

Energy levels and branching ratios [84Si14, 95Si03].

⁷⁶Kr
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E^*	J^π	L	σ (p,t)	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	(p,t)	Γ_{cm}		$E^*_\text{f}:$ $J^\pi_\text{f}:$	0.0 0 ⁺	424 2 ⁺	770 0 ⁺	1035 4 ⁺	1222 2 ⁺
0.0	0 ⁺	0	340	24	14.8(1) h	81Ma30						
423.96(7)	2 ⁺	2	80	16	24.9(7) ps	81Ma30		100				
769.87(10)	0 ⁺	0	3.6	0.23		81Ma30			100			
1034.62(10)	4 ⁺	$\langle 4 \rangle$	2.6	0.86	3.3(3) ps	81Ma30			100			
1221.65(7)	2 ⁺	2	11	2.1	≈ 1 ps	81Ma30		44(3)	56(2)			
1598.0(10)	$\langle \leq 4 \rangle$								92(3)			8(2)
1687.28(9)	2 ⁺	2	10	1.9		81Ma30		22(2)	14(1)	57(7)	3(1)	3(1)
1733.29(12)	$\langle 3^+ \rangle$				≈ 1 ps				100			
1859.0(6)	6 ⁺				0.83(7) ps						100	
1957.3(3)	4 ⁺				0.90(30) ps				15		54	30
2091.44(12)	$\langle 1,2^+ \rangle$	2–4	9.0	1.7		81Ma30			31(8)	58(4)		
2104.31(15)	$\langle 1,2^+ \rangle$							18(2)	77(4)	5(2)		
2140.5(2)*												
2192.4(2)*												
2227.17(10)	$\langle 2^- \rangle$								84(6)			16(2)
2257.41(10)	3 [−]	3	34	0.78		81Ma30			87(8)			13(3)
2332.6(2)*												
2452.1(5)	$\langle 5^+ \rangle$				0.76(30) ps						50	
2570.95(8)	$\langle 1,2^+ \rangle$							84	0.8(1)			1.6(1)
2581.0(11)*	2 ⁺											
2601(15)		$\langle 3,4 \rangle$	13	0.30		81Ma30						
2622.2(5)	$\langle 4^- \rangle$										x	
2682.6(7)	$\langle 5^- \rangle$										100	
2700.4(3)*	2 ⁺	2	14	2.6		81Ma30						
2742.3(2)*	1 ⁺ –3 ⁺											
2763.0(6)	$\langle 6^+ \rangle$											
2774.87(12)	0 ⁺ ,1,2								72(10)			28(1)
2816.7(3)	$\langle 1,2^+ \rangle$							63(8)	37(5)			
2872(15)	3 [−]	3	31	0.75		81Ma30						
2878.7(6)	8 ⁺				0.22(2) ps							
2926.54(12)	$\langle 0,1,2 \rangle$											
2970.0(3)*												
3024.18(12)	$\langle 1^-,2 \rangle$								43(5)			
3175.4(7)	$\langle 6^- \rangle$											
3242.2(3)*	1,2 ⁺											
3275.9(2)*	1 ⁺ ,2											
3287.5(7)	$\langle 7^- \rangle$				0.26(4) ps							
3332.0(7)	$\langle 7^+ \rangle$				0.71(21) ps							
3421.5(5)*	0–2											
3455.9(5)*	1,2											
3571.0(9)	$\langle 8^+ \rangle$											
3602.6(1)*	1 [−]											
3636.2(3)*	1,2											
3672.2(2)*	0–2											
3796(15)												

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E^*	J^π	L	σ (p,t)	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(p,t)	$\mu\text{b/sr}$	(p,t)	Γ_{cm}		E_f^* :	0.0	424	770	1035	1222
							J_f^π :	0 ⁺	2 ⁺	0 ⁺	4 ⁺	2 ⁺
3902.1(12)	$\langle 8^- \rangle$											
3977.9(3)*	$1, 2^+$											
3986.4(3)*	$1, 2^+$											
4026.5(3)*	1^-											
4067.9(12)	10^+				0.104(14) ps							
4071.9(8)	$\langle 9^- \rangle$				0.35(8) ps							
4097.6(2)*	1^-											
4289.3(2)*	$0^- - 2^-$											
4403.0(12)	$\langle 9^+ \rangle$				0.29(7) ps							
4807.6(13)	$\langle 10^- \rangle$											
5050.4(10)	$\langle 11^- \rangle$				0.12(5) ps							
5347.0(15)	$\langle 12^+ \rangle$				0.17(4) ps							
5874.2(14)	$\langle 12^- \rangle$											
6219.2(12)	$\langle 13^- \rangle$				0.24(6) ps							
6647.0(16)	$\langle 14^+ \rangle$											
7109.7(15)	$\langle 14^- \rangle$											
7577.2(13)	$\langle 15^- \rangle$											
7996.3(18)	$\langle 16^+ \rangle$											
8520.9(18)	$\langle 16^- \rangle$											
9110.7(15)	$\langle 17^- \rangle$											
9396.0(19)	$\langle 18^+ \rangle$											
10056.5(21)	$\langle 18^- \rangle$											
10725.8(18)	$\langle 19^- \rangle$											
10930(3)	$\langle 20^+ \rangle$											
11650(3)	$\langle 20^- \rangle$											
12686(3)	$\langle 22^+ \rangle$											
13347(4)	$\langle 22^- \rangle$											
14735(3)	$\langle 24^+ \rangle$											
			81Ma30	81Ma30		Ref.						

Additional data on this isotope can be found in [96Do07, 82Ma18].

New level (Giannatiempo, A. *et al*, Phys. Rev. C **72** (2005) 044308), not included in [95Si03].

High-spin states up to $J^\pi=30^+$, 32^- and 33^- were discussed in [05Va18].

Shape coexistence in ⁷⁴Kr and ⁷⁶Kr was discussed in [05Go15].

Enhancement factor ε is defined by expression for the cross section $(2J+1)\sigma(p,t)=\varepsilon NC^2\sigma_{DWBA}$ with N – a normalization constant; ε represents a measure of the goodness of the assumed configuration of the state ($\varepsilon=1.0$ for perfect goodness) [81Ma30].

Energy levels and branching ratios [84Si14, 95Si03]. Part 2

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E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1598 $\langle \leq 4 \rangle$	1687 2^+	1733 $\langle 3^+ \rangle$	1859.0 6^+	1957.3 4^+	2091.44 $\langle 1, 2^+ \rangle$	2104.31 $\langle 1, 2^+ \rangle$	2227.17 $\langle 2^- \rangle$	2257.41 3^-	2452.1 $\langle 5^+ \rangle$
2091.44(12)	$\langle 1, 2^+ \rangle$			12(4)								
2452.1(5)	$\langle 5^+ \rangle$				50							
2570.95(8)	$\langle 1, 2^+ \rangle$		3.9(3)	8.3(5)				1.4(1)				
2622.2(5)	$\langle 4^- \rangle$				x					x		
2682.6(7)	$\langle 5^- \rangle$										x	
2763.0(6)	$\langle 6^+ \rangle$						100					
2878.7(6)	8^+					100						
2926.54(12)	$\langle 0, 1, 2 \rangle$								15(2)			
3024.18(12)	$\langle 1^-, 2 \rangle$										20(1)	
3175.4(7)	$\langle 6^- \rangle$											100
3287.5(7)	$\langle 7^- \rangle$					44						
3332.0(7)	$\langle 7^+ \rangle$											100
3571.0(9)	$\langle 8^+ \rangle$					<50						

Energy levels and branching ratios [84Si14, 95Si03]. Part 3

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E^*	J^π	Branching ratios in percentage										
[keV]		E^*_f : J^π_f :	2570.95 $\langle 1,2^+ \rangle$	2622.2 $\langle 4^- \rangle$	2682.6 $\langle 5^- \rangle$	2763.0 $\langle 6^+ \rangle$	2878.7 8^+	3175.4 $\langle 6^- \rangle$	3287.5 $\langle 7^- \rangle$	3332.0 $\langle 7^+ \rangle$	3902.1 $\langle 8^- \rangle$	4067.9 10^+
2926.54(12)	$\langle 0,1,2 \rangle$		85(10)									
3024.18(12)	$\langle 1^-,2 \rangle$		37(2)									
3175.4(7)	$\langle 6^- \rangle$			x								
3287.5(7)	$\langle 7^- \rangle$				56							
3571.0(9)	$\langle 8^+ \rangle$					100						
3902.1(12)	$\langle 8^- \rangle$							100				
4067.9(12)	10^+						100					
4071.9(8)	$\langle 9^- \rangle$								100			
4403.0(12)	$\langle 9^+ \rangle$									100		
4807.6(13)	$\langle 10^- \rangle$										100	
5347.0(15)	$\langle 12^+ \rangle$											100

Energy levels and branching ratios [84Si14, 95Si03]. Part 4

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E^*	J^π	Branching ratios in percentage										
		E^*_f :	4071.9	4807.6	5050.4	5347.0	5874.2	6219.2	6647.0	7109.7	7577.2	7996.3
[keV]		J^π_f :	$\langle 9^- \rangle$	$\langle 10^- \rangle$	$\langle 11^- \rangle$	$\langle 12^+ \rangle$	$\langle 12^- \rangle$	$\langle 13^- \rangle$	$\langle 14^+ \rangle$	$\langle 14^- \rangle$	$\langle 15^- \rangle$	$\langle 16^+ \rangle$
5050.4(10)	$\langle 11^- \rangle$		100									
5874.2(14)	$\langle 12^- \rangle$			100								
6219.2(12)	$\langle 13^- \rangle$				100							

(continued)

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E^*	J^π	Branching ratios in percentage										
[keV]		$E^*_\text{f}:$	4071.9	4807.6	5050.4	5347.0	5874.2	6219.2	6647.0	7109.7	7577.2	7996.3
		$J^\pi_\text{f}:$	$\langle 9^- \rangle$	$\langle 10^- \rangle$	$\langle 11^- \rangle$	$\langle 12^+ \rangle$	$\langle 12^- \rangle$	$\langle 13^- \rangle$	$\langle 14^+ \rangle$	$\langle 14^- \rangle$	$\langle 15^- \rangle$	$\langle 16^+ \rangle$
6647.0(16)	$\langle 14^+ \rangle$					x						
7109.7(15)	$\langle 14^- \rangle$						x					
7577.2(13)	$\langle 15^- \rangle$							x				
7996.3(18)	$\langle 16^+ \rangle$								x			
8520.9(18)	$\langle 16^- \rangle$									x		
9110.7(15)	$\langle 17^- \rangle$										x	
9396.0(19)	$\langle 18^+ \rangle$											x

Energy levels and branching ratios [84Si14, 95Si03]. Part 5

⁷⁶Kr
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E^* [keV]	J^π	Branching ratios in percentage							
		E_f^* : J_f^π :	8520.9 $\langle 16^- \rangle$	9110.7 $\langle 17^- \rangle$	9396.0 $\langle 18^+ \rangle$	10056.5 $\langle 18^- \rangle$	10930 $\langle 20^+ \rangle$	11650 $\langle 20^- \rangle$	12686 $\langle 22^+ \rangle$
10056.5(21)	$\langle 18^- \rangle$		x						
10725.8(18)	$\langle 19^- \rangle$			x					
10930(3)	$\langle 20^+ \rangle$				x				
11650(3)	$\langle 20^- \rangle$					x			
12686(3)	$\langle 22^+ \rangle$						x		
13347(4)	$\langle 22^- \rangle$							x	
14735(3)	$\langle 24^+ \rangle$								x

Energy levels and branching ratios [97Fa12].

⁷⁷Kr
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E^*	$2J^\pi$	L	S_N	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,t)	(p,d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	66.5 3 ⁻	150 $\langle 7 \rangle^+$	245 $\langle 5 \rangle^-$	279 $\langle 9 \rangle^+$
0.0	5 ⁺	2	0.089	$\langle 1+2 \rangle$	74.4(6) m	79Ca03						
66.47(5)	3 ⁻	1	0.612		118(12) ns	79Ca03		100				
150.16(7)	$\langle 7 \rangle^+$				163(14) ps			100				
245.35(6)	$\langle 5 \rangle^-$	3	0.95	$\langle 1 \rangle$	37(4) ps	79Ca03		4(1)	96(3)			
278.96(6)	$\langle 9 \rangle^+$	4	2.3		133(7) ps	79Ca03		12(2)		88(2)		
459.86(9)	1 ⁻	1		$\langle 4 \rangle$		79Ca03			99(4)		≈ 0.6	
499.75(7)	$\langle 7 \rangle^-$				5.2(8) ps				32(2)		68(1)	
577.4(6)	$\langle 3^-, 5, 7^- \rangle$			$\langle 1 \rangle$		97Fa12			≈ 88			
674.98(21)	$\langle 3^+, 5 \rangle$							10(3)	87(10)	≈ 4.0		
714.35(8)	$\langle 1^-, 3, 5^- \rangle$								59(4)		27(2)	
733.3(6)	$\langle 1, 3, 5 \rangle$								100			
747.40(22)	$\langle 3^+, 5 \rangle$							≈ 20		80(4)		
784.95(7)	$\langle 11 \rangle^+$				1.5(4) ps					28(2)		72(2)

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⁷⁷Kr
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E^*	$2J^\pi$	L	S_N	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,t)	(p,d)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	66.5 3 ⁻	150 $\langle 7 \rangle^+$	245 $\langle 5 \rangle^-$	279 $\langle 9 \rangle^+$
790.55(12)	$\langle 1^-, 3, 5 \rangle$								31(7)		69(3)	
799.89(8)	$\langle 9 \rangle^-$				2.6(3) ps						53(2)	
872.02(7)	$\langle 3, 5 \rangle$			$\langle 3 \rangle$		97Fa12		6(3)	29(7)		65(6)	
955.77(12)	$\langle 3^+, 5 \rangle$									100		
957.85(10)											100	
1003.3(1)	$\langle 13 \rangle^+$			$\langle 4 \rangle$	1.87(21) ps	97Fa12						87(2)
1013.0(6)	$\langle 1^+, 3, 5^- \rangle$							55(10)	24(7)			
1020.8(2)												
1024.9(6)	$\langle 3, 5 \rangle$							30(8)			70(11)	
1037.42(6)	$\langle 3, 5 \rangle$							31(2)	61(3)		8(2)	
1054.76(11)									100			
1108.87(11)	$\langle 5 \rangle$							12(4)		54(4)		
1154.3(7)												
1177.80(9)	$\langle 11 \rangle^-$				1.19(12) ps							
1243.07(14)	$\langle 1^+, 3, 5^- \rangle$			$\langle 1 \rangle$		97Fa12		13(2)	37(4)			
1312.42(15)	$\langle 1, 3, 5^- \rangle$											
1444.1(7)	$\langle 1, 3, 5 \rangle$			$\langle 2 \rangle$		97Fa12			50(22)			
1509.5(7)	$\langle 3^+, 5 \rangle$							≈ 17		≈ 17		
1570.15(10)	$\langle 13 \rangle^-$				0.64(9) ps							
1660.03(10)	$\langle 15 \rangle^+$				0.62(15) ps							
1672.46(12)	$\langle 3, 5 \rangle$							23(1)	31(2)		15(5)	
1782.24(11)	$\langle 1, 3, 5 \rangle$											
1838.37(8)	$\langle 1^+, 3, 5 \rangle$							34(2)				
1865.8(9)										≈ 33		
1907.7(12)	$\langle 3^-, 5^- \rangle$										≈ 50	
1913.53(13)	$\langle 1^-, 3, 5 \rangle$										62(2)	
1918.47(14)	$\langle 17 \rangle^+$				0.48(11) ps							
2025.73(7)	$\langle 1, 3, 5 \rangle^-$											
2064.11(13)	$\langle 15^- \rangle$				0.66(14) ps							
2140												
2280												
2390												
2521.07(14)	$\langle 17 \rangle^-$				0.35(7) ps							
2560												
2707.89(22)	$\langle 19 \rangle^+$				0.30(9) ps							
2822.68(19)	$\langle 3, 5 \rangle^-$							25(3)			51(5)	
2989.92(17)	$\langle 21 \rangle^+$				0.17(3) ps							
3007.83(19)	$\langle 3, 5 \rangle^-$										83(7)	
3054.28(15)	$\langle 1, 3, 5 \rangle^-$											
3113.52(21)	$\langle 19^- \rangle$				0.35(7) ps							
3604.3(4)	$\langle 21^- \rangle$				0.33(6) ps							
3770.48(22)	$\langle 23^+ \rangle$				0.21(4) ps							
4152.39(19)	$\langle 25^+ \rangle$				0.111(21) ps							
4302.7(8)	$\langle 23^- \rangle$				0.076(14) ps							
4747.3(11)	$\langle 25^- \rangle$											

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⁷⁷Kr
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E^*	$2J^\pi$	L	S_N	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,t)	(p,d)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 5 ⁺	66.5 3 [−]	150 ⟨7⟩ ⁺	245 ⟨5⟩ [−]	279 ⟨9⟩ ⁺
4813.6(4)	⟨27 ⁺ ⟩				0.17(4) ps							
5375.6(4)	⟨29 ⁺ ⟩				0.16(4) ps							
5619.8(8)	⟨27 [−] ⟩				0.14(3) ps							
6085.2(7)	⟨31 ⁺ ⟩				0.090(21) ps							
6708.6(5)	⟨33 ⁺ ⟩				0.055(14) ps							
7644.2(12)	⟨35 ⁺ ⟩											
8216.0(5)	⟨37 ⁺ ⟩				0.062(14) ps							
9912.7(6)	⟨41 ⁺ ⟩											
11759.8(7)	⟨45 ⁺ ⟩											
		79Ca03		97Fa12		Ref.						

Additional data on this isotope can be found in [90Jo07].

Spins of some states are considered tentative in the evaluation [97Fa12].

Energy levels and branching ratios [97Fa12]. Part 2

⁷⁷Kr
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E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	460 1 ⁻	499.7 $\langle 7 \rangle^-$	577	674.98 $\langle 3^+, 5 \rangle$	714.35	733.3 $\langle 1, 3, 5 \rangle$	784.95 $\langle 11 \rangle^+$	790.55	799.89 $\langle 9 \rangle^-$	872.02 $\langle 3, 5 \rangle$
[keV]												
577.4(6)	$\langle 3^-, 5, 7^- \rangle$			12(4)								
714.35(8)	$\langle 1^-, 3, 5^- \rangle$		14(2)									
799.89(8)	$\langle 9 \rangle^-$			47(2)								
1003.3(1)	$\langle 13 \rangle^+$								13(6)			
1013.0(6)	$\langle 1^+, 3, 5^- \rangle$		21(7)									
1020.8(2)						100						
1108.87(11)	$\langle 5 \rangle$			20(4)								14(4)
1154.3(7)					95(13)							
1177.80(9)	$\langle 11 \rangle^-$			54(2)							46(2)	
1243.07(14)	$\langle 1^+, 3, 5^- \rangle$		35(13)			14(5)						
1312.42(15)	$\langle 1, 3, 5^- \rangle$		70(3)									
1444.1(7)	$\langle 1, 3, 5 \rangle$						28(14)					
1509.5(7)	$\langle 3^+, 5 \rangle$					22(11)		45(11)				
1570.15(10)	$\langle 13 \rangle^-$										75(2)	
1660.03(10)	$\langle 15 \rangle^+$								52(2)			
1782.24(11)	$\langle 1, 3, 5 \rangle$									28(2)		55(2)
1838.37(8)	$\langle 1^+, 3, 5 \rangle$					10						32(2)
1907.7(12)	$\langle 3^-, 5^- \rangle$		≈ 34	≈ 16								
1913.53(13)	$\langle 1^-, 3, 5 \rangle$					38(9)						
2025.73(7)	$\langle 1, 3, 5^- \rangle$					8				1.9(4)		26(2)
3007.83(19)	$\langle 3, 5^- \rangle$			17(2)								
3054.28(15)	$\langle 1, 3, 5^- \rangle$		61(5)			39(5)						

Energy levels and branching ratios [97Fa12]. Part 3

⁷⁷Kr
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	957.85	1003.28 $\langle 13 \rangle^+$	1020.77	1024.9 $\langle 3,5 \rangle$	1037.42 $\langle 3,5 \rangle$	1054.76	1108.87 $\langle 5 \rangle$	1154.3	1177.80 $\langle 11 \rangle^-$	1312.42
1154.3(7)					≈ 4.6							
1312.42(15)	$\langle 1,3,5^- \rangle$		30(10)									
1444.1(7)	$\langle 1,3,5 \rangle$									22(7)		
1570.15(10)	$\langle 13 \rangle^-$										25(2)	
1660.03(10)	$\langle 15 \rangle^+$			48(2)								
1672.46(12)	$\langle 3,5 \rangle$					18(4)	≈ 13					
1782.24(11)	$\langle 1,3,5 \rangle$					17(2)						
1838.37(8)	$\langle 1^+,3,5 \rangle$					25(1)						
1865.8(9)									≈ 67			
1918.47(14)	$\langle 17 \rangle^+$			96(1)								
2025.73(7)	$\langle 1,3,5^- \rangle$		16(1)			42(3)						7(1)
2064.11(13)	$\langle 15^- \rangle$									72(2)		
2822.68(19)	$\langle 3,5 \rangle^-$				24(3)							

Energy levels and branching ratios [97Fa12]. Part 4

⁷⁷Kr
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E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	1570.15 $\langle 13 \rangle^-$	1660.03 $\langle 15 \rangle^+$	1918.47 $\langle 17 \rangle^+$	2064.11 $\langle 15^- \rangle$	2521.07 $\langle 17 \rangle^-$	2707.89 $\langle 19 \rangle^+$	2989.92 $\langle 21 \rangle^+$	3113.52 $\langle 19^- \rangle$	3604.3 $\langle 21^- \rangle$	3770.48 $\langle 23^+ \rangle$
1918.47(14)	$\langle 17 \rangle^+$			4(2)								
2064.11(13)	$\langle 15^- \rangle$		28(2)									
2521.07(14)	$\langle 17 \rangle^-$		83(3)			17(2)						
2707.89(22)	$\langle 19 \rangle^+$			41(6)	59(6)							
2989.92(17)	$\langle 21 \rangle^+$				95(2)			5(2)				
3113.52(21)	$\langle 19^- \rangle$					82(10)	18(10)					
3604.3(4)	$\langle 21^- \rangle$						100			x		
3770.48(22)	$\langle 23^+ \rangle$							39(3)	61(3)			
4152.39(19)	$\langle 25^+ \rangle$								88(3)			12(4)
4302.7(8)	$\langle 23^- \rangle$									95(11)	5(2)	
4747.3(11)	$\langle 25^- \rangle$										100	
4813.6(4)	$\langle 27^+ \rangle$											70(13)

Energy levels and branching ratios [97Fa12]. Part 5

⁷⁷Kr
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E^* [keV]	$2J^\pi$	Branching ratios in percentage								
		E_f^* : $2J_f^\pi$:	4152.39 $\langle 25^+ \rangle$	4302.7 $\langle 23^- \rangle$	4813.6 $\langle 27^+ \rangle$	5375.6 $\langle 29^+ \rangle$	6085.2 $\langle 31^+ \rangle$	6708.6 $\langle 33^+ \rangle$	8216.0 $\langle 37^+ \rangle$	9912.7 $\langle 41^+ \rangle$
4813.6(4)	$\langle 27^+ \rangle$		30(13)							
5375.6(4)	$\langle 29^+ \rangle$		65(3)		35(3)					

(continued)

⁷⁷Kr
₃₆

E^*	$2J^\pi$	E_f^* : $2J_f^\pi$:	4152.39 $\langle 25^+ \rangle$	4302.7 $\langle 23^- \rangle$	Branching ratios in percentage					
[keV]					4813.6 $\langle 27^+ \rangle$	5375.6 $\langle 29^+ \rangle$	6085.2 $\langle 31^+ \rangle$	6708.6 $\langle 33^+ \rangle$	8216.0 $\langle 37^+ \rangle$	9912.7 $\langle 41^+ \rangle$
5619.8(8)	$\langle 27^- \rangle$			100						
6085.2(7)	$\langle 31^+ \rangle$				83(8)	17(7)				
6708.6(5)	$\langle 33^+ \rangle$					74(4)	26(2)			
7644.2(12)	$\langle 35^+ \rangle$						100			
8216.0(5)	$\langle 37^+ \rangle$							100		
9912.7(6)	$\langle 41^+ \rangle$								100	
11759.8(7)	$\langle 45^+ \rangle$									100

Energy levels and branching ratios [91Ra06].

⁷⁸Kr
₃₆

E^*	J^π	L	β_L	B(E)	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]				W.u.	(p,t)	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	455 2 ⁺	1017 0 ⁺	1119 4 ⁺	1148 2 ⁺
0.0	0 ⁺					Stable							
455.04(3)	2 ⁺	2	0.351	51.8(80)		23.9(13) ps	79Sa14		100				
1017.18(3)	0 ⁺				0		82Ma18			100			
1119.47(5)	4 ⁺	4	0.101	5.5(11)		2.5(2) ps	79Sa14			100			
1147.92(3)	2 ⁺	2	0.065	1.8(4)		3.7(4) ps	79Sa14		38.7(4)	61.3(4)			
1564.76(4)	3 ⁺					4.8(3) ps				82(2)		4.3(2)	14.0(4)
1653.9(4)	$\langle 3^+, 4^+ \rangle$									81		19(7)	
1755.86(3)	$\langle 2^+ \rangle$								13.1(4)	52(1)	26.7(4)	6.1(2)	2.4(5)
1772.93(4)	$\langle 1, 2^+ \rangle$								19(4)	81(5)			
1872.90(5)	4 ⁺					1.4(2) ps				8(1)		35(1)	56(2)
1977.82(8)	6 ⁺					0.6(1) ps						100	
2007.42(5)	$\langle 0-3 \rangle$												100
2234.20(4)										100			
2240.69(5)	$\langle 1^+, 2^+ \rangle$								53(2)	33(1)			
2299.78(6)	5 ⁺					1.2(2) ps						31(2)	
2399.03(6)	3 ⁻	3		16.7(25)	3	0.62(14) ps	78Ma11			100			
2413.44													65(3)
2443.37(5)	$\langle 1, 2^+ \rangle$								27(1)	31(1)			19(1)
2471.9(4)	$\langle 2, 3 \rangle$									100			
2508.02(9)										100			
2573.35(7)										74(2)			26(2)
2656.13(5)	$\langle 0, 1 \rangle$									67(3)			33(1)
2677.64(9)	$\langle 3, 4 \rangle$									35(2)			65(2)
2731.43(21)	$\langle 6^+ \rangle$					1.5(4) ps							
2749.78(7)	5 ⁻					1.5(2) ps						92(3)	
2764.10(5)	$\langle 4^- \rangle$					≤ 2.4 ps						50(1)	
2882.08(9)	3 ⁻	3		6.2(9)	3		78Ma11			100			
2882.85(7)	$\langle 1 \rangle$								32(3)				68(4)
2992.56(7)										39(5)			61(2)

(continued)

⁷⁸Kr
₃₆

E^*	J^π	L	β_L	B(E)	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]				W.u.	(p,t)	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	455 2 ⁺	1017 0 ⁺	1119 4 ⁺	1148 2 ⁺
2993.32(20)	8 ⁺					0.27(4) ps							
2999.37(8)												100	
3064.62(11)	$\langle 4^+, 5, 6^+ \rangle$												
3072.42(8)	$\langle 3, 4, 5 \rangle$											100	
3105.36(7)	$\langle 3, 4, 5 \rangle$												
3161.18(6)	$\langle 3, 4 \rangle$											19(1)	68(2)
3202.2(4)	$\langle 7^+ \rangle$					0.7(2) ps							
3219.66(19)	$\langle 6^- \rangle$					4.9(14) ps							
3230.49(5)	$\langle 1 \rangle$								47(2)		19(1)		33(1)
3233.55(6)	$\langle 3, 4, 5 \rangle$											35(2)	
3287.84(17)	7 ⁻					1.98(14) ps							
3361.15(11)	$\langle 3^-, 4, 5 \rangle$												
3437.42(5)	$\langle 1 \rangle$								28(1)	33(1)	29		9.5(2)
3539.07(4)	$\langle 1 \rangle$								26(1)	67(1)	2.7(3)		4.5(2)
3575.08(6)	$\langle 1 \rangle$								x		x		
3606.9(3)	7 ⁻					1.9(5) ps							
3662.18(5)	$\langle 1 \rangle$								x				x
3669.21(7)	$\langle 3, 4, 5^- \rangle$												
3703.6(3)	$\langle 5, 7 \rangle$												
3725.48(6)	$\langle 3, 4^+ \rangle$									16(1)			
3749.15(10)	$\langle 3, 4, 5^- \rangle$												
3770.66(22)	$\langle 8^+ \rangle$					0.16(5) ps							
3771													
3774.61(5)	$\langle 3, 4 \rangle$									30(1)		12(1)	30(1)
3793.8(11)						>0.7 ps							
3829.45(6)	$\langle 1 \rangle$								5	28(1)			24(1)
3893.27(5)	$\langle 1 \rangle$								21.6(3)	61(2)			3.3(2)
3918.4(3)	$\langle 8^- \rangle$					0.97(18) ps							
3937.58(4)	$\langle 1 \rangle$								33(1)	29(1)	20(1)		11(1)
4007.80(5)	$\langle 1 \rangle$								16(1)	26(1)	32(2)		
4028.25(19)	$\langle 9^- \rangle$					0.85(13) ps							
4040.39(5)	$\langle 1 \rangle$								9.8(5)		15(1)		56(2)
4089.32(5)	$\langle 1 \rangle$								x	x			x
4105.3(3)	$\langle 10^+ \rangle$					0.24(5) ps							
4201.68(8)	$\langle 1 \rangle$								28(3)	45(2)			27(4)
4254.6(4)	$\langle 9^+ \rangle$					0.35(7) ps							
4396.4(7)						0.15(3) ps							
4420.88(9)	$\langle 1 \rangle$								75(4)				25(2)
4808.5(3)	$\langle 10^- \rangle$					≤ 1.2 ps							
4955.3(11)	$\langle 10^+ \rangle$					0.45(17) ps							
4965.4(3)	$\langle 11^- \rangle$					0.39(7) ps							
5011.53(7)	$\langle 1 \rangle$									19(3)	36(4)		45(4)
5061.69(17)	$\langle 1 \rangle$												100
5180.74(8)	$\langle 1 \rangle$								41(2)	32(3)			
5192.51(11)	$\langle 1 \rangle$									19(2)	16(1)		65(3)

(continued)

⁷⁸Kr
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E^*	J^π	L	β_L	B(E)	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]				W.u.	(p,t)	Γ_{cm}		E_{f}^* : J_{f}^π :	0.0 0 ⁺	455 2 ⁺	1017 0 ⁺	1119 4 ⁺	1148 2 ⁺
5217.3(11)	$\langle 12^+ \rangle$					0.17(10) ps							
5222.60(11)	$\langle 1 \rangle$												62(9)
5243.88(8)	$\langle 1 \rangle$							79(3)					21(8)
5333.04(12)	$\langle 1 \rangle$							54(4)	12(2)				
5369.56(15)	$\langle 1 \rangle$												
5444.1(15)	$\langle 11^+ \rangle$					0.24(10) ps							
5529.24(9)	$\langle 1 \rangle$							21(2)					
5543.69(16)	$\langle 1 \rangle$												
5567.79(16)	$\langle 1 \rangle$							64(6)	36(4)				
5586.09(16)	$\langle 1 \rangle$												
5855	$\langle 12^- \rangle$												
6086	$\langle 13^- \rangle$					0.22(11) ps							
6479	$\langle 14^+ \rangle$					0.15(6) ps							
7067	$\langle 14^- \rangle$												
7392	$\langle 15^- \rangle$												
7936.0	$\langle 16^+ \rangle$					<0.14 ps							
8469	$\langle 16^- \rangle$												
8882	$\langle 17^- \rangle$												
9568	$\langle 18^+ \rangle$												
10551	$\langle 19^- \rangle$												
11312	$\langle 20^+ \rangle$												
12389	$\langle 21^- \rangle$												
13157	$\langle 22^+ \rangle$												
15160	$\langle 24^+ \rangle$												
			79Sa14	78Ma11	82Ma18		Ref.						

Additional data on this isotope can be found in [02Jo07, 01Me20, 01Jo28, 95Gi13, 93Bi04].

Abundance: 0.35(1) %.

B(E3) in single particle units (W.u.) for octupole state is from [78Ma11] where a systematics of low-lying octupole states in the doubly-even nuclei from Ge to Sr were studied.

Energy levels and branching ratios [91Ra06]. Part 2

⁷⁸Kr
₃₆

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	1565 3 ⁺	1756 $\langle 2^+ \rangle$	1873 4 ⁺	1977.82 6 ⁺	2007.42 $\langle 0-3 \rangle$	2234.20	2240.69 $\langle 1^+, 2^+ \rangle$	2299.78 5 ⁺	2399.03 3 ⁻	2573.35
2240.69(5)	$\langle 1^+, 2^+ \rangle$		14(1)									
2299.78(6)	5 ⁺		69(4)									
2413.44			35(3)									
2443.37(5)	$\langle 1, 2^+ \rangle$			22(1)								
2731.43(21)	$\langle 6^+ \rangle$				100							
2749.78(7)	5 ⁻					8(1)						
2764.10(5)	$\langle 4^- \rangle$		50(1)									

(continued)

⁷⁸Kr
36

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	1565 3 ⁺	1756 (2 ⁺)	1873 4 ⁺	1977.82 6 ⁺	2007.42 (0–3)	2234.20	2240.69 (1 ⁺ ,2 ⁺)	2299.78 5 ⁺	2399.03 3 [–]	2573.35
2993.32(20)	8 ⁺				100							
3064.62(11)	⟨4 ⁺ ,5,6 ⁺ ⟩				100							
3105.36(7)	⟨3,4,5⟩			47(1)								
3161.18(6)	⟨3,4⟩			12(1)								
3202.2(4)	⟨7 ⁺ ⟩				x				x			
3219.66(19)	⟨6 [–] ⟩				29(4)				45(4)			
3233.55(6)	⟨3,4,5⟩	39(2)		26(2)								
3287.84(17)	7 [–]				54(3)							
3437.42(5)	⟨1⟩						0.6(1)					
3606.9(3)	7 [–]				33(9)							
3662.18(5)	⟨1⟩		x				x					
3669.21(7)	⟨3,4,5 [–] ⟩			x						x	x	
3703.6(3)	⟨5,7⟩				100							
3725.48(6)	⟨3,4 ⁺ ⟩			74(6)						10(1)		
3749.15(10)	⟨3,4,5 [–] ⟩									100		
3771					100							
3774.61(5)	⟨3,4⟩	8(1)		6						13(1)		
3793.8(11)					100							
3829.45(6)	⟨1⟩					30(3)	13(1)					
3893.27(5)	⟨1⟩		9.9(1)			1.0(1)		3.2(1)				
3937.58(4)	⟨1⟩					7(1)						
4007.80(5)	⟨1⟩					6(1)		19(2)				
4040.39(5)	⟨1⟩		7.0(5)				10.1(3)				1.6(3)	
4089.32(5)	⟨1⟩		x				x					
5180.74(8)	⟨1⟩					27(4)						
5222.60(11)	⟨1⟩					38(5)						
5333.04(12)	⟨1⟩					34(5)						
5369.56(15)	⟨1⟩					100						
5529.24(9)	⟨1⟩		26(2)			11(3)	23(3)	20(4)				
5543.69(16)	⟨1⟩						100					
5586.09(16)	⟨1⟩						100					

Energy levels and branching ratios [91Ra06]. Part 3

⁷⁸Kr
36

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* :	2731.43	2749.78	2764.10	2992.56	2993.32	3202.2	3219.66	3287.84	3606.9	3770.66
		J_f^π :	$\langle 6^+ \rangle$	5^-	$\langle 4^- \rangle$		8^+	$\langle 7^+ \rangle$	$\langle 6^- \rangle$	7^-	7^-	$\langle 8^+ \rangle$
3105.36(7)	$\langle 3,4,5 \rangle$				53(4)							
3219.66(19)	$\langle 6^- \rangle$	<18		25	x							
3287.84(17)	7^-			46(3)								
3361.15(11)	$\langle 3^-,4,5 \rangle$			100								
3606.9(3)	7^-				67(17)							

(continued)

⁷⁸Kr
₃₆

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	2731.43 $\langle 6^+ \rangle$	2749.78 5^-	2764.10 $\langle 4^- \rangle$	2992.56 8^+	2993.32 $\langle 7^+ \rangle$	3202.2 $\langle 6^- \rangle$	3219.66 7^-	3287.84 7^-	3606.9 $\langle 8^+ \rangle$	3770.66 $\langle 8^+ \rangle$
3770.66(22)	$\langle 8^+ \rangle$	100										
3918.4(3)	$\langle 8^- \rangle$					5(4)	4(2)	91(5)				
4028.25(19)	$\langle 9^- \rangle$					11(3)			89(5)			
4105.3(3)	$\langle 10^+ \rangle$				100							
4254.6(4)	$\langle 9^+ \rangle$						100					
4396.4(7)						88				x		
4955.3(11)	$\langle 10^+ \rangle$											100

Energy levels and branching ratios [91Ra06]. Part 4

⁷⁸Kr
₃₆

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	3918.4 $\langle 8^- \rangle$	4028.25 $\langle 9^- \rangle$	4105.3 $\langle 10^+ \rangle$	4254.6 $\langle 9^+ \rangle$	4396.4	4808.5 $\langle 10^- \rangle$	4965.4 $\langle 11^- \rangle$	5217.3 $\langle 12^+ \rangle$	5855 $\langle 12^- \rangle$	6086 $\langle 13^- \rangle$
4396.4(7)					12(4)							
4808.5(3)	$\langle 10^- \rangle$		100									
4965.4(3)	$\langle 11^- \rangle$			100								
5217.3(11)	$\langle 12^+ \rangle$				91		9(5)					
5444.1(15)	$\langle 11^+ \rangle$					100						
5855	$\langle 12^- \rangle$							100				
6086	$\langle 13^- \rangle$								x			
6479	$\langle 14^+ \rangle$									x		
7067	$\langle 14^- \rangle$										x	
7392	$\langle 15^- \rangle$											x

Energy levels and branching ratios [91Ra06]. Part 5

⁷⁸Kr
₃₆

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	6479 $\langle 14^+ \rangle$	7067 $\langle 14^- \rangle$	7392 $\langle 15^- \rangle$	7936.0 $\langle 16^+ \rangle$	8882 $\langle 17^- \rangle$	9568 $\langle 18^+ \rangle$	10551 $\langle 19^- \rangle$	11312 $\langle 20^+ \rangle$	13157 $\langle 22^+ \rangle$	
7936.0	$\langle 16^+ \rangle$		x									
8469	$\langle 16^- \rangle$			x								
8882	$\langle 17^- \rangle$				x							
9568	$\langle 18^+ \rangle$					x						
10551	$\langle 19^- \rangle$						x					
11312	$\langle 20^+ \rangle$							x				
12389	$\langle 21^- \rangle$								x			
13157	$\langle 22^+ \rangle$										x	
15160	$\langle 24^+ \rangle$											x

Energy levels and branching ratios [02Si13].

⁷⁹Kr
₃₆

E^* [keV]	$2J^\pi$	L (d,p)	σ (d,p) $\mu\text{b/sr}$	S_N (d,p)	S_N (d,p)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage					
								E_f^* : $2J_f^\pi$:	0.0 1 ⁻	129.8 7 ⁺	147 5 ⁻	149 9 ⁺	183 3 ⁻
0.0	1 ⁻	1	428	0.305	0.27	35.04(10) h	82Bu01						
129.77(5)	7 ⁺	$\langle 4 \rangle$				50(3) s	82Bu01		100				
147.06(6)	5 ⁻	3			0.10	78.7(10) ns	82Bu01		98	2.1(3)			
148.88(6)	9 ⁺	4	858	0.512	0.38		82Bu01			100			
182.78(5)	3 ⁻					0.21(10) ns			100				
290.52(5)	5 ⁺					0.62(14) ns			<3	37(2)	60(1)	2.9(1)	0.30(2)
384.11(6)	3 ⁻	1	581	0.366	0.14	21(8) ps	82Bu01		85(5)		2		13(2)
401.92(6)	5 ⁻	3			0.04	33(5) ps	82Bu01		52(1)				45(3)
449.95(6)	7 ⁻					51(10) ps				27(1)	61(1)	≈ 7	3.9(2)
533.41(6)	1 ⁺	0	1582	0.341	0.15		82Bu01		14.1(2)				79(2)
635.79(8)	5 ⁺	2	1221	0.174	0.10	10(+7-4) ps	82Bu01			79(17)		9(1)	
659.28(9)	$\langle 5 \rangle^-$										33		21(3)
673.14(10)	$7^{(+)}$									24(2)		37(2)	
675.8(6)	$\langle 1^+, 3, 5^- \rangle$							x					x
688.17(5)	3 ⁺	2	661	0.081	0.11		82Bu01	46	0.51(3)	1.5			21(1)
694.90(9)	$\langle 7 \rangle^-$					5.5(21) ps		x					69(16)
719.2(7)	$\langle \leq 7 \rangle$												x
752.04(6)	5 ⁺	2			0.04	21(+7-4) ps	82Bu01			69(1)	0.7(1)	5.3(2)	7.3(2)
809.5(3)	1 ⁻	1	239	0.064	0.12		82Bu01	8			11		x
814.27(8)	9 ⁻					4.2(14) ps				13(2)	77(1)		
835.5(3)	$\langle 3 \rangle$							x	x				x
896.69(9)	11 ⁺					1.50(16) ps				17(1)		83(2)	
907.23(14)	$\langle 3, 5^- \rangle$							57(6)					43(5)
931.1(7)	$\langle 1, 3, 5^- \rangle$							x					
958.31(12)	$\langle 9^+ \rangle$					7(+7-4) ps						79(2)	
975.92(9)	$\langle 13 \rangle^+$					1.98(12) ps						99(1)	
983.71(11)	$\langle 7 \rangle^-$					6(3) ps						x	x
987.0(6)	$\langle 1, 3, 5^- \rangle$							x					x
1038.84(24)	$\langle 11 \rangle^+$									49(2)		51(2)	
1063.48(9)	9 ⁻					2.1(7) ps							
1064.68(7)	$\langle 5^+, 7 \rangle$									18		33(1)	
1079.13(12)	$\langle 5^+, 7 \rangle$									23(6)		15(2)	
1132.26(8)	$\langle 3, 5^- \rangle$							49(6)					
1171.49(9)	11 ⁻					2.8(7) ps						10(2)	
1200.4(6)	$\langle 3, 5, 7^- \rangle$					0.55(14) ps							x
1299.91(17)	$\langle 5^+ \rangle$					0.49(14) ps				31(5)		10(5)	32(5)
1333.8(10)	$\langle \leq 7 \rangle$												x
1363.15(17)	$\langle 9^- \rangle$												
1428.17(8)	$\langle 5^+ \rangle$					0.42(14) ps				42(2)		<5	12(2)
1450.59(12)	$\langle 11^- \rangle$					1.2(4) ps							
1474.62(6)	$\langle 3 \rangle$							10(1)					9(1)
1502.4(10)	$\langle 1, 3, 5^+ \rangle$												
1507.9(4)	$\langle 9, 11 \rangle$												
1549.8(10)	$\langle \leq 7 \rangle$												x
1568.1(10)	$\langle \leq 7 \rangle$					0.42(14) ps							

(continued)

⁷⁹Kr
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E^*	$2J^\pi$	L	σ (d,p)	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 1 ⁻	129.8 7 ⁺	147 5 ⁻	149 9 ⁺	183 3 ⁻
1598.5(10)	$\langle \leq 9 \rangle$												
1606.5(10)	$\langle \leq 9 \rangle$												
1609.93(6)	$\langle 3^+, 5^+ \rangle$									18			8
1662.05(16)	$\langle 13^+ \rangle$											9(3)	
1662.22(11)	$\langle 13 \rangle^-$					0.77(18) ps							
1707.35(10)	$\langle 5^+, 7 \rangle$					0.28(7) ps				13(4)		16(4)	
1803.1(11)													
1812.41(11)	$\langle 5^+ \rangle$									29(3)	14(3)	9(3)	11(2)
1850.7(10)	$\langle 13 \rangle$												
1884.73(13)	15 ⁺					0.34(3) ps							
1912	1 ⁺	0	1016	0.104	0.07		82Bu01						
1915.81(14)	13 ⁻					0.81(18) ps							
2002.18(14)	$\langle 17 \rangle^+$					0.55(5) ps							
2056.72(14)	15 ⁻					0.61(5) ps							
2060	5 ⁺	2	1548	0.162	0.10		82Bu01						
2105.19(19)	$\langle 5^+, 7^- \rangle$									34(16)		16(4)	50(12)
2135.6(4)	$\langle 15^+ \rangle$												
2366.58(19)	$\langle 3, 5 \rangle$												<36
2415.59(24)	$\langle 15^- \rangle$					0.62(14) ps							
2583.83(14)	$\langle 5^+ \rangle$									3(2)		16(4)	11(4)
2586.29(11)	$\langle 3^+ \rangle$							14(1)	8(3)				3
2643.27(16)	$\langle 17 \rangle^-$					0.83(21) ps							
2768	7 ⁺ , 9 ⁺	4	355	0.176	0.18		82Bu01						
2857.32(20)	$\langle 17^- \rangle$					1.2(+8-6) ps							
2930.24(17)	$\langle 17 \rangle^-$					0.8(4) ps							
2979.38(18)	$\langle 19 \rangle^+$					0.21(4) ps							
3061.92(19)	19 ⁻					0.69(21) ps							
3146.15(21)	$\langle 21 \rangle^+$					0.30(6) ps							
3214.39(16)	19 ⁻					1.9(+12-11) ps							
3288.6(11)	$\langle 19^+ \rangle$												
3383.2(4)	$\langle 19^- \rangle$												
3585.58(18)	$\langle 21 \rangle^-$					0.7(+6-4) ps							
3619.01(23)	$\langle 21^+ \rangle$					0.49(14) ps							
3655.4(4)	$\langle 21 \rangle^-$					0.55(21) ps							
3846.17(22)	$\langle 23 \rangle^+$					0.21(7) ps							
4063.3(11)	$\langle 21^- \rangle$												
4087.65(25)	$\langle 23^- \rangle$					0.42(21) ps							
4133.11(24)	$\langle 23^- \rangle$												
4299.79(25)	$\langle 25^+ \rangle$					0.24(4) ps							
4657.7(4)	$\langle 25^+ \rangle$												
4708.8(5)	$\langle 25^- \rangle$												
4899.8(3)	$\langle 27^+ \rangle$					0.21(7) ps							
5165.0(6)	$\langle 27^- \rangle$												
5524.0(3)	$\langle 29^+ \rangle$												
5993.8(21)	$\langle 29^- \rangle$												

(continued)

⁷⁹₃₆Kr

<i>E</i> [*]	2 <i>J</i> ^π	<i>L</i>	σ (d,p)	<i>S</i> _N	<i>S</i> _N	<i>T</i> _{1/2} or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	μb/sr	(d,p)	(d,p)	<i>Γ</i> _{cm}		<i>E</i> _f [*] :	0.0	129.8	147	149	183
								2 <i>J</i> _f ^π :	1 [−]	7 ⁺	5 [−]	9 ⁺	3 [−]
6250.2(4)	⟨31 ⁺ ⟩												
6446.4(10)	⟨31 [−] ⟩												
6890.7(5)	⟨33 ⁺ ⟩												
7903.7(8)	⟨35 ⁺ ⟩												
8400.8(8)	⟨37 ⁺ ⟩												
8409(17)	⟨3 [−] ⟩												
9704(4)	⟨39 ⁺ ⟩												
10039.8(22)	⟨41 ⁺ ⟩												
11822(4)	⟨45 ⁺ ⟩												
			75Ch11	75Ch11	82Bu01		Ref.						

Additional data on this isotope can be found in [90Sc07].
Presented σ (d,p) [75Ch11] and *S*_N=2(2*J*_{*i*} + 1)(2*j* + 1)/1.53(2*J* + 1)(2*s* + 1)σ_{*DWBA*} are from two experimental works [75Ch11, 82Bu01].

Energy levels and branching ratios [02Si13]. Part 2

⁷⁹₃₆Kr

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	291 5 ⁺	384 3 ⁻	402 5 ⁻	449.95 7 ⁻	533.41 1 ⁺	635.79 5 ⁺	659.28 $\langle 5 \rangle^-$	673.14 7 $\langle + \rangle$	688.17 3 ⁺
401.92(6)	5 ⁻		3								
449.95(6)	7 ⁻		1.3(4)								
533.41(6)	1 ⁺			7.3(2)							
635.79(8)	5 ⁺		13								
659.28(9)	$\langle 5 \rangle^-$			42(1)	4						
673.14(10)	7 $\langle + \rangle$		39(8)								
675.8(6)	$\langle 1^+, 3, 5^- \rangle$		x								
688.17(5)	3 ⁺		12.1(3)	0.21(4)	1.8		15.8(4)	0.58(2)			
694.90(9)	$\langle 7 \rangle^-$				31(5)						
719.2(7)	$\langle \leq 7 \rangle$		x								
752.04(6)	5 ⁺		9.7(2)			1.3(6)	4.0(6)	1.7(1)			0.66(2)
809.5(3)	1 ⁻			81							
814.27(8)	9 ⁻					9.5(3)					
835.5(3)	$\langle 3 \rangle$			100	x		x	x			
907.23(14)	$\langle 3, 5^- \rangle$		x	x	x						
931.1(7)	$\langle 1, 3, 5^- \rangle$										x
958.31(12)	$\langle 9^+ \rangle$									21(1)	
983.71(11)	$\langle 7 \rangle^-$			≈ 25	65(3)				10(4)		
987.0(6)	$\langle 1, 3, 5^- \rangle$			x							
1063.48(9)	9 ⁻		x		72(2)	12(1)					
1064.68(7)	$\langle 5^+, 7 \rangle$		33(1)		4(1)			8(1)			
1079.13(12)	$\langle 5^+, 7 \rangle$		61(3)								
1132.26(8)	$\langle 3, 5^- \rangle$		51(6)								
1171.49(9)	11 ⁻					86(3)					

(continued)

⁷⁹Kr
₃₆

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	291 5 ⁺	384 3 ⁻	402 5 ⁻	449.95 7 ⁻	533.41 1 ⁺	635.79 5 ⁺	659.28 $\langle 5 \rangle^-$	673.14 7 $\langle + \rangle$	688.17 3 ⁺
1200.4(6)	$\langle 3,5,7^- \rangle$		x		x						
1299.91(17)	$\langle 5^+ \rangle$		27(7)								
1363.15(17)	$\langle 9^- \rangle$								36(6)		
1428.17(8)	$\langle 5^+ \rangle$		39(3)					8(2)			
1474.62(6)	$\langle 3 \rangle$		33(1)	2	<5		23(2)		3(1)		21(1)
1502.4(10)	$\langle 1,3,5^+ \rangle$						x				
1507.9(4)	$\langle 9,11 \rangle$									100	
1568.1(10)	$\langle \leq 7 \rangle$			x							
1598.5(10)	$\langle \leq 9 \rangle$		x								
1606.5(10)	$\langle \leq 9 \rangle$		x								
1609.93(6)	$\langle 3^+,5^+ \rangle$			9(1)	8(1)	1(1)	5(1)	<4	1.4(2)		46(1)
1707.35(10)	$\langle 5^+,7 \rangle$		33(4)			16(4)		<29			
1812.41(11)	$\langle 5^+ \rangle$		23(5)				<15			8(3)	6(3)
2366.58(19)	$\langle 3,5 \rangle$			22(11)			<11				62(4)
2583.83(14)	$\langle 5^+ \rangle$		10(4)					6(1)	6(2)		
2586.29(11)	$\langle 3^+ \rangle$		20(5)	13(4)	<24		14(3)				2(1)

Energy levels and branching ratios [02Si13]. Part 3

⁷⁹Kr
₃₆

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	694.90 $\langle 7 \rangle^-$	752.04 5 ⁺	814.27 9 ⁻	896.69 11 ⁺	975.92 $\langle 13 \rangle^+$	983.71 $\langle 7 \rangle^-$	1038.84 $\langle 11 \rangle^+$	1063.48 9 ⁻	1079.13 $\langle 5^+,7 \rangle$
975.92(9)	$\langle 13 \rangle^+$					0.7(2)					
1063.48(9)	9 ⁻		15(1)								
1064.68(7)	$\langle 5^+,7 \rangle$			4(1)							
1171.49(9)	11 ⁻				3.8(19)						
1363.15(17)	$\langle 9^- \rangle$		≈ 30					33(18)			
1450.59(12)	$\langle 11^- \rangle$		89(2)							11(1)	
1609.93(6)	$\langle 3^+,5^+ \rangle$			4(1)							
1662.05(16)	$\langle 13^+ \rangle$					≈ 38	19(7)		34(11)		
1662.22(11)	$\langle 13^- \rangle$				90(9)	6.8(23)					
1707.35(10)	$\langle 5^+,7 \rangle$			22(4)							
1850.7(10)	$\langle 13 \rangle$					x					
1884.73(13)	15 ⁺					49(10)	51(10)				
1915.81(14)	13 ⁻									86(13)	
2002.18(14)	$\langle 17 \rangle^+$						99.3(11)				
2056.72(14)	15 ⁻						11(3)				
2135.6(4)	$\langle 15^+ \rangle$						≈ 15		85(15)		
2583.83(14)	$\langle 5^+ \rangle$										48(2)
2586.29(11)	$\langle 3^+ \rangle$			<8							

Energy levels and branching ratios [02Si13]. Part 4

⁷⁹Kr
36

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1132.26 $\langle 3,5^- \rangle$	1171.49 11^-	1299.91 $\langle 5^+ \rangle$	1363.15 $\langle 9^- \rangle$	1428.17 $\langle 5^+ \rangle$	1450.59 $\langle 11^- \rangle$	1474.62 $\langle 3 \rangle$	1609.93 $\langle 3^+, 5^+ \rangle$	1662.22 $\langle 13 \rangle^-$
1662.22(11)	$\langle 13 \rangle^-$			3(1)							
1803.1(11)					100						
1915.81(14)	13^-			9(3)				4(3)			
2056.72(14)	15^-			87(3)							2.1(10)
2105.19(19)	$\langle 5^+, 7^- \rangle$	<71									
2366.58(19)	$\langle 3, 5 \rangle$								15(8)		
2415.59(24)	$\langle 15^- \rangle$							90(26)			
2583.83(14)	$\langle 5^+ \rangle$									<20	
2586.29(11)	$\langle 3^+ \rangle$		6(1)		2		11(4)			6(1)	
2643.27(16)	$\langle 17 \rangle^-$										88(2)

Energy levels and branching ratios [02Si13]. Part 5

⁷⁹Kr
36

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	1884.73 15^+	1915.81 13^-	2002.18 $\langle 17 \rangle^+$	2056.72 15^-	2135.6 $\langle 15^+ \rangle$	2415.59 $\langle 15^- \rangle$	2643.27 $\langle 17 \rangle^-$	2857.32 $\langle 17^- \rangle$	2930.24 $\langle 17 \rangle^-$
2002.18(14)	$\langle 17 \rangle^+$		0.7(3)								
2415.59(24)	$\langle 15^- \rangle$			10(4)							
2643.27(16)	$\langle 17 \rangle^-$		7(3)			5.0(26)					
2857.32(20)	$\langle 17^- \rangle$			75(13)		25(13)					
2930.24(17)	$\langle 17 \rangle^-$			87(12)		13(1)					
2979.38(18)	$\langle 19 \rangle^+$		38(4)		62(4)						
3061.92(19)	19^-				7(4)	93(3)					
3146.15(21)	$\langle 21 \rangle^+$				97.2(15)						
3214.39(16)	19^-				17(1)	58(2)			8(4)	8(4)	9(2)
3288.6(11)	$\langle 19^+ \rangle$						100				
3383.2(4)	$\langle 19^- \rangle$							100			
3585.58(18)	$\langle 21 \rangle^-$								22(4)		16(2)
3655.4(4)	$\langle 21 \rangle^-$								100		
4063.3(11)	$\langle 21^- \rangle$										100

Energy levels and branching ratios [02Si13]. Part 6

⁷⁹Kr
36

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		E_f^* : $2J_f^\pi$:	2979.38 $\langle 19 \rangle^+$	3061.92 19^-	3146.15 $\langle 21 \rangle^+$	3214.39 19^-	3585.58 $\langle 21 \rangle^-$	3619.01 $\langle 21^+ \rangle$	3655.4 $\langle 21 \rangle^-$	3846.17 $\langle 23 \rangle^+$	4087.65 $\langle 23^- \rangle$
3146.15(21)	$\langle 21 \rangle^+$		2.8(15)								
3585.58(18)	$\langle 21 \rangle^-$			≈ 26		36(1)					
3619.01(23)	$\langle 21^+ \rangle$				100						

(continued)

⁷⁹Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage									
		E_f^* :	2979.38	3061.92	3146.15	3214.39	3585.58	3619.01	3655.4	3846.17	4087.65
[keV]		$2J_f^\pi$:	$\langle 19 \rangle^+$	19^-	$\langle 21 \rangle^+$	19^-	$\langle 21 \rangle^-$	$\langle 21^+ \rangle$	$\langle 21 \rangle^-$	$\langle 23 \rangle^+$	$\langle 23^- \rangle$
3846.17(22)	$\langle 23 \rangle^+$		16(2)		79(3)				6(1)		
4087.65(25)	$\langle 23^- \rangle$			87(20)			13(7)				
4133.11(24)	$\langle 23^- \rangle$			36(5)			64(3)				
4299.79(25)	$\langle 25^+ \rangle$				72(5)						28(5)
4657.7(4)	$\langle 25^+ \rangle$				18(9)						18(9)
4708.8(5)	$\langle 25^- \rangle$								100		
4899.8(3)	$\langle 27^+ \rangle$									47(16)	
5165.0(6)	$\langle 27^- \rangle$										100

Energy levels and branching ratios [02Si13]. Part 7

⁷⁹Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	4299.79 $\langle 25^+ \rangle$	4708.8 $\langle 25^- \rangle$	4899.8 $\langle 27^+ \rangle$	5165.0 $\langle 27^- \rangle$	5524.0 $\langle 29^+ \rangle$	6250.2 $\langle 31^+ \rangle$	6890.7 $\langle 33^+ \rangle$	7903.7 $\langle 35^+ \rangle$	8400.8 $\langle 37^+ \rangle$	10039.8 $\langle 41^+ \rangle$
4657.7(4)	$\langle 25^+ \rangle$		63(27)									
4899.8(3)	$\langle 27^+ \rangle$		53(6)									
5524.0(3)	$\langle 29^+ \rangle$		42(8)		58(8)							
5993.8(21)	$\langle 29^- \rangle$			100								
6250.2(4)	$\langle 31^+ \rangle$				70(10)		30(5)					
6446.4(10)	$\langle 31^- \rangle$					100						
6890.7(5)	$\langle 33^+ \rangle$						47(12)	53(12)				
7903.7(8)	$\langle 35^+ \rangle$							100	<25			
8400.8(8)	$\langle 37^+ \rangle$								78(22)	22(11)		
9704(4)	$\langle 39^+ \rangle$									100		
10039.8(22)	$\langle 41^+ \rangle$										100	
11822(4)	$\langle 45^+ \rangle$											100

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

⁸⁰Kr
₃₆

E^*	J^π	L	I_d	L	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ ,d)		(p,t)	Γ_{cm}		E_f^* : J_f^π :	0.0 0^+	617 2^+	1256 2^+	1436 4^+	1788 3^+
0.0	0^+	0	1.0			Stable	75Ar29						
616.61(9)	2^+		0.25			8.7(5) ps	75Ar29	100					
1256.25(11)	2^+		0.90			7.6(14) ps	75Ar29	25(2)	75(3)				
1320.5(2)	0^+		0.42				75Ar29		100				
1436.09(16)	4^+		0.06			1.7(2) ps	75Ar29		100				
1787.99(14)	3^+					7.1(9) ps			51(4)	42(2)	7(1)		
2145.88(16)	4^+					0.76(42) ps			6(2)	74(3)	20(3)		

(continued)

⁸⁰Kr
³⁶

E^*	J^π	L	I_d	L	ε	$T_{1/2}$ or	Ref.	E_f^* : J_f^π :	Branching ratios in percentage				
[keV]			(τ ,d)		(p,t)	Γ_{cm}		0.0 0 ⁺	617 2 ⁺	1256 2 ⁺	1436 4 ⁺	1788 3 ⁺	
2392.06(18)	6 ⁺					0.56(14) ps					100		
2439.21(22)	3 ⁻			3	1.32	1.4(+14-5) ps	82Ma18		100				
2659.74(18)	5 ⁺					0.83(28) ps					25(2)	75(3)	
2793.05(17)	4 ⁻					2.1(4) ps						93(8)	
2859.53(17)	5 ⁻					2.4(11) ps					95(10)		
2969(15)	3 ⁻			3	1.44		82Ma18						
2997.6(4)													
3039.57(22)	$\langle 5^- \rangle$					1.5(4) ps							
3041.74(17)	6 ⁻					2.2(2) ns							
3110.21(21)	$\langle 6^+ \rangle$					0.83(35) ps					<8		
3172.81(24)	$\langle 5-7^- \rangle$						05Si20						
3345.81(18)	6 ⁻					4.9(21) ps							
3409.98(23)	8 ⁺					0.28(14) ps							
3488.0(3)	$\langle 6^- \rangle$												
3530.31(19)	7 ⁻												
3558.66(21)	$\langle 7^- \rangle$												
3581.69(19)	7 ⁻					2.7(3) ps							
3635.3(4)	$\langle 7^+ \rangle$					≥ 0.7 ps							
3699.8(3)	8 ⁺												
3916.6(4)	$\langle 8^+ \rangle$					≤ 0.14 ps	05Si20						
4126.23(20)	$\langle 8^- \rangle$					≥ 1.7 ps							
4153.2(11)	$\langle 8^+ \rangle$												
4163.2(3)	$\langle 8^- \rangle$												
4377.9(3)	10 ⁺					0.69(35) ps	05Si20						
4393.7(2)	$\langle 9^- \rangle$												
4562.5(3)	$\langle 9^- \rangle$												
4648.9(3)	$\langle 10^+ \rangle$					0.49(21) ps	05Si20						
5159.0(4)	$\langle 10^- \rangle$												
5374.6(5)	$\langle 10^- \rangle$						05Si20						
5397.4(4)	$\langle 11^- \rangle$						05Si20						
5437.8(4)	12 ⁺					0.24(14) ps							
5665.5(4)	$\langle 11^- \rangle$						05Si20						
5889.9(5)	$\langle 12^+ \rangle$						05Si20						
6181.2(6)	$\langle 12^- \rangle$						05Si20						
6522.2(6)	$\langle 13^- \rangle$						05Si20						
6681.4(6)	14 ⁺					<0.7 ps	05Si20						
7221.6(9)	$\langle 14^+ \rangle$						05Si20						
8087.9(9)	$\langle 16^+ \rangle$						05Si20						
8564.6(13)	$\langle 16^+ \rangle$						05Si20						
9195.2(11)	$\langle 17^- \rangle$						05Si20						
9690.6(11)	$\langle 18^+ \rangle$						05Si20						
10844.3(15)	$\langle 19^- \rangle$						05Si20						

(continued)

 $^{80}_{36}\text{Kr}$

E^*	J^π	L	I_d	L	ε	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(τ ,d)		(p,t)	Γ_{cm}		E_f^* :	0.0	617	1256	1436	1788
								J_f^π :	0 ⁺	2 ⁺	2 ⁺	4 ⁺	3 ⁺
11483.6(23)	$\langle 20^+ \rangle$		75Ar29		82Ma18		05Si20						
							Ref.						

Additional data on this isotope can be found in [01Mu25, 01Me20, 95Do15].

Abundance: 2.28(6) %.

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

 $^{80}_{36}\text{Kr}$

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	2146 4 ⁺	2392 6 ⁺	2439 3 ⁻	2659.40 5 ⁺	2792.96 4 ⁻	2859.27 5 ⁻	3041.56 6 ⁻	3110.22 $\langle 6^+ \rangle$	3345.43 6 ⁻
2793.05(17)	4 ⁻		7(4)								
2859.53(17)	5 ⁻				5(2)						
2997.6(4)				100							
3039.57(22)	$\langle 5^- \rangle$		68(8)	32(12)							
3041.74(17)	6 ⁻					6(1)	59(4)	35(4)			
3110.21(21)	$\langle 6^+ \rangle$		90(6)	10(5)							
3345.81(18)	6 ⁻			≈ 18		57(9)	11(3)	13(4)			
3409.98(23)	8 ⁺			100							
3488.0(3)	$\langle 6^- \rangle$						65(18)	35(8)			
3530.31(19)	7 ⁻			23(4)					66(6)	11(4)	
3558.66(21)	$\langle 7^- \rangle$			27(5)				29(7)	44(10)		
3581.69(19)	7 ⁻			49(4)				40(4)	11(3)		
3635.3(4)	$\langle 7^+ \rangle$			≈ 19		81(11)					
3699.8(3)	8 ⁺			13(4)							
3916.6(4)	$\langle 8^+ \rangle$			100							
4126.23(20)	$\langle 8^- \rangle$										62(4)
4153.2(11)	$\langle 8^+ \rangle$									100	
4163.2(3)	$\langle 8^- \rangle$								100		

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

 $^{80}_{36}\text{Kr}$

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	3409.5 8 ⁺	3529.93 7 ⁻	3558.33 $\langle 7^- \rangle$	3581.38 7 ⁻	3634.9 $\langle 7^+ \rangle$	3699.3 8 ⁺	4125.75 $\langle 8^- \rangle$	4377.0 $\langle 10^+ \rangle$	5436.5 $\langle 12^+ \rangle$
3699.8(3)	8 ⁺		87(4)								
4126.23(20)	$\langle 8^- \rangle$			13(6)			24(8)				
4377.9(3)	10 ⁺		100								
4393.7(2)	$\langle 9^- \rangle$			41(6)	59(9)						
4562.5(3)	$\langle 9^- \rangle$			28(8)		72(8)					

(continued)

⁸⁰Kr

E^*	J^π	Branching ratios in percentage								
	$E_f^*:$	3409.5	3529.93	3558.33	3581.38	3634.9	3699.3	4125.75	4377.0	5436.5
[keV]	$J_f^\pi:$	8^+	7^-	$\langle 7 \rangle^-$	7^-	$\langle 7^+ \rangle$	8^+	$\langle 8^- \rangle$	$\langle 10^+ \rangle$	$\langle 12^+ \rangle$
4648.9(3)	$\langle 10^+ \rangle$	62(6)					≤ 30		38(9)	
5159.0(4)	$\langle 10^- \rangle$							100		
5437.8(4)	12^+								100	
6681.4(6)	14^+									100

Energy levels and branching ratios [96Ba89].

⁸¹Kr

E^*	$2J^\pi$	L	σ (d,p)	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	μ b/sr	(d,p)	(d,p)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 7 ⁺	49.5 9 ⁺	191 1 ⁻	457 5 ⁻	549 5 ⁺
0.0	7 ⁺					229(11)·10 ³ yr	85Bu14						
49.55(3)	9 ⁺	4	605	0.376	0.25	3.9(4) ns	75Ch11	100					
190.62(4)	1 ⁻	1	816	0.423	0.25	13.10(3) s	75Ch11	100					
456.69(4)	5 ⁻	3			0.36		85Bu14	99(3)			1.3(2)		
548.97(3)	5 ⁺	2	978	0.122	0.08		75Ch11	77(1)	23(2)				
608.48(6)	3 ⁺ ,5 ⁺							97(3)					3.1(6)
636.76(4)	3 ⁻	1	807	0.145	0.07		75Ch11				100	0.06(1)	0.07(1)
700.81(5)	$\langle 5 \rangle^-$										94(1)	5.5(6)	
731.97(7)	$\langle 5,7 \rangle^+$	2			0.02		85Bu14	27(5)	57(2)				16(3)
873.70(11)	$\langle 11 \rangle^+$							38(1)	62(2)				
902.53(7)	$\langle 7 \rangle^-$							31(4)	36(2)			32(2)	
919.81(6)	3 ⁻	1			0.04		85Bu14				82(2)		
934.09(17)	$\langle 11 \rangle^+$					0.19(6) ps			100				
976.35(16)	$\langle 13 \rangle^+$					1.5(6) ps			100				
976.55(8)	1 ⁺	0	2285	0.253	0.16		75Ch11						
981.58(12)	$\langle 9^+ \rangle$							42(5)	58(2)				
994.32(5)	$\langle 1-5 \rangle^-$							0.4(1)			21(1)	57(4)	
1014.8(1)								36(3)					64(7)
1025.60(4)	3 ⁻ ,5 ⁻							0.4(2)			36(1)	24(2)	23(2)
1093.5													
1100.04(6)	5 ⁺	2	1590	0.162	0.19		75Ch11	65(3)				1.6(9)	5(2)
1206.60(9)	$\langle 7 \rangle$								32(3)				69(2)
1239.09(9)	$\langle 3 \rangle^+$										12(1)	3.7(6)	8.0(6)
1278.16(13)	$\langle 1,3 \rangle$	2	995	0.104	0.04		75Ch11						
1280.53(9)	$\langle 1^+,3,5^- \rangle$		incl		incl						62(11)	≤ 29	≤ 52
1338.29													
1349.17(18)	$\langle 9 \rangle^-$							23(5)	20(9)			57(4)	
1351.16(10)	$\langle 3^+,5,7^- \rangle$							45(7)					
1395.77(16)	$\langle 3^+,5,7^- \rangle$							13(3)				13(3)	
1443.54(8)	$\langle 9 \rangle^-$											14	
1491.62(18)	1 ⁺	0			0.04		85Bu14						[100]
1506.19(8)	$\langle 3^+,5,7 \rangle$							39(3)				<5	31(3)

(continued)

⁸¹Kr
³⁶

E^*	$2J^\pi$	L	σ (d,p)	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 7 ⁺	49.5 9 ⁺	191 1 ⁻	457 5 ⁻	549 5 ⁺
1558.2(4)	1,3,5										78(9)		
1607.46(18)	$\langle 13 \rangle^+$					3.5(21) ps							
1677.98(5)	$1^-, 3^-$										0.7(4)		
1682.7(4)	7,9,11 ⁽⁺⁾	4			0.17		85Bu14		68(4)	32(2)			
1687.9(3)	7,9,11 ⁽⁺⁾								46(3)	54(3)			
1743.63(9)	$\langle 7 \rangle^+$								16.2(7)	5.2(3)		2.0(1)	32(1)
1744.69(9)	$\langle 1 \rangle^-$	1			0.04		85Bu14				41(4)		
1781.8(5)	7,9,11 ⁽⁺⁾								83(7)	≈ 17			
1828.95	$\langle 11^- \rangle$												
1841.7(11)	$\langle 13^+ \rangle$												
1853.97(21)													
1888	5 ⁺	2	1187	0.093	0.03		75Ch11						
1902.6(6)	7,9,11 ⁽⁺⁾								82(8)	18(2)			
1990.90(18)												22(5)	
1993.62(21)	$\langle 15 \rangle^+$					0.15(6) ps							
2021.19(21)													
2065.14(17)	$\langle 1,3 \rangle^-$										25(3)		
2069.1(11)													
2096.89(21)	$\langle 1,3,5^- \rangle$										34(7)		
2135.8(4)	$\langle 17 \rangle^+$					0.40(8) ps							
2143.91(21)	$\langle 1,3,5^- \rangle$										56(11)		
2166.09(12)	$\langle 13 \rangle^-$												
2192.5(4)	$\langle 15^+ \rangle$					>2.1 ps							
2217.2(10)	$\langle 13 \rangle^+$												
2218	5 ⁺	2	2270	0.207	0.09		75Ch11						
2290.55(23)	$\langle 5^+, 7, 9^- \rangle$											20(5)	
2363.0(11)													
2365	1 ⁺	0	561	0.060	0.03		75Ch11						
2420.32(16)	$\langle 13^- \rangle$												
2421	1 ⁺	0	951	0.089	0.04		75Ch11						
2530													
2533.63(13)	$\langle 15 \rangle^-$					1.4(7) ps							
2680													
2694.7(4)	$\langle 17^+ \rangle$												
2699.67(15)	$\langle 17 \rangle^-$					<0.2 ns							
2784.0(4)	$\langle 15 \rangle$												
2828.19(15)	$\langle 17 \rangle^-$					2.4(8) ps							
2830													
3061.68(16)	$\langle 19^- \rangle$					1.5(6) ps							
3070													
3092.2(4)	$\langle 17 \rangle$					1.9(6) ps							
3195.5(4)	$\langle 19 \rangle^+$					0.14(6) ps							
3270													
3310													
3392.8(4)	$\langle 21 \rangle^+$					0.27(6) ps							

(continued)

⁸¹₃₆Kr

E^*	$2J^\pi$	L	σ (d,p)	S_N	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	Γ_{cm}		E_f^* :	0.0	49.5	191	457	549
								$2J_f^\pi$:	7 ⁺	9 ⁺	1 ⁻	5 ⁻	5 ⁺
3455.7(7)	$\langle 19 \rangle$												
3460													
3490.8(8)	$\langle 21 \rangle^-$												
3558.0(5)													
3624.0(4)	$\langle 21 \rangle^+$					0.33(6) ps							
3630													
3650.0(4)	$\langle 21 \rangle^-$												
3750													
3820													
3854.7(12)	$\langle 21 \rangle$												
3957.1(4)	$\langle 23 \rangle^+$					0.28(5) ps							
4099.5(8)	$\langle 23 \rangle^-$					1.9(6) ps							
4180													
4301.0(9)	$\langle 23 \rangle^-$												
4470													
4472.2(5)	$\langle 25 \rangle^+$					0.16(6) ps							
4560													
4690													
4714.4(9)	$\langle 25 \rangle^-$					1.0(6) ps							
4820													
4960													
5047.5(6)	$\langle 27 \rangle^+$					0.10(4) ps							
5130													
5759.5(12)	$\langle 29 \rangle^+$												
9717(15)	3 ⁻												
			75Ch11	75Ch11	85Bu14		Ref.						

σ (d,p) [75Ch11] and $S_N=2(2J_i+1)(2j+1)/1.53(2J+1)(2s+1)\sigma_{DWBA}$ from two experimental works [75Ch11, 85Bu14] are presented.

Energy levels and branching ratios [96Ba89]. Part 2

⁸¹₃₆Kr

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* :	609	637	701	732.0	873.7	902.5	919.8	934.1	976.3	976.5
		$2J_f^\pi$:	3 ⁺ ,5 ⁺	3 ⁻	$\langle 5 \rangle^-$	$\langle 5,7 \rangle^+$	$\langle 11 \rangle^+$	$\langle 7 \rangle^-$	3 ⁻	$\langle 11 \rangle^+$	$\langle 13 \rangle^+$	1 ⁺
700.81(5)	$\langle 5 \rangle^-$			1.0(2)								
919.81(6)	3 ⁻			12(2)	5.2(13)							
976.55(8)	1 ⁺		22	78(2)								
994.32(5)	$\langle 1-5 \rangle^-$		2.1(2)	19(1)								
1025.60(4)	3 ⁻ ,5 ⁻			18(3)								
1093.5				100								
1100.04(6)	5 ⁺			18(2)		9.4(5)						
1206.60(9)	$\langle 7 \rangle$		x									

(continued)

 $^{81}_{36}\text{Kr}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	609 $3^+, 5^+$	637 3^-	701 $\langle 5 \rangle^-$	732.0 $\langle 5, 7 \rangle^+$	873.7 $\langle 11 \rangle^+$	902.5 $\langle 7 \rangle^-$	919.8 3^-	934.1 $\langle 11 \rangle^+$	976.3 $\langle 13 \rangle^+$	976.5 1^+
1239.09(9)	$\langle 3 \rangle^+$			14(1)	49(8)				13(2)			
1278.16(13)	$\langle 1, 3 \rangle$											[100]
1280.53(9)	$\langle 1^+, 3, 5^- \rangle$				38(7)							
1338.29				100								
1349.17(18)	$\langle 9 \rangle^-$							x				
1351.16(10)	$\langle 3^+, 5, 7^- \rangle$			21(7)	34(5)							
1395.77(16)	$\langle 3^+, 5, 7^- \rangle$			9(3)	66(3)							
1443.54(8)	$\langle 9 \rangle^-$				86.2(25)							
1506.19(8)	$\langle 3^+, 5, 7 \rangle$		30(3)									
1607.46(18)	$\langle 13 \rangle^+$									74.5(20)	25.5(16)	
1677.98(5)	$1^-, 3^-$		4.9(2)	44(2)	46(1)				4.2(2)			<6
1743.63(9)	$\langle 7 \rangle^+$					<1.0						
1744.69(9)	$\langle 1 \rangle^-$		11(2)	48(2)								
1828.95	$\langle 11^- \rangle$							100				
1841.7(11)	$\langle 13^+ \rangle$									100		
1853.97(21)				100								
1990.90(18)			49(5)					<69			29	
1993.62(21)	$\langle 15 \rangle^+$						47(2)				53(3)	
2021.19(21)				100								
2065.14(17)	$\langle 1, 3 \rangle^-$			52(3)	12(5)							11(4)
2069.1(11)										100		
2096.89(21)	$\langle 1, 3, 5^- \rangle$								66(7)			
2135.8(4)	$\langle 17 \rangle^+$											100
2143.91(21)	$\langle 1, 3, 5^- \rangle$								44(13)			
2166.09(12)	$\langle 13 \rangle^-$						14(1)			16(1)	19(1)	
2192.5(4)	$\langle 15^+ \rangle$									≈ 71	29(4)	
2217.2(10)	$\langle 13 \rangle^+$						100					
2290.55(23)	$\langle 5^+, 7, 9^- \rangle$		23(6)									
2363.0(11)										100		
2533.63(13)	$\langle 15 \rangle^-$										47(1)	
2784.0(4)	$\langle 15 \rangle$										≈ 30	

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

 $^{81}_{36}\text{Kr}$

E^* [keV]	$2J^\pi$	Branching ratios in percentage										
		E_f^* : $2J_f^\pi$:	981.6 $\langle 9^+ \rangle$	1014.8	1025.6 $3^-, 5^-$	1100.0 5^+	1349.2 $\langle 9 \rangle^-$	1443.5 $\langle 9 \rangle^-$	1607.5 $\langle 13 \rangle^+$	1828.9 $\langle 11^- \rangle$	1993.6 $\langle 15 \rangle^+$	2135.8 $\langle 17 \rangle^+$
1558.2(4)	1,3,5				21.8(21)							
1743.63(9)	$\langle 7 \rangle^+$		2.7(2)	9.4(7)		33(1)						
2166.09(12)	$\langle 13 \rangle^-$						32(1)	16(1)		4.4(8)		
2290.55(23)	$\langle 5^+, 7, 9^- \rangle$		57(12)									
2420.32(16)	$\langle 13^- \rangle$							100				

(continued)

 $^{81}_{36}\text{Kr}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	981.6 $\langle 9^+ \rangle$	1014.8	1025.6 $3^-, 5^-$	1100.0 5^+	1349.2 $\langle 9 \rangle^-$	1443.5 $\langle 9 \rangle^-$	1607.5 $\langle 13 \rangle^+$	1828.9 $\langle 11 \rangle^-$	1993.6 $\langle 15 \rangle^+$	2135.8 $\langle 17 \rangle^+$
2533.63(13)	$\langle 15 \rangle^-$								≈ 2	≈ 3.0		
2694.7(4)	$\langle 17^+ \rangle$								29(5)			71(9)
2699.67(15)	$\langle 17 \rangle^-$										≈ 16	
2784.0(4)	$\langle 15 \rangle$								70(6)			
2828.19(15)	$\langle 17 \rangle^-$										46(6)	
3195.5(4)	$\langle 19 \rangle^+$										28(4)	72(6)
3392.8(4)	$\langle 21 \rangle^+$											100
3624.0(4)	$\langle 21 \rangle^+$											64(7)

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

 $^{81}_{36}\text{Kr}$

E^*	$2J^\pi$	Branching ratios in percentage										
[keV]		E_f^* : $2J_f^\pi$:	2166.1 $\langle 13 \rangle^-$	2420.3 $\langle 13 \rangle^-$	2533.6 $\langle 15 \rangle^-$	2694.7 $\langle 17^+ \rangle$	2699.7 $\langle 17 \rangle^-$	2784.0 $\langle 15 \rangle$	2828.2 $\langle 17 \rangle^-$	3061.7 $\langle 19 \rangle^-$	3092.2 $\langle 17 \rangle$	3195.5 $\langle 19 \rangle^+$
2533.63(13)	$\langle 15 \rangle^-$		42(3)	6.1(3)								
2699.67(15)	$\langle 17 \rangle^-$		9.6(13)		74(3)							
2828.19(15)	$\langle 17 \rangle^-$				36(2)		18.3(11)					
3061.68(16)	$\langle 19 \rangle^-$				1.3(5)		92(4)		6.3(9)			
3092.2(4)	$\langle 17 \rangle$							100				
3455.7(7)	$\langle 19 \rangle$										100	
3490.8(8)	$\langle 21 \rangle^-$						10(3)		≈ 90			
3558.0(5)						100						
3624.0(4)	$\langle 21 \rangle^+$											≈ 21
3650.0(4)	$\langle 21 \rangle^-$						52(4)		≈ 40	8(3)		
4099.5(8)	$\langle 23 \rangle^-$									37(5)		

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

 $^{81}_{36}\text{Kr}$

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]		E_f^* : $2J_f^\pi$:	3392.8 $\langle 21 \rangle^+$	3455.7 $\langle 19 \rangle$	3490.8 $\langle 21 \rangle^-$	3624.0 $\langle 21 \rangle^+$	3957.1 $\langle 23 \rangle^+$	4099.5 $\langle 23 \rangle^-$	4472.2 $\langle 25 \rangle^+$	5047.5 $\langle 27 \rangle^+$
3624.0(4)	$\langle 21 \rangle^+$		≈ 15							
3854.7(12)	$\langle 21 \rangle$			100						
3957.1(4)	$\langle 23 \rangle^+$		68(2)			32.1(15)				
4099.5(8)	$\langle 23 \rangle^-$				63(4)					
4301.0(9)	$\langle 23 \rangle^-$				100					
4472.2(5)	$\langle 25 \rangle^+$						100			
4714.4(9)	$\langle 25 \rangle^-$				70(9)			≈ 30		

(continued)

⁸¹Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage								
[keV]		E_f^* : $2J_f^\pi$:	3392.8 $\langle 21 \rangle^+$	3455.7 $\langle 19 \rangle$	3490.8 $\langle 21 \rangle^-$	3624.0 $\langle 21 \rangle^+$	3957.1 $\langle 23 \rangle^+$	4099.5 $\langle 23 \rangle^-$	4472.2 $\langle 25 \rangle^+$	5047.5 $\langle 27 \rangle^+$
5047.5(6)	$\langle 27 \rangle^+$								100	
5759.5(12)	$\langle 29^+ \rangle$									100

Energy levels and branching ratios [03Tu03].

⁸²Kr
₃₆

E^*	J^π	L	ε	L	β_L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(p,t)		(p,p')	Γ_{cm}		E^*_f : J^π_f :	0.0 0 ⁺	776 2 ⁺	1475 2 ⁺	1488 0 ⁺	1821 4 ⁺
0.0	0 ⁺					Stable							
776.520(3)	2 ⁺			2	0.245	4.45(14) ps	79Sa14		100				
1474.897(5)	2 ⁺			2	0.044	≈15 ps	79Sa14		36.7(3)	63.3(5)			
1487.60(7)	0 ⁺					10(3) ps		x		100			
1820.530(5)	4 ⁺			4	0.048	0.67(25) ps	79Sa14			100			
1885													
1956.776(17)	⟨2 ⁺ ⟩					≈0.8 ps			30.2(7)	70(3)			
2094.011(5)	3 ⁺									37.4(4)	61.2(6)		1.2(1)
2171.67(3)	0 ⁺					≈2 ps		x		48.9(2)	7.1(3)		
2426.881(6)	⟨4 ⁺ ⟩					0.57(11) ps				30.3(4)	15.3(6)		51(1)
2450.09(9)	0 ⁽⁺⁾ -2									46(3)	54(7)		
2479.72(3)	1 ⁺ ,2 ⁺								42(1)	51.6(6)		1.9(8)	
2509.0(5)												x	
2547.71(6)	⟨3 ⁻ ⟩	3	0.84				82Ma18			3.3(23)	97(4)		
2556.173(13)	⟨4 ⁺ ⟩					1.4(4) ps				13.4(2)	71(1)		8.1(9)
2561.7(5)											x		
2648.360(5)	4 ⁻					<7 ps				0.03(1)	0.02(1)		25.6(2)
2655.859(11)	1,2 ⁽⁺⁾								8(2)	47(7)	18(8)	26(14)	
2797.56(5)													32(4)
2828.10(3)	5 ⁽⁻⁾					14(7) ps							96.5(8)
2849.74(9)	⟨4 ⁺ ⟩									5(2)	22(6)		
2919.81(8)	⟨6 ⁺ ⟩					3(1) ps							100
2944.14(4)	⟨2 ⁺ ⟩ ⁺								15(3)	83(3)			2(1)
3011.20(5)	⟨5 ⁻ ⟩					2(1) ps							5.7(3)
3037.84(7)	⟨6 ⁻ ⟩					0.58(7) ns							
3077(10)													
3167.58(9)	⟨6 ⁺ ⟩					0.76(21) ps							92(6)
3186.82(5)	0 ⁺ -2 ⁺									88(4)	6(1)	5(3)	
3186.92(20)	⟨5 ⁺ ⟩												
3255.95(13)	⟨6 ⁺ ⟩					0.36(10) ps							78(16)
3322(7)	3 ⁻	3	1.21				82Ma18						
3348.49(7)	⟨6 ⁻ ⟩												
3355.32(19)	1,2 ⁽⁺⁾								21(2)	79(8)			
3392.2(7)													

(continued)

 $^{82}_{36}\text{Kr}$

E^*	J^π	L	ε	L	β_L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(p,t)		(p,p')	Γ_{cm}		E^*_f : J^π_f :	0.0 0 ⁺	776 2 ⁺	1475 2 ⁺	1488 0 ⁺	1821 4 ⁺
3457.5(7)	1,2 ⁽⁺⁾								100				
3461.72(19)	8 ⁺					96(12) ps							
3496.63(10)	7 ⁻					14(+14-7) ps							
3564.6(3)	0 ⁽⁺⁾ -2									34(2)			
3595.18(8)	7 ⁻												
3655.60(8)	4 ⁽⁺⁾ -6 ⁽⁺⁾												24(2)
3681(10)													
3709.42(17)	7 ⁺												
3716.83(15)	0 ⁽⁺⁾ -2									78(15)	22(19)		
3741.96(8)										17(2)			
3815.1(10)	1,2 ⁽⁺⁾								25(2)				
3835.8(5)	1,2								24(2)	76(5)			
3846.12(17)													
3881.1(5)	1,2 ⁽⁺⁾								37(9)	63(19)			
3911.1(10)	1,2 ⁽⁺⁾								100				
3951.4(4)	4-6 ⁽⁺⁾												44(13)
3956.1(10)	1,2 ⁽⁺⁾								100				
3997.90(10)	4-6 ⁽⁺⁾												
4016.34(13)	8 ⁺					1.0(+10-4) ps							
4033.80(12)						1.1(3) ps							
4063.49(10)	4-6 ⁽⁺⁾												85(7)
4068.04(8)	4,5 ⁽⁺⁾												31(3)
4125.19(14)	8 ⁺					6(2) ps							
4135.6(5)													x
4170.95(16)	8 ⁻					2.4(+24-8) ps							
4343.1(3)						1.0(+24-3) ps							
4437.7(3)						0.17(+8-4) ps							
4609.56(20)	10 ⁺					1.2(+7-3) ps							
4667.94(17)	9 ⁻					1.1(3) ps							
4746.84(22)	9 ⁻					0.6(1) ps							
4822.21(16)	10 ⁺					1.2(2) ps							
4896.7(11)													
5011.94(22)	8 ⁺ -10 ⁺												
5325.42(22)	10 ⁻												
5702.8(11)													
5992.6(4)						0.3(1) ps							
6009.6(4)													
6011.7(4)						0.39(7) ps							
		82Ma18			79Sa14		Ref.						

Additional data on this isotope can be found in [01Me20, 94Go12].

Abundance: 11.58(14) %.

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

⁸²Kr
₃₆

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π	1957 $\langle 2^+ \rangle$	2094 3^+	2427 $\langle 4^+ \rangle$	2547.71 $\langle 3^- \rangle$	2556.17 $\langle 4^+ \rangle$	2648.36 4^-	2828.10 $5^{\langle - \rangle}$	2849.74 $\langle 4^+ \rangle$	2919.81 $\langle 6^+ \rangle$
2094.011(5)	3^+		0.215(2)								
2171.67(3)	0^+		44(2)								
2426.881(6)	$\langle 4^+ \rangle$			3.7(2)							
2479.72(3)	$1^+, 2^+$		5(2)								
2556.173(13)	$\langle 4^+ \rangle$		1.6(9)		5.8(14)						
2648.360(5)	4^-			72(1)	2.36(4)	0.09(2)	0.73(4)				
2797.56(5)				68(12)							
2828.10(3)	$5^{\langle - \rangle}$				0.8(5)	0.52(21)	1.43(15)	0.8(6)			
2849.74(9)	$\langle 4^+ \rangle$			73(4)							
3011.20(5)	$\langle 5^- \rangle$				25(4)		26(1)		43(2)		
3037.84(7)	$\langle 6^- \rangle$							94.6(9)	5.4(4)		
3167.58(9)	$\langle 6^+ \rangle$										8.1(14)
3186.92(20)	$\langle 5^+ \rangle$			100							
3255.95(13)	$\langle 6^+ \rangle$										21.5(20)
3348.49(7)	$\langle 6^- \rangle$							7(2)	37(2)		13(1)
3392.2(7)							x				
3461.72(19)	$\langle 8^+ \rangle$										100
3496.63(10)	$\langle 7^- \rangle$								67(5)		15(4)
3564.6(3)	$0^{\langle + \rangle} - 2$		66(9)								
3595.18(8)	$\langle 7^- \rangle$								5(2)		32(3)
3655.60(8)	$4^{\langle + \rangle} - 6^{\langle + \rangle}$				12(5)						64(10)
3741.96(8)			83(17)								
3846.12(17)									87(22)		
3951.4(4)	$4 - 6^{\langle + \rangle}$						56(38)				
3997.90(10)	$4 - 6^{\langle + \rangle}$						83(13)				
4016.34(13)	$\langle 8^+ \rangle$										76(11)
4063.49(10)	$4 - 6^{\langle + \rangle}$						15(7)				
4068.04(8)	$4, 5^{\langle + \rangle}$			43(3)	10(3)					16(13)	
4125.19(14)	$\langle 8^+ \rangle$										35(4)
4437.7(3)											93(13)

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

⁸²Kr
₃₆

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	2944.14 $\langle 2 \rangle^+$	3011.20 $\langle 5 \rangle^-$	3037.84 $\langle 6^- \rangle$	3167.58 $\langle 6^+ \rangle$	3255.95 $\langle 6^+ \rangle$	3348.49 $\langle 6^- \rangle$	3461.72 $\langle 8^+ \rangle$	3496.63 $\langle 7^- \rangle$	3595.18 $\langle 7^- \rangle$
3255.95(13)	$\langle 6^+ \rangle$					0.38(9)					
3348.49(7)	$\langle 6^- \rangle$			32(2)	11.2(6)						
3496.63(10)	$\langle 7^- \rangle$				17.7(13)						
3595.18(8)	$\langle 7^- \rangle$			27(3)	1.7(8)	21(2)		4.8(4)		9.2(8)	
3709.42(17)	$\langle 7^+ \rangle$					47(9)	44(3)		9(3)		
3815.1(10)	$1, 2^{\langle + \rangle}$		75(42)								

(continued)

 $^{82}_{36}\text{Kr}$

E^*	J^π	Branching ratios in percentage									
[keV]		E_f^* : J_f^π :	2944.14 $\langle 2 \rangle^+$	3011.20 $\langle 5 \rangle^-$	3037.84 $\langle 6^- \rangle$	3167.58 $\langle 6^+ \rangle$	3255.95 $\langle 6^+ \rangle$	3348.49 $\langle 6^- \rangle$	3461.72 $\langle 8^+ \rangle$	3496.63 $\langle 7^- \rangle$	3595.18 $\langle 7^- \rangle$
3846.12(17)	$4-6^{(+)}$ $\langle 8^+ \rangle$			17(13)				13(4)			
3997.90(10)											
4016.34(13)						6.3(3)	5.3(15)		12.8(23)		
4033.80(12)								56(11)			
4125.19(14)	$\langle 8^+ \rangle$								25(2)		
4170.95(16)	$\langle 8^- \rangle$							78(3)			22(5)
4343.1(3)					88(19)						
4609.56(20)	$\langle 10^+ \rangle$								100		
4667.94(17)	$\langle 9^- \rangle$										82(16)
4746.84(22)	$\langle 9^- \rangle$									100	
4896.7(11)									100		

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

 $^{82}_{36}\text{Kr}$

E^*	J^π	Branching ratios in percentage									
		E_f^* :	3709.42	3846.12	4016.34	4125.19	4170.95	4609.56	4667.94	4746.84	4822.21
[keV]		J_f^π :	$\langle 7^+ \rangle$		$\langle 8^+ \rangle$	$\langle 8^+ \rangle$	$\langle 8^- \rangle$	$\langle 10^+ \rangle$	$\langle 9^- \rangle$	$\langle 9^- \rangle$	$\langle 10^+ \rangle$
4033.80(12)				44(11)							
4125.19(14)	$\langle 8^+ \rangle$		19(2)		21(2)						
4343.1(3)							12(4)				
4437.7(3)					3.5(18)	3.5(18)					
4667.94(17)	$\langle 9^- \rangle$						18(4)				
4822.21(16)	$\langle 10^+ \rangle$				96.2(19)			3.8(4)			
5011.94(22)	$\langle 8^+ - 10^+ \rangle$					78(22)					22(11)
5325.42(22)	$\langle 10^- \rangle$						79(7)		21(7)		
5702.8(11)										100	
5992.6(4)								100			
6009.6(4)								100			
6011.7(4)											100

Energy levels and branching ratios [01Wu02].

 $^{83}_{36}\text{Kr}$

E^*	$2J^\pi$	L	σ (d,p)	S_N	S'	L	C^2S	$T_{1/2}$ or	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(τ, α)	(τ, α)	Γ_{cm}	
0.0	9^+	4	941	0.458	4.6	4	$\langle 8 \rangle$	Stable	75Ch11
9.4053(8)	7^+			incl	incl			154(1) ns	
41.557(1)	1^-							1.83(2) h	
561.957(1)	5^-					$\langle 3 \rangle$	2.8	6(2) ps	75Ch11

(continued)

⁸³Kr
₃₆

E^*	$2J^\pi$	L	σ (d,p)	S_N	S'	L	C^2S	$T_{1/2}$ or	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(τ, α)	(τ, α)	Γ_{cm}	
571.153(1)	$\langle 3^- \rangle$	1	784	0.084	0.34			1.0(3) ps	75Ch11
690.30(7)	5^-					$\langle 3 \rangle$	0.8	10(3) ps	76Me01
799.20(21)	5^+	2	1861	0.146	0.88			1.7(5) ps	75Ch11
811(8)	$1^-, 3^-$					1	2.2		76Me01
1011.80(9)	11^+							0.8(1) ps	
1085									
1100(10)	$\langle 1^-, 3^- \rangle$					$\langle 1 \rangle$	4.2		76Me01
1102.75(11)	$\langle 9^+ \rangle$							0.4(1) ps	
1122.06(9)	13^+							1.3(4) ps	
1170.44(7)	$\langle 7^- \rangle$							2.4(10) ps	
1214	$3^+, 5^+$	2	3988	0.283	1.70				75Ch11
1221.9(2)	$\langle 5, 7^- \rangle$							1.5(7) ps	
1277.9(3)	$\langle 1^+ \rangle$	0	4009	0.336	0.67				75Ch11
1516.9(2)	$\langle 7^+ \rangle$							0.31(14) ps	
1529.2(2)	9^-							0.9(2) ps	
1533.7(2)									
1538.1(6)									
1642.5(2)	$\langle 7^+ - 11^+ \rangle$							0.21(7) ps	
1668(15)*	$\langle 5^-, 7^- \rangle$					$\langle 3 \rangle$	1.9		76Me01
1721.5(1)	13^+							0.49(14) ps	
1738.2(1)	11^+							0.35(14) ps	
1780.9(5)								0.31(20) ps	
1889.0(3)	$X^{(-)}$							0.6(3) ps	
2035(15)	$\langle 5^-, 7^- \rangle$					$\langle 3 \rangle$	1.4		76Me01
2121(15)	$\langle 3^+ - 7^- \rangle$					$\langle 3, 2 \rangle$	0.6, 0.4		76Me01
2145.3(7)									
2188(15)	$\langle 3^+ - 7^- \rangle$					$\langle 3, 2 \rangle$	0.2, 0.1		76Me01
2236	$3^+, 5^+$	2	1027	0.058	0.25				75Ch11
2261(20)	$\langle 3^+ - 7^- \rangle$					$\langle 3, 2 \rangle$	0.5, 0.3		76Me01
2265.8(1)	$\langle 15^+ \rangle$							1.0(5) ps	
2271.4(2)	$X^{(-)}$								
2290.3(2)	$X^{(-)}$								
2338.1(2)	$X^{(-)}$								
2379	1^+	0	637	0.049	0.10				75Ch11
2470.5(1)	$\langle 13, 17 \rangle$							24(10) ps	
2478.1(3)	$\langle 15^+ \rangle$								
2483.8(2)	$\langle 17^+ \rangle$							1.0(0,6) ps	
2495(20)	$\langle 1^-, 3^- \rangle$					$\langle 1 \rangle$			76Me01
2510.2(1)	$X^{(-)}$							2.1(10) ps	
2550.9(2)	17^+							0.9(7) ps	
2585(20)	$3^+, 5^+$	2	1026	0.060	0.36	$\langle 3, 2 \rangle$			75Ch11
2640.7(1)	$X^{(-)}$							4(2) ps	
2733(20)	$\langle 5^-, 7^- \rangle$					$\langle 3 \rangle$			76Me01
2733.8(4)	X^+							0.35(10) ps	
2841.2(1)	$\langle 17^- \rangle$							4.9(14) ps	

(continued)

⁸³Kr
³⁶

E^*	$2J^\pi$	L	σ (d,p)	S_N	S'	L	C^2S	$T_{1/2}$ or	Ref.
[keV]		(d,p)	$\mu\text{b/sr}$	(d,p)	(d,p)	(τ, α)	(τ, α)	Γ_{cm}	
2944	$3^+, 5^+$	2	520	0.027					75Ch11
2985.9(4)									
3140	1^+	0	1624	0.139					75Ch11
3157.5(2)	$\langle 19^- \rangle$							1.2(6) ps	
3322.0(5)									
3367.1(2)								4(1) ps	
3411.6(2)	$\langle 21^+ \rangle$								
3493.4(11)									
3603.1(2)								1.0(3) ps	
3685.8(6)									
3718	$3^+, 5^+$	2	1389	0.083					75Ch11
3772	$7^+, 9^+$	4	835	0.356					75Ch11
3804.4(6)									
3820.8(3)									
3906.4(3)	$\langle 19^+ \rangle$								
4025.7(4)	$\langle 21^+ \rangle$								
4172.4(3)	$\langle 21^+ \rangle$								
4218.4(3)								0.55(+35-21) ps	
4585.2(4)									
4629.8(5)									
4694.7(4)								1.5(+4-3) ps	
4870.0(4)								0.6(1) ps	
5103.3(4)								≤ 0.4 ps	
5183.9(5)									
5641.0(11)									
5683.4(7)									
5736.1(5)									
5778.4(4)									
6373.4(12)								≤ 0.2 ps	
			75Ch11	75Ch11	76Me01		76Me01		Ref.

Additional data on this isotope can be found in [81Ca01].

Abundance: 11.49(6) %.

* Possible doublet [76Me01].

The most probable $n\ell j$ are given consistent with the L assignments [76Me01].

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

⁸³Kr
³⁶

E^*	$2J^\pi$	Branching ratios in percentage									
		E_f^* :	0.0	9.4	41.6	562	571	690	799	1012	1102.75
[keV]		$2J_f^\pi$:	9^+	7^+	1^-	5^-	$\langle 3^- \rangle$	5^-	5^+	11^+	$\langle 9 \rangle^+$
9.4053(8)	7^+		100								
41.557(1)	1^-			100							

(continued)

⁸³Kr
₃₆

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	0.0 9 ⁺	9.4 7 ⁺	41.6 1 ⁻	562 5 ⁻	571 ⟨3 ⁻ ⟩	690 5 ⁻	799 5 ⁺	1012 11 ⁺	1102.75 ⟨9 ⁺ ⟩
561.957(1)	5 ⁻		0.014(1)	26(1)	74(2)						
571.153(1)	⟨3 ⁻ ⟩				100						
690.30(7)	5 ⁻			23(1)	69(3)	1.0(3)	7.7(6)				
799.20(21)	5 ⁺		27(1)	73(2)							
1011.80(9)	11 ⁺		95(7)	4.9(10)							
1102.75(11)	⟨9 ⁺ ⟩		8.4(19)	92(7)							
1122.06(9)	13 ⁺		100								
1170.44(7)	⟨7 ⁻ ⟩		27(3)	38(3)		13(2)		22(2)			
1221.9(2)	⟨5,7 ⁻ ⟩			40(8)			60(17)				
1277.9(3)	⟨1 ⁺ ⟩						100				
1516.9(2)	⟨7 ⁺ ⟩		42(12)						58(12)		
1529.2(2)	9 ⁻		20(3)	23(4)		47(6)		10(3)			
1533.7(2)						31(10)		69(14)			
1538.1(6)						x	x	x			
1642.5(2)	⟨7 ⁺ -11 ⁺ ⟩		34(10)	32(10)						34(7)	
1721.5(1)	13 ⁺		32(2)							33(2)	17(6)
1738.2(1)	11 ⁺		35(2)	33(3)							18(1)
1889.0(3)	X ⁽⁻⁾					x	x	x			
2145.3(7)						100					
2271.4(2)	X ⁽⁻⁾										100
2338.1(2)	X ⁽⁻⁾										33(6)
2478.1(3)	⟨15 ⁺ ⟩									30(7)	

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

⁸³Kr
₃₆

E^* [keV]	$2J^\pi$	Branching ratios in percentage									
		$E_f^*:$ $2J_f^\pi:$	1122.06 13 ⁺	1170.44 ⟨7 ⁻ ⟩	1221.87 ⟨5,7 ⁻ ⟩	1721.48 13 ⁺	1738.20 11 ⁺	1889.0 X ⁽⁻⁾	2265.83 ⟨15 ⁺ ⟩	2271.42 X ⁽⁻⁾	2290.30 X ⁽⁻⁾
1721.5(1)	13 ⁺		18(1)								
1738.2(1)	11 ⁺		14(9)								
1780.9(5)					100						
2265.8(1)	⟨15 ⁺ ⟩		69(1)			22.5(11)	8.0(8)				
2290.3(2)	X ⁽⁻⁾						100				
2338.1(2)	X ⁽⁻⁾			67(29)							
2470.5(1)	⟨13,17⟩								100		
2478.1(3)	⟨15 ⁺ ⟩		70(18)								
2483.8(2)	⟨17 ⁺ ⟩		x					x			
2510.2(1)	X ⁽⁻⁾						≈14			19(2)	
2550.9(2)	17 ⁺		41(7)			24(2)			34(6)		
2640.7(1)	X ⁽⁻⁾		6(2)			6.4(6)			10.9(10)		30(1)
2733.8(4)	X ⁺		100								

(continued)

⁸³Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^* :	1122.06	1170.44	1221.87	1721.48	1738.20	1889.0	2265.83	2271.42	2290.30	
[keV]	$2J_f^\pi$:	13^+	$\langle 7^- \rangle$	$\langle 5, 7^- \rangle$	13^+	11^+	$X^{(-)}$	$\langle 15^+ \rangle$	$X^{(-)}$	$X^{(-)}$	
2985.9(4)		100									
3493.4(11)		x									

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

⁸³Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage									
		E_f^* :	2338.10	2470.46	2478.1	2483.84	2510.18	2550.88	2640.67	2841.24	2985.9
[keV]		$2J_f^\pi$:	$X^{(-)}$	$\langle 13, 17 \rangle$	$\langle 15^+ \rangle$	$\langle 17^+ \rangle$	$X^{(-)}$	17^+	$X^{(-)}$	$\langle 17^- \rangle$	
2510.2(1)	$X^{(-)}$		67(4)								
2640.7(1)	$X^{(-)}$						46(4)				
2841.2(1)	$\langle 17^- \rangle$			15(1)					85(4)		
3157.5(2)	$\langle 19^- \rangle$			8(1)				≈ 4		88(4)	
3322.0(5)											100
3367.1(2)				100							
3411.6(2)	$\langle 21^+ \rangle$					71(2)		29(1)			
3603.1(2)										≈ 15	
3906.4(3)	$\langle 19^+ \rangle$				51(8)	27(4)					
4025.7(4)	$\langle 21^+ \rangle$					100					
4172.4(3)	$\langle 21^+ \rangle$							19(2)			

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

⁸³Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage								
		E_f^* :	3157.54	3322.0	3367.06	3411.56	3493.4	3603.09	3820.8	3906.4
[keV]		$2J_f^\pi$:	$\langle 19^- \rangle$			$\langle 21^+ \rangle$				$\langle 19^+ \rangle$
3603.1(2)			85(4)							
3685.8(6)				100						
3804.4(6)				100						
3820.8(3)						100				
3906.4(3)	$\langle 19^+ \rangle$						22(6)			
4172.4(3)	$\langle 21^+ \rangle$					≈ 18				62(4)
4218.4(3)			≈ 19					81(15)		
4629.8(5)								100		
4694.7(4)					100					
4870.0(4)								61(6)		
5183.9(5)						100				
5778.4(4)									100	

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

⁸³Kr
₃₆

E^*	$2J^\pi$	$E_f^*:$ $2J_f^\pi:$	4025.7 $\langle 21^+ \rangle$	4172.4 $\langle 21^+ \rangle$	Branching ratios in percentage					
[keV]					4218.4	4585.2	4694.7	4870.0	5103.3	5683.4
4585.2(4)			≈ 19	81(8)						
4870.0(4)					39(4)					
5103.3(4)						100				
5641.0(11)					49(10)			≈ 51		
5683.4(7)									100	
5736.1(5)							100			
6373.4(12)										100

Energy levels and branching ratios [97Tu02].

⁸⁴Kr
₃₆

E^*	J^π	L	β_L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]						$E_f^*:$ $J_f^\pi:$	0.0 0^+	882 2^+	1898 2^+	2095 4^+	2345 4^+
0.0	0^+			Stable							
881.615(3)	2^+	2	0.131	4.35(18) ps	74Ar29		100				
1837.3(20)	0^+	0		25(10) ps				100			
1897.784(10)	2^+	2	0.063	0.30(+7-3) ps	74Ar29		68.0	32(1)			
2095.00(7)	4^+	4	0.064	0.45(+5-7) ps	74Ar29			100			
2345.46(7)	4^+	4	0.056	24(3) ps	74Ar29			97(1)	2.7(2)		
2489.2(4)	$\langle 2^+, 3^- \rangle$							x		x	
2622.98(17)	2^+			0.28(14) ps		15(3)		85(3)			
2700.28(8)	3^-	3	0.157	1.7(+14-11) ps	74Ar29			3.0(4)	74(1)	20(1)	3.6(4)
2759.28(13)	2^+					35(8)		65			
2770.95(9)	5^-			7.6(21) ps							100
2775(20)	2^+	2	≈ 0.04		74Ar29						
2861.09(8)	$\langle 2^+, 3, 4^+ \rangle$							58(1)	35(1)	7(5)	
3042.11(7)	$\langle 2^+, 3, 4^+ \rangle$							56(1)		44(2)	
3082.38(8)	3							25(1)	2.7(5)	23(2)	32(4)
3172.51(16)	6^+			2.6(7) ps						100	
3183.29(25)	$\langle 2^+, 3, 4^+ \rangle$							57(9)		43(6)	
3219.34(11)	5^-	[1]	≈ 0.04	17(4) ps	74Ar29					66(1)	
3236.02(18)	8^+			1.89 μs							
3288.67(12)	5^+			0.31(10) ps							100
3312.39(13)	$\langle 3 \rangle^-$										10(4)
3335(20)											
3365.88(20)	$\langle 1, 2^+ \rangle$						30(4)	70(7)			
3408.16(11)	$\langle 3^-, 4, 5^- \rangle$										
3426.73(12)	$\langle 2^+, 3, 4^+ \rangle$							41(4)		59(8)	
3463.0(5)											
3475.75(21)	$\langle 1^- \rangle$	$\langle 1 \rangle$	0.057		74Ar29			17(3)	83(16)		
3570(20)	$\langle 3^- \rangle$	$\langle 3 \rangle$	0.051		74Ar29						
3587.10(11)	6^-			5.5(14) ps							

(continued)

⁸⁴Kr
³⁶

E^*	J^π	L	β_L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(p,p')	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	882 2 ⁺	1898 2 ⁺	2095 4 ⁺	2345 4 ⁺
3638.50(10)	$\langle 5^- \rangle$	$\langle 5 \rangle$	0.051	0.69(+28-21) ps	74Ar29					25.0(8)	20(1)
3651.47(21)	7^-										
3705.87(19)	$1^{\langle - \rangle} - 3^{\langle - \rangle}$							45(7)	1.7(5)		
3718.21(22)	$\langle 3^- \rangle$	$\langle 3 \rangle$	≈ 0.04		74Ar29					100	
3777.0(3)										100	
3831.58(13)	7^-			4.9(21) ps							
3870.1(5)	$1,2,3$							x			
3878.8(3)	$\langle 2^+, 3 \rangle$										35(7)
3927.33(22)	1^-						59(6)	22(4)	18(4)		
3951.21(16)	6^+			0.9(5) ps						47(13)	22(9)
4001.82(11)	$\langle 4^- \rangle$			0.35(10) ps							34(5)
4084.3(5)	$\langle 1, 2^+ \rangle$						57(9)	43(9)			
4116.8(5)	$1^-, 2^-$						0.18(4)	97(15)	3.2(15)		
4189.2(5)	$\langle 2^+, 3 \rangle$									100	
4214.4(1)											
4238.5(6)											
4278.3(5)											
4350.1(2)	$\langle 5^- \rangle$			0.28(+14-7) ps							
4388.2(2)	8^-			6.7(17) ps							
4407.8(4)	$\langle 6^- \rangle$			0.31(14) ps							
4455.5(4)											
4594.8(5)											
4676.6(2)											
4718.5(2)	8^+			5.5(21) ps							
4852.2(2)	9^-			0.8(4) ps							
4898(20)											
4928.9(2)	$\langle 9^- \rangle$			0.55(21) ps							
4976(1)	$\langle 9^+ \rangle$										
5204.0(3)	10^+			0.14(4) ps							
5358(20)											
5373.4(4)	12^+			43.7(21) ns							
5448.7(2)	10^+			3.5(14) ps							
5466											
5640.7(2)	$\langle 10^- \rangle$			0.49(21) ps							
5901.6(3)	11^-			1.9(6) ps							
6067(1)											
6472.2(4)											
6572.0(4)	$\langle 12^- \rangle$			0.42(14) ps							
6590.2(6)											
7015.7(4)	$\langle 13^- \rangle$			0.17(7) ps							
7653.1(5)	$\langle 14^- \rangle$			0.28(7) ps							
		74Ar29			Ref.						

Additional data on this isotope can be found in [01Me20, 90Ro10, 74Ar29].

Abundance: 57.00(4) %.

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

⁸⁴Kr
₃₆

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	2489 $\langle 2^+, 3^- \rangle$	2623 2^+	2700 3^-	2759.28 2^+	2770.95 5^-	2861.09	3082.38 3	3172.51 6^+	3219.34 5^-
3082.38(8)	3				17(2)						
3219.34(11)	5^-				6(2)		27.6(9)				
3236.02(18)	8^+									100	
3312.39(13)	$\langle 3^- \rangle$				52(3)		37(2)				
3408.16(11)	$\langle 3^-, 4, 5^- \rangle$				27(2)		32(3)	41(2)			
3463.0(5)											100
3475.75(21)	$\langle 1^- \rangle$								x		
3587.10(11)	6^-						8(2)				82(9)
3638.50(10)	$\langle 5^- \rangle$				23(1)						32.3(5)
3651.47(21)	7^-						100				
3705.87(19)	$1^{\langle - \rangle} - 3^{\langle - \rangle}$			5.7(10)	19(5)	14(3)					
3831.58(13)	7^-									26(4)	41(6)
3878.8(3)	$\langle 2^+, 3 \rangle$			16(3)		49(9)					
3927.33(22)	1^-		0.54(15)								
4001.82(11)	$\langle 4^- \rangle$						38(2)		27(2)		
4214.4(1)							63(3)				
4278.3(5)							100				
4407.8(4)	$\langle 6^- \rangle$						100				
4455.5(4)										100	
4594.8(5)							100				
4676.6(2)							100				
4718.5(2)	8^+									34(7)	

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

⁸⁴Kr
₃₆

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	3236.02 8^+	3288.67 5^+	3312.39 $\langle 3^- \rangle$	3365.88 $\langle 1, 2^+ \rangle$	3475.75 $\langle 1^- \rangle$	3587.10 6^-	3651.47 7^-	3831.58 7^-	3951.21 6^+
3587.10(11)	6^-			9.6(11)							
3705.87(19)	$1^{\langle - \rangle} - 3^{\langle - \rangle}$					2.8(7)	12(2)				
3831.58(13)	7^-							21(2)	13(2)		
3870.1(5)	1,2,3						x				
3927.33(22)	1^-					0.7(2)					
3951.21(16)	6^+			≈ 31							
4214.4(1)					37(3)						
4350.1(2)	$\langle 5^- \rangle$							100			
4388.2(2)	8^-							32(10)			
4718.5(2)	8^+									68(8)	
4852.2(2)	9^-		30(8)						70(13)	34(5)	32(5)
4928.9(2)	$\langle 9^- \rangle$									≈ 57	
4976(1)	$\langle 9^+ \rangle$		100								
5204.0(3)	10^+		100								

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

⁸⁴Kr
₃₆

E^*	J^π	Branching ratios in percentage											
[keV]		E_f^* : J_f^π :	4001.82 $\langle 4^- \rangle$	4388.17 8^-	4718.51 8^+	4852.16 9^-	4928.95 $\langle 9^- \rangle$	5204.0 10^+	5373.4 12^+	5448.71 10^+	5901.6 11^-	6572.0 $\langle 12 \rangle^-$	7015.7 $\langle 13 \rangle^-$
4238.5(6)		100											
4928.9(2)	$\langle 9^- \rangle$			43(14)									
5373.4(4)	12^+							100					
5448.7(2)	10^+				100								
5640.7(2)	$\langle 10^- \rangle$			55(15)			45(15)						
5901.6(3)	11^-					100							
6067(1)									100				
6472.2(4)								100					
6572.0(4)	$\langle 12 \rangle^-$								68(14)		32(12)		
6590.2(6)										100			
7015.7(4)	$\langle 13 \rangle^-$											100	
7653.1(5)	$\langle 14^- \rangle$												100

Energy levels and branching ratios [91Si01].

⁸⁵Kr
₃₆

E^*	$2J^\pi$	L	S_N	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	(τ, α)	(τ, α)	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 9 ⁺	304.9 1 ⁻	1107 1 ⁻ ,3 ⁻	1141 5 ⁺	1167
0.0	9 ⁺	4	0.136	4	6.4	10.76(2) yr	78De20						
304.87(2)	1 ⁻	1	0.075	1	2.0*	4.480(8) h	78De20	100					
1107.32(7)	1 ⁻ ,3 ⁻	1	0.102,0.043	1	2.4		78De20		100				
1140.73(7)	5 ⁺	2	0.572			3.5(+28-14) ps	78De20	100					
1166.69(6)				$\langle 3 \rangle$	$\langle 1.5 \rangle$		68Fo09		100				
1223.98(7)	$\langle 5^- \rangle$			$\langle 3 \rangle$	$\langle 2.2 \rangle$	2.4(+6-4) ps	68Fo09		100				
1342.61(5)	$\langle 3^+ \rangle$								54(4)	4(1)	12(1)	30(2)	
1416.57(9)	5 ⁺					0.42(7) ps		76(6)					24(1)
1430.6(10)	1 ⁺	0	0.348				78De20		x				
1611.6(6)	$\langle 11^+ \rangle$					0.12(3) ps		100					
1847.0(10)	$\langle 7^+ \rangle$					0.08(2) ps		92					
1873.52(18)	$\langle 5 \rangle^+$	2	0.005			0.21(14) ps	78De20						
1931.5(8)	$\langle 13^+ \rangle$					0.33(4) ps		97					
1938.83(9)	$\langle 3,5 \rangle$										46(5)	43(6)	11(3)
1990.1(8)	$\langle 9^+ \rangle$					0.23(3) ps		85					
1991.8(13)	$\langle 17^+ \rangle$					1.2 μs							
2004.4(7)	$\langle 7^+ \rangle$					0.21(4) ps		42	9.9(4)	42(2)	4.6(3)		
2055.1(9)	3 ⁺	2	0.082				78De20						
2113.4(8)	$\langle 9^+ \rangle$			$\langle 4 \rangle$	$\langle 1.9 \rangle$	0.63(6) ps	68Fo09	100					
2135.1(10)	$\langle 9^+ \rangle$					0.22(3) ps		100					
2137.34(7)	$\langle 3,5 \rangle^-$					0.48(21) ps			36(2)	5(1)			
2144.9(6)	$\langle 7^+ \rangle$					0.31(6) ps		62				19	
2235.2(10)								100					
2383.5(10)	$\langle 7^+ \rangle$					0.08(3) ps		100					

(continued)

⁸⁵Kr
³⁶

E^*	$2J^\pi$	L	S_N	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	(τ, α)	(τ, α)	Γ_{cm}		E^*_f :	0.0	304.9	1107	1141	1167
								$2J^\pi_\text{f}$:	9 ⁺	1 ⁻	1 ⁻ ,3 ⁻	5 ⁺	
2398(45)	$\langle 5^-, 7^- \rangle$			$\langle 3 \rangle$	$\langle 0.7 \rangle$		68Fo09						
2497.9(8)	$\langle 9^- \rangle$												
2513.4(16)		$\langle 2 \rangle$					74Br14						
2534.3(19)										x			x
2573.7(22)													
2593(4)													
2602.4(13)													
2617.9(20)						0.42(14) ps						x	
2636.7(13)	$\langle 11^+ \rangle$					0.17(3) ps							
2742.1(12)	1 ⁺	0	0.066				78De20						
2784.5(12)													
2797.7(12)	3 ⁺ ,5 ⁺	2	0.016				78De20						
2814.9(15)	$\langle 9^+ \rangle$					0.24(6) ps							
2845.1(12)	$\langle 5^+ \rangle$	2	0.057				78De20						
2866.4(14)	1 ⁺	0	0.078				78De20						
2929.4(13)													
3060.9(13)	3 ⁺	2	0.226				78De20						
3113.9(15)	1 ⁺	0	0.083				78De20						
3139.2(9)	$\langle 9 \rangle$ – $\langle 15 \rangle$					0.31(+10-3) ps							
3153.5(22)	1 ⁺	0	0.016				78De20						
3193.6(13)	$\langle 15, 17^+ \rangle$					0.19(3) ps							
3285.1(19)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.121				78De20						
3300.4(21)	7 ⁺ –11 ⁻	$\langle 4, 5 \rangle$											
3320.4(21)	7 ⁺ ,9 ⁺	4	0.070,0.036				78De20						
3340.6(19)	3 ⁺ ,5 ⁺	2	0.026,0.016				78De20						
3355.8(19)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.015				78De20						
3402.0(18)	$\langle 1^+, 7^+, 9^+ \rangle$		weak				78De20						
3412.8(9)	$\langle 13^- \rangle$					0.69(21) ps							
3420.2(19)	$\langle 1^+, 7^+, 9^+ \rangle$		weak				78De20						
3470.6(17)	$\langle 7^+, 9, 11^- \rangle$		weak				78De20						
3545.9(22)													
3575.4(24)	3 ⁺ ,5 ⁺	2	0.034,0.020				78De20						
3592.2(23)	3 ⁺ ,5 ⁺	2	0.024,0.014				78De20						
3638.0(17)	1 ⁺	0	0.020				78De20						
3729.4(27)	1 ⁺	0	0.024				78De20						
3745.1(27)	3 ⁺ ,5 ⁺	2	0.021,0.013				78De20						
3802.3(31)	3 ⁺ ,5 ⁺	2	0.027,0.016				78De20						
3872.8(22)													
3912.1(18)													
3927.1(20)													
3945.3(20)													
3974.9(21)													
4033.0(23)													
4046.3(24)													
4146(10)	1 ⁺	$\langle 0 \rangle$											

(continued)

⁸⁵Kr
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E^*	$2J^\pi$	L	S_N	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	(τ, α)	(τ, α)	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 9 ⁺	304.9 1 ⁻	1107 1 ⁻ , 3 ⁻	1141 5 ⁺	1167
4335(10)	3 ⁺ , 5 ⁺	⟨2⟩											
4450(10)	3 ⁺ , 5 ⁺	⟨2⟩											
4547(10)	3 ⁺ , 5 ⁺	⟨2⟩											
4623(10)													
4692(10)													
12900	⟨3 ⁻ ⟩												
13300	⟨5 ⁻ ⟩												
14200	⟨1 ⁻ ⟩												
			78De20	68Fo09	68Fo09		Ref.						
			74Br14				Ref.						

Additional data on this isotope can be found in [92Wi16, 89Wi01, 74Br14].

* normalized value [68Fo09].

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

⁸⁵Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage											
[keV]		E_f^* : $2J_f^\pi$:	1224 ⟨5 ⁻ ⟩	1343 ⟨3 ⁺ ⟩	1417 5 ⁺	1611.6 ⟨11 ⁺ ⟩	1847.0 ⟨7 ⁺ ⟩	1873.52 ⟨5 ⁺ ⟩	1931.5 ⟨13 ⁺ ⟩	2004.4 ⟨7 ⁺ ⟩	2113.4 ⟨9 ⁺ ⟩	2144.9 ⟨7 ⁺ ⟩	2497.9 ⟨9 ⁻ ⟩
1847.0(10)	⟨7 ⁺ ⟩				7.7								
1873.52(18)	⟨5 ⁺ ⟩			100									
1931.5(8)	⟨13 ⁺ ⟩					2.8							
1990.1(8)	⟨9 ⁺ ⟩					15							
1991.8(13)	⟨17 ⁺ ⟩								x				
2004.4(7)	⟨7 ⁺ ⟩			1.1(2)	x								
2113.4(8)	⟨9 ⁺ ⟩					x							
2137.34(7)	⟨3,5 ⁻ ⟩		32(2)	25(2)				2.5(8)					
2144.9(6)	⟨7 ⁺ ⟩							18					
2497.9(8)	⟨9 ⁻ ⟩		100			x							
2602.4(13)										100			
2617.9(20)								x					
2636.7(13)	⟨11 ⁺ ⟩										100		
2784.5(12)												x	
2814.9(15)	⟨9 ⁺ ⟩						100						
2929.4(13)											100		
3139.2(9)	⟨9⟩-⟨15⟩					x			x				
3193.6(13)	⟨15,17 ⁺ ⟩								100				
3412.8(9)	⟨13 ⁻ ⟩					100							x

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

⁸⁶Kr
₃₆

E^*	J^π	L	σ (t,p)	ε	L	C^2S	L	S_N	L	β_L	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	(p,t)	(d, τ)	rel.	(t, α)			(p,p')	Γ_{cm}	
0	0^+	0	34	0.38	1	0.8*	1	0.53**	0		Stable	73NeYQ
1564.75(10)	2^+	2	8	0.018	1	1.2	1	0.88	2	0.108	0.308(17) ps	74Ar29
2250.00(10)	4^+	4	2	0.015	3	2.5	3	1.78	4	0.079	3.1(6) ns	73NeYQ
2349.78(18)	2^+	2	15	0.028	1	1.0	1	0.61	2	0.047		73NeYQ
2724(4)	0^+	0	6	0.092	1	0.1	1	0.14				73NeYQ
2850.46(25)	$\langle 2,3 \rangle^+$				1	0.4	1	0.44				73NeYQ
2926.32(16)	$\langle 2 \rangle^+$				3	3.0	3	2.02				72Tu04
3010(6)	$\langle 1-5 \rangle^+$						3	0.58				72Tu04
3098.98(20)	3^-	3	18	0.046			4	0.04	3	0.145		72Tu04
3325(8)	$X^{(+)}$						$\langle 1 \rangle$	0.12	$\langle 4 \rangle$			74Ar29
3540(5)	0^+	0	45	0.48			1	0.22				72Tu04
3575(10)												
3783(5)	$\langle \leq 3 \rangle^{(+)}$						$\langle 1 \rangle$	0.06				72Tu04
3816.48(21)	$\langle 5^+, 6^+ \rangle$											
3832(10)	0^+	0	6	0.087								76Fl02
3935.3(3)	$\langle 5 \rangle$						$\langle 3 \rangle$	0.12	$\langle 5 \rangle$	0.10		74Ar29
3959(10)	$\langle 3^-, 4^+ \rangle$		46	0.1								76Fl02
4040(10)	$\langle 2-6 \rangle^-$						4	0.08				72Tu04
4064.29(21)	$\langle 6^+ \rangle$											
4072(10)	$\langle 5^- \rangle$		19									76Fl02
4111(10)	2^+	2	293	0.47								76Fl02
4175(20)	$\langle 4^+ \rangle$								$\langle 4 \rangle$	0.042		74Ar29
4194(10)	2^+	2	130	0.21								76Fl02
4277(10)	$\langle 7^+ \rangle$											
4316.16(18)	$\langle 3^- \rangle$	3.4	20	0.04								76Fl02
4399(20)	$\langle 4^+ \rangle$											
4430.7(3)	$\langle 6^- \rangle$											
4559(20)	$\langle 4^+ \rangle$											
4666(10)	$\langle 3^-, 4^+ \rangle$		43	0.1								76Fl02
4693.5(3)	$\langle 7^- \rangle$											
4706(9)			43									76Fl02
4755.9(3)	$\langle 7^+ \rangle$											
4819(12)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	93	0.14								76Fl02
4928(10)	$\langle 4^+ \rangle$								$\langle 4 \rangle$	0.098		74Ar29
4948(10)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	105	0.20								76Fl02
4991(10)			19									76Fl02
5127(20)												
5203(20)												
5315(20)												
5406.8(5)	$\langle 1,2 \rangle$											
5438(10)			34									76Fl02
5518.8(9)	$\langle 1,2 \rangle$		110									76Fl02
5576(20)												
5637(10)			x									
5660.4(3)	$\langle 8^+ \rangle$											

(continued)

⁸⁶Kr
₃₆

E^*	J^π	L	σ (t,p)	ε	L	C^2S	L	S_N	L	β_L	$T_{1/2}$ or	Ref.
[keV]		(t,p)	$\mu\text{b/sr}$	(p,t)	(d, τ)	rel.	(t, α)			(p,p')	Γ_{cm}	
5669.3(5)												
5707(10)			91									76F102
5799(9)			74									76F102
5814.6(4)	$\langle 9^+ \rangle$											
5862(9)			156									76F102
5928(20)												
5981(10)			212									76F102
6085.3(5)												
6118(10)			69									76F102
6161.7(20)	$\langle 1,2 \rangle$											
6210.6(13)	$\langle 1,2 \rangle$		118									76F102
6248.2(4)	$\langle 10 \rangle$											
6318(10)			45									76F102
6397(10)			75									76F102
6722(3)	$\langle 1,2 \rangle$											
6768.6(15)	$\langle 1,2 \rangle$											
7128.3(5)	$\langle 10 \rangle$											
7459.7(5)	$\langle 11 \rangle$											
7876.6(6)	$\langle 12 \rangle$											
			76F102	76F102						74Ar29		Ref.

Additional data on this isotope can be found in [01Me20, 00Po14, 92Wi12, 89Wi01].

Abundance: 17.30(22) %.* Normalized in [73NeYQ] so that $\Sigma C^2S=9.0$ for assumed J of $3/2$ ($L=1$) and $5/2$ ($L=3$) [97Ki04].** The following J for transferred proton were used: $2p_{3/2}$ ($L=1$), $1f_{5/2}$ ($L=3$) and $1g_{9/2}$ ($L=4$).
 $L=1$ strengths are normalized to 3.0, and all S_N values are adjusted accordingly [72Tu04, 97Ki04].

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

⁸⁶Kr
₃₆

E^*	J^π	Branching ratios in percentage										
[keV]		E_f^* : J_f^π :	0 0 ⁺	1565 2 ⁺	2250 4 ⁺	2350 2 ⁺	2850 $\langle 2,3 \rangle^+$	2926 $\langle 2 \rangle^+$	3099 3 ⁻	3816 $\langle 5^+, 6^+ \rangle$	3935.3 $\langle 5 \rangle$	4064.29 $\langle 6^+ \rangle$
1564.75(10)	2 ⁺		100									
2250.00(10)	4 ⁺			100								
2349.78(18)	2 ⁺		68(6)	32(2)								
2850.46(25)	$\langle 2,3 \rangle^+$			86(9)		14(9)						
2926.32(16)	$\langle 2 \rangle^+$		20(2)	80(10)								
3098.98(20)	3 ⁻			100								
3816.48(21)	$\langle 5^+, 6^+ \rangle$				100							
3935.3(3)	$\langle 5 \rangle$				100							
4064.29(21)	$\langle 6^+ \rangle$				72					28		
4316.16(18)	$\langle 3^- \rangle$			43(4)		15(1)	11(1)	20(2)	12(2)			
4430.7(3)	$\langle 6^- \rangle$									70	30	

(continued)

⁸⁶Kr
₃₆

E^* [keV]	J^π	Branching ratios in percentage										
		E_f^* : J_f^π :	0 0 ⁺	1565 2 ⁺	2250 4 ⁺	2350 2 ⁺	2850 $\langle 2,3 \rangle^+$	2926 $\langle 2 \rangle^+$	3099 3 ⁻	3816 $\langle 5^+, 6^+ \rangle$	3935.3 $\langle 5 \rangle$	4064.29 $\langle 6^+ \rangle$
4693.5(3)	$\langle 7^- \rangle$										≈ 15	37
4755.9(3)	$\langle 7^+ \rangle$											83
5406.8(5)	$\langle 1,2 \rangle$		100									
5518.8(9)	$\langle 1,2 \rangle$		100									
5660.4(3)	$\langle 8^+ \rangle$											35
6161.7(20)	$\langle 1,2 \rangle$		100									
6210.6(13)	$\langle 1,2 \rangle$		x									
6722(3)	$\langle 1,2 \rangle$		100									
6768.6(15)	$\langle 1,2 \rangle$		100									

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

⁸⁶Kr
₃₆

E^* [keV]	J^π	Branching ratios in percentage									
		E_f^* : J_f^π :	4430.7 $\langle 6^- \rangle$	4693.5 $\langle 7^- \rangle$	4755.9 $\langle 7^+ \rangle$	5406.8 $\langle 1,2 \rangle$	5660.4 $\langle 8^+ \rangle$	5814.6 $\langle 9^+ \rangle$	6248.2 $\langle 10 \rangle$	7128.3 $\langle 10 \rangle$	7459.7 $\langle 11 \rangle$
4693.5(3)	$\langle 7^- \rangle$		48								
4755.9(3)	$\langle 7^+ \rangle$		17								
5660.4(3)	$\langle 8^+ \rangle$			40	25						
5669.3(5)			100								
5814.6(4)	$\langle 9^+ \rangle$				39		61				
6085.3(5)				100							
6210.6(13)	$\langle 1,2 \rangle$					x					
6248.2(4)	$\langle 10 \rangle$							100			
7128.3(5)	$\langle 10 \rangle$							≈ 41	≈ 59		
7459.7(5)	$\langle 11 \rangle$								≈ 20	80	
7876.6(6)	$\langle 12 \rangle$										100

Energy levels and branching ratios [02He09].

⁸⁷Kr
₃₆

E^*	$2J^\pi$	L	S_N	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_{f}^* : $2J_{\text{f}}^\pi$:	0.0 5 ⁺	532 1 ⁺	1420	1476 3 ⁺ ,5 ⁺	1578
0.0	5 ⁺	2	0.56	9350	76.3(5) m	70Ha16						
532.01(4)	1 ⁺	0	0.46	6410		70Ha16		100				
1419.63(3)	$\langle 1^+-5^+ \rangle$	2	0.23	2980		70Ha16		100				
1476.13(4)	3 ⁺ ,5 ⁺	2	0.14	incl		70Ha16		85(2)	15(1)			
1577.58(4)	$\langle 1^+-5^+ \rangle$			140		70Ha16		100				
1841.41(5)										100		
1881.21(5)	$\langle 3^+,5^+ \rangle$	$\langle 2 \rangle$	0.02	210		70Ha16		68(14)	16(1)	16(1)		

(continued)

⁸⁷Kr
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E^*	$2J^\pi$	L	S_N	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		$E_{\text{f}}^*:$ $2J_{\text{f}}^\pi:$	0.0 5 ⁺	532 1 ⁺	1420	1476 3 ⁺ ,5 ⁺	1578
2005.41(4)	3 ⁺ ,5 ⁺	2	0.09	1780		70Ha16		80(6)			20(3)	
2071.64(5)				8920		70Ha16		58(5)		28(2)		
2087.6(8)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.18	incl		70Ha16					100	
2105.37(9)				incl								
2122.52(6)	3 ⁺ ,5 ⁺	2	0.30	incl		70Ha16		100				
2258(10)	$\langle 9^-, 11^- \rangle$	$\langle 5 \rangle$	0.18	1230		70Ha16						
2258.67(7)				incl				28(2)				72(6)
2300.04(6)	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.03			70Ha16		31(2)	57(4)		12(2)	
2329.9(3)											100	
2369.50(7)								58(9)			42(3)	
2372.0(4)	1,3,5 ⁺								100			
2372.35(6)	$\langle 1^+ - 5^+ \rangle$							46(4)	14(2)	34(3)	6(1)	
2451.90(5)								40(3)				23(2)
2462.9(1)								100				
2498.58(5)								44(3)		7.6(8)		40(3)
2513.77(8)				1240		70Ha16					100	
2519.34(5)	7 ⁺	4	0.49	incl		70Ha16		93(4)		7.1(7)		
2547.2(1)								100				
2565.8(6)										100		
2605.8(2)												
2641.74(6)								79(7)				
2715.2(1)								100				
2757.67(8)										100		
2787.4(1)	3 ⁺ ,5 ⁺	2	0.10	1340		70Ha16					100	
2821.05(6)		2	0.11	1150		70Ha16		93(6)				
2832.1(6)											100	
2836.55(5)	$\langle 1^+ - 5^+ \rangle$							22(2)			54.2(3)	
2863.2(1)												100
3004.0(3)								100				
3020.8(2)		2	0.08	920		70Ha16						100
3026.83(4)								24(2)		26(2)		20(2)
3080.8(2)								100				
3142.9(2)								100				
3171.8(2)												
3217.85(5)				670		70Ha16		23(2)		41(3)		≤ 14
3226.0(1)				incl				18(2)	66(5)			
3237.2(1)												100
3256.89(5)								9(1)		38(3)		
3288.4(3)										100		
3297.1(2)												
3301.9(4)										83(14)		
3361.9(7)								100				
3434.8(1)								59(5)			41(5)	
3444.9(3)								100				
3559.7(3)												

(continued)

⁸⁷Kr
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E^*	$2J^\pi$	L	S_N	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	532 1 ⁺	1420	1476 3 ⁺ ,5 ⁺	1578
3599.0(2)								100				
3645.59(7)	3 ⁺ ,5			x		70Ha16				19(4)	70(5)	
3657.3(10)								100				
3689.1(5)								100				
3777.4(6)												
3807.0(1)												
3809.4(2)								100				
3827(10)												
3874.20(8)	3 ⁺ ,5									35(4)	53(4)	
3909.8(7)								100				
3917.2(1)	1 ⁺ ,3,5							100				
3923.0(6)												100
4027.2(5)								100				
4136.4(4)								100				
4180.82(7)	1 ⁽⁺⁾ –5							87(7)				8.8(7)
4192.1(10)								100				
4197.9(1)												
4204.1(15)								100				
4223.4(3)								100				
4226.33(9)												
4265.1(6)								100				
4297.3(2)	1 ⁺ ,3,5							100				
4327.2(1)	1 ⁺ ,3,5							28(2)		41(4)		
4416.91(6)	1,3,5									68(6)		
4524.2(2)	1 ⁺ ,3,5							75(7)			25(3)	
4548.3(3)								100				
4572.5(2)	1 ⁺ ,3,5							100				
4595.49(6)	1 ⁺ ,3,5							10(3)		56(4)		
4620.9(2)	1 ⁺ ,3,5							100				
4644.6(1)	1 ⁺ ,3,5							86(8)				13.6(10)
4655.2(3)										100		
4668.18(8)	1,3,5									48(4)		11(4)
4710.34(6)	3,5							12.1(13)				7.8(6)
4711.2(1)	1,3,5											
4728.2(10)								100				
4734.5(2)	1 ⁺ ,3,5							68(5)		32(8)		
4752.7(2)	1 ⁺ ,3,5							100				
4784.5(1)	1 ⁺ ,3,5							96(6)				
4807.9(4)	1 ⁺ ,3,5							100				
4824.9(4)	1 ⁺ ,3,5							100				
4836.3(2)	1 ⁺ ,3,5							100				
4858.9(1)	1,3,5											55(7)
4872.0(2)	1 ⁺ ,3,5							100				
4889.4(5)								100				
4917.7(11)	1 ⁺ ,3,5							100				

(continued)

⁸⁷Kr
³⁶

E^*	$2J^\pi$	L	S_N	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E^*_f : $2J^\pi_f$:	0.0 5^+	532 1^+	1420	1476 $3^+, 5^+$	1578
4925.7(7)	$1^+, 3, 5$							100				
4961.54(7)	$1^+, 3, 5$							64(3)		14.0(10)		5(3)
4962.4(2)	$1, 3, 5$											
4976.1(9)								100				
5003.2(5)								100				
5021.7(3)	$1^+, 3, 5$							100				
5033.9(6)								100				
5044.7(3)	$1^+, 3, 5$							100				
5059.7(2)	$1^+, 3, 5$							100				
5065.9(3)									100			
5076.2(2)	$1^+, 3, 5$							42(5)				58(7)
5088.9(4)								100				
5103.5(2)	$1^+, 3, 5$							100				
5120.4(2)	$1^+, 3, 5$							100				
5136.1(2)	$1^+, 3, 5$							100				
5155.1(6)								100				
5183.4(3)	$1^+, 3, 5$							100				
5195.3(2)	$1^+, 3, 5^+$							56(5)	44(4)			
5201.2(2)	$1^+, 3, 5^+$							66(5)	34(5)			
5214.3(1)	$1^+, 3, 5$							18(2)		63(5)		
5245.6(3)	$1^+, 3, 5$							100				
5280.8(1)	$1^+, 3, 5$							2.0(7)		46(4)	30(11)	
5302.6(2)	$1, 3, 5^+$								100			
5340.2(3)	$1^+, 3, 5$							100				
5370.1(3)	$1^+, 3, 5$							100				
5383.1(3)	$1^+, 3, 5$							100				
5406.3(2)	$1^+, 3, 5$							100				
5419.9(5)								100				
5424.2(9)								100				
5439.9(9)								100				
5455.0(3)	$1^+, 3, 5$							100				
5466.7(2)	$1, 3, 5$											
5473.9(2)	$1^+, 3, 5$							100				
5534.3(7)	1^-				15.0(4) eV							
5546.7(14)	$\langle 5^- \rangle$							100				
5558.4(10)	1^-				127(3) eV							
5561.9(9)	$\langle 5^- \rangle$							100				
5569.1(8)	3^-				201(3) eV							
5588.2(10)	$\langle 5^- \rangle$							100				
5593.4(8)	1^-				93(4) eV							
5594.0(8)	$\langle 1^- \rangle$				10.7(12) eV							
5594.9(2)	$\langle 5^- \rangle$							100				
5606.4(5)	$\langle 5^- \rangle$							100				
5635.2(3)	$\langle 5^- \rangle$							100				
5638.5	$\langle 1^- \rangle$											

(continued)

⁸⁷Kr
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E^*	$2J^\pi$	L	S_N	σ (d,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(d,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : $2J_f^\pi$:	0.0 5 ⁺	532 1 ⁺	1420	1476 3 ⁺ ,5 ⁺	1578
5648.8(9)	$\langle 5^- \rangle$							100				
5651.3(8)	1 ⁺				3.2(2) keV							
5655.5(10)	3 ⁻				0.34(4) keV							
5659.8(4)	$\langle 5^- \rangle$							100				
5670.5(8)	3 ⁻				0.56(4) keV							
5672.7(3)	$\langle 5^- \rangle$							100				
5685.6(5)	$\langle 5^- \rangle$							100				
5698.8(4)	$\langle 5^- \rangle$							100				
5701.8(8)	1 ⁻				1.50(12) keV							
5714.7(9)	$\langle 5^- \rangle$							100				
5724.6(8)	3 ⁻				1.54(6) keV							
5761.4(8)	3 ⁻				2.40(4) keV							
5779.9(8)	$\langle 3^+ \rangle$				≥ 12 eV							
5782.9(2)	1 ⁻				0.58(4) keV							
5793.5(4)	$\langle 5^- \rangle$							100				
5821.5(8)	$\langle 3^+ \rangle$				45(25) eV			100				
5828(1)	3 ⁻				≥ 67 eV							
5862(1)	3 ⁻				1508(25) eV							
5863(1)	1 ⁻				0.29(3) keV							
5908(1)	3 ⁻				0.80(3) keV							
5922(1)	1 ⁻				1.15(6) keV							
5926(1)	3 ⁻				13.1(1) keV							
5926(1)	$\langle 3^+ \rangle$				≥ 35 eV							
5959(1)	3 ⁺				0.4(2) keV							
5977(1)	3 ⁺				0.3(2) keV							
6156(1)	$\langle 5^+ \rangle$				≥ 38 eV							
6165(1)	1 ⁻				1.39(9) keV							
6192(1)	3 ⁻				21.4(4) keV							
			70Ha16	70Ha16		Ref.						

Additional data on this isotope can be found in [78De20, 72Ho15].

Cross section and parameter $S_N = \sigma_{\text{exp}} / (2J + 1) \sigma_{\text{DWBA}}$ are from [70Ha16].

Energy levels and branching ratios [02He09]. Part 2

⁸⁷Kr
₃₆

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^* :	1841	1881	2005	2071.6	2087.6	2122.5	2258.7	2300.0	2372.3	2451.9
[keV]	$2J_f^\pi$:		$\langle 3^+, 5^+ \rangle$	$3^+, 5^+$		$\langle 1^+ \rangle$	$3^+, 5^+$		$\langle 1^+ \rangle$		
2071.64(5)		14(1)									
2105.37(9)		100									
2451.90(5)		36(4)									
2498.58(5)			9(3)								
2605.8(2)			100								

(continued)

⁸⁷Kr
₃₆

E^* [keV]	$2J^\pi$	$E_f^*:$ $2J_f^\pi:$	Branching ratios in percentage									
			1841	1881 ($3^+, 5^+$)	2005 $3^+, 5^+$	2071.6	2087.6 (1^+)	2122.5 $3^+, 5^+$	2258.7	2300.0 (1^+)	2372.3	2451.9
2641.74(6)					21.3(13)							
2821.05(6)								7.2(6)				
2836.55(5)	($1^+ - 5^+$)				21(2)			3.0(2)				
3026.83(4)					24(2)	7(1)						
3171.8(2)		100										
3217.85(5)		6.8(7)			13(1)	10(3)		6.3(7)				
3226.0(1)											16(7)	
3256.89(5)		41(5)										
3297.1(2)					100							
3301.9(4)									17(6)			
3645.59(7)	$3^+, 5$				≤ 27							
3807.0(1)		100										
4197.9(1)					100							
4327.2(1)	$1^+, 3, 5$			12(2)								
4416.91(6)	$1, 3, 5$	17.2(15)			3.9(3)	11(2)						
4595.49(6)	$1^+, 3, 5$	10.4(13)				13.3(13)						10.8(13)
4668.18(8)	$1, 3, 5$				41(6)							
4710.34(6)	$3, 5$	7.5(6)	6.3(6)		53(3)	13(2)						
4784.5(1)	$1^+, 3, 5$	4.1(6)										
4858.9(1)	$1, 3, 5$	45(3)										
4961.54(7)	$1^+, 3, 5$					3.1(6)						5.4(6)
5214.3(1)	$1^+, 3, 5$							19(4)				
5466.7(2)	$1, 3, 5$				39(4)		18(8)			43(4)		

Energy levels and branching ratios [02He09]. Part 3

⁸⁷Kr
₃₆

E^* [keV]	$2J^\pi$	$E_f^*:$ $2J_f^\pi:$	Branching ratios in percentage									
			2519.3 7^+	2641.7	2836.5	3004.0	3026.8	3217.8	3917.2 $1^+, 3, 5$			
3256.89(5)			12.8(8)									
3559.7(3)						100						
3645.59(7)	$3^+, 5$		10.8(13)									
3777.4(6)					100							
3874.20(8)	$3^+, 5$		12(4)									
4180.82(7)	$1^{(+)} - 5$				4.5(4)							
4226.33(9)					100							
4327.2(1)	$1^+, 3, 5$			19(2)								
4711.2(1)	$1, 3, 5$							100				
4961.54(7)	$1^+, 3, 5$						7.0(6)				1.9(6)	
4962.4(2)	$1, 3, 5$				100							
5280.8(1)	$1^+, 3, 5$			21(7)								

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

⁸⁸Kr
₃₆

E^*	J^π	L	ε	σ (t,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(t,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	775 2 ⁺	1577 2 ⁺	1644 $\langle 4^+ \rangle$	2216 2 ⁺
0.0	0 ⁺	0	1.01	89	2.84(3) h	76Fl02						
775.31(4)	2 ⁺	2	1.40	771		76Fl02		100				
1577.35(4)	2 ⁺	2	0.36	188		76Fl02		20.9(2)	79(1)			
1643.87(6)	$\langle 4^+ \rangle$	3,4	1.24,0.92	448		76Fl02			100			
2103.89(8)	$\langle 3^-, 4^+ \rangle$	3,4	0.055	25		76Fl02					100	
2216.11(6)	2 ⁺	2	0.33	171		76Fl02		15(1)	85(1)			
2342.28(7)	$\langle 3, 4^+ \rangle$								75(14)	16(1)	8.4(7)	0.8(3)
2370.30(18)	$\langle 3, 4^+ \rangle$					05Mu20			15(7)	85(3)		
2397.4(9)						05Mu20						
2404.1(9)						05Mu20						
2419.52(6)	$\langle 3^- \rangle$	3,4	0.84,0.50	322		76Fl02			100			
2550.77(16)	$\langle 4^+ \rangle$	3,4	0.41,0.28	144		76Fl02			100			
2630.97(6)	$\langle 3, 4^+ \rangle$					05Mu20			28(2)	54(1)	11(1)	
2651.11(7)	2 ⁺	2	0.32	190		76Fl02		10(3)	21(3)	64.6(17)		
2775.93(14)	0 ⁺	0	0.064	12		76Fl02			35(6)	65(5)		
2828.37(9)	$\langle 1, 2^+ \rangle$							24(2)	21(2)	13(3)		33(7)
2875.17(7)	$\langle 2^+ \rangle$							68(3)	9(2)	7.1(8)	7(2)	9(2)
2929.42(9)	$\langle 3, 4^+ \rangle$								29(4)	52(12)	19(1)	
2945.80(7)	$\langle 1, 2^+ \rangle$							71(2)		29.2(21)		
2966(10)	$\langle 3^- \rangle$	3,4	0.38,0.24	150		76Fl02						
3045.00(9)	$\langle 3, 4^+ \rangle$								68(5)	32(2)		
3113.50(22)	$\langle 1, 2^+ \rangle$							33(18)	67(22)			
3163.00(16)	$\langle 3, 4^+ \rangle$			274		76Fl02			31(3)		8(2)	
3204.46(15)	$\langle 3, 4^+ \rangle$								79(6)			
3246(10)		3,4	1.15,0.69	462		76Fl02						
3312(10)		≥ 5		105		76Fl02						
3331.61(22)	$\langle 1, 2^+ \rangle$							29(14)	71(14)			
3336.01(16)	$\langle 3, 4^+ \rangle$									86(10)	14(9)	
3341.53(21)	2 ⁺							80(40)			20(12)	
3362.24(11)	$\langle 3, 4^+ \rangle$					05Mu20			33(4)	15(2)		23(4)
3399.80(9)	$\langle 1, 2^+ \rangle$							27(4)	73(3)			
3519(10)												
3608(10)	2 ⁺	2	0.15	61		76Fl02						
3652(10)	$3^-, 4^+$	3,4	0.20,0.12	89		76Fl02						
3709.63(12)	$\langle 3 \rangle$	3,4	1.10,0.69	390		76Fl02			81(3)	2.3(13)		
3761(10)	$3^-, 4^+$	3,4	0.21,0.13	87		76Fl02						
3770.87(14)	$\langle 1^-, 2^+ \rangle$							10(3)	33(6)			
3866(10)												
3921.1(10)						05Mu20						
3932(10)				65		76Fl02						
4048.3(3)	$\langle 2^+ \rangle$	$\langle 2 \rangle$	0.19	79		76Fl02		83(42)		17(7)		
4100.26(11)	$\langle 3^- \rangle$	$\langle 3 \rangle$	0.21	107		76Fl02				100		
4220(10)	$\langle 3^-, 4^+ \rangle$	$\langle 3, 4 \rangle$	0.46	248		76Fl02						
4268.27(14)	$\langle 1, 2 \rangle$					05Mu20			96(11)			
4287.7(3)	$\langle 1, 2^+ \rangle$							35(15)	65(22)			

(continued)

⁸⁸Kr
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E^*	J^π	L	ε	σ (t,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
[keV]			(t,p)	$\mu\text{b/sr}$	Γ_{cm}		E_f^* : J_f^π :	0.0 0 ⁺	775 2 ⁺	1577 2 ⁺	1644 (4 ⁺)	2216 2 ⁺
4372(10)				53		76F102						
4430(10)	(2 ⁺)	(2)		109		76F102						
4560.10(22)	(1-3)					05Mu20			17(8)	83(11)		
4562.96(14)	(1,2 ⁺)							95(2)				
4596.79(10)	(1,2 ⁺)							3(1)	8.9(16)	66(4)		
4707.52(8)	(1 ⁻ ,2 ⁺)							6(1)	68(2)	12(2)		6(1)
4923.46(10)	(2,3)								85(3)			5.5(5)
4985.75(16)	(1,2 ⁺)							94(3)	6(3)			
5020.08(15)	(1,2 ⁺)							100				
5070.24(18)	(3)									22(11)	54(8)	
5088.2(4)	(1,2 ⁺)							30(7)	70(6)			
5270.5(5)	(1-3)					05Mu20			100			
5438.64(20)	(1-3)					05Mu20			100			
5497.33(16)	(1-3)					05Mu20			100			
5503.5(3)	(1,2 ⁺)							12(9)				
5627.0(4)	(1-3)					05Mu20			76(5)	24(16)		
5693.3(3)	(2,3)					05Mu20						
5726.2(3)	(3,4 ⁺)					05Mu20						100
5914.97(20)	(1 ⁻ ,2 ⁺)							13(3)				31(23)
5972.87(21)	(1-3)					05Mu20			100			
5977.62(24)	(1-3)					05Mu20			54(23)	38(4)		
5988.3(3)	(2,3)								62(6)			
6034.4(4)	(1,2 ⁺)							72(17)	28(17)			
6071.2(4)	(1,2 ⁺)							7(4)	93(6)			
6231.7(3)	(1,2 ⁺)							3(2)	61(4)			36(6)
6539.6(4)	(1-3)					05Mu20			100			
6718.5(4)	(1-3)					05Mu20			50(25)			
6758.0(5)	(1-3)					05Mu20			100			
7000.3(6)	(1,2 ⁺)							100				
			76F102	76F102		Ref.						

Additional data on this isotope can be found in [00Rz02].

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

⁸⁸Kr
₃₆

E^*	J^π	Branching ratios in percentage			
[keV]		$E_f^*:$ $J_f^\pi:$	2342	2370	2420 $\langle 3^- \rangle$
2630.97(6)	$\langle 3,4^+ \rangle$		7.1(9)		
2651.11(7)	2^+		5.1(17)		
2828.37(9)	$\langle 1,2^+ \rangle$		8(2)		
3163.00(16)	$\langle 3,4^+ \rangle$				61(14)
3204.46(15)	$\langle 3,4^+ \rangle$		21(4)		

(continued)

⁸⁸Kr
₃₆

E^* [keV]	J^π	$E_f^*:$ $J_f^\pi:$	Branching ratios in percentage		2420 $\langle 3^- \rangle$
			2342	2370	
3362.24(11)	$\langle 3, 4^+ \rangle$				30(5)
3709.63(12)	$\langle 3 \rangle$				17.1(13)
3770.87(14)	$\langle 1^-, 2^+ \rangle$		33(3)		24(16)
4268.27(14)	$\langle 1, 2 \rangle$				4.0(15)
4562.96(14)	$\langle 1, 2^+ \rangle$			4.8(15)	
4596.79(10)	$\langle 1, 2^+ \rangle$				22.2(19)
4707.52(8)	$\langle 1^-, 2^+ \rangle$				8.1(5)
4923.46(10)	$\langle 2, 3 \rangle$				9.3(14)
5070.24(18)	$\langle 3 \rangle$				25(9)
5503.5(3)	$\langle 1, 2^+ \rangle$		88(29)		
5693.3(3)	$\langle 2, 3 \rangle$				100
5914.97(20)	$\langle 1^-, 2^+ \rangle$				56(6)
5977.62(24)	$\langle 1-3 \rangle$		8(4)		
5988.3(3)	$\langle 2, 3 \rangle$				38(4)
6718.5(4)	$\langle 1-3 \rangle$		50(32)		