part 5

⁸⁵₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $2J_f^\pi:$	2367.3	2400.3 $\langle 17 \rangle^+$	2533.7	2854.7 $\langle 19^+ \rangle$	3027.9	3381.0 $\langle 21^- \rangle$	3509.0 $\langle 23 \rangle$
2533.7(8)	$\langle 13^- - 17^- \rangle$		100						
2854.7(8)	$\langle 19^+ \rangle$			100					
3027.9(7)	$\langle 15^- - 19^- \rangle$		52(1)	36(2)	12.4(5)				
3081.8(8)	$\langle 21^+ \rangle$			100					
3381.0(10)	$\langle 21^- \rangle$					100			
3396.7(10)	$\langle 17, 19, 21 \rangle$				x		100		
3509.0(14)	$\langle 23 \rangle$							100	
3821.5(17)	$\langle 25 \rangle$								100
3980.9(14)	$\langle 19 \rangle - \langle 25 \rangle$							100	

Energy levels and branching ratios [97Ki04, 01Si43].

⁸⁶₃₈Sr

E^*	J^π	L	σ (τ, n)	ε	L	C^2S	L	C^2S	σ (d,t)	σ (p,t)	L	ε	B^2	S_α	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(p,d)		(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p,t)	(p,t)		(d, ⁶ Li)	
0.0	0 ⁺	0	670	2.31	4	0.13(2)	4	0.13	53	125.2	0	9.5	1.0	0.08	85Li17
1076.7(1)	2 ⁺				4	0.46(8)	4+2	0.6+0.01	165+31	93	2			0.05	89Ra22
1854.2(1)	2 ⁺				4	0.13(2)	4+2	0.2+0.01	46+14	8.2	$\langle 2 \rangle$	0.9	5.0	0.05	89Ra22
2106(6)	0 ⁺	0+2	68	0.22	4	0.006(1)	4	0.013	2.6	16.0	0	1.2	1.0	0.03	89Ra22
2203(6)	0 ⁺						4	0.022	4.3	14.6				incl	85Li17
2229.7(1)	4 ⁺				4	0.85(15)	4+2	1.3+0.02	243+38	53	4	2.3	9.0	0.09	89Ra22
2365(12)															
2481.9(1)	3 ⁻				1	0.61	1	0.24	878	41.8	3	1.4	7.0	0.19	84Va31
2497															
2642.2(2)	2 ⁺				4	0.06	4+2	0.1	18+6.3	8.2	$\langle 2 \rangle$	0.4	5.0		89Ra22
2672.8(1)	5 ⁻				1	1.05	1	0.95	3160	197	5	0.1	11.0		89Ra22
2788.5(4)	2 ⁺				4	0.013(3)	4+2	0.03	4.8+2.3	90	2	4.2	5.0		89Ra22
2857.0(2)	6 ⁺				4	1.45(26)	4+2	2.4+0.05	366+71	27	5,6				89Ra22
2878.3(1)	$\langle 4 \rangle^+$						2+0	0.01+0.01	15+182						85Li17
2955.7(2)	8 ⁺				4	1.96(35)	4	3.46	509	13.3					89Ra22
2997.4(1)	3 ⁻				4	0.22(5)	1	0.27	772	53.3	3	1.4	7.0		89Ra22
					+1	0.31									89Ra22
3045															
3055.8(1)	5 ⁻				4	0.082(2)	1	0.058	160	10.8					89Ra22
					+1	0.05									89Ra22
3104(6)	$\langle 0^+ \rangle$	0+2	56	0.17			4	0.012	1.7	1.7					85Li17
3185	X ⁺														
3185.2(1)	$\langle 3 \rangle^-$				1	0.86	1	0.68	1740	14.0					89Ra22
3291.3(1)	$\langle 3 \rangle^-$						1	0.025	59						85Li17
3317.6(1)	$\langle 5 \rangle^-$				1	0.51	1	0.34	804	3.6					89Ra22
3362.1(1)	4 ⁺						4+2	0.02+0.004	2.7+5	12					85Li17
3392(7)	X ⁺														

(continued)

⁸⁶Sr
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E^*	J^π	L	σ (τ, n)	ε	L	C^2S	L	C^2S	σ (d,t)	σ (p,t)	L	ε	B^2	S_α	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(p,d)		(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p,t)	(p,t)		(d, ⁶ Li)	
3430(2)	2 ⁺									15.5					76Oe02
3482.2(4)	6 ⁺						[4]	0.4	44	48.6					85Li17
3499.9(1)	$\langle 3-5 \rangle^-$				3	1.35(3)	3	0.66	353						89Ra22
3500.5(4)	X ⁺														
3555.8(1)	$\langle 4^+ \rangle$														
3645.0(1)	$\langle 3^- \rangle$									10.9					76Oe02
3665.2(13)	X ⁻				3	0.08(3)									89Ra22
3686.0(5)	2 ⁺									44.0					76Oe02
3686.8(2)	3 ⁻				3	0.188(5)									89Ra22
3765.7(1)	3 ⁻ -5 ⁻				1	0.02									89Ra22
3774.9(2)	$\langle 4,5 \rangle^+$				4	0.010(3)									89Ra22
3831.1(1)	$\langle 3,4 \rangle^-$				1	1.17	$\langle 1 \rangle$	0.83	1477						89Ra22
3871.5(4)	3 ⁻				3	0.087(2)									89Ra22
3926.0(1)	$\langle 4^+ \rangle$														
3942.4(2)	3 ⁻				1	1.07									89Ra22
3968.9(1)	3 ⁻ -5 ⁻				3	0.43(2)									89Ra22
3973.0(5)															
4096(10)	X ⁻				1	0.19									89Ra22
4146.2(2)	3,4 ⁺														
4148.1(5)	$\langle 9 \rangle$														
4173(10)					4+1	0.04+0.1									89Ra22
4206.1(1)	$\langle 3^- - 5^- \rangle$														
4251(10)	X ⁻				3	0.29(1)									89Ra22
4270(10)															
4285(10)	X ⁻				3	0.51(1)									89Ra22
4339(2)															
4410.7(5)	3 ⁻				3+1	0.34+0.01									89Ra22
4478(15)	X ⁻				3+1	0.165(5)									89Ra22
4526(15)	X ⁻				3	0.039(2)									89Ra22
4600(1)	X ⁻				3	0.054(2)									89Ra22
4665(15)					$\langle 4 \rangle$	0.009(2)									89Ra22
4708.9(4)	$\langle 10^+ \rangle$														
4718.0(17)	3,4 ⁽⁺⁾				$\langle 4 \rangle$	0.024(7)									89Ra22
4738(15)					$\langle 3 \rangle$	0.042(2)									89Ra22
4845(20)	X ⁻				3	0.233(6)									89Ra22
4890(15)	X ⁺				4	0.04(1)									89Ra22
4954(6)	3,4 ⁽⁺⁾				4	0.081(2)									89Ra22
					+1	0.09									89Ra22
5012.7(8)	$\langle 11 \rangle$														
5035(20)					4	0.06(2)									89Ra22
					+1	0.06									89Ra22
5102(15)					$\langle 3 \rangle$	0.063(2)									89Ra22
5166(20)					$\langle 3 \rangle$	0.087(5)									89Ra22
5191(20)					$\langle 4 \rangle$	0.021(6)									89Ra22
					$\langle +3 \rangle$	0.16(8)									89Ra22

(continued)

⁸⁶Sr
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E^*	J^π	L	σ (τ, n)	ε	L	C^2S	L	C^2S	σ (d,t)	σ (p,t)	L	ε	B^2	S_α	Ref.
[keV]		(τ, n)	$\mu\text{b/sr}$	(τ, n)		(p,d)		(d,t)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(p,t)	(p,t)		(d, ⁶ Li)	
5300(20)					$\langle 3 \rangle$	0.063(2)									89Ra22
5357(20)					$\langle 4 \rangle$	0.012(3)									89Ra22
					$\langle +1 \rangle$	0.03									89Ra22
5403(20)					$\langle 3 \rangle$	0.047(2)									89Ra22
5425.6(15)															
5454(20)	X ⁻				3	0.08(3)									89Ra22
5834.5(4)	$\langle 11^- \rangle$														
6061.1(4)	$\langle 12^- \rangle$														
6191.0(4)	$\langle 13^- \rangle$														
7821.9(23)*	$\langle 1 \rangle$														
			79Al19	79Al19		89Ra22		89Ra22	85Li17			73Ba56		84Va31	Ref.
										76Oe02			73Ba56		Ref.

Additional data on this isotope can be found in [99Ma21, 76St11].

Abundance: 9.86(1) %.* $\Gamma=0.10(5)$ eV and $\Gamma_o=0.030(15)$ eV [70Sc27]. C^2S for the (d,t) reaction is defined by $\sigma_{exp}=3.37 C^2S\sigma_{DWBA}/(2J+1)$.Cross sections of two neutron pickup reaction (p,t) are from [76Oe02]; the parameter ε , two-particle spectroscopic amplitude $B^2(j_1j_2J)$ and the normalization factor D_o^2 are from another work [73Ba56], they are interconnected as $\sigma_{exp}=2D_o^2\varepsilon B^2(j_1j_2J)\sigma_{DWBA}$ [73Ba56].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [97Ki04, 01Si43]. Part 2

⁸⁶Sr
₃₈

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage									
[keV]		Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	1077 2 ⁺	1854 2 ⁺	2106 0 ⁺	2203 0 ⁺	2230 4 ⁺	2482 3 ⁻	2497	
0.0	0 ⁺	Stable	85Li17										
1076.7(1)	2 ⁺	1.61(7) ps	89Ra22		100								
1854.2(1)	2 ⁺	0.39(2) ps	89Ra22		43(1)	57(1)							
2106(6)	0 ⁺		89Ra22										
2203(6)	0 ⁺		85Li17										
2229.7(1)	4 ⁺	<5 ns	89Ra22			100							
2365(12)													
2481.9(1)	3 ⁻	<5 ns	84Va31		0.35(2)	0.6(2)	98.0(9)			1.12(5)			
2497													
2642.2(2)	2 ⁺	87(19) fs	89Ra22		48(12)	52(14)							
2672.8(1)	5 ⁻	<5 ns	89Ra22							94(3)	6(1)		
2788.5(4)	2 ⁺	25(12) fs	89Ra22		6(3)	94(18)							
2857.0(2)	6 ⁺	<5 ns	89Ra22							100			
2878.3(1)	$\langle 4 \rangle^+$		85Li17			30(1)	70(3)			x			
2955.7(2)	8 ⁺	0.45(1) μs	89Ra22										
2997.4(1)	3 ⁻		89Ra22		0.03(2)	74(2)	0.4(1)			8(1)	17(1)		

(continued)

⁸⁶₃₈Sr

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
[keV]		Γ_{cm}		$E_{\text{f}}^*:$ $J_{\text{f}}^\pi:$	0.0 0 ⁺	1077 2 ⁺	1854 2 ⁺	2106 0 ⁺	2203 0 ⁺	2230 4 ⁺	2482 3 ⁻	2497
			89Ra22									
3045												
3055.8(1)	5 ⁻	<5 ns	89Ra22							48(1)		
			89Ra22									
3104(6)	$\langle 0^+ \rangle$		85Li17									
3185	X ⁺											
3185.2(1)	$\langle 3 \rangle^-$	<5 ns	89Ra22			0.23(4)				4.9(2)	73	
3291.3(1)	$\langle 3 \rangle^-$	<5 ns	85Li17									
3317.6(1)	$\langle 5 \rangle^-$		89Ra22							0.6(1)	63(8)	
3362.1(1)	4 ⁺		85Li17				43(5)			36(3)		
3392(7)	X ⁺											
3430(2)	2 ⁺		76Oe02									
3482.2(4)	6 ⁺	<5 ns	85Li17									
3499.9(1)	$\langle 3-5 \rangle^-$		89Ra22							41(6)	12(7)	
3500.5(4)	X ⁺											
3555.8(1)	$\langle 4^+ \rangle$											
3645.0(1)	$\langle 3^- \rangle$		76Oe02			47(2)	21(1)			7(2)	25(1)	
3665.2(13)	X ⁻	<5 ns	89Ra22									
3686.0(5)	2 ⁺		76Oe02									
3686.8(2)	3 ⁻		89Ra22			100						
3765.7(1)	3 ⁻ -5 ⁻	<5 ns	89Ra22							1.2(3)	3(1)	
3774.9(2)	$\langle 4,5 \rangle^+$		89Ra22									
3831.1(1)	$\langle 3,4 \rangle^-$		89Ra22								21(1)	
3871.5(4)	3 ⁻		89Ra22			61(5)	39(5)					
3926.0(1)	$\langle 4 \rangle^+$									9.4(2)		
3942.4(2)	3 ⁻		89Ra22			54(9)	35(4)					
3968.9(1)	3 ⁻ -5 ⁻		89Ra22									
3973.0(5)		<5 ns										
4096(10)	X ⁻		89Ra22									
4146.2(2)	3,4 ⁺					16(3)	18(1)					
4148.1(5)	$\langle 9 \rangle$	<5 ns										
4173(10)			89Ra22									
4206.1(1)	$\langle 3^- - 5^- \rangle$										64(4)	
4251(10)	X ⁻		89Ra22									
4270(10)												
4285(10)	X ⁻		89Ra22									
4339(2)												
4410.7(5)	3 ⁻		89Ra22			79(10)				21(6)		
4478(15)	X ⁻		89Ra22									
4526(15)	X ⁻		89Ra22									
4600(1)	X ⁻	<5 ns	89Ra22									
4665(15)			89Ra22									
4708.9(4)	$\langle 10^+ \rangle$	<14 ps										
4718.0(17)	3,4 \langle^+		89Ra22			82(16)	18(8)					
4738(15)			89Ra22									

(continued)

⁸⁶₃₈Sr

E^*	J^π	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
[keV]		Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0^+	1077 2^+	1854 2^+	2106 0^+	2203 0^+	2230 4^+	2482 3^-	2497
4845(20)	X^-		89Ra22									
4890(15)	X^+		89Ra22									
4954(6)	$3,4^{\langle + \rangle}$		89Ra22			100						
			89Ra22									
5012.7(8)	$\langle 11 \rangle$	<5 ns										
5035(20)			89Ra22									
			89Ra22									
5102(15)			89Ra22									
5166(20)			89Ra22									
5191(20)			89Ra22									
			89Ra22									
5300(20)			89Ra22									
5357(20)			89Ra22									
			89Ra22									
5403(20)			89Ra22									
5425.6(15)		<5 ns										
5454(20)	X^-		89Ra22									
5834.5(4)	$\langle 11^- \rangle$	<21 ps										
6061.1(4)	$\langle 12^- \rangle$	$10(3)$ ps										
6191.0(4)	$\langle 13^- \rangle$	$4.9(14)$ ps										
7821.9(23)*	$\langle 1 \rangle$	$4.6(23)$ fs			$29(3)$	$6(1)$	$17(2)$	$8(2)$	$5(2)$			$6(2)$
			Ref.									
			Ref.									

Energy levels and branching ratios [97Ki04, 01Si43]. Part 3

⁸⁶₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	2642.19 2 ⁺	2672.84 5 ⁻	2788.5 2 ⁺	2857.00 6 ⁺	2878.28 ⟨4⟩ ⁺	2955.68 8 ⁺	2997.36 3 ⁻	3045	3055.78 5 ⁻	3104 ⟨0 ⁺ ⟩
2955.7(2)	8 ⁺					100						
2997.4(1)	3 ⁻		0.35(9)									
3055.8(1)	5 ⁻			52(1)								
3185.2(1)	⟨3⟩ ⁻			x			16.3(4)		5.94(20)			
3291.3(1)	⟨3⟩ ⁻			31(5)	13(5)						56(2)	
3317.6(1)	⟨5⟩ ⁻			31(5)			2.8(9)					
3362.1(1)	4 ⁺			21(4)								
3482.2(4)	6 ⁺			100								
3499.9(1)	⟨3-5⟩ ⁻										41(10)	
3555.8(1)	⟨4 ⁺ ⟩			27(9)								
3765.7(1)	3 ⁻ -5 ⁻			7.1(4)			4.5(4)		3.3(11)		26.9(8)	
3774.9(2)	⟨4,5⟩ ⁺			47(6)							53(8)	
3831.1(1)	⟨3,4⟩ ⁻								10(3)			

(continued)

 $^{86}_{38}\text{Sr}$

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* :	2642.19	2672.84	2788.5	2857.00	2878.28	2955.68	2997.36	3045	3055.78	3104
		J_f^π :	2 ⁺	5 [−]	2 ⁺	6 ⁺	$\langle 4 \rangle^+$	8 ⁺	3 [−]		5 [−]	$\langle 0^+ \rangle$
3926.0(1)	$\langle 4 \rangle^+$			22.7(7)								
3968.9(1)	3 [−] –5 [−]			40(2)					20(2)			
4148.1(5)	$\langle 9 \rangle$							100				
4206.1(1)	$\langle 3^−-5^− \rangle$			26(4)		10(4)					x	
4708.9(4)	$\langle 10^+ \rangle$							100				
7821.9(23)*	$\langle 1 \rangle$		4(2)		9(2)					6(2)		10(3)

Energy levels and branching ratios [97Ki04, 01Si43]. Part 4

 $^{86}_{38}\text{Sr}$

E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	3185.23 $\langle 3 \rangle^-$	3291.30 $\langle 3 \rangle^-$	3317.62 $\langle 5 \rangle^-$	3482.2 6^+	3499.91	3500.5 X^+	3555.78 $\langle 4^+ \rangle$	3686.0 2^+	3765.69	3973.0
3317.6(1)	$\langle 5 \rangle^-$		2.37(12)									
3499.9(1)	$\langle 3-5 \rangle^-$				7(2)							
3555.8(1)	$\langle 4^+ \rangle$			58(3)	15(3)							
3645.0(1)	$\langle 3^- \rangle$							0.65(7)				
3665.2(13)	X^-					100						
3765.7(1)	$3^- - 5^-$		49.2(14)		0.8(2)				4.1(1)			
3831.1(1)	$\langle 3,4 \rangle^-$		64(8)				5.79(17)					
3926.0(1)	$\langle 4 \rangle^+$		20.1(7)	1.3(4)	30(2)		4.5(2)		12.2(6)			
3942.4(2)	3^-									11(4)		
3968.9(1)	$3^- - 5^-$		19(2)				22(2)					
3973.0(5)						100						
4146.2(2)	$3,4^+$										66(5)	
4339(2)			100									
4600(1)	X^-											100

Energy levels and branching ratios [97Ki04, 01Si43]. Part 5

 $^{86}_{38}\text{Sr}$

E^* [keV]	J^π	Branching ratios in percentage				
		E_f^* : J_f^π :	4600.5 X ⁻	4708.9 (10 ⁺)	5834.5 (11 ⁻)	6061.1 (12 ⁻)
5012.7(8)	(11)			100		
5425.6(15)			100			
5834.5(4)	(11 ⁻)			100		
6061.1(4)	(12 ⁻)				100	
6191.0(4)	(13 ⁻)					100

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16].

⁸⁷₃₈Sr

E^*	$2J^\pi$	L	b_l^2	Br	L	S'	σ (d,p)	S'	C^2S	C^2S	C^2S^{th}	S_N	C^2S	σ (d, α)	Ref.
[keV]		(p,p')	$\times 10^3$	%		(d,p)	$\mu\text{b/sr}$	(d,p)	(p,d)	(p,d)	(p,d)	(d,t)	(τ, α)	$\mu\text{b/sr}$	
0.0	9 ⁺				4	1.55	260	1.27	8.40	9.37	10	9.3	8.16	28(2)	89Fo01
388.533(3)	1 ⁻			28(1)	1	0.22	460	0.18	2.42	1.97	6	1.85	2.5**	8(1)	89Fo01
873.343(6)	3 ⁻			1.57(8)	1	0.19	520	0.25	3.91	2.35	incl	2.71	3.36	29(2)	89Fo01
1228.42(2)	5 ⁺	2	1.63	0.022(2)	2	0.63	1230	0.64	0.43				0.17	17(2)	70Be24
1253.94(1)	5 ⁻			0.006(2)					4.19	3.0	6	4.15	2.76		89Fo01
1740.0(4)	13 ⁺														
1742.0(9)	5 ⁺ , 7 ⁺	2	2.96											20(2)	86Wi16
1770.46(2)	5 ⁺				2	2.68	5230	2.77				<0.1			86Wi16
1920.5(1)	7 ⁺	2	1.45											≈ 1.4	02He09
2110.05(2)	3 ⁻	3	1.47	2.5(1)					0.66	0.31	incl	0.31	0.54	≈ 1.6	89Fo01
2153.5(6)	$\langle 11 \rangle^+$	2	3.36												02He09
2169.42(2)	1 ⁺			1.60(8)	0	0.57	10740	0.70						≈ 1.4	89Fo01
2235.7(10)	[9 ⁺]	2	1.59						0.91	0.63	incl	1.7	0.89		89Fo01
2262(8)															
2414.50(2)	3 ⁻			4.2(2)					0.715			0.70	[0.67]	40(2)	89Fo01
2420.4(8)	5 ⁻ , 7 ⁻	3	1.43						incl	0.46	incl				89Fo01
2488(8)	X ⁻	3	0.30												02He09
2532.8(3)	[9 ⁺]												0.10		89Fo01
2536.3(6)	$\langle 11 \rangle^-$														
2539(8)	X ⁻	3	4.2												02He09
2550.0(7)	$\langle 7 \rangle^+$														
2555.0(7)	$\langle 9 \rangle^-$	3	5.0												02He09
2596.0(5)	13 ⁻	3	4.8												02He09
2631(9)	1 ⁻ , 3 ⁻								0.22	0.28	incl			18(2)	
2656(9)	5 ⁻ , 7 ⁻														
2676.84(2)	3 ⁺				2	0.33	740		0.57						86Wi16
2679(10)	1 ⁻ , 3 ⁻			2.4(1)								0.53	0.16, 0.1		89Fo01
2682.0(5)	$\langle 3 \rangle^+$														86Wi16
2707.5(5)	[9 ⁺]	$\langle 4 \rangle$	1.35										0.12	25(2)	89Fo01
2803.1(2)															86Wi16
2818.9(2)	9 ⁺				4	0.9	130								86Wi16
2821.0(5)	$\langle 9 \rangle^+$														
2831.2(5)	15 ⁻	3	7.9												02He09
2850.52(2)	1 ⁻ , 3 ⁻			1.65(9)								0.42	0.13, 0.1		89Fo01
2893(8)	X ⁽⁻⁾	$\langle 3 \rangle$	0.53												02He09
2904.1(9)															86Wi16
2920.8(12)	[9 ⁺]			0.07(1)									0.04	≈ 3.6	89Fo01
2921.09(5)	3 ⁻	3	1.5				≈ 50							incl	71Mo02
2940.69(3)	1 ⁺			0.23(1)	0	0.22	4440								86Wi16
2980(7)	X ⁻	3	0.73												02He09
3007.17(4)	3 ⁻	3	1.23	0.17(1)											86Wi16
3019.17(2)	1 ⁻ , 3 ⁻			6.6(3)								0.10, 0.1		59(3)	89Fo01
3035.5(5)															
3047.2(3)															86Wi16
3066.33(3)	$\langle 1^-, 3 \rangle$			11.4(5)										10	86Wi16

(continued)

⁸⁷Sr
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E^*	$2J^\pi$	L	b_l^2	Br	L	S'	σ (d,p)	S'	C^2S	C^2S	C^2S^{th}	S_N	C^2S	σ (d, α)	Ref.
[keV]		(p,p')	$\times 10^3$	%		(d,p)	$\mu\text{b/sr}$	(d,p)	(p,d)	(p,d)	(p,d)	(d,t)	(τ, α)	$\mu\text{b/sr}$	
3102(7)															
3117.4(6)	13 ⁻														86Wi16
3118.5(2)															86Wi16
3125.25(4)	1,3			1.55(8)	0	0.23	4620								86Wi16
3136(6)	5 ⁻ ,7 ⁻	3	1.23						0.5*	0.47			0.36,0.2		89Fo01
3151.53(3)	$\langle 3 \rangle^+$			1.38(7)	2	0.27	650							57(3)	86Wi16
3155.0(15)														incl	
3166.38(9)	$\langle 5 \rangle^+$				2	0.41	950							incl	86Wi16
3232.23(6)	$\langle 1,3 \rangle$			0.26(1)											86Wi16
3249.4(5)	$\langle 17 \rangle^-$														
3258.82(3)	$\langle 5 \rangle^+$				2	0.05	110								86Wi16
3271(9)	9 ⁺												0.08	7(1)	89Fo01
3277.48(5)	5 ⁺	0		0.42(2)	2	0.04	90							incl	86Wi16
3371.51(5)	1 ⁺ ,3			0.24(1)											86Wi16
3385.3(1)	5 ⁺				2	0.23	530							21(2)	86Wi16
3390.9(6)	$\langle 19 \rangle^-$														
3415.73(4)	$\langle 1^-,3^- \rangle$			0.021(4)											86Wi16
3425.48(5)	5 ⁻			0.21(1)					0.6*	0.55			0.58		89Fo01
3431.35(5)	1 ⁻ ,3			0.047(5)			≈ 30							≈ 5.6	86Wi16
3447(8)	X ⁽⁻⁾				2	0.05	130								71Mo02
3483(8)															
3507.06(5)	$\langle 3 \rangle^+$			0.114(7)										12(1)	86Wi16
3521(9)	5 ⁻ ,7 ⁻												0.15,0.1		89Fo01
3547.9(6)	5 ⁺														86Wi16
3551(8)	X ⁽⁻⁾														
3591.1(2)	3 ⁺ ,5 ⁺				$\langle 2 \rangle$	0.02	80								86Wi16
3602.57(4)	3 ⁺			0.092(6)	$\langle 2 \rangle$	0.50	1300								86Wi16
3607.57(3)	1 ⁺ ,3			0.03(1)									0.08,0.1		89Fo01
3610.9(6)	$\langle 21 \rangle$														
3628.1(3)	$\langle 1^-,3^- \rangle$														86Wi16
3657(8)															
3668.4(2)															86Wi16
3674.14(6)	$\langle 1^-,3 \rangle$			0.062(6)	$\langle 2 \rangle$	0.12	300								86Wi16
3682.3(5)	[9] ⁺												0.08		89Fo01
3691(8)															
3705.7(3)															86Wi16
3716.77(7)	$\langle 1,3 \rangle$			0.19(1)										37(2)	86Wi16
3718.0(6)	15-23														
3731.30(7)	3			0.40(2)											86Wi16
3739.7(11)															86Wi16
3750(10)	[9] ⁺												0.04		89Fo01
3765.35(5)	1 ⁻ ,3			0.021(3)											86Wi16
3775.95(4)	1,3			2.0(1)	2	0.14	370								86Wi16
3792.3(2)															86Wi16
3824(8)															

(continued)

⁸⁷Sr
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E^*	$2J^\pi$	L	b_l^2	Br	L	S'	σ (d,p)	S'	C^2S	C^2S	C^2S^{th}	C^2S	σ (d, α)	Ref.
[keV]		(p,p')	$\times 10^3$	%		(d,p)	$\mu\text{b/sr}$	(d,p)	(p,d)	(p,d)	(p,d)	(τ, α)	$\mu\text{b/sr}$	
3872.18(5)	1 ⁺ ,3			0.27(2)	0	0.15	2990							86Bu14
3874(8)	X ⁽⁻⁾													
3880.6(2)	[9] ⁺											0.11		89Fo01
3894(8)														
3919.5(2)														86Wi16
3943.4(3)													9(1)	86Wi16
3951.39(4)	1,3			0.20(1)										86Wi16
3958.61(1)	3 ⁺			0.28(1)	2	0.05	140							86Wi16
3960(10)	5 ⁻ ,7 ⁻											0.1,0.06		89Fo01
3981(8)	X ⁽⁺⁾	⟨4⟩	0.67											02He09
4026.36(4)	1 ⁻ ,3			0.131(7)			≈70						10(1)	86Wi16
4031.5(4)	[9] ⁺											0.08	incl	89Fo01
4051.1(4)														86Wi16
4056.29(4)	1,3			0.56(3)										86Wi16
4080.93(9)	⟨3 ⁺ ⟩			0.77(4)	⟨2⟩	0.05	130							86Wi16
4090(8)													7(1)	
4114.6(4)	⟨5,7⟩ ⁻											0.19,0.1	incl	89Fo01
4116(8)	X ⁽⁺⁾													
4150(8)	X ⁽⁻⁾													
4164.92(2)	⟨1 ⁻ ,3 ⁻ ⟩			3.1(2)										86Wi16
4180(20)	5 ⁻ ,7 ⁻											0.26,0.2		89Fo01
4182.31(5)	1 ⁺ ,3			1.19(6)	0	0.03	690							86Wi16
4187(8)	X ⁽⁺⁾	⟨2⟩	0.16											02He09
4196.76(5)	3 ⁺			0.87(5)	2	0.14	390							86Wi16
4223.97(3)	1 ⁺ ,3 ⁺	4	0.95	1.24(6)										86Wi16
4235.60(6)	3 ⁺ ,5 ⁺	2	0.20	0.20(1)	2	0.23	670							86Wi16
4251.6(4)	[9] ⁺											0.04		89Fo01
4288(8)														
4310.19(18)														86Wi16
4323(8)		⟨5⟩												
4336.99(4)	⟨1 ⁺ ,3⟩			1.43(7)										86Wi16
4354.5(2)	⟨5,7⟩ ⁻											0.06,0.04		89Fo01
4379.7(1)														86Wi16
4413.6(2)														86Wi16
4433.4(4)														86Wi16
4435.55(5)	⟨1 ⁺ ,3⟩			1.31(7)										86Wi16
4440.4(10)	⟨23⟩													
4442.6(4)														86Wi16
4449.5(3)														86Wi16
4462.6(6)														86Wi16
4485.9(7)														86Wi16
4501(8)														
4514.3(3)														86Wi16
4536.51(5)	1 ⁻ ,3			0.028(5)										86Wi16
4540.8(3)														86Wi16

(continued)

⁸⁷Sr
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E^*	$2J^\pi$	L	b_l^2	Br	L	S'	σ (d,p)	S'	C^2S	C^2S	C^2S^{th}	S_N	C^2S	σ (d, α)	Ref.
[keV]		(p,p')	$\times 10^3$	%		(d,p)	$\mu\text{b/sr}$	(d,p)	(p,d)	(p,d)	(p,d)	(d,t)	(τ, α)	$\mu\text{b/sr}$	
4551.15(7)	1 ⁺ ,3			1.57(8)											86Wi16
4564.9(3)															86Wi16
4584.9(3)															86Wi16
4595.6(3)															86Wi16
4604.80(4)	1,3			0.59(3)											86Wi16
4618.5(5)															86Wi16
4631.7(3)															86Wi16
4644.01(4)	1 ⁺ ,3			1.27(7)											86Wi16
4651.23(4)	1 ⁺ ,3			0.30(2)											86Wi16
4653.2(3)															86Wi16
4676.3(4)															86Wi16
4684.55(3)	1 ⁻ ,3			0.29(2)											86Wi16
4689.3(7)															86Wi16
4695.8(5)															86Wi16
4708.2(2)															86Wi16
4717.8(4)															86Wi16
4751(8)															
4783.70(4)	1 ⁺ ,3			1.25(7)											86Wi16
4789.93(5)	[1,3]			1.35(7)									0.24,0.2		89Fo01
4799.4(2)															86Wi16
4822.8(3)															86Wi16
4826.80(5)	1 ⁺ ,3			0.42(2)											86Wi16
4846.5(2)	[1,3] ⁻												0.24,0.2		89Fo01
4878(8)															
4887.2(2)															86Wi16
4905.2(7)															86Wi16
4921.84(4)				0.36(2)											86Wi16
4925.6(4)															86Wi16
4934.2(2)															86Wi16
4943.3(4)															86Wi16
4948.6(2)															86Wi16
4953.04(6)	[1,3] ⁻			0.41(2)									0.16,0.14		89Fo01
4964.25(4)	1 ⁺ ,3			1.18(6)											86Wi16
4969.1(5)															86Wi16
4975.1(4)															86Wi16
4990.7(3)															86Wi16
5020(20)	5 ⁻ ,7 ⁻												0.35,0.23		89Fo01
5063.01(4)	1 ⁺ ,3			0.85(4)											86Wi16
5067.52(4)	1 ⁺ ,3			0.80(4)											86Wi16
5082.46(9)	1,3			0.32(2)											86Wi16
5091.06(4)	1,3			0.36(2)											86Wi16
5106.44(9)	1 ⁻ ,3 ⁻			1.42(7)											86Wi16
5120(8)	5 ⁻ ,7 ⁻														
5142.6(4)	1,3,5 ⁺			0.145(9)											86Wi16
5169(8)															

(continued)

⁸⁷₃₈Sr

E^*	$2J^\pi$	L	b_l^2	Br	L	S'	σ (d,p)	S'	C^2S	C^2S	S_N	C^2S	σ (d, α)	Ref.
[keV]		(p,p')	x10 ³	%		(d,p)	μ b/sr	(d,p)	(p,d)	(p,d)	(d,t)	(τ, α)	μ b/sr	
5207.17(6)	1 ⁺ ,3			0.28(2)										86Wi16
5260(20)	5 ⁻ ,7 ⁻													
5282.2(1)	1 ⁻ ,3 ⁻			0.66(3)										86Wi16
5296.06(6)	1 ⁺ ,3			0.33(2)										86Wi16
5333.19(8)	1,3			0.35(2)										86Wi16
5378.91(8)	1 ⁻ ,3			0.35(2)										86Wi16
5397.09(6)	1,3			0.41(2)										86Wi16
5420(20)	5 ⁻ ,7 ⁻											0.46,0.30		89Fo01
5560(20)	5 ⁻ ,7 ⁻											0.36,0.23		89Fo01
5647.25(7)	1 ⁻ ,3			0.65(7)										86Wi16
5673.08(6)	1,3			0.42(4)										86Wi16
5770(20)	5 ⁻ ,7 ⁻													
5811.08(4)	1,3			1.1(1)										86Wi16
5843.26(5)	3			0.51(5)										86Wi16
5920(20)	5 ⁻ ,7 ⁻													
5943.06(6)	3			0.83(8)										86Wi16
6074.25(5)	1 ⁺ ,3			0.51(5)										86Wi16
6093.58(5)	1 ⁺ ,3			0.47(5)										86Wi16
6188.99(6)	1 ⁽⁺⁾ ,3			0.51(5)										86Wi16
7032.32(8)	1 ⁻ ,3			0.36(5)										86Wi16
10720(20)	3 ⁻											0.50		89Fo01
11120(20)	5 ⁻									0.08		1.00		89Fo01
11550(20)	1 ⁻											0.24		89Fo01
		78Ka37	02He09	86Wi16		71Mo02		70Be24		73Ta07		89Fo01		Ref.
		02He09	78Ka37				71Mo02		77Bl08		70Be24		72Br13	Ref.

Additional data on this isotope can be found in [89Fo01, 81Ek01, 78Ka37, 71Bu20].

Abundance: 7.00(1) %.* See comments in [79Lu05]; comparison with the theory C^2S^{th} are discussed in [73Ta07].** Similar data on the (τ, α) reaction are in [69Ba21].Spectroscopic factors $C^2S_{\tau\alpha}$ are given for both possible spins, see [89Fo01].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 2

⁸⁷₃₈Sr

E^*	$2J^\pi$	N_{dp}	S_{N}	S_{N}	S_{N}	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\times 10^3$	(d,p)	(d,p)	(d,p)	(d,t)	Γ_{cm}		$E_{\text{f}}^*:$ $2J_{\text{f}}^\pi:$	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
0.0	9 ⁺	x	0.16	0.13	0.127	10.0	Stable	89Fo01						
388.533(3)	1 ⁻	x	0.11	0.10	0.09	2.0	2.81(1) h	89Fo01		100				
873.343(6)	3 ⁻	x	0.05	0.06	0.064	3.10	1.7(7) ps	89Fo01			100			
1228.42(2)	5 ⁺	x	0.11	0.08	0.11		1.0(3) ps	70Be24		85(3)		15(1)		
1253.94(1)	5 ⁻	x				3.80	3(+3-1) ps	89Fo01			84(3)	16(1)		

(continued)

⁸⁷Sr
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E^*	$2J^\pi$	N_{dp}	S_N	S_N	S_N	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\times 10^3$	(d,p)	(d,p)	(d,p)	(d,t)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
1740.0(4)	13 ⁺						0.28(8) ps			100				
1742.0(9)	5 ⁺ , 7 ⁺	x						86Wi16						
1770.46(2)	5 ⁺	x	0.45	0.40	0.46		6(+6-2) ps	86Wi16		57(2)			26(2)	18(5)
1920.5(1)	7 ⁺						0.13(2) ps	02He09		83(2)			17(6)	
2110.05(2)	3 ⁻					0.35	0.09(2) ps	89Fo01			15(2)	79(2)	0.4(1)	5.8(9)
2153.5(6)	$\langle 11 \rangle^+$						<0.09 ps	02He09		100				
2169.42(2)	1 ⁺	1.2	0.28	0.28	0.35			89Fo01		91(14)		9(2)		
2235.7(10)	[9 ⁺]	x					0.15(4) ps	89Fo01		100				
2262(8)														
2414.50(2)	3 ⁻	0.3					0.13(4) ps	89Fo01			82(8)	17(2)		
2420.4(8)	5 ⁻ , 7 ⁻						0.08(3) ps	89Fo01				43(16)		57(2)
2488(8)	X ⁻							02He09						
2532.8(3)	[9 ⁺]	x						89Fo01						
2536.3(6)	$\langle 11 \rangle^-$						0.19(8) ps			100				
2539(8)	X ⁻							02He09						
2550.0(7)	$\langle 7 \rangle^+$						0.22(7) ps						100	
2555.0(7)	$\langle 9 \rangle^-$						0.06(3) ps	02He09		100				
2596.0(5)	13 ⁻						1.0(3) ps	02He09						
2631(9)	1 ⁻ , 3 ⁻													
2656(9)	5 ⁻ , 7 ⁻													
2676.84(2)	3 ⁺	1.3	0.09	0.07				86Wi16			85(10)	14(3)		
2679(10)	1 ⁻ , 3 ⁻							89Fo01						
2682.0(5)	$\langle 3 \rangle^+$	x					0.3(1) ps	86Wi16						
2707.5(5)	[9 ⁺]						0.6(1) ps	89Fo01						
2803.1(2)		x						86Wi16						
2818.9(2)	9 ⁺	0.1		0.09				86Wi16						
2821.0(5)	$\langle 9 \rangle^+$						0.7(3) ps							
2831.2(5)	15 ⁻						<0.35 ps	02He09						
2850.52(2)	1 ⁻ , 3 ⁻	x						89Fo01				96(13)		
2893(8)	X ⁽⁻⁾							02He09						
2904.1(9)		x						86Wi16						
2920.8(12)	[9 ⁺]	x						89Fo01		100				
2921.09(5)	3 ⁻							71Mo02						85(15)
2940.69(3)	1 ⁺	0.7	0.11	0.11				86Wi16			95(10)		4.8(8)	
2980(7)	X ⁻							02He09						
3007.17(4)	3 ⁻							86Wi16			78(9)	18(2)		4.3(9)
3019.17(2)	1 ⁻ , 3 ⁻							89Fo01			66(7)	13(1)		20(3)
3035.5(5)														
3047.2(3)		0.1						86Wi16						
3066.33(3)	$\langle 1^-, 3 \rangle$	x						86Wi16			33(4)	48(5)		19(3)
3102(7)														
3117.4(6)	13 ⁻	x					0.4(1) ps	86Wi16						
3118.5(2)		0.9						86Wi16						
3125.25(4)	1, 3	0.8	0.12	0.16				86Wi16				74(7)	26(4)	
3136(6)	5 ⁻ , 7 ⁻							89Fo01						

(continued)

⁸⁷Sr
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E^*	$2J^\pi$	N_{dp}	S_N	S_N	S_N	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		$\times 10^3$	(d,p)	(d,p)	(d,p)	(d,t)	Γ_{cm}		$\begin{smallmatrix} E_f^*: \\ 2J_f^\pi: \end{smallmatrix}$	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
3151.53(3)	$\langle 3 \rangle^+$	1.3						86Wi16			55(6)		12(2)	
3155.0(15)										100				
3166.38(9)	$\langle 5 \rangle^+$	1.9	0.05	0.08				86Wi16						
3232.23(6)	$\langle 1,3 \rangle$							86Wi16			100			
3249.4(5)	$\langle 17 \rangle^-$						1.3(6) ps							
3258.82(3)	$\langle 5 \rangle^+$	x						86Wi16		32(3)				
3271(9)	9 ⁺							89Fo01						
3277.48(5)	5 ⁺	x	0.01	0.01				86Wi16			17(2)	83(9)		
3371.51(5)	1 ⁺ ,3							86Wi16				87(8)		
3385.3(1)	5 ⁺	x	0.04	0.03				86Wi16						
3390.9(6)	$\langle 19^- \rangle$													
3415.73(4)	$\langle 1^-, 3^- \rangle$	x						86Wi16			20(1)			26(5)
3425.48(5)	5 ⁻							89Fo01			33(2)	62(6)	5.0(6)	
3431.35(5)	1 ⁻ ,3	x						86Wi16						100
3447(8)	$X^{(-)}$							71Mo02						
3483(8)														
3507.06(5)	$\langle 3 \rangle^+$							86Wi16			25(1)		75(8)	
3521(9)	5 ⁻ ,7 ⁻							89Fo01						
3547.9(6)	5 ⁺	x	0.01	0.01				86Wi16						
3551(8)	$X^{(-)}$													
3591.1(2)	3 ⁺ ,5 ⁺	x						86Wi16						
3602.57(4)	3 ⁺	x	0.12	0.14				86Wi16				24(5)		
3607.57(3)	1 ⁺ ,3							89Fo01				47(5)	27(6)	
3610.9(6)	$\langle 21 \rangle$													
3628.1(3)	$\langle 1^-, 3^- \rangle$	x						86Wi16						
3657(8)														
3668.4(2)		x						86Wi16						
3674.14(6)	$\langle 1^-, 3 \rangle$	x	0.02	0.05				86Wi16			30(2)		22(2)	16(2)
3682.3(5)	[9] ⁺	x						89Fo01						
3691(8)														
3705.7(3)		x						86Wi16						
3716.77(7)	$\langle 1,3 \rangle$							86Wi16			95(5)			
3718.0(6)	15–23													
3731.30(7)	3	x						86Wi16					80(8)	20(2)
3739.7(11)		x						86Wi16						
3750(10)	[9] ⁺							89Fo01						
3765.35(5)	1 ⁻ ,3	x						86Wi16						76(10)
3775.95(4)	1,3	x	0.03	0.03				86Wi16				80(8)		
3792.3(2)		x						86Wi16						
3824(8)														
3872.18(5)	1 ⁺ ,3	x	0.07	0.09				86Bu14				81(7)		
3874(8)	$X^{(-)}$													
3880.6(2)	[9] ⁺	x						89Fo01						
3894(8)														
3919.5(2)		x						86Wi16						

(continued)

⁸⁷₃₈Sr

E^* [keV]	$2J^\pi$	N_{dp} x10 ³	S_N (d,p)	S_N (d,p)	S_N (d,p)	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* : $2J_f^\pi$:	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
3943.4(3)		x						86Wi16						
3951.39(4)	1,3							86Wi16						
3958.61(1)	3 ⁺	x						86Wi16		32(2)		68(4)		
3960(10)	5 ⁻ ,7 ⁻							89Fo01						
3981(8)	X ⁽⁺⁾							02He09						
4026.36(4)	1 ⁻ ,3							86Wi16						45.6(5)
4031.5(4)	[9] ⁺	x						89Fo01						
4051.1(4)		x						86Wi16						
4056.29(4)	1,3	x						86Wi16		24.5(15)		59(3)	12.0(15)	
4080.93(9)	⟨3 ⁺ ⟩							86Wi16				100(5)		
4090(8)														
4114.6(4)	⟨5,7⟩ ⁻	x						89Fo01						
4116(8)	X ⁽⁺⁾													
4150(8)	X ⁽⁻⁾													
4164.92(2)	⟨1 ⁻ ,3 ⁻ ⟩							86Wi16				12.9(7)		1.7(2)
4180(20)	5 ⁻ ,7 ⁻							89Fo01						
4182.31(5)	1 ⁺ ,3	x						86Wi16		36(2)		13.7(7)		
4187(8)	X ⁽⁺⁾							02He09						
4196.76(5)	3 ⁺	x						86Wi16		17.4(11)			10(2)	53(5)
4223.97(3)	1 ⁺ ,3 ⁺							86Wi16				11.7(6)	27(4)	
4235.60(6)	3 ⁺ ,5 ⁺	x						86Wi16					57(4)	21(2)
4251.6(4)	[9] ⁺	x						89Fo01						
4288(8)														
4310.19(18)		x						86Wi16						
4323(8)														
4336.99(4)	⟨1 ⁺ ,3⟩	x						86Wi16		3.0(2)				
4354.5(2)	⟨5,7⟩ ⁻	x						89Fo01						
4379.7(1)		x						86Wi16						
4413.6(2)		x						86Wi16						
4433.4(4)		x						86Wi16						
4435.55(5)	⟨1 ⁺ ,3⟩							86Wi16		61(3)				
4440.4(10)	⟨23⟩													
4442.6(4)		x						86Wi16						
4449.5(3)		x						86Wi16						
4462.6(6)		x						86Wi16						
4485.9(7)		x						86Wi16						
4501(8)														
4514.3(3)		x						86Wi16						
4536.51(5)	1 ⁻ ,3							86Wi16						40(2)
4540.8(3)		x						86Wi16						
4551.15(7)	1 ⁺ ,3							86Wi16		17(5)		76(4)		
4564.9(3)		x						86Wi16						
4584.9(3)		x						86Wi16						
4595.6(3)		x						86Wi16						
4604.80(4)	1,3	x						86Wi16						

(continued)

⁸⁷Sr
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E^* [keV]	$2J^\pi$	N_{dp} x10 ³	S_N (d,p)	S_N (d,p)	S_N (d,p)	C^2S (d,t)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
									E_f^* : $2J_f^\pi$:	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
4618.5(5)		x						86Wi16						
4631.7(3)		x						86Wi16						
4644.01(4)	1 ⁺ ,3	x						86Wi16				25(1)	8(1)	
4651.23(4)	1 ⁺ ,3							86Wi16						
4653.2(3)		x						86Wi16						
4676.3(4)		x						86Wi16						
4684.55(3)	1 ⁻ ,3							86Wi16		9(1)	21(1)			2.7(4)
4689.3(7)		x						86Wi16						
4695.8(5)		x						86Wi16						
4708.2(2)		1.3						86Wi16						
4717.8(4)		x						86Wi16						
4751(8)														
4783.70(4)	1 ⁺ ,3							86Wi16				16.3(9)	44(2)	
4789.93(5)	[1,3]	x						89Fo01				14.3(11)	45(2)	29(2)
4799.4(2)		1.2						86Wi16						
4822.8(3)		x						86Wi16						
4826.80(5)	1 ⁺ ,3							86Wi16		43(2)				
4846.5(2)	[1,3] ⁻	x						89Fo01						
4878(8)														
4887.2(2)		x						86Wi16						
4905.2(7)		0.5						86Wi16						
4921.84(4)								86Wi16					21(1)	
4925.6(4)		x						86Wi16						
4934.2(2)		x						86Wi16						
4943.3(4)		x						86Wi16						
4948.6(2)		0.9						86Wi16						
4953.04(6)	[1,3] ⁻							89Fo01		8.0(6)	13.5(10)			
4964.25(4)	1 ⁺ ,3							86Wi16		36(2)			15.4(9)	
4969.1(5)		1.2						86Wi16						
4975.1(4)		2.0						86Wi16						
4990.7(3)		x						86Wi16						
5020(20)	5 ⁻ ,7 ⁻							89Fo01						
5063.01(4)	1 ⁺ ,3							86Wi16				27(1)	11(1)	
5067.52(4)	1 ⁺ ,3							86Wi16					4.7(9)	
5082.46(9)	1,3							86Wi16		43(3)	14.8(10)			
5091.06(4)	1,3							86Wi16			2.6(2)			
5106.44(9)	1 ⁻ ,3 ⁻							86Wi16		71(4)				
5120(8)	5 ⁻ ,7 ⁻													
5142.6(4)	1,3,5 ⁺							86Wi16						
5169(8)														
5207.17(6)	1 ⁺ ,3							86Wi16		3.4(10)	1.9(3)		63(3)	
5260(20)	5 ⁻ ,7 ⁻													
5282.2(1)	1 ⁻ ,3 ⁻							86Wi16		63(4)	17(3)			
5296.06(6)	1 ⁺ ,3							86Wi16		2.6(5)	23.8(15)		7.2(5)	
5333.19(8)	1,3							86Wi16				52(3)		

(continued)

⁸⁷Sr
38

E^*	$2J^\pi$	N_{dp}	S_N	S_N	S_N	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		x10 ³	(d,p)	(d,p)	(d,p)	(d,t)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	388 1 ⁻	873 3 ⁻	1228 5 ⁺	1254 5 ⁻
5378.91(8)	1 ⁻ ,3							86Wi16				82(5)		13.7(8)
5397.09(6)	1,3							86Wi16			12(1)			
5420(20)	5 ⁻ ,7 ⁻							89Fo01						
5560(20)	5 ⁻ ,7 ⁻							89Fo01						
5647.25(7)	1 ⁻ ,3							86Wi16			14(1)			13(4)
5673.08(6)	1,3							86Wi16			35(2)	8(4)		
5770(20)	5 ⁻ ,7 ⁻													
5811.08(4)	1,3							86Wi16						
5843.26(5)	3							86Wi16					16(2)	8.8(7)
5920(20)	5 ⁻ ,7 ⁻													
5943.06(6)	3							86Wi16				4(3)	11(2)	23(1)
6074.25(5)	1 ⁺ ,3							86Wi16				6.6(6)		
6093.58(5)	1 ⁺ ,3							86Wi16			10(1)	24(1)		
6188.99(6)	1 ⁽⁺⁾ ,3							86Wi16				12(3)		
7032.32(8)	1 ⁻ ,3							86Wi16				5.2(8)		3.9(5)
10720(20)	3 ⁻							89Fo01						
11120(20)	5 ⁻							89Fo01						
11550(20)	1 ⁻							89Fo01						
		86Wi16	71Mo02					Ref.						
				86Bu14	70Be24			Ref.						

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 3

⁸⁷Sr
38

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	1740 13 ⁺	1770.5 5 ⁺	1920 7 ⁺	2110.0 3 [−]	2153 ⟨11⟩ ⁺	2169.4 1 ⁺	2414.5 3 [−]	2536.3 ⟨11⟩ [−]	2596.0 13 [−]	2676.8 3 ⁺
2414.50(2)	3 [−]			0.70(13)								
2596.0(5)	13 [−]		100									
2676.84(2)	3 ⁺					1.1(3)						
2682.0(5)	⟨3⟩ ⁺			100								
2707.5(5)	[9] ⁺				100							
2821.0(5)	⟨9⟩ ⁺			100								
2831.2(5)	15 [−]		94(4)								6.3	
2850.52(2)	1 [−] ,3 [−]					4.0(7)						
2921.09(5)	3 [−]					15(3)						
3019.17(2)	1 [−] ,3 [−]			1.4(2)								
3035.5(5)			50(21)				50(15)					
3117.4(6)	13 [−]									61(2)	39(2)	
3151.53(3)	⟨3⟩ ⁺			26(4)		4.3(8)			2.5(6)			
3258.82(3)	⟨5⟩ ⁺			10(2)		11(2)			38(7)			9(2)
3371.51(5)	1 ⁺ ,3			13.3(21)								
3415.73(4)	⟨1 [−] ,3 [−] ⟩							54(8)				

(continued)

⁸⁷Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1740 13 ⁺	1770.5 5 ⁺	1920 7 ⁺	2110.0 3 ⁻	2153 $\langle 11 \rangle^+$	2169.4 1 ⁺	2414.5 3 ⁻	2536.3 $\langle 11 \rangle^-$	2596.0 13 ⁻	2676.8 3 ⁺
3602.57(4)	3 ⁺			76(11)								
3607.57(3)	1 ⁺ ,3					21(3)						
3674.14(6)	$\langle 1^-,3 \rangle$					27(5)						
3765.35(5)	1 ⁻ ,3								24(5)			
3872.18(5)	1 ⁺ ,3			11(2)				7.5(17)				
3951.39(4)	1,3							79(14)				
4026.36(4)	1 ⁻ ,3								54(9)			
4164.92(2)	$\langle 1^-,3^- \rangle$			2.3(3)		12(1)		44(7)				
4182.31(5)	1 ⁺ ,3			6.5(8)		35(5)						
4196.76(5)	3 ⁺			17(2)								
4223.97(3)	1 ⁺ ,3 ⁺			8.2(9)								53(9)
4336.99(4)	$\langle 1^+,3 \rangle$			23(3)		4.5(6)						
4435.55(5)	$\langle 1^+,3 \rangle$			17(2)								
4536.51(5)	1 ⁻ ,3								38(4)			
4644.01(4)	1 ⁺ ,3			36(4)								
4651.23(4)	1 ⁺ ,3			20(2)					24(4)			
4783.70(4)	1 ⁺ ,3								7.6(11)			
4789.93(5)	[1,3]								6.6(8)			
4826.80(5)	1 ⁺ ,3			10.6(8)		5(1)						
4921.84(4)									16(2)			30(3)
4964.25(4)	1 ⁺ ,3					27(3)						
5063.01(4)	1 ⁺ ,3							10(1)	29(3)			
5067.52(4)	1 ⁺ ,3			3.0(3)					12.7(13)			
5091.06(4)	1,3							25(2)				
5142.6(4)	1,3,5 ⁺							56(16)				
5207.17(6)	1 ⁺ ,3			6.6(6)					2.9(4)			17(2)
5296.06(6)	1 ⁺ ,3					63(3)						
5333.19(8)	1,3								12(3)			
5397.09(6)	1,3											25(3)
5647.25(7)	1 ⁻ ,3											8(2)
5673.08(6)	1,3					34(3)						
5811.08(4)	1,3					9.7(6)			18.0(9)			
6074.25(5)	1 ⁺ ,3			11(2)								
6093.58(5)	1 ⁺ ,3							5.3(6)				
6188.99(6)	1 ⁽⁺⁾ ,3											51(3)
7032.32(8)	1 ⁻ ,3								1.8(8)			

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 4

⁸⁷Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	2831 15 ⁻	2850.5 1 ⁻ ,3 ⁻	2921.1 3 ⁻	2940.7 1 ⁺	3007.2 3 ⁻	3019.2 1 ⁻ ,3 ⁻	3066.3 ⟨1 ⁻ ,3⟩	3125.2 1,3	3151.5 ⟨3⟩ ⁺	3232.2 ⟨1,3⟩
3249.4(5)	⟨17⟩ ⁻		100									
3607.57(3)	1 ⁺ ,3					5(1)						
3674.14(6)	⟨1 ⁻ ,3⟩			5(1)								
3716.77(7)	⟨1,3⟩				4.8(17)							
3775.95(4)	1,3			6.6(10)					14(2)			
4056.29(4)	1,3					4.5(10)						
4164.92(2)	⟨1 ⁻ ,3 ⁻ ⟩				2.0(4)	2.4(4)		20(3)				
4235.60(6)	3 ⁺ ,5 ⁺								14(2)		8(2)	
4435.55(5)	⟨1 ⁺ ,3⟩						12(2)					
4536.51(5)	1 ⁻ ,3									18(3)		
4551.15(7)	1 ⁺ ,3										3.0(6)	
4604.80(4)	1,3								45(6)		30(4)	
4684.55(3)	1 ⁻ ,3						11(2)	21(4)		15(3)		
4783.70(4)	1 ⁺ ,3			22(4)							8(1)	
4953.04(6)	[1,3] ⁻				69(8)							
5067.52(4)	1 ⁺ ,3					7.4(9)					72(10)	
5106.44(9)	1 ⁻ ,3 ⁻						23(4)					
5282.2(1)	1 ⁻ ,3 ⁻									19.7(15)		
5333.19(8)	1,3								35(4)			
5647.25(7)	1 ⁻ ,3											26.6(3)
6093.58(5)	1 ⁺ ,3				5.7(6)							
6188.99(6)	1 ⁽⁺⁾ ,3								14.6(10)			

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 5

⁸⁷Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3249.4 ⟨17⟩ ⁻	3258.8 ⟨5⟩ ⁺	3277.5 5 ⁺	3371.5 1 ⁺ ,3	3390.9 ⟨19 ⁻ ⟩	3415.7 ⟨1 ⁻ ,3 ⁻ ⟩	3425.5 5 ⁻	3431.3 1 ⁻ ,3	3507.1 ⟨3⟩ ⁺	3602.6 3 ⁺
3390.9(6)	⟨19 ⁻ ⟩		100									
3610.9(6)	⟨21⟩						100					
3718.0(6)	15–23						100					
3951.39(4)	1,3					21(4)						
4196.76(5)	3 ⁺									2.4(6)		
4336.99(4)	⟨1 ⁺ ,3⟩					1.4(3)			66(10)			
4435.55(5)	⟨1 ⁺ ,3⟩				7.1(12)			3.2(7)				
4536.51(5)	1 ⁻ ,3							4.8(10)				
4551.15(7)	1 ⁺ ,3				2.0(5)							
4644.01(4)	1 ⁺ ,3			12(2)	4.0(8)					2.9(8)	5(1)	
4783.70(4)	1 ⁺ ,3										1.8(6)	
4789.93(5)	[1,3]											5.0(10)
4826.80(5)	1 ⁺ ,3					21(3)						
5091.06(4)	1,3									35(5)		

(continued)

⁸⁷₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3249.4 $\langle 17 \rangle^-$	3258.8 $\langle 5 \rangle^+$	3277.5 5^+	3371.5 $1^+, 3$	3390.9 $\langle 19^- \rangle$	3415.7 $\langle 1^-, 3^- \rangle$	3425.5 5^-	3431.3 $1^-, 3$	3507.1 $\langle 3 \rangle^+$	3602.6 3^+
5142.6(4)	1,3,5 ⁺				44(13)							
5207.17(6)	1 ⁺ ,3							5.2(10)				
5397.09(6)	1,3									11(2)	39(6)	
5647.25(7)	1 ⁻ ,3											38(4)
5811.08(4)	1,3								8.2(10)			
6093.58(5)	1 ⁺ ,3			39(4)	3.2(8)							
6188.99(6)	1 ⁽⁺⁾ ,3			5(1)								

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 6

⁸⁷₃₈Sr

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	3607.6 $1^+, 3$	3610.9 $\langle 21 \rangle$	3674.1 $\langle 1^-, 3 \rangle$	3716.8 $\langle 1, 3 \rangle$	3731.3 3	3765.3 $1^-, 3$	3775.9 $1, 3$	3872.2 $1^+, 3$	3951.4 $1, 3$	3958.6 3^+
4164.92(2)	$\langle 1^-, 3^- \rangle$		2.3(4)									
4182.31(5)	1 ⁺ ,3					9(2)						
4336.99(4)	$\langle 1^+, 3 \rangle$				1.4(3)			1.1(3)				
4440.4(10)	$\langle 23 \rangle$			100								
4551.15(7)	1 ⁺ ,3				2.9(6)							
4604.80(4)	1,3		14(2)				4(1)		8(2)			
4644.01(4)	1 ⁺ ,3					7(1)						
4651.23(4)	1 ⁺ ,3					56(7)						
4684.55(3)	1 ⁻ ,3		15(2)				4(1)					
4826.80(5)	1 ⁺ ,3							20(3)				
4921.84(4)			33(5)									
4964.25(4)	1 ⁺ ,3							3.6(8)				
5063.01(4)	1 ⁺ ,3								13(2)		9(1)	
5082.46(9)	1,3										42.4(6)	
5091.06(4)	1,3											9(1)
5673.08(6)	1,3											19(3)
5811.08(4)	1,3								38(4)	10(2)		
5843.26(5)	3									40(6)		
5943.06(6)	3								24(3)			
6074.25(5)	1 ⁺ ,3									21(3)		

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 7

⁸⁷Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	4026.4 1 ⁻ ,3	4056.3 1,3	4164.9 ⟨1 ⁻ ,3 ⁻ ⟩	4182.3 1 ⁺ ,3	4196.8 3 ⁺	4224.0 1 ⁺ ,3 ⁺	4337.0 ⟨1 ⁺ ,3⟩	4536.5 1 ⁻ ,3	4604.8 1,3	4644.0 1 ⁺ ,3
4953.04(6)	[1,3] ⁻					9.2(16)						
4964.25(4)	1 ⁺ ,3				6(1)	4.3(9)			8(1)			
5091.06(4)	1,3		6(1)	23(3)								
5106.44(9)	1 ⁻ ,3 ⁻			5.3(6)								
5296.06(6)	1 ⁺ ,3									3.3(8)		
5378.91(8)	1 ⁻ ,3										4.5(11)	
5397.09(6)	1,3							13(2)				
5673.08(6)	1,3											4(1)
5811.08(4)	1,3				9(2)		6(1)					
5943.06(6)	3								28(5)			
6074.25(5)	1 ⁺ ,3			25(3)								
6093.58(5)	1 ⁺ ,3							13(2)				
7032.32(8)	1 ⁻ ,3			3.4(18)						76(8)		

Energy levels and branching ratios [02He09, 89Fo01, 86Wi16]. Part 8

⁸⁷Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage				
		E_f^* : $2J_f^\pi$:	4651.2 1 ⁺ ,3	4826.8 1 ⁺ ,3	4953.0 1,3	5091.1 1,3
5843.26(5)	3		35(6)			
5943.06(6)	3				9(2)	
6074.25(5)	1 ⁺ ,3		36(6)			
6188.99(6)	1 ^{⟨+} ⟨,3			18(3)		
7032.32(8)	1 ⁻ ,3					10(2)

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20].

⁸⁸Sr
38

E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	σ (⁶ Li, ⁸ B)	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	$\mu\text{b/sr}$	
0	0 ⁺	114	0		4	0.83	180		1	3.0		0	0.13	22.1(30)	87Wi15
1836.09(1)	2 ⁺	18.4	2	0.04(1)	2	0.084	218	0.11	1	0.38		2	0.09	14.1(18)	82Ti01
2734.13(1)	3 ⁻	20.7		3.4(2)	⟨1⟩	0.031	101	0.17	4	0.55		3	0.05		87Wi15
3152(2)	0 ⁺	35.1	0+3						1	0.20		0	0.04		84Va31
3218.51(2)	2 ⁺	13.7		0.08(1)	2	0.027	80		1	0.30					87Wi15
3378.1	1										2.1(3)				05Mu20
3486.56(4)	1 ⁺								1	0.32	171(19)				05Mu20
3522.94(6)	⟨2 ⁺ ⟩														
3584.78(2)	5 ⁻			12.1(6)				0.08	4	0.25		5	0.04		87Wi15

(continued)

⁸⁸Sr
³⁸

E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	
3635.11(5)	$\langle 2 \rangle^+$			1.31(7)					1	0.04				87Wi15
3952.64(2)	5^-			0.50(3)				0.03	4	0.37				87Wi15
3993(3)		10.5												70Ra10
4019.64(3)	$\langle 6 \rangle^-$								4	0.43		5	0.19	84Va31
4035.6(4)	2^+	100						0.065			34(6)	2	0.02	84Va31
4039.07(3)	$\langle 2 \rangle^+$			0.08(1)	2	0.29	960						incl	87Wi15
4170.43(3)	$\langle 3^- \rangle$			8.4(4)										87Wi15
4171(4)	$6^+, 7^-$							0.05						78KaZV
4224.1(6)														
4226.6	1										3.0(8)			04Ka62
4227.24(4)	$2^+ - 4^+$	6.0		8.2(4)				0.044				$\langle 4 \rangle$	0.01	87Wi15
4262.8	$\langle 1, 2^+ \rangle$													04Ka62
4268.73(4)	$\langle 2^+ \rangle$			1.64(8)				0.01						87Wi15
4299.65(5)	4^+	39.6		0.41(2)	0	0.013	432	0.054						87Wi15
					+2	0.39	1283							87Li02
4355(4)														
4367.89(10)	$\langle 7^- \rangle$											$\langle 7 \rangle$	0.07	84Va31
4413.96(3)	$\langle 2^+ \rangle$	17.8		2.1(1)	0	0.06	2030							87Wi15
					+2	0.82	2790							87Li02
4440.79(6)				2.3(1)										87Wi15
4452.02(4)	$\langle 4 \rangle^+$			11.0(5)	0	0.02								87Wi15
					+2	0.003								
4485(3)	0^+	168										$\langle 0 \rangle$	0.02	84Va31
4514.03(2)	2^-											$\langle 7 \rangle$	0.09	84Va31
4514.54(7)	X^+				2	1.01	3500	0.053						78KaZV
4521.39(22)	$\langle 6^+ \rangle$													05Mu20
4556(3)	X^+				2	0.031	106							87Li02
4613.8(6)	2^+	45										$\langle 3 \rangle$	0.03	84Va31
4632.0(6)	$\langle 2 \rangle^+$				2	0.54	1900	0.02						87Li02
4645(4)														
4687.33(24)	$\langle 7 \rangle$													05Mu20
4742.56(8)	1^-				$\langle 2 \rangle$						173(24)			04Ka62
4771.6(14)	2^+	98			0	0.024	811	0.047				$\langle 0 \rangle$	0.03	84Va31
					+2	0.071	258							87Li02
4798(4)	$[0^+]$	74										$[0]$	0.03	84Va31
4801.3	1										3.5(7)			05Mu20
4845.63(3)	$\langle 3 \rangle^-$	68	3	13.6(6)	$\langle 1 \rangle$	0.046	215					$\langle 3 \rangle$	0.06	87Wi15
4853.03(2)	$\langle 2 \rangle^-$													
4873.2(25)	$4^+, 5^+$				0	0.13	4280							87Li02
					+2	0.082	291							87Li02
4914.5	1										8.1(13)			04Ka62
4927(4)	2^+							0.014						78KaZV
4989.4(2)	2^+	45										$\langle 6 \rangle$	0.03	04Ka62
5010.66(4)	$\langle 3^-, 4^+ \rangle$			8.4(4)										87Wi15
5076.64(8)	$\langle 1^- \rangle$	12.9												

(continued)

⁸⁸Sr
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E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	
5092.30(6)	2 ⁺			0.04(1)				0.020						87Wi15
5103.31(20)	$\langle 7 \rangle^+$				2	1.09	4100							87Li02
5109(6)														
5113.12(6)				1.9(1)										87Wi15
5137(4)	$\langle 2 \rangle^+$				2	0.025	94							87Li02
5164(2)	2 ⁺	564										2	0.03	84Va31
5171(5)														
5199(8)	$\langle 4^+ \rangle$													
5258(4)	$[3^-]$	49						0.042				4	0.02	84Va31
5308.0(16)														
5321.35(3)	4 ⁺			3.3(2)				0.026						87Wi15
5370.5(3)	$\langle 6-8 \rangle$											$\langle 4 \rangle$	0.02	05Mu20
5383(5)	4 ⁺	16.2												
5415.7(28)	$\langle 4, 5 \rangle^+$				0	0.08	2570							87Li02
					+2	0.017	64							87Li02
5424.68(5)	$\langle 3^- \rangle$			0.60(4)				0.028						87Wi15
5427.5(3)	$\langle 8 \rangle$													05Mu20
5427.78(5)	$\langle 2^+-4^+ \rangle$			2.1(1)										87Wi15
5437.4(5)**														
5465.0(21)	4 ⁺	85			0	0.32	10300	0.056				$\langle 4 \rangle$	0.02	84Va31
5486.1(20)								x						
5512(6)								x						
5518.23(6)	$\langle 4 \rangle^+$			0.57(3)	0	0.015	480							87Wi15
5528.9(6)														
5537(6)	3 ⁻							0.065						78KaZV
5584(5)		≈ 10												70Ra10
5600.4	$\langle 1, 2^+ \rangle$													04Ka62
5614(6)														
5652.0(6)														
5655.6(5)	$\langle 8^+ \rangle$													05Mu20
5673.5(5)	$\langle 4 \rangle^+$				0	0.006	181					$\langle 4 \rangle$	0.04	84Va31
					+2	0.034*	140							87Li02
5689.02(5)	4 ⁺	≈ 79		2.5(1)				0.044						87Wi15
5691.1	1										12(3)			04Ka62
5706.5(7)														
5728.81(21)	4 ⁺ , 5 ⁺	≈ 3			0	0.59	19000							87Li02
5738.3(7)														
5766(5)	$[0^+]$	38										$\langle 4 \rangle$	0.07	84Va31
5798(6)												$\langle 3 \rangle$	0.21	84Va31
5812.07(7)	3 ⁻	65		0.90(5)				0.042						87Wi15
5835.65(8)	$\langle 4^+ \rangle$			1.16(6)										87Wi15
5858.5(6)	4 ⁺	65			0	0.006	171	0.026						78KaZV
					+2	0.014	59							87Li02
5876(8)														
5925(6)														

(continued)

⁸⁸Sr
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E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	
5951.11(5)	$\langle 3^-, 4^+ \rangle$			2.4(1)								$\langle 2 \rangle$	0.03	87Wi15
5991.2	$\langle 1, 2^+ \rangle$										14(4)			04Ka62
5996.30(7)	$\langle 4 \rangle^+$			0.48(3)	0	0.009	274							87Wi15
					+2	0.007*	31							87Li02
6009.8	1	39									294(68)			04Ka62
6011.14(8)	$\langle 2^+ \rangle$			0.54(3)	2	0.043	184							87Wi15
6021.5(5)	X ⁺													
6034(6)	$\langle 4, 5 \rangle^+$				0	0.015	468							87Li02
					2	0.081*	346							87Li02
6047.15(24)	$\langle 2^+ \rangle$	97												70Ra10
6065.7(4)	$\langle 4, 5 \rangle^+$				0	0.017	534							87Li02
					+2	0.021*	91							87Li02
6074.3(10)														
6106(6)														
6125.23(7)	$\langle 3^- \rangle$	59		1.39(7)										87Wi15
6140.4(5)	$\langle 2^- 7 \rangle^+$	69			2	0.081	350							87Li02
6173.2(5)														
6188.0(5)														
6201.7	$\langle 1 \rangle$										125(32)			04Ka62
6213.6	1 ⁻	≈ 10									1920(480)			81Wi12
6216(4)	4 ⁺ , 5 ⁺				0	0.025	770							87Li02
6233.8(6)	X ⁽⁻⁾				$\langle 1 \rangle$	0.13*								
6235.46(18)	$\langle 7^- \rangle$													05Mu20
6241.5(4)														
6249.24(8)	$\langle 4^+ \rangle$													
6257.87(15)	4 ⁺			0.57(3)	2	0.068*	300	0.030						87Wi15
6282.8(4)	4 ⁺	259						0.030						78KaZV
6292.9(11)														
6302.1(4)	$\langle 2^+ \rangle$	156												
6334.4	1 ⁻										2540(650)			81Wi12
6347.5	1										269(69)			05Mu20
6350.7(5)	$\langle 4 \rangle^+$				2	0.054	247							87Li02
6366.8	$\langle 1, 2^+ \rangle$	115												05Mu20
6378.1(4)	X ⁽⁺⁾				$\langle 2 \rangle$	0.055	252							87Li02
6381.8	1										26(7)			05Mu20
6397.7(4)														
6417.3(3)	X ⁺				2	0.18	820							87Li02
6430.8(4)		39												
6462.27(26)														
6471.05(22)	X ⁽⁺⁾				$\langle 2 \rangle$	0.56	2450							87Li02
6507.81(7)	$\langle 4^+ \rangle$	126		2.8(1)	$\langle 0 \rangle$	0.09	2500							87Wi15
6518.83(21)	$\langle 2^+ \rangle$				$\langle 2 \rangle$	0.10	550							87Li02
6542.9(3)														
6551.5(3)	4 ⁺							0.044						78KaZV
6565.94(22)														

(continued)

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E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	
6575.25(23)					2	0.27	1290							87Li02
6583.70(7)	$\langle 2-4 \rangle^+$	320		0.95(5)										87Wi15
6593.1	1	incl									32(9)			05Mu20
6612.79(8)	3^-	incl		0.76(4)				0.060						87Wi15
6618.12(23)	X^+				2	0.058	280							87Li02
6622.96(23)														
6627.24(24)														
6634.59(20)					2	0.042	204							87Li02
6666.2(3)														
6672.17(26)														
6692.49(10)	$\langle 2^+-4^+ \rangle$	100		0.50(3)										87Wi15
6710.0	1										175(85)			04Ka62
6739(5)	X^+	≈ 14			2	0.26*	1300							87Li02
6770(6)														
6782.69(19)	X^+				2	0.068	330							87Li02
6798.23(22)														
6807.03(7)	$\langle 3^- \rangle$	129		0.56(3)										87Wi15
6814.7(3)														
6831.9(4)	X^+				2	0.17	840							87Li02
6840.60(19)	$\langle 8^- \rangle$													05Mu20
6854.02(17)														
6874(10)		350												70Ra10
6897(5)		incl												
6910.7(4)														
6916.47(10)	$\langle 2^+, 3 \rangle$													81Wi12
6938.6(5)	X^+				2	0.25	1250							87Li02
6961.5(5)	4^+				2	0.31	1560	0.05						78KaZV
7011.2(4)														
7022.6(4)	4^+	≈ 70												78KaZV
7060.5(5)	3^-				$\langle 2 \rangle$	0.08*	420	0.048						78KaZV
7071.64(28)														
7091(4)	1^-													81Wi12
7103.2(4)														
7119.2(3)	$\langle 10^+ \rangle$													05Mu20
7129.2(7)	8-11													05Mu20
7138.90(7)	$\langle 4^+ \rangle$			0.47(5)	$\langle 2 \rangle$	0.25*	1300							87Wi15
7170(8)														
7194.7(4)	X^+				2									
7207.86(8)	$\langle 2^+-4^+ \rangle$			0.67(4)	$\langle 2 \rangle$	0.19	1080							87Wi15
7255(6)														
7330.51(20)	$\langle 9^- \rangle$													05Mu20
7333(6)														
7360(8)														
7402(8)														
7426(10)	X^+													

(continued)

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E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	L	C^2S	Γ_o	L	S_α	σ (⁶ Li, ⁸ B)	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')		(τ, d)	[meV]	(d, ⁶ Li)	(d, ⁶ Li)	$\mu\text{b/sr}$	
7434.1(3)	$\langle 10^+ \rangle$														05Mu20
7460(8)															
7481(8)															
7526(8)															
7537(4)	$\langle 1^- \rangle$														
7561(10)															
7573.15(8)				0.79(5)											87Wi15
7594(10)															
7623(8)															
7640(10)															
7641.81(22)	$\langle 10^- \rangle$														05Mu20
7679(6)															
7749(6)															
7774.7(4)	$\langle 11^+ \rangle$														05Mu20
7819(8)															
7841(4)**	1^-														81Wi12
7880(7)															
7908.71(24)	$\langle 11^- \rangle$														05Mu20
7911(8)															
7968(6)															
8003(10)															
8047(4)	1^-														81Wi12
8069(8)	$\langle 0^+ \rangle$														78KaZV
8094.7(5)	$\langle 12^+ \rangle$														05Mu20
8113(8)															
8142(10)															
8171(8)	$\langle 0^+ \rangle$														78KaZV
8200(8)															
8228(8)															
8268(8)	$\langle 0^+ \rangle$														78KaZV
8276.0(5)	$\langle 13^+ \rangle$														05Mu20
8302(8)	$\langle 0^+ \rangle$														78KaZV
8336.2(4)	$\langle 12^+ \rangle$														05Mu20
8374.8(5)															05Mu20
8437.1(4)	$\langle 12^- \rangle$														05Mu20
8450(10)															
8493(10)**	$[1^+]$														
8516(10)															
8517.8(8)	13–15														05Mu20
8550(20)**	$[1^+]$														
8670(20)**	$[1^+]$														
8617***															
8780(20)**	$[1^+]$														
8930(20)**	$[1^+]$														
8935.8(5)	$\langle 13^+ \rangle$														05Mu20

(continued)

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E^*	J^π	σ (t,p)	L	Br	L	S_{dp}	σ (d,p)	β_L	C^2S	L	S_α	σ (⁶ Li, ⁸ B)	Ref.
[keV]		$\mu\text{b/sr}$	(τ ,n)	%		(d,p)	$\mu\text{b/sr}$	(p,p')	(τ ,d)	(d, ⁶ Li)	(d, ⁶ Li)	$\mu\text{b/sr}$	
9030(20)**	[1 ⁺]												
9130(20)**	[1 ⁺]												
9260(20)**	[1 ⁺]												
9350(20)**	[1 ⁺]												
9410.0(6)	$\langle 13 \rangle$												05Mu20
9450(20)**	[1 ⁺]												
9528.2(5)	$\langle 14^+ \rangle$												05Mu20
9580(20)**	[1 ⁺]												
9700(100)**	[1 ⁺]												
9900(100)**	[1 ⁺]												
10130(20)**	[1 ⁺]												
10739.3(6)	$\langle 16^+ \rangle$												05Mu20
11112.64(3)	4 ⁺ , 5 ⁺												05Mu20
11356.0(7)	$\langle 17^+ \rangle$												05Mu20
15645	$\langle 2^- \rangle$												
15674	$\langle 3^- \rangle$												
15918	$\langle 4^- \rangle$												
16500	$\langle 2^- \rangle$												
17200													
17800													
19200													
20500													
						87Li02	87Li02			84Va31		82Ti01	Ref.
		70Ra10		87Wi15			78KaZV	75Sc19			84Va31		Ref.

Additional data on this isotope can be found in [03PiZZ, 02Pi08, 01Li67, 00St05, 00Ka08, 00Fo13, 95Ay03, 85Mo11, 83Va18, 79St23, 77Al36, 75Me06, 72De04].

Abundance: 82.58(1) %.

* Probably for the unresolved doublet.

** Suggested in [05Mu20].

*** Additional level from [00Fo13].

**** Total width [05Mu20], see there I_γ and multipolarities for these and other transitions.

Parameter $S_{dp}=S \times (2J_f + 1)/(2J_i + 1)$ is obtained from DWBA analysis in [87Li02, 88Mu09].

S_N for (d, τ) reaction is from the relation $d\sigma/d\Omega=2.95S_N(2s+1)\sigma_{DWBA}/2(2J+1)$ [72Ha24].

Parameter ε for (τ ,n) reaction – spectroscopic factor for two-proton transfer [79Al19].

Parameter Br is the branching ratio of the neutron capturing state at 11113 keV [87Wi15].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20]. Part 2

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E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
0	0 ⁺	420	1.96						0.9	1.4	Stable	87Wi15
1836.09(1)	2 ⁺	17		0.6(1)					2.6	2.0	0.162(5) ps	82Ti01
2734.13(1)	3 ⁻	15		0.10(2)							0.78(4) ps	87Wi15
3152(2)	0 ⁺	150	0.60									84Va31
3218.51(2)	2 ⁺	<5		2.6(5)	x				3.1	2.5	0.13(6) ps	87Wi15
3378.1	1				2.1(3)	6.2(9)	0.014	0.15(2)				05Mu20
3486.56(4)	1 ⁺				162(18)	514(57)	1.05(12)		1.7	1.2		05Mu20
3522.94(6)	(2 ⁺)											
3584.78(2)	5 ⁻			0.5(1)							0.14(4) ns	87Wi15
3635.11(5)	(2 ⁺) ⁺			3.6(7)					3.9			87Wi15
3952.64(2)	5 ⁻			1.5(3)								87Wi15
3993(3)												70Ra10
4019.64(3)	(6 ⁻)										<10 ps	84Va31
4035.6(4)	2 ⁺				26(5)	112(20)					0.02(1) ps	84Va31
4039.07(3)	(2 ⁺) ⁺			4.6(9)								87Wi15
4170.43(3)	(3 ⁻)			0.45(9)								87Wi15
4171(4)	6 ⁺ , 7 ⁻											78KaZV
4224.1(6)												
4226.6	1				1.9(5)	8.9(24)	0.010(3)	0.11(3)				04Ka62
4227.24(4)	2 ⁺ -4 ⁺			0.45(9)								87Wi15
4262.8	(1,2 ⁺)				1.6(5)	7.8(25)	0.009(3)	0.10(3)				04Ka62
4268.73(4)	(2 ⁺)											87Wi15
4299.65(5)	4 ⁺			1.5(3)								87Wi15
												87Li02
4355(4)												
4367.89(10)	(7 ⁻)										<10 ps	84Va31
4413.96(3)	(2 ⁺)			8(1)								87Wi15
												87Li02
4440.79(6)				0.14(3)								87Wi15
4452.02(4)	(4 ⁺) ⁺			0.7(1)								87Wi15
4485(3)	0 ⁺	<5										84Va31
4514.03(2)	2 ⁻											84Va31
4514.54(7)	X ⁺											78KaZV
4521.39(22)	(6 ⁺)											05Mu20
4556(3)	X ⁺											87Li02
4613.8(6)	2 ⁺											84Va31
4632.0(6)	(2 ⁺) ⁺											87Li02
4645(4)												
4687.33(24)	(7)										<10 ps	05Mu20
4742.56(8)	1 ⁻				55(7)	322(42)		3.7(5)			4.8(10) fs	04Ka62
4771.6(14)	2 ⁺				2.2(6)	13.1(33)	0.010(3)	0.12(3)			0.07(4) ps	84Va31
												87Li02
4798(4)	[0 ⁺]	<10										84Va31
4801.3	1				1.8(3)	10.6(21)	0.008(2)	0.09(2)				05Mu20

(continued)

⁸⁸Sr
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E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu b/sr$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
4845.63(3)	$\langle 3 \rangle^-$	48		1.0(2)								87Wi15
4853.03(2)	$\langle 2 \rangle^-$											87Li02
4873.2(25)	$4^+, 5^+$											87Li02
4914.5	1				3.9(6)	24.4(38)	0.018(3)	0.20(3)				04Ka62
4927(4)	2^+											78KaZV
4989.4(2)	2^+				3.5(21)	23(14)	0.016(10)	0.17(10)				04Ka62
5010.66(4)	$\langle 3^-, 4^+ \rangle$			0.7(1)								87Wi15
5076.64(8)	$\langle 1^- \rangle$											
5092.30(6)	2^+											87Wi15
5103.31(20)	$\langle 7 \rangle^+$											87Li02
5109(6)												
5113.12(6)				0.16(3)								87Wi15
5137(4)	$\langle 2 \rangle^+$											87Li02
5164(2)	2^+											84Va31
5171(5)											<10 ps	
5199(8)	$\langle 4^+ \rangle$											
5258(4)	$[3^-]$											84Va31
5308.0(16)												
5321.35(3)	4^+			0.30(6)								87Wi15
5370.5(3)	$\langle 6-8 \rangle$											05Mu20
5383(5)	4^+											
5415.7(28)	$\langle 4, 5 \rangle^+$											87Li02
												87Li02
5424.68(5)	$\langle 3^- \rangle$											87Wi15
5427.5(3)	$\langle 8 \rangle$											05Mu20
5427.78(5)	$\langle 2^+-4^+ \rangle$			0.20(4)								87Wi15
5437.4(5)**											<10 ps	
5465.0(21)	4^+											84Va31
5486.1(20)												
5512(6)												
5518.23(6)	$\langle 4 \rangle^+$											87Wi15
5528.9(6)												
5537(6)	3^-											78KaZV
5584(5)												70Ra10
5600.4	$\langle 1, 2^+ \rangle$				1.5(7)	12(6)	0.006(3)	0.07(3)				04Ka62
5614(6)												
5652.0(6)												
5655.6(5)	$\langle 8^+ \rangle$										<10 ps	05Mu20
5673.5(5)	$\langle 4 \rangle^+$											84Va31
												87Li02
5689.02(5)	4^+			0.28(6)								87Wi15
5691.1	1				4.2(10)	36(8)	0.017(4)	0.19(4)				04Ka62
5706.5(7)												
5728.81(21)	$4^+, 5^+$											87Li02

(continued)

⁸⁸Sr
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E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu b/sr$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
5738.3(7)												
5766(5)	[0 ⁺]											84Va31
5798(6)												84Va31
5812.07(7)	3 ⁻											87Wi15
5835.65(8)	$\langle 4^+ \rangle$			0.14(3)								87Wi15
5858.5(6)	4 ⁺											78KaZV
												87Li02
5876(8)												
5925(6)												
5951.11(5)	$\langle 3^-, 4^+ \rangle$			0.31(6)								87Wi15
5991.2	$\langle 1, 2^+ \rangle$				7.5(19)	69(18)	0.017(5)	0.19(5)				04Ka62
5996.30(7)	$\langle 4 \rangle^+$											87Wi15
												87Li02
6009.8	1				94(22)	880(200)	0.35(8)	3.9(9)				04Ka62
6011.14(8)	$\langle 2^+ \rangle$											87Wi15
6021.5(5)	X ⁺											
6034(6)	$\langle 4, 5 \rangle^+$											87Li02
												87Li02
6047.15(24)	$\langle 2^+ \rangle$											70Ra10
6065.7(4)	$\langle 4, 5 \rangle^+$											87Li02
												87Li02
6074.3(10)												
6106(6)												
6125.23(7)	$\langle 3^- \rangle$			0.20(4)								87Wi15
6140.4(5)	$\langle 2^-, 7 \rangle^+$											87Li02
6173.2(5)												
6188.0(5)												
6201.7	$\langle 1 \rangle$				37(9)	374(95)	0.14(3)	1.5(4)				04Ka62
6213.6	1 ⁻				547(136)	5490(1360)		22(6)			0.25(3) fs	81Wi12
6216(4)	4 ⁺ , 5 ⁺											87Li02
6233.8(6)	X ⁽⁻⁾											
6235.46(18)	$\langle 7^- \rangle$											05Mu20
6241.5(4)												
6249.24(8)	$\langle 4^+ \rangle$											
6257.87(15)	4 ⁺											87Wi15
6282.8(4)	4 ⁺											78KaZV
6292.9(11)												
6302.1(4)	$\langle 2^+ \rangle$											
6334.4	1 ⁻				730(187)	7620(1960)		29(7)			0.16(2) fs	81Wi12
6347.5	1				77(20)	807(207)	0.27(7)	3.0(8)				05Mu20
6350.7(5)	$\langle 4 \rangle^+$											87Li02
6366.8	$\langle 1, 2^+ \rangle$				4.2(13)	44(14)	0.015(5)	0.16(5)				05Mu20
6378.1(4)	X ⁽⁺⁾											87Li02
6381.8	1				7.3(21)	77(22)	0.03(1)	0.28(8)				05Mu20
6397.7(4)												

(continued)

⁸⁸Sr
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E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
6417.3(3)	X ⁺											87Li02
6430.8(4)												
6462.27(26)												
6471.05(22)	X ⁽⁺⁾											87Li02
6507.81(7)	$\langle 4^+ \rangle$			0.5(1)								87Wi15
6518.83(21)	$\langle 2^+ \rangle$											87Li02
6542.9(3)												
6551.5(3)	4 ⁺											78KaZV
6565.94(22)												
6575.25(23)												87Li02
6583.70(7)	$\langle 2-4 \rangle^+$			0.18(4)								87Wi15
6593.1	1				8.6(25)	97(28)	0.03(1)	0.32(9)				05Mu20
6612.79(8)	3 ⁻			0.15(3)								87Wi15
6618.12(23)	X ⁺											87Li02
6622.96(23)												
6627.24(24)												
6634.59(20)												87Li02
6666.2(3)												
6672.17(26)												
6692.49(10)	$\langle 2^+-4^+ \rangle$											87Wi15
6710.0	1				15(7)	176(81)	0.09(4)	0.96(48)				04Ka62
6739(5)	X ⁺											87Li02
6770(6)												
6782.69(19)	X ⁺											87Li02
6798.23(22)												
6807.03(7)	$\langle 3^- \rangle$			0.13(2)								87Wi15
6814.7(3)												
6831.9(4)	X ⁺											87Li02
6840.60(19)	$\langle 8^- \rangle$											05Mu20
6854.02(17)												
6874(10)												70Ra10
6897(5)												
6910.7(4)												
6916.47(10)	$\langle 2^+, 3 \rangle$											81Wi12
6938.6(5)	X ⁺											87Li02
6961.5(5)	4 ⁺											78KaZV
7011.2(4)												
7022.6(4)	4 ⁺											78KaZV
7060.5(5)	3 ⁻											78KaZV
7071.64(28)												
7091(4)	1 ⁻										0.111(14) fs	81Wi12
7103.2(4)												
7119.2(3)	$\langle 10^+ \rangle$											05Mu20
7129.2(7)	8-11											05Mu20
7138.90(7)	$\langle 4^+ \rangle$											87Wi15

(continued)

⁸⁸₃₈Sr

E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
7170(8)												
7194.7(4)	X ⁺											
7207.86(8)	$\langle 2^+-4^+ \rangle$			0.20(4)								87Wi15
7255(6)												
7330.51(20)	$\langle 9^- \rangle$											05Mu20
7333(6)												
7360(8)												
7402(8)												
7426(10)	X ⁺											
7434.1(3)	$\langle 10^+ \rangle$											05Mu20
7460(8)												
7481(8)												
7526(8)												
7537(4)	$\langle 1^- \rangle$					1310****					0.35(7) fs	
7561(10)												
7573.15(8)				0.32(6)								87Wi15
7594(10)												
7623(8)												
7640(10)												
7641.81(22)	$\langle 10^- \rangle$											05Mu20
7679(6)												
7749(6)												
7774.7(4)	$\langle 11^+ \rangle$											05Mu20
7819(8)												
7841(4)**	1 ⁻										0.18(4) fs	81Wi12
7880(7)												
7908.71(24)	$\langle 11^- \rangle$											05Mu20
7911(8)												
7968(6)												
8003(10)												
8047(4)	1 ⁻					3800****					0.12(3) fs	81Wi12
8069(8)	$\langle 0^+ \rangle$											78KaZV
8094.7(5)	$\langle 12^+ \rangle$											05Mu20
8113(8)												
8142(10)												
8171(8)	$\langle 0^+ \rangle$											78KaZV
8200(8)												
8228(8)												
8268(8)	$\langle 0^+ \rangle$											78KaZV
8276.0(5)	$\langle 13^+ \rangle$											05Mu20
8302(8)	$\langle 0^+ \rangle$											78KaZV
8336.2(4)	$\langle 12^+ \rangle$											05Mu20
8374.8(5)												05Mu20
8437.1(4)	$\langle 12^- \rangle$											05Mu20
8450(10)												

(continued)

⁸⁸₃₈Sr

E^*	J^π	σ (τ, n)	ε	$Str.F.$	$I_{s,0}$	Γ_o^2/Γ	$B(M1)$	$B(E1)$	S_N	C^2S	$T_{1/2}$ or	Ref.
[keV]		$\mu b/sr$	(τ, n)	$W.u./MeV$	[eVb]	[meV]	$[\mu_N^2]$	$10^{-3}ef$	(d, τ)	(⁶ Li, ⁷ Be)	Γ_{cm}	
8493(10)**	[1 ⁺]											
8516(10)												
8517.8(8)	13–15											05Mu20
8550(20)**	[1 ⁺]											
8670(20)**	[1 ⁺]											
8617***												
8780(20)**	[1 ⁺]											
8930(20)**	[1 ⁺]											
8935.8(5)	$\langle 13^+ \rangle$											05Mu20
9030(20)**	[1 ⁺]											
9130(20)**	[1 ⁺]											
9260(20)**	[1 ⁺]											
9350(20)**	[1 ⁺]											
9410.0(6)	$\langle 13 \rangle$											05Mu20
9450(20)**	[1 ⁺]											
9528.2(5)	$\langle 14^+ \rangle$											05Mu20
9580(20)**	[1 ⁺]											
9700(100)**	[1 ⁺]											
9900(100)**	[1 ⁺]											
10130(20)**	[1 ⁺]											
10739.3(6)	$\langle 16^+ \rangle$											05Mu20
11112.64(3)	4 ⁺ , 5 ⁺											05Mu20
11356.0(7)	$\langle 17^+ \rangle$											05Mu20
15645	$\langle 2^- \rangle$										35(5) keV	
15674	$\langle 3^- \rangle$										27(5) keV	
15918	$\langle 4^- \rangle$										31(4) keV	
16500	$\langle 2^- \rangle$										28(5) keV	
17200												
17800												
19200												
20500												
		79Al19	79Al19	87Wi15	04Ka62				72Ha24			Ref.
		77Al36								83Wa19		Ref.

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20]. Part 3

⁸⁸₃₈Sr

E^*	J^π	Branching ratios in percentage									
		E_f^* :	0	1836.1	2734.1	3218.5	3486.6	3522.9	3584.8	3635.1	3952.6
[keV]		J_f^π :	0 ⁺	2 ⁺	3 ⁻	2 ⁺	$\langle 2 \rangle^+$	$\langle 2^+ \rangle$	5 ⁻	$\langle 2 \rangle^+$	5 ⁻
1836.09(1)	2 ⁺		100								
2734.13(1)	3 ⁻		0.76(4)	99.2(3)							
3218.51(2)	2 ⁺		21.5(5)	76(3)	2.8(7)						

(continued)

⁸⁸Sr
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E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0 0 ⁺	1836.1 2 ⁺	2734.1 3 ⁻	3218.5 2 ⁺	3486.6 (2) ⁺	3522.9 (2 ⁺)	3584.8 5 ⁻	3635.1 (2) ⁺	3952.6 5 ⁻
3486.56(4)	1 ⁺		100								
3522.94(6)	(2 ⁺)		39(4)	61(10)							
3584.78(2)	5 ⁻				100						
3635.11(5)	(2) ⁺			94.4(9)		5.6(20)					
3952.64(2)	5 ⁻				100						
4019.64(3)	(6) ⁻			0.4(3)					99.6(10)		
4035.6(4)	2 ⁺	100									
4039.07(3)	(2) ⁺			78(9)	22(3)						
4170.43(3)	(3 ⁻)	0.54(5)			23(4)		<9		77(11)		
4224.1(6)				100							
4227.24(4)	2 ⁺ –4 ⁺			77(8)	23(4)						
4268.73(4)	(2 ⁺)				[100]				<17		
4299.65(5)	4 ⁺			[100]	<51						
4413.96(3)	(2 ⁺)	<5		72(3)	20(3)			8.3(16)			
4440.79(6)					100						
4452.02(4)	(4) ⁺			1.2(1)	92(14)				6.9(11)		
4514.03(2)	2 ⁻			90(1)	9.9(6)		0.49(20)				
4514.54(7)	X ⁺			100							
4742.56(8)	1 ⁻	100									
4771.6(14)	2 ⁺	x									
4845.63(3)	(3) ⁻	0.38(3)		64(2)	33(2)	2.3(5)					
4853.03(2)	(2) ⁻	1.3(2)		0.6(3)	64(3)		15(2)			7.8(10)	
5010.66(4)	(3 ⁻ ,4 ⁺)				69(7)	2.1(4)					16(3)
5076.64(8)	(1 ⁻)				18(3)					82(21)	
5092.30(6)	2 ⁺			[19]	[81]		<18	<19	<48		
5113.12(6)				27(1)	1.5(4)	18(3)				36(6)	
5321.35(3)	4 ⁺					4.2(5)			<46		96(14)
5424.68(5)	(3 ⁻)				15(16)						16(3)
5427.78(5)	(2 ⁺ –4 ⁺)				<5.2						
5518.23(6)	(4) ⁺				[87]	[12.5]					
5689.02(5)	4 ⁺				[87]			[7.1]			
5812.07(7)	3 ⁻	7.9(5)		34(3)	30(2)					13(2)	
5835.65(8)	(4 ⁺)			15(2)			7.8(12)		20(2)		
5951.11(5)	(3 ⁻ ,4 ⁺)								30(3)	<7	24(4)
5996.30(7)	(4) ⁺			25(1)			6(1)	8(1)			
6011.14(8)	(2 ⁺)			15(8)							
6125.23(7)	(3 ⁻)				55(3)			3.8(8)			29(3)
6213.6	1 ⁻	100									
6249.24(8)	(4 ⁺)			<28		13(2)	3.0(7)				4(2)
6257.87(15)	4 ⁺						[10]				
6334.4	1 ⁻	100									
6507.81(7)	(4 ⁺)				21(1)						
6583.70(7)	(2–4) ⁺			[23]	[24]		[10]				
6612.79(8)	3 ⁻						20(5)				36(4)
6692.49(10)	(2 ⁺ –4 ⁺)				67(4)		19(2)				

(continued)

⁸⁸₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	0 0 ⁺	1836.1 2 ⁺	2734.1 3 ⁻	3218.5 2 ⁺	3486.6 <2> ⁺	3522.9 <2> ⁺	3584.8 5 ⁻	3635.1 <2> ⁺	3952.6 5 ⁻
6807.03(7)	<3 ⁻ >			4.3(6)	8.7(6)				24(2)		
6916.47(10)	<2 ⁺ ,3>		[5]		[16]						
7091(4)	1 ⁻		100								
7138.90(7)	<4 ⁺ >			13(1)	1.9(2)			33(3)	9.1(5)		
7207.86(8)	<2 ⁺ -4 ⁺ >			23(1)		31(2)					
7537(4)	<1 ⁻ >		100								
7573.15(8)				4.5(4)	1.0(2)						
7841(4)**	1 ⁻		100								
8047(4)	1 ⁻		100								

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20]. Part 4

⁸⁸₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	4019.6 <5> ⁻	4039.1 <2> ⁺	4170.4 <3> ⁻	4227.2	4268.7 <2> ⁺	4299.7 4 ⁺	4368.2 <7> ⁻	4413.9 <2> ⁺	4440.8
4367.89(10)	<7 ⁻ >		100								
4687.33(24)	<7>								100		
4853.03(2)	<2> ⁻									2.2(5)	
5092.30(6)	2 ⁺			<57							
5113.12(6)				17(4)							
5321.35(3)	4 ⁺						<7.3				
5424.68(5)	<3 ⁻ >		68(10)								
5427.78(5)	<2 ⁺ -4 ⁺ >		55(9)				17(3)				
5655.6(5)	<8 ⁺ >								100		
5689.02(5)	4 ⁺		[5.7]								
5812.07(7)	3 ⁻				7(3)			9(4)			
5835.65(8)	<4 ⁺ >				57(10)	<15					
5951.11(5)	<3 ⁻ ,4 ⁺ >		8(2)	13(2)		14(2)					11(3)
5996.30(7)	<4> ⁺		13(2)				20(4)				
6011.14(8)	<2 ⁺ >			1.3(4)						<4.5	
6125.23(7)	<3 ⁻ >						12(3)				
6249.24(8)	<4 ⁺ >				10(2)	9(3)	18(3)				
6257.87(15)	4 ⁺		<38								
6507.81(7)	<4 ⁺ >			37(4)	3.1(5)		<6	6.4(9)		11(4)	4.6(8)
6583.70(7)	<2-4> ⁺			[17]			<23			[26]	
6612.79(8)	3 ⁻			20(3)							
6807.03(7)	<3 ⁻ >			13(2)							
6916.47(10)	<2 ⁺ ,3>						[45]				
7138.90(7)	<4 ⁺ >			4.0(5)							
7207.86(8)	<2 ⁺ -4 ⁺ >									10(2)	
7573.15(8)										4.6(4)	

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20]. Part 5

⁸⁸Sr

E^* [keV]	J^π	Branching ratios in percentage								
		E_f^* : J_f^π :	4452.0 $\langle 4 \rangle^+$	4514.0 2^-	4514.5 X^+	4680.0	4845.6 $\langle 3 \rangle^-$	5010.7 $\langle 3^-, 4^+ \rangle$	5076.6 $\langle 1^- \rangle$	5113.1 5170.2
4853.03(2)	$\langle 2 \rangle^-$			9.1(10)						
5010.66(4)	$\langle 3^-, 4^+ \rangle$		13(2)							
5171(5)						100				
5427.78(5)	$\langle 2^+ - 4^+ \rangle$		28(4)							
5437.4(5)**										100
5996.30(7)	$\langle 4 \rangle^+$						28(6)			
6011.14(8)	$\langle 2^+ \rangle$								84(13)	
6257.87(15)	4^+	[40]		[50]						
6507.81(7)	$\langle 4^+ \rangle$	<4				17(3)				
6583.70(7)	$\langle 2 - 4 \rangle^+$							<20		
6612.79(8)	3^-					24(6)				
6692.49(10)	$\langle 2^+ - 4^+ \rangle$		15(5)							
6807.03(7)	$\langle 3^- \rangle$								39(7)	12(4)
6916.47(10)	$\langle 2^+, 3 \rangle$					[34]				
7138.90(7)	$\langle 4^+ \rangle$							2.4(6)		
7207.86(8)	$\langle 2^+ - 4^+ \rangle$			<31						36(16)

Energy levels and branching ratios [87Wi15, 88Mu09, 05Mu20]. Part 6

⁸⁸Sr

E^* [keV]	J^π	Branching ratios in percentage							
		E_f^* : J_f^π :	5321.3 4^+	5424.7 $\langle 3^- \rangle$	5427.8	5518.2 $\langle 4 \rangle^+$	5689.0 4^+	5812.1 3^-	6249.2 $\langle 4^+ \rangle$
6249.24(8)	$\langle 4^+ \rangle$						44(10)		
7138.90(7)	$\langle 4^+ \rangle$						37(8)		
7573.15(8)				4.6(15)	9.0(16)	<3.4		5.1(12)	71(11)

Energy levels and branching ratios [89Wi05, 89Si20, 98Si31].

⁸⁹Sr

E^*	$2J^\pi$	L	σ (t,p)	Br	N_{dp}	L	S'	S_N	σ (d,p)	σ (d,p)	S'	S'	S_{dp}	S_N	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	%	$\times 10^3$		(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,p)	(d,p)		(d,p)	
0.0	5^+	2+4	95	9.6(5)	x	2	6.18	1.03	9610	3500	4.76			0.65	89Wi05
1032.00(4)	1^+	4	21	12.0(6)	x	0	2.12	1.06	8210	5000	1.81			0.88	89Wi05
1473.35(6)	$\langle 7 \rangle^+$	2	20		x					31					
1940.19(6)	5^+	2	37	0.3(1)	x	2	0.66	0.11	1850	580	0.55			0.10	89Wi05
2007.59(5)	3^+		10	1.5(1)	x	2	2.44	0.61	5350	1950	1.85			0.53	89Wi05
2057.4(5)	$1^+ - 5^+$									75					
2061.5(5)	$\langle 9^+ \rangle$				x					190				0.05	89Wi05
2079.0(5)	11^-	2	37		x	5	4.68	0.39	500	incl			0.45	0.28	89Wi05

(continued)

⁸⁹Sr
³⁸

E^*	$2J^\pi$	L	σ (t,p)	Br	N_{dp}	L	S'	S_N	σ (d,p)	σ (d,p)	S'	S'	S_{dp}	S_N	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	%	$\times 10^3$		(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,p)	(d,p)		(d,p)	
2280.19(4)	$\langle 1 \rangle^-$			12.0(6)		1	0.01			40		0.01			89Wi05
2451.64(6)	3^+		10	2.6(2)	x	2	1.68	0.42	3570	1680	1.36			0.35	89Wi05
2570.10(4)	$\langle 3 \rangle^-$			21(1)		1	9.92			115					89Wi05
2675(4)	7^+				x	4	7.84	0.98	1520	620	5.89	5.03		0.90	89Wi05
2707.12(9)	$\langle 5 \rangle^-$		17		x					46					89Wi05
2805(3)	$7^-, 5^+$				x	3,2	0.2	0.03	360	168	0.14				89Wi05
2916(5)	$3^+, 5^+$				x	2	0.04			74		0.04			89Wi05
2930.5(5)	$9^{(+)}$									incl				0.01	
2961.9(5)	9^+	0	551												
3073(9)	$\langle 3 \rangle^+$				x	2	0.04					0.04		0.01	89Wi05
3128(5)	3^+		20		x	2	0.36	0.09	900	450	0.32	0.31		0.06	89Wi05
3200(7)					x										89Wi05
3227.87(5)	$\langle 3 \rangle^-$			2.4(2)											89Wi05
3249(9)	5^+				x	2	0.36	0.06	840	378	0.26	0.27			89Wi05
3303.1(2)	$\langle 3, 5, 7 \rangle^+$														
3388.1(7)	15^-														01St14
3390						$\langle 4 \rangle$				85	0.65				78Cl04
3404.1(7)	11^-					5	0.72	0.06	230						
3421(10)	$\langle 11 \rangle^-$					5	0.36	0.03	130	365		0.08			78Cl04
3433.06(11)	$\langle 1^+, 3 \rangle$		31	2.7(7)	x					20					89Wi05
3468(1)					x										89Wi05
3508.64(7)	$\langle 3 \rangle^+$		17	7.2(7)	x	2	0.01					0.01			89Wi05
3524.3(7)	13^-														
3541(8)			27		x					70					89Wi05
3599.0(7)	$\langle 11^+ \rangle$				x										89Wi05
3634(5)	$5^-, 7^-$		24		0.05	3	0.02			46		0.03			89Wi05
3651.71(19)	$1^{(+)}, 3, 5$														
3672.1(7)	13^-														
3677(7)	X^+	2	90		0.4					60					89Wi05
3699.82(10)	5^+			1.5(2)	[2.0]	2	0.30	0.05	670	330	0.20	0.20			89Wi05
3728.0(10)															
3745(7)					x										89Wi05
3750.7(10)	17^-														01St14
3755(7)	1^+				0.4	0	0.24	0.12	940	1220	0.22	0.17			89Wi05
3763(7)	X^+	2	54		0.1										89Wi05
3829(6)	$3^+, 5^+$				0.03	2	0.01					0.01			89Wi05
3845.7(4)	5^+	2	89												
3881(7)					0.05										89Wi05
3910(7)	$X^{(+)}$	2	663		0.04					45					89Wi05
3937(7)	$X^{(+)}$				x										89Wi05
3987.8(4)	$1^+ - 5^+$				0.03										89Wi05
4017(5)					0.05										89Wi05
4034(5)					0.4					50					89Wi05
4050.0(3)	1^+				0.7	0	0.04			290	0.04				89Wi05
4055(4)					x										89Wi05

(continued)

⁸⁹Sr
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E^*	$2J^\pi$	L	σ (t,p)	Br	N_{dp}	L	S'	S_N	σ (d,p)	σ (d,p)	S'	S'	S_{dp}	S_N	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	%	$\times 10^3$		(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,p)	(d,p)		(d,p)	
4065(6)	1^+-7^-				0.35	0,3	0.02			129					89Wi05
4072(10)	$X^{(+)}$	$\langle 2 \rangle$	40												74Co24
4081(4)					x					25					89Wi05
4093.8(6)	$1^{(+)}, 3, 5$														
4120(5)					x										89Wi05
4168(7)	$3^+, 5^+$				x	$\langle 2 \rangle$	0.02			40		0.02			89Wi05
4180(7)					x					105					89Wi05
4199(7)		$\langle 2 \rangle$	286		x					incl					89Wi05
4207(7)					x										89Wi05
4208.8(10)	19^-														01St14
4222(7)					x					40					89Wi05
4225.53(9)	$\langle 1^+, 3 \rangle$			5.2(5)	x					incl					89Wi05
4233(7)					x										89Wi05
4247(7)					x										89Wi05
4254(7)		3,4	99		x										89Wi05
4271(7)					x										89Wi05
4328.80(9)	$\langle 3^+ \rangle$			2.9(4)		2	0.04			149		0.05			89Wi05
4335.58(7)	$\langle 1^+, 3 \rangle$			11(1)											89Wi05
4359(10)										76					68Co03
4382(7)					x					30					89Wi05
4406(7)					x										89Wi05
4417(7)					x										89Wi05
4435(7)	$\langle 5^-, 7^- \rangle$				x	$\langle 3 \rangle$	0.12			155	0.064	0.12			89Wi05
4445.16(9)	$\langle 1^+, 3 \rangle$	3,4	277	3.1(8)											89Wi05
4465(8)					x										89Wi05
4472(8)	1^+				x	0	0.033			220	0.037				89Wi05
4518(10)	$7^+, 9^+$					4	0.448			88		0.45			73Sl01
4560(10)	$\langle 3^+, 5^+ \rangle$	3,4	52			$\langle 2 \rangle$	0.006			42		0.01			73Sl01
4594(10)	$3^+, 5^+$					2	0.143			294	0.053	0.14			73Sl01
4614(10)	1^+					0	0.050			195	0.034	0.05			73Sl01
4626(10)										incl					
4659.85(8)	1^+	3,4	239	2.3(6)		0	0.011			61	0.011				68Co03
4679(7)	$\langle 1^-, 3, 5^+ \rangle$					2,1	0.05			155	0.071	0.06			73Sl01
4742(7)	$\langle 1^+ \rangle$					$\langle 0 \rangle$	0.015			98	0.015				68Co03
4759(10)		3,4	60							35					74Co24
4790(10)										40					68Co03
4818(10)		3,4	55			$\langle 2 \rangle$	0.046			123	0.046	0.45			68Co03
4865(10)	$\langle 7^+, 9^+ \rangle$	3,4	249			$\langle 4 \rangle$	0.190			35		0.10			73Sl01
4894(10)										30					68Co03
4928(10)	$\langle 1^-, 3, 5^+ \rangle$					1,2	0.02			88		0.01			
4955.54(9)	$\langle 3^+ \rangle$			2.5(7)											89Wi05
5005(10)										42					68Co03
5036(10)	1^+	3,4	166			0	0.013			82	0.037	0.01			73Sl01
5067(10)	$3^+, 5^+$					2	0.017			49		0.02			73Sl01
5081(10)	$3^+, 5^+$	2	584			2	0.021			76	0.035	0.02			73Sl01

(continued)

⁸⁹Sr
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E^*	$2J^\pi$	L	σ (t,p)	Br	N_{dp}	L	S'	S_N	σ (d,p)	σ (d,p)	S'	S'	S_{dp}	S_N	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	%	$\times 10^3$		(d,p)	(d,p)	$\mu\text{b/sr}$	$\mu\text{b/sr}$	(d,p)	(d,p)		(d,p)	
5107(10)									35						68Co03
5130(10)									70						68Co03
5148(10)									30						68Co03
5169(10)	$\langle 3^+, 5^+ \rangle$					$\langle 2 \rangle$	0.056		205		0.054	0.06			73Sl01
5208(10)		3,4	429						25						74Co24
5242(10)									125						68Co03
5259(10)									115						68Co03
5280(10)	1^+					0	0.024		147		0.024				73Sl01
5298(10)	1^+						incl		incl						73Sl01
5316(10)		3,4	160						116						74Co24
5360(10)	1^+					0	0.163		895		0.163				68Co03
5399(10)		3,4	95						40						74Co24
5418(10)	$\langle 1^+ \rangle$					$\langle 0 \rangle$	0.100		525		0.100				68Co03
5442(10)									20						68Co03
5456(10)									35						68Co03
5480(10)			55						50						74Co24
5496(10)									70						68Co03
5529(10)		3,4	102						20						74Co24
5540(10)									40						68Co03
5573(10)									50						68Co03
5583(10)									50						68Co03
5611(10)									40						68Co03
5628(10)			22						70						74Co24
5657(10)									60						68Co03
5666(10)			42						150						74Co24
5694(10)									35						68Co03
5753(10)			170						30						74Co24
5773(10)									100						68Co03
5825(10)									35						68Co03
5858(10)									40						68Co03
5925(10)			20												74Co24
5995(10)			50												74Co24
6115(10)	21		118												74Co24
6188(10)			81												74Co24
6650	$\langle 25 \rangle$														01St14
7026	$\langle 25 \rangle$														01St14
7422	$\langle 27 \rangle$														01St14
	01St14	74Co24				98Si31			68Co03		73Sl01	69Bo27			Ref.
			74Co24			78Cl04	78Cl04				68Co03			77Bl08	Ref.
						68Co03		78Cl04							Ref.

Additional data on this isotope can be found in [02Gr16, 01St14, 74Gi03, 73Gr12].

 E^* are mainly from [89Wi05], data from MIT [73Sl01, 68Co03] were discussed in [77Bl08].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [89Wi05, 89Si20, 98Si31]. Part 2

⁸⁹Sr
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E^*	$2J^\pi$	$Str.F.$	$Mult.$	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]		$W.u./MeV$		Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	1032 1 ⁺	1473 ⟨7⟩ ⁺	1940 5 ⁺	2008 3 ⁺	2079 11 ⁻
0.0	5 ⁺	1.4(3)	E2	50.57(3) d	89Wi05							
1032.00(4)	1 ⁺	0.13(3)	M1	>1 ps	89Wi05							
1473.35(6)	⟨7⟩ ⁺			0.26(10) ps			100					
1940.19(6)	5 ⁺	0.2(1)	E2	0.19(5) ps	89Wi05		83(6)		17(4)			
2007.59(5)	3 ⁺	0.030(6)	M1	0.10(4) ps	89Wi05		98(7)	2.2(5)				
2057.4(5)	1 ⁺ -5 ⁺						51(19)	49(18)				
2061.5(5)	⟨9 ⁺ ⟩			0.21(6) ps	89Wi05		91		8.7			
2079.0(5)	11 ⁻			0.33(7) ns	89Wi05		100					
2280.19(4)	⟨1⟩ ⁻				89Wi05		0.40(4)	96(5)			3.22(15)	
2451.64(6)	3 ⁺	0.07(2)	M1		89Wi05		26(3)	42(5)		32(3)		
2570.10(4)	⟨3⟩ ⁻	0.010(2)	E1		89Wi05		76(4)	20(1)			0.36(5)	
2675(4)	7 ⁺				89Wi05		78(5)		13(3)	9(2)		
2707.12(9)	⟨5 ⁻ ⟩				89Wi05		90(5)		1.3(7)	7.2(8)	1.0(3)	
2805(3)	7 ⁻ ,5 ⁺				89Wi05							
2916(5)	3 ⁺ ,5 ⁺				89Wi05							
2930.5(5)	9 ⁽⁺⁾			0.15(5) ps					69(3)			31(2)
2961.9(5)	9 ⁺			0.7(3) ps					100			
3073(9)	⟨3⟩ ⁺				89Wi05							
3128(5)	3 ⁺				89Wi05		100					
3200(7)					89Wi05							
3227.87(5)	⟨3⟩ ⁻	⟨0.002(1)⟩	⟨E1⟩		89Wi05		0.23(2)	41(3)			0.67(5)	
3249(9)	5 ⁺				89Wi05		75(10)		25(10)			
3303.1(2)	⟨3,5,7 ⁺ ⟩						20(10)					
3388.1(7)	15 ⁻			>7 ps	01St14							100
3390					78Cl04		100					
3404.1(7)	11 ⁻											100
3421(10)	⟨11 ⁻ ⟩				78Cl04							
3433.06(11)	⟨1 ⁺ ,3⟩	⟨0.18(6)⟩	⟨M1⟩		89Wi05		44(6)				26(7)	
3468(1)					89Wi05							
3508.64(7)	⟨3⟩ ⁺				89Wi05		73(4)		3.3(17)		12.6(11)	
3524.3(7)	13 ⁻			0.39(12) ps								100
3541(8)					89Wi05							
3599.0(7)	⟨11 ⁺ ⟩			0.43(12) ps	89Wi05							100
3634(5)	5 ⁻ ,7 ⁻				89Wi05							
3651.71(19)	1 ⁽⁺⁾ ,3,5						43(14)				29(7)	
3672.1(7)	13 ⁻			2(+3-1) ps								76
3677(7)	X ⁺				89Wi05							
3699.82(10)	5 ⁺	⟨0.13(3)⟩	⟨M1⟩		89Wi05		21(5)	79(10)				
3728.0(10)												
3745(7)					89Wi05							
3750.7(10)	17 ⁻				01St14							
3755(7)	1 ⁺				89Wi05		62(5)				38(5)	
3763(7)	X ⁺				89Wi05							
3829(6)	3 ⁺ ,5 ⁺				89Wi05							
3845.7(4)	5 ⁺						56(11)		22(11)			

(continued)

⁸⁹Sr
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E^* [keV]	$2J^\pi$	$Str.F.$ $W.u./MeV$	$Mult.$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						$E_f^*:$ $2J_f^\pi:$	0.0 5 ⁺	1032 1 ⁺	1473 (7) ⁺	1940 5 ⁺	2008 3 ⁺	2079 11 ⁻
3881(7)					89Wi05							
3910(7)	X ⁽⁺⁾				89Wi05							
3937(7)	X ⁽⁺⁾				89Wi05							
3987.8(4)	1 ⁺ 5 ⁺				89Wi05		38(12)	12(6)			50(12)	
4017(5)					89Wi05							
4034(5)					89Wi05							
4050.0(3)	1 ⁺				89Wi05					30(10)		
4055(4)					89Wi05							
4065(6)	1 ⁺ 7 ⁻				89Wi05							
4072(10)	X ⁽⁺⁾				74Co24							
4081(4)					89Wi05							
4093.8(6)	1 ⁽⁺⁾ ,3,5						100					
4120(5)					89Wi05							
4168(7)	3 ⁺ ,5 ⁺				89Wi05							
4180(7)					89Wi05							
4199(7)					89Wi05							
4207(7)					89Wi05							
4208.8(10)	19 ⁻				01St14							
4222(7)					89Wi05							
4225.53(9)	(1 ⁺ ,3)				89Wi05		50(4)			50(10)		
4233(7)					89Wi05							
4247(7)					89Wi05							
4254(7)					89Wi05							
4271(7)					89Wi05							
4328.80(9)	(3 ⁺)				89Wi05		44(3)	19(3)			36(7)	
4335.58(7)	(1 ⁺ ,3)				89Wi05		25(2)	64(3)				
4359(10)					68Co03							
4382(7)					89Wi05							
4406(7)					89Wi05							
4417(7)					89Wi05							
4435(7)	(5 ⁻ ,7 ⁻)				89Wi05							
4445.16(9)	(1 ⁺ ,3)				89Wi05		7(4)	12(4)			37(8)	
4465(8)					89Wi05							
4472(8)	1 ⁺				89Wi05							
4518(10)	7 ⁺ ,9 ⁺				73Sl01							
4560(10)	(3 ⁺ ,5 ⁺)				73Sl01							
4594(10)	3 ⁺ ,5 ⁺				73Sl01							
4614(10)	1 ⁺				73Sl01							
4626(10)												
4659.85(8)	1 ⁺				68Co03			25(2)			26(4)	
4679(7)	(1 ⁻ ,3,5 ⁺)				73Sl01							
4742(7)	(1 ⁺)				68Co03							
4759(10)					74Co24							
4790(10)					68Co03							
4818(10)					68Co03							

(continued)

⁸⁹Sr
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E^* [keV]	$2J^\pi$	$Str.F.$ $W.u./MeV$	$Mult.$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage						
						E_f^* : $2J_f^\pi$:	0.0 5 ⁺	1032 1 ⁺	1473 $\langle 7 \rangle^+$	1940 5 ⁺	2008 3 ⁺	2079 11 ⁻
4865(10)	$\langle 7^+, 9^+ \rangle$				73Sl01							
4894(10)					68Co03							
4928(10)	$\langle 1^-, 3, 5^+ \rangle$											
4955.54(9)	$\langle 3^+ \rangle$				89Wi05			20(2)	10(3)		70(8)	
5005(10)					68Co03							
5036(10)	1 ⁺				73Sl01							
5067(10)	3 ⁺ , 5 ⁺				73Sl01							
5081(10)	3 ⁺ , 5 ⁺				73Sl01							
5107(10)					68Co03							
5130(10)					68Co03							
5148(10)					68Co03							
5169(10)	$\langle 3^+, 5^+ \rangle$				73Sl01							
5208(10)					74Co24							
5242(10)					68Co03							
5259(10)					68Co03							
5280(10)	1 ⁺				73Sl01							
5298(10)	1 ⁺				73Sl01							
5316(10)					74Co24							
5360(10)	1 ⁺				68Co03		x	x				
5399(10)					74Co24							
5418(10)	$\langle 1^+ \rangle$				68Co03							
5442(10)					68Co03							
5456(10)					68Co03							
5480(10)					74Co24							
5496(10)					68Co03							
5529(10)					74Co24							
5540(10)					68Co03							
5573(10)					68Co03							
5583(10)					68Co03							
5611(10)					68Co03							
5628(10)					74Co24							
5657(10)					68Co03							
5666(10)					74Co24							
5694(10)					68Co03							
5753(10)					74Co24							
5773(10)					68Co03							
5825(10)					68Co03							
5858(10)					68Co03							
5925(10)					74Co24							
5995(10)					74Co24							
6115(10)	21				74Co24							
6188(10)					74Co24							
6650	$\langle 25 \rangle$				01St14							
7026	$\langle 25 \rangle$				01St14							
7422	$\langle 27 \rangle$				01St14							

(continued)

⁸⁹Sr
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E^*	$2J^\pi$	$Str.F.$	$Mult.$	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
[keV]		$W.u./MeV$		Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5^+	1032 1^+	1473 $\langle 7 \rangle^+$	1940 5^+	2008 3^+	2079 11^-
	01St14				Ref. Ref. Ref.							

Energy levels and branching ratios [89Wi05, 89Si20, 98Si31]. Part 3

⁸⁹Sr
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E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	2280 $\langle 1 \rangle^-$	2452 3^+	2570.10 $\langle 3 \rangle^-$	2707.12 $\langle 5^- \rangle$	3227.87 $\langle 3 \rangle^-$	3303.10	3388.1 15^-	3404.1 11^-	3750.7 17^-	
2570.10(4)	$\langle 3 \rangle^-$		4.2(2)	0.09(5)								
3227.87(5)	$\langle 3 \rangle^-$		28(2)	0.21(5)	30(2)							
3303.1(2)	$\langle 3,5,7^+ \rangle$					80(20)						
3433.06(11)	$\langle 1^+,3 \rangle$		30(8)									
3508.64(7)	$\langle 3 \rangle^+$		7.7(11)	1.5(7)		1.1(7)		0.7(4)				
3651.71(19)	$1^{\langle + \rangle}, 3,5$				29(7)							
3672.1(7)	13^-								24			
3699.82(10)	5^+		<50									
3728.0(10)										100		
3750.7(10)	17^-								100			
3845.7(4)	5^+					22(11)						
4050.0(3)	1^+		20(10)				50(20)					
4208.8(10)	19^-								42		58	
4335.58(7)	$\langle 1^+,3 \rangle$		11(3)									
4445.16(9)	$\langle 1^+,3 \rangle$		44(10)									
4659.85(8)	1^+		49(6)									

Energy levels and branching ratios [97Br34].

⁹⁰Sr
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E^*	J^π	L	σ (t,p)	ε	σ (⁶ Li, ⁸ B)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(t,p)	$\mu b/sr$	(t,p)	$\mu b/sr$	Γ_{cm}		E_f^* : J_f^π :	0 0^+	832 2^+	1656 4^+	1892 2^+	2207 3^-
0	0^+	0	400	2.2	15.1(22)	28.90(3) yr	82Ti01						
831.68(4)	2^+	2	820	3.0	1.8(5)	7(2) ps	01St14	100					
1655.9(1)	4^+	4	610	2.8		12(2) ps	01St14		100				
1892.4(1)	2^+	2	980	3.6		2(1) ps	76Fl10	5.7(3)	94(3)				
2207.0(1)	3^-	3	270	1.1		≤ 1 ps	01St14		91(4)	4.6(4)	4.5(2)		
2497.3(1)	$2,3$		35			≤ 3 ps	76Fl10	14(1)	86(3)				
2527.9(1)	$3^-,4^+$	3.4	92	0.4		≤ 6 ps	76Fl10		76(3)	24(2)			
2570.6(1)						10(7) ps			100				

(continued)

⁹⁰Sr
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E^* [keV]	J^π	L (t,p)	σ (t,p) $\mu\text{b/sr}$	ε (t,p)	σ ($^6\text{Li}, ^8\text{B}$) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								$\frac{E^*_f}{J^\pi_f}$: 0 0^+	832 2^+	1656 4^+	1892 2^+	2207 3^-	
2586(10)	2^+	2	35	0.1			76Fl10						
2674(5)	$\langle 0^+ \rangle$	$\langle 0 \rangle$	47	$\langle 0.3 \rangle$			76Fl10		100				
2927.7(1)	$4^{\langle - \rangle}$						01St14			74(5)			26(2)
2971.1(1)	0^+	0	140	0.8			76Fl10		100				
3032.9(1)						≤ 1 ps						100	
3038(10)			11				76Fl10						
3039.3(1)	$\langle > 0 \rangle$							60(2)	37(2)			3.4(4)	
3144.9(4)	$5^{\langle - \rangle}$	$\langle 5 \rangle$					01St14			100			
3146(10)	$\langle 5^- \rangle$		260	1.9									
3269(10)	$\langle 4^+ \rangle$	3,4	750	3.0			01St14						
3383.4(1)			100				76Fl10	98(3)					0.6(2)
3394(10)													
3449.8(1)	$\langle 2^+ - 4^+ \rangle$					≤ 4 ps			9(1)	12(1)			44(3)
3465(10)	$5^{\langle - \rangle}$	3,4	51	0.3			01St14						
3495(10)	$\langle 6^+ \rangle$	$\langle 5 \rangle$	60	0.4			01St14						
3555.8(1)									85(11)				
3584.4(1)									80(3)			1.9(3)	16(6)
3594(10)	$3^-, 4^+$	3,4	350	1.5			76Fl10						
3627.0(2)								100					
3698(10)	$7^{\langle - \rangle}$		89				01St14						
3742	$6^{\langle - \rangle}$		incl				01St14						
3764(10)	$6^{\langle + \rangle}$		390	2.8			01St14						
3804(10)	2^+	2	160	0.7			76Fl10						
3845(10)			18				76Fl10						
3915(10)			41				76Fl10						
3954.3(2)										37(18)			25(3)
4019.4(4)								48(26)					
4036.9(1)		3,4	340	1.6			76Fl10		63(5)	9(4)			20(3)
4037.1(1)			incl										
4043(10)	$3^-, 4^+$		incl										
4066(10)	$7^{\langle - \rangle}$	3,4	340	1.6			01St14						
4135.6(1)	2^+	2	160	0.7			76Fl10	88(4)	11.6(5)				
4137.6(9)												100	
4148.8(1)									91(3)			4.2(4)	3.9(5)
4240(10)	2^+	2	390	1.7			76Fl10						
4288(10)	$3^-, 4^+$	3,4	39	0.2			76Fl10						
4335.4(1)			30				76Fl10		26(1)			2.9(7)	58(2)
4366.1(1)								91(4)				7.0(7)	
4404.6(2)									95(7)				
4430.9(3)												18(8)	
4493(10)			26				76Fl10						
4522(10)			75				76Fl10						
4580.8(3)			76				76Fl10			22(8)		38(8)	
4646.4(2)			30				76Fl10	79(3)	21(1)				
4660(10)			40				76Fl10						

(continued)

⁹⁰Sr
₃₈

E^*	J^π	L	σ (t,p)	ε	σ (⁶ Li, ⁸ B)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
[keV]		(t,p)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : 0	832	1656	1892	2207
								J_f^π : 0 ⁺	2 ⁺	4 ⁺	2 ⁺	3 ⁻
4685.6(3)									17(12)			
4742(10)	3 ⁻ ,4 ⁺	3,4	100	0.4			76Fl10					
4749	8 ⁽⁻⁾						01St14					
4790.3(5)	3 ⁻ ,4 ⁺	3,4	93	0.4			76Fl10	44(11)	56(17)			
4804.0(5)									75(14)		25(14)	
4805.1(2)												
4808.5(2)												
4824(10)	2 ⁺	2	180	1.2			76Fl10					
4854.3(4)										42(18)		
4882	8 ⁽⁻⁾						01St14					
4919.1(2)								23(3)	77(5)			
4947.4(4)	⟨2 ⁺ ⟩	⟨2⟩	110	0.5			76Fl10		71(12)			29(16)
4974.0(2)			49					34(3)			26(5)	
5024.5(2)	9 ⁽⁻⁾						01St14		100			
5026.8(3)										78(12)		
5041.0(1)			50				76Fl10				86(3)	
5041.4(1)									29(3)			60(4)
5055	8 ⁽⁺⁾		30				01St14					
5089.5(2)									53(4)			
5095(10)	3 ⁻ ,4 ⁺	3,4	80	0.4			76Fl10					
5142(10)			54				76Fl10					
5187.5(1)	3 ⁻ ,4 ⁺	3,4	29	1.6			76Fl10	27(1)	10(1)		20(1)	2.2(5)
5239.2(5)												100
5254.3(1)								18(1)			76(4)	
5285.9(2)			87				76Fl10		73(5)			
5296	9 ⁽⁻⁾						01St14					
5333.1(2)								93(5)	7(4)			
5343(10)			120				76Fl10					
5370			120				76Fl10					
5426.6(1)			62				76Fl10				100	
5431.1(3)									49(4)		51(11)	
5557.9(3)									19(6)			
5600.3(5)	10 ⁻		200				01St14	45(8)				
5623.3(3)			incl				76Fl10					
5785.1(8)												
5822.0(5)											22(12)	
5827.9(4)									5(2)			47(19)
5923	10 ⁽⁺⁾						01St14					
5961	11 ⁽⁻⁾						01St14					
6712	12 ⁽⁻⁾						01St14					
6794	12 ⁽⁺⁾						01St14					
7371	13 ⁽⁻⁾						01St14					
7706*							00Fo13					
7756							01St14					
7960							01St14					

(continued)

⁹⁰Sr
₃₈

E^*	J^π	L	σ (t,p)	ε	σ ($^6\text{Li}, ^8\text{B}$)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(t,p)	$\mu\text{b/sr}$	(t,p)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* :	0	832	1656	1892	2207
								J_{f}^π :	0 ⁺	2 ⁺	4 ⁺	2 ⁺	3 ⁻
8772							01St14						
9061							01St14						
9200							01St14						
9857							01St14						
		76F110	76F110	76F110	82Ti01		Ref.						

Additional data on this isotope can be found in [01St14, 00Fo13].

Additional level from [00Fo13].

Data for this isotope are considered in vol. LB I/18B.

Energy levels and branching ratios [97Br34]. Part 2

⁹⁰Sr
₃₈

E^*	J^π	Branching ratios in percentage										
		E_f^* :	2497	2528	2571	2927.70	2971.12	3032.87	3039.26	3144.9	3383.39	3449.82
[keV]		J_f^π :	2,3	3 ⁻ ,4 ⁺			0 ⁺		<>0			
3383.4(1)			0.9(2)									
3449.8(1)	⟨2 ⁺ –4 ⁺ ⟩		25(1)	4(1)		5.7(4)						
3555.8(1)					15(5)							
3584.4(1)			0.5(1)		1.76(20)							
3954.3(2)			25(3)			13(2)						
4019.4(4)			52(12)									
4036.9(1)						8(4)						
4037.1(1)									94(4)	6(3)		
4135.6(1)	2 ⁺										0.92(11)	
4148.8(1)										0.4(2)	0.5(2)	
4335.4(1)			9.1(6)		1.0(5)							
4366.1(1)						0.36(14)			1.49(18)			
4404.6(2)											4.7(18)	
4430.9(3)				14(6)			20(5)		47(8)			
4580.8(3)								20(5)				
4685.6(3)											83(21)	
4805.1(2)						100						
4808.5(2)			43(17)								40(4)	
4974.0(2)			18(14)								23(3)	
5026.8(3)												22(8)
5041.4(1)			10.7(13)									
5089.5(2)			47(5)									
5187.5(1)	3 ⁻ ,4 ⁺					11.6(7)			5.1(7)		14.2(5)	
5254.3(1)											5.9(13)	
5623.3(3)											36(22)	
5785.1(8)					39(17)							61(24)
5822.0(5)							46(32)					
5827.9(4)						9(6)						

Energy levels and branching ratios [97Br34]. Part 3

⁹⁰Sr
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E^* [keV]	J^π	Branching ratios in percentage							
		$E_f^*:$ $J_f^\pi:$	3555.80 <>0	3627.01	3954.32	4037.12	4135.63 2 ⁺	4148.85	4366.06 5426.65
4335.4(1)	3 ⁻ , 4 ⁺		3.1(6)						
4366.1(1)				0.57(10)					
4580.8(3)						20(9)			
4808.5(2)								17(4)	
4854.3(4)			58(11)						
5041.0(1)			14(4)						
5187.5(1)			2.0(4)					7.3(3)	
5285.9(2)				27(4)					
5557.9(3)					81(9)				
5600.3(5)		10 ⁻		55(22)					
5623.3(3)	10 ⁻			9(4)	34(12)				21(4)
5822.0(5)							20(6)		12(6)
5827.9(4)				39(5)					

Energy levels and branching ratios [99Ba23].

⁹¹Sr
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E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.
0	5 ⁺	9.63(5) h	
93.628(4)	$\langle 3 \rangle^+$	89(2) ns	
439.159(19)	$X^{\langle + \rangle}$		
993.5(10)	$\langle 9^+ \rangle$		02St06
1042.03(3)	$X^{\langle + \rangle}$		
1230.84(5)	$X^{\langle + \rangle}$		
1367.76(7)			
1482.1(1)			
1740.27(8)			
1917.1(1)			
1942.91(8)	$\langle 1^+, 3, 5 \rangle$		
2064.66(6)	$1^{\langle + \rangle}, 3, 5$		
2077.5(15)	$\langle 11^- \rangle$		02St06
2159.1(2)			
2236.9(1)			
2657.89(6)	$1^{\langle - \rangle} - 5^{\langle - \rangle}$		
3116.3(17)	$\langle 15^- \rangle$		02St06
3304.4(17)			02St06
3364.7(1)	1, 3, 5		
3395.5(4)	$\langle 1, 3, 5 \rangle$		
3446.6(2)	$1^{\langle + \rangle}, 3, 5$		
3576.0(17)	$\langle 17^- \rangle$		02St06
3643.8(2)	$\langle 1^+, 3, 5 \rangle$		

(continued)			⁹¹ ₃₈ Sr
E^*	$2J^\pi$	$T_{1/2}$ or	Ref.
[keV]		Γ_{cm}	
3693.2(1)	$1^{\langle-}\text{--}5^{\langle-}$		
3736.80(14)	$1^{\langle+}\rangle, 3, 5$		
3776.62(17)	$1, 3, 5$		
3831.1(1)	$\langle 1, 3, 5 \rangle$		
3839.4(3)	$\langle 1^+, 3, 5 \rangle$		
3938.4(2)	$\langle 1^+, 3, 5 \rangle$		
3946.3(18)	$\langle 19^- \rangle$		02St06
4043.3(2)	$3^{\langle-}\rangle, 5^{\langle-}$		
4078.3(1)	$3^{\langle-}\rangle, 5^{\langle-}$		
4157.5(2)	$3^{\langle-}\rangle, 5^{\langle-}$		
4189.4(2)	$3^{\langle-}\rangle, 5^{\langle-}$		
4240.1(4)	$\langle 1, 3, 5 \rangle$		
4249.1(3)	$\langle 1^+, 3, 5 \rangle$		
4253.8(3)	$\langle 1^+, 3, 5 \rangle$		
4265.5(2)	$3^{\langle-}\rangle, 5^{\langle-}$		
4278.1(21)	$\langle 21^- \rangle$		02St06
4327.7(2)	$1^{\langle-}\rangle\text{--}5^{\langle-}$		
4358.4(2)	$\langle 3^-, 5^- \rangle$		
4391.0(4)	$\langle 1^+, 3, 5 \rangle$		
4453.0(3)	$\langle 1^+, 3, 5 \rangle$		
4461			02St06
4625.8(19)			02St06
4689			02St06
4793.1(3)	$\langle 1^--5^- \rangle$		
4830.6(19)			02St06
5003.3(20)			02St06
5249			02St06
5742			02St06

Additional data on this isotope can be found in [02St06, 00Fo13].

Energy levels and branching ratios [99Ba23]. Part 2												⁹¹ ₃₈ Sr
E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	0	93.6	439	993	1042	1231	1368	1482	1740.3	1917.1
[keV]		$2J_f^\pi$:	5^+	$\langle 3 \rangle^+$	$X^{\langle+}$	$\langle 9^+ \rangle$	$X^{\langle+}$	$X^{\langle+}$				
93.628(4)	$\langle 3 \rangle^+$		100									
439.159(19)	$X^{\langle+}$		20(1)	80(4)								
993.5(10)	$\langle 9^+ \rangle$		100									
1042.03(3)	$X^{\langle+}$		35(2)	19(1)	46(2)							
1230.84(5)	$X^{\langle+}$		7.1(7)	93(5)								
1367.76(7)			75(5)	25(3)								

(continued)

⁹¹₃₈Sr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E^*_f : $2J^\pi_f$:	0 5 ⁺	93.6 ⟨3⟩ ⁺	439 X ^{⟨+⟩}	993 ⟨9 ⁺ ⟩	1042 X ^{⟨+⟩}	1231 X ^{⟨+⟩}	1368	1482	1740.3	1917.1
1482.1(1)			87(6)	13(2)								
1740.27(8)			77(5)	14(2)				9(2)				
1917.1(1)			62(5)	29(5)			9(1)					
1942.91(8)	⟨1 ⁺ ,3,5⟩		11(1)	89(4)								
2064.66(6)	1 ^{⟨+⟩} ,3,5		9.1(7)	78(4)	8.3(5)		5.1(5)					
2077.5(15)	⟨11 [−] ⟩					100						
2159.1(2)					100							
2236.9(1)			16(4)	74(6)				10(3)				
2657.89(6)	1 ^{⟨−⟩} −5 ^{⟨−⟩}			75(4)	1.6(3)		15(1)				1.11(18)	
3364.7(1)	1,3,5			14(2)	48(3)		14(1)				15.6(10)	
3395.5(4)	⟨1,3,5⟩		70(13)	30(12)								
3446.6(2)	1 ^{⟨+⟩} ,3,5		72(5)	10(4)	13(2)							
3643.8(2)	⟨1 ⁺ ,3,5⟩		87(9)							13(4)		
3693.2(1)	1 ^{⟨−⟩} −5 ^{⟨−⟩}			90(5)							0.6(3)	
3736.80(14)	1 ^{⟨+⟩} ,3,5		27(7)					67(4)		5.9(14)		
3776.62(17)	1,3,5			8(4)	22(6)						36(5)	15(3)
3839.4(3)	⟨1 ⁺ ,3,5⟩		75(8)	25(6)								
3938.4(2)	⟨1 ⁺ ,3,5⟩		14(3)	78(6)								
4043.3(2)	3 ^{⟨−⟩} ,5 ^{⟨−⟩}		42(3)	37(3)	21(10)							
4078.3(1)	3 ^{⟨−⟩} ,5 ^{⟨−⟩}		60(3)	6.2(7)	18(2)			10(1)				
4157.5(2)	3 ^{⟨−⟩} ,5 ^{⟨−⟩}		57(4)	3(2)					40(4)			
4189.4(2)	3 ^{⟨−⟩} ,5 ^{⟨−⟩}		19(2)	19(3)			52(5)	10(3)				
4240.1(4)	⟨1,3,5⟩				44(10)				56(17)			
4249.1(3)	⟨1 ⁺ ,3,5⟩		100									
4253.8(3)	⟨1 ⁺ ,3,5⟩		100									
4265.5(2)	3 ^{⟨−⟩} ,5 ^{⟨−⟩}		64(4)	12(1)					9(2)	15(3)		
4327.7(2)	1 ^{⟨−⟩} −5 ^{⟨−⟩}			27(3)	35(5)		20(6)					
4358.4(2)	⟨3 [−] ,5 [−] ⟩		9(3)						32(8)			
4391.0(4)	⟨1 ⁺ ,3,5⟩		17(5)	36(5)								
4453.0(3)	⟨1 ⁺ ,3,5⟩		41(5)				23(15)					
4793.1(3)	⟨1 [−] −5 [−] ⟩			9(5)								

Energy levels and branching ratios [99Ba23]. Part 3

⁹¹₃₈Sr

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]	$E_f^*:$ $2J_f^\pi:$	1942.9	2064.7	2077.5 (13 ⁺)	2159.1	2236.9	2657.9	3116.3 (15 ⁻)	3304.4	3364.7 1,3,5
2657.89(6)	$1^{\langle - \rangle} - 5^{\langle - \rangle}$		7.7(4)							
3116.3(17)	$\langle 15^- \rangle$			100						
3304.4(17)				100						
3364.7(1)	1,3,5		5.1(8)		3.6(8)					
3446.6(2)	$1^{\langle + \rangle}, 3, 5$	4.4(17)								

(continued)

⁹¹Sr
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E^*	$2J^\pi$	Branching ratios in percentage									
[keV]		E_f^* : $2J_f^\pi$:	1942.9	2064.7	2077.5 (13^+)	2159.1	2236.9	2657.9	3116.3 (15^-)	3304.4	3364.7 1,3,5
3576.0(17)	$\langle 17^- \rangle$								71(9)	29(6)	
3693.2(1)	$1^{(-)}-5^{(-)}$			7.9(5)				1.2(5)			
3776.62(17)	1,3,5			20(4)							
3831.1(1)	$\langle 1,3,5 \rangle$			24(6)			61(5)	15(4)			
3938.4(2)	$\langle 1^+,3,5 \rangle$			9(4)							
3946.3(18)	$\langle 19^- \rangle$								43(8)		
4078.3(1)	$3^{(-)},5^{(-)}$			3.9(6)			1.9(7)				
4327.7(2)	$1^{(-)}-5^{(-)}$			19(4)							
4358.4(2)	$\langle 3^-,5^- \rangle$										48(4)
4391.0(4)	$\langle 1^+,3,5 \rangle$		47(15)								
4453.0(3)	$\langle 1^+,3,5 \rangle$							36(11)			
4625.8(19)									100		
4830.6(19)									100		

Energy levels and branching ratios [99Ba23]. Part 4

⁹¹Sr
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E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		$E_f^*:$ $2J_f^\pi:$	3446.6	3576.0	3643.8	3946.3	4043.3	4625.8	4830.6	
3946.3(18)	$\langle 19^- \rangle$			57(8)						
4278.1(21)	$\langle 21^- \rangle$					100				
4358.4(2)	$\langle 3^-, 5^- \rangle$		11(4)							
4793.1(3)	$\langle 1^- - 5^- \rangle$				35(14)		57(10)			
5003.3(20)								[100]		

Energy levels and branching ratios [00Bb11].

⁹²Sr
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E^* [keV]	J^π	σ (⁶ Li, ⁸ B) $\mu\text{b/sr}$	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	0^+	7.3(11)	2.66(4) h	82Ti01
814.98(3)	2^+	2.3(5)	8(3) ps	02St06
1384.79(9)	2^+		5.1(24) ps	
1673.3(4)	$\langle 4^+ \rangle$			02St06
1778.33(12)	$2^{\langle + \rangle}$		≤ 5 ps	
2053.9(6)	$\langle 2^+ \rangle$			
2088.39(17)	$0^{\langle + \rangle}$			
2140.82(14)	1^+		7.1(25) ps	
2185.0(4)	$\langle 3^- \rangle$			02St06

(continued)

⁹²₃₈Sr

E^*	J^π	σ (⁶ Li, ⁸ B)	$T_{1/2}$ or	Ref.
[keV]		$\mu\text{b/sr}$	Γ_{cm}	
2527.18(18)	0 ⁺		6(4) ps	
2765.7(5)	$\langle 5^- \rangle$			02St06
2783.6(4)				
2820.89(18)	2 ⁽⁺⁾ , $\langle 1 \rangle$			
2849.6(6)				
2924.8(7)				02St06
3014.6(6)	$\langle 4^+ \rangle$			02St06
3128.8(7)				02St06
3362.4(5)	$\langle 5^- \rangle$			02St06
3558.5(7)	$\langle 7^- \rangle$			02St06
3786.0(7)				02St06
4021.4(9)	$\langle 7^- \rangle$			02St06
4579*				00Fo13
4637.8(5)	1 ⁻			
4928.5(9)				02St06
5053.8(4)	1 ⁻			
5056.7(10)				02St06
5727.2(10)				02St06
5738.4(9)	1 ⁻			
5893.6(7)	1 ⁻			
5901.1(10)	1 ⁻			
6003.5(7)	1 ⁻			
6030.0(8)	1 ⁻			
6116.1(10)	1 ⁻			
6527.7(12)				
6949.1(7)	0 ⁻ , 1 ⁻			
7363.0(8)	1 ⁻			
		82Ti01		Ref.

Additional data on this isotope can be found in [00Fo13].

* Additional level from [00Fo13].

Energy levels and branching ratios [00Bb11]. Part 2

⁹²₃₈Sr

E^*	J^π	Branching ratios in percentage										
		E_f^* :	0.0	815.0	1384.8	1673.3	1778.3	2140.8	2185.0	2527.2	2765.7	2783.6
[keV]		J_f^π :	0 ⁺	2 ⁺	2 ⁺	$\langle 4^+ \rangle$	2 ⁽⁺⁾	1 ⁺	$\langle 3^- \rangle$	0 ⁺	$\langle 5^- \rangle$	
814.98(3)	2 ⁺		100									
1384.79(9)	2 ⁺		39(7)	61(4)								
1673.3(4)	$\langle 4^+ \rangle$			100								
1778.33(12)	2 ⁽⁺⁾		12(6)	48(4)	40(2)							
2053.9(6)	$\langle 2^+ \rangle$			100								
2088.39(17)	0 ⁽⁺⁾			68(9)	32(7)							

(continued)

⁹²₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage										
		$E_f^*:$ $J_f^\pi:$	0.0 0 ⁺	815.0 2 ⁺	1384.8 2 ⁺	1673.3 4 ⁺	1778.3 2 ⁺	2140.8 1 ⁺	2185.0 3 ⁻	2527.2 0 ⁺	2765.7 5 ⁻	2783.6
2140.82(14)	1 ⁺			55(7)	45(4)							
2185.0(4)	3 ⁻			x		x						
2527.18(18)	0 ⁺			95(8)				5.5(9)				
2765.7(5)	5 ⁻					63(1)			37(1)			
2783.6(4)				57(16)	43(14)							
2820.89(18)	2 ⁺ , 1 ⁺		89(6)	11(3)								
2849.6(6)					75(25)		25					
2924.8(7)						100						
3014.6(6)	4 ⁺					100						
3128.8(7)						100						
3362.4(5)	5 ⁻					27(2)			73(2)			
3558.5(7)	7 ⁻										100	
3786.0(7)											81(2)	
4637.8(5)	1 ⁻		65(8)	10(6)			8(8)					
5053.8(4)	1 ⁻			15(9)	19(9)			32(9)				
5738.4(9)	1 ⁻		39(15)	61(11)								
5893.6(7)	1 ⁻				39(10)							61(18)
5901.1(10)	1 ⁻		52(15)	48(22)								
6003.5(7)	1 ⁻		19(6)	81(14)								
6030.0(8)	1 ⁻		35(10)	49(17)						16(10)		
6116.1(10)	1 ⁻		50(16)	50(16)								
6949.1(7)	0 ⁻ , 1 ⁻							65(33)				
7363.0(8)	1 ⁻					62(12)				38(10)		

Energy levels and branching ratios [00Bb11]. Part 3

⁹²₃₈Sr

E^* [keV]	J^π	Branching ratios in percentage									
		$E_f^*:$ $J_f^\pi:$	2820.9	3014.6 4 ⁺	3128.8	3362.4 5 ⁻	3786.0	4021.4 7 ⁻	4928.5	5053.8 1 ⁻	5727.2
3786.0(7)				≥19							
4021.4(9)	7 ⁻					63(3)	37.3(14)				
4637.8(5)	1 ⁻		17(4)								
4928.5(9)					24(2)		76(3)				
5053.8(4)	1 ⁻		35(9)								
5056.7(10)								100			
5727.2(10)									100		
6527.7(12)											100
6949.1(7)	0 ⁻ , 1 ⁻									35(10)	

Energy levels and branching ratios [97Ba13].

⁹³Sr
₃₈

E^*	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.
[keV]			
0	5^+	7.423(24) m	
213.431(11)	X^+	4.6(3) ns	
432.604(24)	X^+	<0.3 ns	
986.12(5)	9^+		03Hw01
1142.55(4)			
1148.20(6)			
1238.24(7)	$\langle 7^+ \rangle$		03Hw01
1385.30(6)			
1529.32(10)			
1562.95(9)			
1594.5(4)*			
1599.8(5)*			
1779.79(7)	11^-		03Hw01
1808.48(7)			
1869.64(7)			
1910.86(9)			
2045.57(9)			
2054.02(9)			
2072.2	$\langle 11^+ \rangle$		03Hw01
2117.45(11)			
2141.07(11)			
2168.6	13^+		03Hw01
2224.70(9)*			
2506.6(9)*			
2273.00(12)			
2292.88(7)			
2319.10(8)			
2351.51(11)			
2456.44(19)			
2459.73(13)			
2506.6(9)*			
2553.80(10)			
2621.39(14)			
2737.44(17)			
2770.69(13)			
2773.98(25)			
2782.20(11)			
2869.06(11)			
2886.45(9)			
2979.90(10)			
3018.73(15)*			
3100.2	15^-		03Hw01
3198.13(15)			
3212.2(3)*			
3233.01(14)			

(continued)

⁹³Sr
₃₈

E^*	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.
[keV]			
3256.40(12)			
3283.2	17 ⁺		03Hw01
3404.40(21)			
3459.6(3)*			
3481.5			03Hw01
3509.8(5)*			
3603.17(11)			
3623.68(16)			
3789.19(14)	3,5,7		
3803.73(9)	3 ⁻ -7 ⁻		
3847.62(8)	3 ⁻ -7 ⁻		
3866.86(12)	3,5,7		
3867.40(8)	3 ⁻ -7 ⁻		03Hw01
3876.72(10)	3,5,7		
3880.9	21 ⁺		03Hw01
3890.64(10)	3 ⁻ -7 ⁻		
3934.66(12)	3,5,7		
3954.93(8)	3,5,7		
4017.60(15)	3,5,7		
4037.88(10)	3,5,7		03Hw01
4041.9(3)			
4089.64(20)*			
4097.43(12)	3,5,7		
4156.4			03Hw01
4300.86(13)*			
4336.11(24)	3,5,7		
4461.12(15)	3,5,7		
4470.9			03Hw01
4509.26(12)	3,5,7		
4577.6(3)	3,5,7		
4596.8	(19 ⁺)		03Hw01
4620.20(16)	3,5,7		
4714.64(13)	3,5,7		
4790.37(25)	3,5,7		
4797.0	25 ⁺		03Hw01
4913.08(13)	3 ⁻ -7 ⁻		
4991.28(14)	3,5,7		
5012.23(14)	3,5,7		
5269.0(3)*			
5333.9			03Hw01
5348.6(4)*			
5384.61(13)	3 ⁻ -7 ⁻		
5395.5(4)	3 ⁽⁻⁾ -7 ⁽⁻⁾		
5413.6(3)	3 ⁽⁻⁾ -7 ⁽⁻⁾		
5601.3(9)			

(continued)

⁹³Sr
₃₈

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.
[keV]		Γ_{cm}	
5631.38(22)			
5775.5(4)			
6000.50(16)			
6096.7(3)			
6260.72(21)			
6272.69(21)			
6277.40(22)			
6707.42(22)			
			Ref.

Additional data on this isotope can be found in [03Hw01, 74Ac04].

* These 12 levels introduced in [74Ac04] are absent in the Adopted Levels Scheme [97Ba13].

Energy levels and branching ratios [97Ba13]. Part 2

⁹³Sr
₃₈

E^*	$2J^\pi$	Branching ratios in percentage										
		E_f^* :	0	213	433	986	1142	1148.2	1238.2	1385.3	1562.9	1779.8
[keV]		$2J_f^\pi$:	5 ⁺	X ⁺	X ⁺							
213.431(11)	X ⁺		100									
432.604(24)	X ⁺		86.4(4)	13.6(8)								
986.12(5)	9 ⁺		100									
1142.55(4)			5.2(4)	6.9(5)	88(6)							
1148.20(6)			83(5)	17(1)								
1238.24(7)	⟨7 ⁺ ⟩		100									
1385.30(6)			100									
1529.32(10)					100							
1562.95(9)			88(6)	12(2)								
1779.79(7)	11 ⁻			6(3)		94(5)						
1808.48(7)			94(5)			5.7(10)						
1869.64(7)			82(5)		18(2)							
1910.86(9)			91(5)				9(2)					
2045.57(9)					96(6)	3.7(7)						
2054.02(9)			95(5)					5(1)				
2117.45(11)					100							
2141.07(11)				100								
2273.00(12)						30(10)	52(6)		18(6)			
2292.88(7)			46(3)			10(1)	40(4)		5(1)			
2319.10(8)					12(2)	88(9)						
2351.51(11)					25(5)	75(5)						
2456.44(19)					52(11)							
2459.73(13)					81(11)	19(7)						
2553.80(10)								21(2)	79(6)			
2621.39(14)						86(7)	14(3)					

(continued)

⁹³Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	0 5 ⁺	213 X ⁺	433 X ⁺	986	1142	1148.2	1238.2	1385.3	1562.9	1779.8
2737.44(17)				100								
2770.69(13)				36(6)								33(6)
2773.98(25)										100		
2782.20(11)				37(3)	58(5)					5(2)		
2869.06(11)			60(5)				11(2)					
2886.45(9)			42(4)					13(9)		44(3)		
2979.90(10)				41(3)						59(4)		
3198.13(15)										100		
3233.01(14)												26(10)
3256.40(12)						100						
3404.40(21)						68(7)		14(10)			17(5)	
3603.17(11)				8(3)				64(7)				
3789.19(14)	3,5,7		22(3)				25(8)			9(2)		
3803.73(9)	3 ⁻ -7 ⁻		45(3)		32(2)		8.9(9)					
3847.62(8)	3 ⁻ -7 ⁻					31(2)	29(2)			15(1)		
3866.86(12)	3,5,7					27(2)	40(6)					
3867.40(8)	3 ⁻ -7 ⁻		57(3)									3.9(5)
3876.72(10)	3,5,7		12(1)			23(2)	3(1)		16(2)	22(2)		
3890.64(10)	3 ⁻ -7 ⁻		4.0(4)		71(4)					15.6(10)	2.2(4)	
3934.66(12)	3,5,7		51(3)	7.8(13)	28(5)							
3954.93(8)	3,5,7		2(1)				6(1)					
4017.60(15)	3,5,7		45(3)		12(2)		11(3)					
4037.88(10)	3,5,7								8(2)			
4041.9(3)												70(10)
4097.43(12)	3,5,7			25(2)	31(2)		25(3)					
4336.11(24)	3,5,7										38(6)	
4461.12(15)	3,5,7		11(1)									
4509.26(12)	3,5,7						45(6)					
4620.20(16)	3,5,7						25(2)					
4714.64(13)	3,5,7				24(2)		41(4)					
4790.37(25)	3,5,7							27(6)				
4913.08(13)	3 ⁻ -7 ⁻						16(2)					8(2)
4991.28(14)	3,5,7					15(4)	20(4)					21(4)
5384.61(13)	3 ⁻ -7 ⁻						9(1)				11(2)	
5395.5(4)	3 ⁽⁻⁾ -7 ⁽⁻⁾		11(2)						35(7)	20(7)		
5413.6(3)	3 ⁽⁻⁾ -7 ⁽⁻⁾						60(4)					
5631.38(22)						9(3)						
5775.5(4)								35(5)				
6000.50(16)										5(2)		
6096.7(3)							13(3)	24(4)				
6260.72(21)										33(3)		11(2)

Energy levels and branching ratios [97Ba13]. Part 3

⁹³Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	1808.5	1869.6	1910.9	2045.6	2054.0	2117.4	2141.1	2273.0	2292.9	2319.1
2456.44(19)											48(11)	
2770.69(13)				32(4)								
2869.06(11)										30(4)		
3233.01(14)								48(7)				
3603.17(11)												20(5)
3623.68(16)				24(5)		40(6)						
3789.19(14)	3,5,7					16(5)						27(3)
3803.73(9)	3 ⁻ -7 ⁻			7(1)	5.0(6)					1.8(5)		
3847.62(8)	3 ⁻ -7 ⁻			23(2)								
3866.86(12)	3,5,7											20(2)
3867.40(8)	3 ⁻ -7 ⁻		7.8(6)	1.3(4)	3.9(5)	12.7(9)		5.6(5)			2.7(3)	
3876.72(10)	3,5,7		8(1)			12(1)			6(3)			
3890.64(10)	3 ⁻ -7 ⁻						6(4)					
3934.66(12)	3,5,7								13.9(13)			
3954.93(8)	3,5,7						24(2)				19(2)	
4017.60(15)	3,5,7			32(4)								
4037.88(10)	3,5,7		51(3)	24(2)		9.0(12)	4(2)					
4461.12(15)	3,5,7		44(4)		38(4)							
4577.6(3)	3,5,7											52(10)
4913.08(13)	3 ⁻ -7 ⁻		10(2)								8(2)	
5012.23(14)	3,5,7						37(10)					
5413.6(3)	3 ⁽⁻⁾ -7 ⁽⁻⁾			28(10)				12(5)				
5601.3(9)							100					
5631.38(22)											27(5)	
6260.72(21)												21(4)
6707.42(22)			11(2)									27(3)

Energy levels and branching ratios [97Ba13]. Part 4

⁹³Sr
₃₈

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2351.5	2456.4	2459.7	2553.8	2621.4	2737.4	2770.7	2774.0	2782.2	2869.1
3233.01(14)				27(9)								
3623.68(16)				12(3)	24(4)							
3867.40(8)	3 ⁻ -7 ⁻		2.1(4)									
3890.64(10)	3 ⁻ -7 ⁻								1.4(4)			
3954.93(8)	3,5,7				12(1)							
4037.88(10)	3,5,7					4.7(7)						
4041.9(3)			30(10)									
4097.43(12)	3,5,7		7(2)					11(1)				
4577.6(3)	3,5,7									48(7)		
4620.20(16)	3,5,7							10(2)			44(16)	

(continued)

⁹³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2351.5	2456.4	2459.7	2553.8	2621.4	2737.4	2770.7	2774.0	2782.2	2869.1
4790.37(25)	3,5,7			18(4)			15(15)					
4913.08(13)	3^-7^-					30(2)						28(2)
5384.61(13)	3^-7^-								15(2)		39(4)	
5395.5(4)	$3^{(-)}7^{(-)}$								34(7)			
5631.38(22)					39(5)							
6000.50(16)										31(3)		
6260.72(21)						14(3)				13(3)		
6272.69(21)												85(5)
6707.42(22)				11(3)								

Energy levels and branching ratios [97Ba13]. Part 5

⁹³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		$E_f^*:$ $2J_f^\pi:$	2886.4	2979.9	3198.1	3233.0	3256.4	3603.2	3623.7	3789.2 3,5,7	3803.7	3847.6
3603.17(11)					7.2(12)							
3847.62(8)	3^-7^-			2.1(3)								
3866.86(12)	3,5,7						13(2)					
3867.40(8)	3^-7^-	2.9(6)										
3954.93(8)	3,5,7	32(3)				2.6(3)		3.4(3)				
4097.43(12)	3,5,7								1.6(7)			
4336.11(24)	3,5,7				62(10)							
4461.12(15)	3,5,7						7(3)					
4509.26(12)	3,5,7											55(10)
4620.20(16)	3,5,7									6(1)		
4714.64(13)	3,5,7										20(2)	
4790.37(25)	3,5,7						40(6)					
4991.28(14)	3,5,7									9(4)		
5012.23(14)	3,5,7									16(4)	36(4)	
5631.38(22)						25(4)						
6000.50(16)		38(3)							14(2)			
6260.72(21)						9(4)						
6277.40(22)								32(6)				
6707.42(22)											51(6)	

Energy levels and branching ratios [97Ba13]. Part 6

⁹³Sr
38

E^* [keV]	$2J^\pi$	Branching ratios in percentage							
		$E_f^*:$ $2J_f^\pi:$	3867.4	3876.7 3,5,7	3890.6	3934.7 3,5,7	4017.6 3,5,7	4336.1 3,5,7	4509.3 3,5,7
4620.20(16)	3,5,7						16(3)		
4714.64(13)	3,5,7								15(8)
4991.28(14)	3,5,7				34(3)				
5012.23(14)	3,5,7					10(1)			
5384.61(13)	3 ⁻ -7 ⁻			27(2)					
5775.5(4)			34(11)					31(10)	
6000.50(16)									13(2)
6096.7(3)					63(9)				
6272.69(21)									15.5(19)
6277.40(22)					68(7)				

Energy levels and branching ratios [92Tu02, 06Ab37].

⁹⁴Sr
38

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}	Ref.
0	0 ⁺	75.3(2) s	
836.9(1)**	2 ⁺	7(3) ps	03Hw01
1682*	(0 ⁺)		92Tu02
1926.28(14)	(3 ⁻)	≤4.9 ps	03Hw01
2055*	(0 ⁺)		92Tu02
2146.0(1)**	4 ⁺	≤4.2 ps	03Hw01
2271.22(16)	(2 ⁺)		06Ab37
2414.11(18)	(3 ⁻)	4(1) ps	
2603.94(14)	(2,3,4)	≤7.6 ps	
2614.1(4)	(2,3,4)		
2649.78(15)	(2,3,4)	≤4.2 ps	
2703.94(16)	(2,3,4)		
2710.6(4)	(2,3,4)		
2733,4			
2739.19(16)	(2,3,4)	≤5.5 ps	
2788,1			
2851.27(17)	(2,3,4)		
2856.89(15)	(4 ⁺)	25(11) ps	
2921.8(4)	(2 ⁺)		
2929.81(16)	(2,3,4)		
2965.0(5)	(2,3,4)		
2972.07(16)	(2,3,4)	≤6.2 ps	
2981.1(5)	(2,3,4)		
3047.38(19)	(2,3,4)		
3077.70(15)	2 ⁺		
3155.3**	(6 ⁺)		03Hw01

(continued)

⁹⁴₃₈Sr

E^*	J^π	$T_{1/2}$ or	Ref.
[keV]		Γ_{cm}	
3262.34(21)	$\langle 2,3,4 \rangle$		
3310.73(21)	$\langle 2,3,4 \rangle$		
3338.42(17)	$\langle 2,3,4 \rangle$		
3340.9(3)	$\langle 2,3,4 \rangle$		
3438.61(24)	$\langle 2,3,4 \rangle$	≤ 9.7 ps	
3485.41(24)	$\langle 2,3,4 \rangle$		
3580.35(25)	$\langle 2,3,4 \rangle$		
3724.7(3)	$\langle 2,3,4 \rangle$		
3753.3	$\langle 8^+ \rangle$		03Hw01
3768.9(7)	$\langle 2,3,4 \rangle$		
3815.7(8)	$\langle 2,3,4 \rangle$		
3922.8**	$\langle 8^+ \rangle$		
3948.63(19)	$\langle 2,3,4 \rangle$	≤ 4.2 ps	
3953.3(10)	$\langle 2,3,4 \rangle$		
3968.9(10)	$\langle 2,3,4 \rangle$		
3982.5(10)	$\langle 2,3,4 \rangle$		
4024.2(10)	$\langle 2,3,4 \rangle$		
4066.4(10)	$\langle 2,3,4 \rangle$		
4087.1(10)	$\langle 2,3,4 \rangle$		
4117.4(5)	$\langle 2,3,4 \rangle$		
4142.5(10)	$\langle 2,3,4 \rangle$		
4168.2(4)	$\langle 2,3,4 \rangle$		
4198.49(23)	$\langle 2,3,4 \rangle$		
4211.0(10)	$\langle 2,3,4 \rangle$		
4268.4(10)	$\langle 2,3,4 \rangle$		
4281.65(23)	$\langle 2,3,4 \rangle$		
4308.4(10)	$\langle 2,3,4 \rangle$		
4361.0(5)	$\langle 2,3,4 \rangle$		
4366.8(10)	$\langle 2,3,4 \rangle$		
4382.8**	$\langle 10^+ \rangle$		
4481.1(7)	$\langle 2,3,4 \rangle$		
4631	$\langle 10^+ \rangle$		03Hw01
4653.5(6)			
4673.7(4)	$\langle 2,3,4 \rangle$		
4838.4(3)	$\langle 2,3,4 \rangle$		
4857.4**	$\langle 12^+ \rangle$		
5213.0(10)	$\langle 2,3,4 \rangle$		
5223.2(10)	$\langle 2,3,4 \rangle$		
5267.3(10)	$\langle 2,3,4 \rangle$		
5289.1(4)	$\langle 2,3,4 \rangle$		
5312.9(10)	$\langle 2,3,4 \rangle$		
5402.4(8)	$\langle 2,3,4 \rangle$		
5735.4(10)	$\langle 2,3,4 \rangle$		
5639.7**	$\langle 14^+ \rangle$		
5828.2(9)	$\langle 2,3,4 \rangle$		

(continued)

⁹⁴₃₈Sr

E^*	J^π	$T_{1/2}$ or	Ref.
[keV]		Γ_{cm}	
5831.1(5)	$\langle 2,3,4 \rangle$		
6063.7(10)	$\langle 2,3,4 \rangle$		
			Ref.

* not included in [06Ab37].

** Ground-state band.

Levels with $J^\pi=(2,3,4)$ were given in [06Ab37] from $\log ft=6.7-8.1$ in β^- decay of $3(-)$ parent.

Energy levels and branching ratios [92Tu02, 06Ab37]. Part 2

⁹⁴₃₈Sr

E^*	J^π	Branching ratios in percentage										
		E_f^* : 0	837	1926	2146	2271	2414	2604	2650	2703.9	2739.2	2972.1
[keV]		J_f^π : 0^+	$\langle 2^+ \rangle$	$\langle 3^- \rangle$		$\langle 1^+, 2^+ \rangle$	$\langle 3^- \rangle$	$\langle 2, 4 \rangle$	$\langle 2^+, 3^+ \rangle$	$\langle 2, 3, 4 \rangle$	$\langle 2, 3, 4 \rangle$	
836.9(1)**	2^+	100										
1682*	$\langle 0^+ \rangle$		100									
1926.28(14)	$\langle 3^- \rangle$		100									
2055*	$\langle 0^+ \rangle$		100									
2146.0(1)**	4^+		100									
2271.22(16)	$\langle 2^+ \rangle$	83(11)	17(2)									
2414.11(18)	$\langle 3^- \rangle$		100									
2603.94(14)	$\langle 2, 3, 4 \rangle$		3.0(4)	84(4)	12.8(8)							
2614.1(4)	$\langle 2, 3, 4 \rangle$		100									
2649.78(15)	$\langle 2, 3, 4 \rangle$		43(5)	12(2)	45(2)							
2703.94(16)	$\langle 2, 3, 4 \rangle$		95(9)		5.5(6)							
2710.6(4)	$\langle 2, 3, 4 \rangle$		100									
2739.19(16)	$\langle 2, 3, 4 \rangle$		8(1)	92(6)								
2851.27(17)	$\langle 2, 3, 4 \rangle$		62(7)	38(3)								
2856.89(15)	$\langle 4^+ \rangle$				42(7)			44(3)	14(1)			
2921.8(4)	$\langle 2^+ \rangle$	19(2)	81(8)									
2929.81(16)	$\langle 2, 3, 4 \rangle$		79(7)		21(2)							
2965.0(5)	$\langle 2, 3, 4 \rangle$		100									
2972.07(16)	$\langle 2, 3, 4 \rangle$			44(4)	56(7)							
2981.1(5)	$\langle 2, 3, 4 \rangle$		100									
3047.38(19)	$\langle 2, 3, 4 \rangle$		84(8)	9(1)			7(1)					
3077.70(15)	2^+	19(2)	47(4)	23(1)	10(4)							
3262.34(21)	$\langle 2, 3, 4 \rangle$		66(7)	20(2)				14(2)				
3310.73(21)	$\langle 2, 3, 4 \rangle$		15(2)	60(4)					25(2)			
3338.42(17)	$\langle 2, 3, 4 \rangle$		65(7)					35(5)				
3340.9(3)	$\langle 2, 3, 4 \rangle$										100	
3438.61(24)	$\langle 2, 3, 4 \rangle$				100							
3485.41(24)	$\langle 2, 3, 4 \rangle$				100							
3580.35(25)	$\langle 2, 3, 4 \rangle$							100				
3724.7(3)	$\langle 2, 3, 4 \rangle$					100						

(continued)

⁹⁴Sr
₃₈

E^*	J^π	Branching ratios in percentage											
[keV]		E_f^* : J_f^π :	0 0 ⁺	837 ⟨2 ⁺ ⟩	1926 ⟨3 ⁻ ⟩	2146	2271 ⟨1 ⁺ ,2 ⁺ ⟩	2414 ⟨3 ⁻ ⟩	2604 ⟨2,4⟩	2650 ⟨2 ⁺ ,3 ⁺ ⟩	2703.9 ⟨2,3,4⟩	2739.2 ⟨2,3,4⟩	2972.1
3768.9(7)	⟨2,3,4⟩			100									
3815.7(8)	⟨2,3,4⟩			100									
3948.63(19)	⟨2,3,4⟩				53(6)			27(2)	8		12(1)		
3953.3(10)	⟨2,3,4⟩			100									
3968.9(10)	⟨2,3,4⟩			100									
3982.5(10)	⟨2,3,4⟩			100									
4024.2(10)	⟨2,3,4⟩			100									
4066.4(10)	⟨2,3,4⟩			100									
4087.1(10)	⟨2,3,4⟩			100									
4117.4(5)	⟨2,3,4⟩							100					
4142.5(10)	⟨2,3,4⟩			100									
4168.2(4)	⟨2,3,4⟩				29(6)			71(18)					
4198.49(23)	⟨2,3,4⟩			11(1)	72(14)				17(1)				
4211.0(10)	⟨2,3,4⟩			100									
4268.4(10)	⟨2,3,4⟩			100									
4281.65(23)	⟨2,3,4⟩				38(4)					62(6)			
4308.4(10)	⟨2,3,4⟩			100									
4361.0(5)	⟨2,3,4⟩								100				
4366.8(10)	⟨2,3,4⟩			100									
4481.1(7)	⟨2,3,4⟩				100								
4653.5(6)						100							
4673.7(4)	⟨2,3,4⟩			87(9)								13(3)	
4838.4(3)	⟨2,3,4⟩					41(4)				31(3)		28(3)	
5213.0(10)	⟨2,3,4⟩				100								
5223.2(10)	⟨2,3,4⟩				100								
5267.3(10)	⟨2,3,4⟩				100								
5289.1(4)	⟨2,3,4⟩								45(4)				55(6)
5312.9(10)	⟨2,3,4⟩				100								
5402.4(8)	⟨2,3,4⟩								100				
5735.4(10)	⟨2,3,4⟩				100								
5828.2(9)	⟨2,3,4⟩					53(7)			47(23)				
5831.1(5)	⟨2,3,4⟩			100									
6063.7(10)	⟨2,3,4⟩					100							