Energy levels and branching ratios [90En08, 98En04].

$^{38}_{19}$K

E^* [keV]	J^π	T	ℓ_n	S_n^- eval	L (p,d)	C^2S (p,d)	σ (α,d) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0	3^+	0	2	2.0(3)	2	1.75	40	7.64(2) m	77En02
130.4(3)	0^+	1			2	0.31		924(1) ms	
458.7(2)	1^+	0	0	0.19(5)	0	0.13	40	7.0(6) ps	77En02
			+2	0.39(7)	2	0.32			77En02
1698.3(6)	1^+	0	0	0.04(2)	0	0.02	25	44(9) fs	77En02
			+2	0.72(10)	2	0.57			77En02
2402.4(8)	2^+	1			0,2	0.03,1.26		50(12) fs	74Wi17
2612.9(4)	3^-				3	0.05	50	6(2) ps	76De24
2646.1(2)	4^-,$\langle 2^- \rangle$				3	0.08		1.0(1) ns	74Wi17
2828.6(7)	1^-				1,3	0.02,0.01		170(35) fs	74Wi17
2869.9(7)	2^-				1,3	0.01,0.05	35	3.1(9) ps	76De24
2992.6(9)	0^-							150(35) fs	
3315.5(9)	$\langle 1^+$–$3^+ \rangle$							1.7(3) ps	
3341.7(9)	1^+	0			0,2	0.01,0.02		<40 fs	74Wi17
3420.2(2)	6^-							70(11) ps	
3431(1)	2^+	0			0,2	0.43,0.43		<120 fs	74Wi17
3458.0(2)	7^+						700	22.0 μs	76De24
3615(1)	$\langle 1$–$5 \rangle^-$				3	0.04		0.5(2) ps	
3668.3(9)	3^+						400	65(40) fs	76De24
3687.9(9)	$\langle 2,3,4 \rangle$							330(160) fs	
3702(1)	$\langle 0^+$–$4^+ \rangle$				0,2	0.003,0.02		>0.8 ps	74Wi17
3739(1)	$\langle 1^+$–$5^+ \rangle$						320		76De24
3815.2(9)	2^-				1,3	0.01,0.02			74Wi17
3841(2)									
3857(1)	1^+				0.2	0.005,0.03		<85 fs	74Wi17
3934(1)	2^-				1,3	0.01,0.02			74Wi17
3978(1)	1^+				0,2	0.14,0.42	30	<40 fs	76De24
4175(1)	1^+				0,2	0.02,0.03			74Wi17
4214(1)	$\langle 1,2 \rangle^+$								
4318(2)	$\langle 1^+$–$5^+ \rangle$								
4333(3)	$\langle 1,2,3 \rangle$						70	0.3(2) ps	76De24
4395(2)	$\langle 1^+$–$5^+ \rangle$								
4410(1)	$\langle 0$–$3^+ \rangle$								
4452(2)									
4460(2)									
4491(3)									
4505(3)									
4588(2)	$\langle 2,3 \rangle^-$								
4616(2)									
4639(2)									
4664(3)	$\langle 1,2 \rangle^+$								
4705(1)									
4723(2)	$\langle 0$–$3^+ \rangle$								
4750(3)									
4806(3)									

(continued) **$^{38}_{19}$K**

E^* [keV]	J^π	T	ℓ_n	S_n^- eval	L (p,d)	C^2S (p,d)	σ (α,d) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
4845(3)									
4901(1)	$\langle 0^+–4^+\rangle$								
4971(3)									
4989(1)	$\langle 1,2\rangle^+$								
5048(1)	$\langle 1–5\rangle^-$								
5086(3)									
5104(3)									
5133(1)	$\langle 0^+–4^+\rangle$						110		76De24
5192(3)									
5216(2)	$\langle 0–3^+\rangle$								
5239(5)	$\langle 1,2\rangle^+$								
5253.6(4)	$\langle 9^+\rangle$								
5286(3)									
5296(3)									
5307(3)							60		76De24
5330(3)									
5407(3)									
5439(3)	$\langle 1,2\rangle^+$								
5459(3)									
5480(3)									
5540(6)	$\langle 1,2\rangle^+$								
5601(3)									
5617(3)									
5676(3)									
5693(3)									
5730(3)	$\langle 1,2\rangle^+$								
5749(3)									
5769(3)									
5795(3)									
5810(3)									
5828(3)									
5851(3)	$\langle 1,2\rangle^+$								
5869(3)									
5884(5)	$\langle 1,2\rangle^+$								
5934(3)									
5944(4)									
5970(3)	$\langle 1,2\rangle^+$								
5983(4)	$\langle 1,2\rangle^+$								
6002(3)									
6022(4)									
7396.6(5)	$\langle 10^-\rangle$								
8692.8(6)	$\langle 12^-\rangle$								
8747.3(6)	$\langle 11^-\rangle$								

(continued) **$^{38}_{19}$K**

E^* [keV]	J^π	T	ℓ_n	S_n^- eval	L (p,d)	C^2S (p,d)	σ (α,d) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
10980.2(11)	$\langle 13^- \rangle$			77En02		74Wi17	76De24		Ref.

Additional data on this isotope can be found in [92An09, 88Me11].
Values S_n^- were evaluated by P.Endt [77En02] from the results of 5 experimental works.

Energy levels and branching ratios [90En08, 98En04]. Part 2 **$^{38}_{19}$K**

E^*	J^π		Branching ratios in percentage									
		E_f^*:	0	130.4	458.7	1698	2402	2613	2646	3341.7	3420.2	3458.0
[keV]		J_f^π:	3^+	0^+	1^+	1^+	2^+	3^-	4^-	1^+	6^-	7^+
458.7(2)	1^+		1.0(1)	99.0								
1698.3(6)	1^+		0.08(2)	100	0.24							
2402.4(8)	2^+			6(2)	94(2)							
2612.9(4)	3^-		100									
2646.1(2)	4^-,$\langle 2^- \rangle$		97.9(1)	<0.08	1.5(1)	<0.04	<0.04	0.65(4)				
2828.6(7)	1^-			90(3)			10(3)					
2869.9(7)	2^-		42(4)		31(5)	11(4)	16(5)					
2992.6(9)	0^-			<2	100							
3315.5(9)	$\langle 1^+$–$3^+ \rangle$		43(3)				57(3)					
3341.7(9)	1^+			56(5)	28(6)	16(2)						
3420.2(2)	6^-		43.4(5)	<0.07	<0.05	<0.04	<0.03	<0.10	57(1)			
3431(1)	2^+		40(3)				60(3)					
3458.0(2)	7^+		0.20(2)	<0.06	<0.05	<0.04	<0.04	<0.03	25.2(8)		74.6(8)	
3615(1)	$\langle 1$–$5 \rangle^-$								100			
3668.3(9)	3^+						100					
3687.9(9)	$\langle 2,3,4 \rangle$		22(6)					52(5)	26(5)			
3702(1)	$\langle 0^+$–$4^+ \rangle$						100					
3739(1)	$\langle 1^+$–$5^+ \rangle$		100									
3815.2(9)	2^-		49(6)				51(6)					
3841(2)									100			
3857(1)	1^+			100								
3934(1)	2^-							100				
3978(1)	1^+			74(7)	26(7)							
4175(1)	1^+				100							
4214(1)	$\langle 1,2 \rangle^+$			72(6)			28(6)					
4318(2)	$\langle 1^+$–$5^+ \rangle$		100									
4395(2)	$\langle 1^+$–$5^+ \rangle$		100									
4410(1)	$\langle 0$–$3^+ \rangle$				100							
4588(2)	$\langle 2,3 \rangle^-$		100									
4723(2)	$\langle 0$–$3^+ \rangle$									100		
4901(1)	$\langle 0^+$–$4^+ \rangle$						100					
4989(1)	$\langle 1,2 \rangle^+$						100					

(continued) **$^{38}_{19}$K**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	0	130.4	458.7	1698	2402	2613	2646	3341.7	3420.2	3458.0
[keV]	J_f^π:	3^+	0^+	1^+	1^+	2^+	3^-	4^-	1^+	6^-	7^+
5048(1)	$\langle 1–5\rangle^-$						100				
5133(1)	$\langle 0^+–4^+\rangle$					100					
5216(2)	$\langle 0–3^+\rangle$				100						
5253.6(4)	$\langle 9^+\rangle$										100

Energy levels and branching ratios [90En08, 98En04]. Part 3 **$^{38}_{19}$K**

E^*	J^π	Branching ratios in percentage				
	E_f^*:	3614.8	3933.6	5253.6	7396.6	8692.8
[keV]	J_f^π:	$\langle 1–5\rangle^-$	2^-	$\langle 9^+\rangle$	$\langle 10^-\rangle$	$\langle 12^-\rangle$
4333(3)	$\langle 1,2,3\rangle$		100			
4705(1)		100				
7396.6(5)	$\langle 10^-\rangle$			100		
8692.8(6)	$\langle 12^-\rangle$				100	
8747.3(6)	$\langle 11^-\rangle$				100	
10980.2(11)	$\langle 13^-\rangle$					100

Energy levels and branching ratios [90En08, 98En04]. **$^{39}_{19}$K**

E^*	$2J^\pi$	$2T$	L	$S_p'^+$	$S_p'^+$	$G_{\ell j}$	S_N	S_p^-	S_p^-	C^2S	C^2S	C^2S	σ (t,α)	S_p^-	Ref.
[keV]				eval	(τ,d)	(τ,d)	(d,τ)	(d,τ)	eval	(d,τ)	(d,τ)	(d,τ)	arb.u	(e,e′p)	
0	3^+		2	1.0(2)	3.1	1.98	4.2	4.4		2.20	4.30	3.70	65.6	2.58(26)	77En02
2522.5(2)	1^+		0	0.08(2)	0.20	0.23	1.6	3.3	3.3(4)		2.16	1.65	51.0	1.02(10)	76Do05
2814.3(2)	7^-		3	0.5(1)	4.8	3.1	0.46	0.64	0.9(1)	0.32		0.58	16.5	0.38(4)	66Hi06
3019.2(2)	3^-		1	0.02(1)	0.09	0.06	0.04		0.10(5)			0.05	0.8	0.010(2)	89Kr05
3597.5(2)	9^-					weak							1.1		66Hi06
3883.1(4)	5^-					weak						0.02	1.2		66Hi06
3938.8(3)	3^+												0.6		66Hi06
3944.3(2)	11^-												incl		
4082.3(4)	3^-		1		1.2	0.74							3.5		74Kn07
4095.3(3)	1^+		0				0.17	0.4				<0.1	incl		81De19
4126.0(3)	7^-												0.9		66Hi06
4475.1(5)	$\langle 1,3\rangle^-$		1		0.18	0.12							0.7		74Kn07
4514.3(7)	5^+							0.02		0.01			0.9		90En08
4520.2(3)	9^-							incl							90En08
4678.6(3)	7^-		3			0.26		0.02		0.01			2.1		81De19
4737.5(5)	$\langle 5,7,9\rangle^-$												0.5		66Hi06
4737.9(19)	5^+														

(continued) **$^{39}_{19}$K**

E^* [keV]	$2J^\pi$	$2T$	L	S'^+_p eval	S'^+_p (τ,d)	$G_{\ell j}$ (τ,d)	S_N (d,τ)	S^-_p (d,τ)	S^-_p eval	C^2S (d,τ)	C^2S (d,τ)	C^2S (d,τ)	σ (t,α) arb.u	S^-_p (e,e′p)	Ref.
4930.1(4)	3^+												1.0		66Hi06
5009.1(3)	7^-		3		0.62	0.40							0.3		74Kn07
5010.6(8)	$3–7^-$		3		incl										74Kn07
5163.9(3)	9^-														
5165.5(5)	$\langle 5,7,9\rangle^-$												0.6		66Hi06
5173.4(8)													incl		
5262.7(7)	5^+		2					2.8		1.38		0.91	25.2		81De19
5318.2(9)	3^+					weak	1.09						1.8		67Hi06
5354.0(2)	11^-												0.2		66Hi06
5501.9(3)	7^-		3					0.02		0.01			1.1		81De19
5597.9(13)	5^+		2					2.0		0.98		0.64	19.6		81De19
5643.4(4)	7^-		3		0.67	0.43				0.30			0.6		74Kn07
5711.5(19)	3^+														
5718.3(2)	13^-												0.9		66Hi06
5788.3(8)	$\langle 5,7\rangle^+$						0.68						0.9		67Hi06
5801.6(6)	7^-												incl		
5826.3(7)	$\langle 1,3\rangle^-$		1		1.0	0.67		0.1				0.05	2.1		74Kn07
5891(2)	7^-				0.44	0.28							0.5		74Kn07
5937.9(11)	5^+		2					0.60				0.03	5.5		81De19
6005.6(4)	11^-														
6042(3)	$\langle 1–7^+\rangle$														
6093.0(7)	$\langle 5,7\rangle^-$		3					0.02		0.01					81De19
6110.5(10)	$\langle 1,3\rangle^-$		1		0.40	0.26							2.1		74Kn07
6186(2)	$\langle 1^+–7^+\rangle$														
6192(2)	$\langle 7^–13^-\rangle$												1.9		66Hi06
6246(2)	1^+		0					0.02							81De19
6246.8(16)	$\langle 5,7,9\rangle$							incl					1.8		81De19
6331.0(8)	3^+		1		0.50	0.32				1.57		1.25			74Kn07
6356(2)	5^+		2					3.1					29.9		81De19
6396(2)															
6410(2)	$\langle 3–7^+\rangle$														
6434.2(3)	13^+														
6460(3)	$\langle 1,3,5\rangle^+$														
6475.1(2)	15^+														
6501(2)	$\langle 3,5\rangle^+$		2					0.2				0.1	6.7		66Hi06
6528(2)	$\langle 1–7^+\rangle$														
6546(2)	7^-	3	3		5.9	1.96									74Kn07
6550(3)															
6653(2)	$\langle 3,5\rangle^+$		2				1.26	0.14		0.07					81De19
6686(2)															
6740(2)	$\langle 3,5\rangle^+$		2					0.06		0.03		0.1			81De19
6818(3)	$\langle 3,5\rangle^+$		2					0.06		0.03					81De19
6828(2)															
6916(2)															
6943(2)	$\langle 3,5\rangle^+$		2					0.16		0.08					81De19

(continued) **$^{39}_{19}$K**

E^*	$2J^\pi$	$2T$	L	S'^+_p	S'^+_p	$G_{\ell j}$	S_N	S^-_p	S^-_p	C^2S	C^2S	σ (t,α)	S^-_p	Ref.
[keV]				eval	(τ,d)	(τ,d)	(d,τ)	(d,τ)	eval	(d,τ)	(d,τ)	arb.u	(e,e′p)	
7021(2)	$\langle 3,5\rangle^+$		2					0.20		0.10	0.18			81De19
7051(2)	$\langle 3,5\rangle^-$													
7092.1(5)	$\langle 9,13^+\rangle$													
7141.7(2)	15^-													
7170(2)														
7200(2)										0.01	0.1			81De19
7260(2)														
7430	$\langle 3,5\rangle^+$									0.23	0.47			76Do05
7568.6(2)							[0.3]							67Hi06
7502	[3]									0.63				81De19
7588(2)														
7631(3)										0.18				
7739.1(5)	3^-	3												
7776.4(2)	17^+													
7780	$\langle 3,5\rangle^+$										0.1			76Do05
7867(2)														
7978(3)	$[5^+]$						[0.5]							67Hi06
7990	$\langle 1,3\rangle^-$										0.2			76Do05
8017	$[5^-]$									0.01				81De19
8028.4(2)	19^-													
8170	$\langle 3^+,5^+\rangle$									0.23	0.35			76Do05
8253(2)														
8292	[5]									0.32				81De19
8369.9(7)														
8390(2)										0.04				
8430	$\langle 3,5\rangle^+$										0.24			76Do05
8550	$\langle 3,5\rangle^+$									0.17	0.22			76Do05
8703	[5]									0.20				81De19
8900	$\langle 3,5\rangle^+$									0.24	0.1			76Do05
9100	$\langle 3,5\rangle^+$										0.1			76Do05
9750	$\langle 3,5\rangle^+$										0.1			76Do05
9909.6(9)	$\langle 21^+\rangle$													
					90En08		67Hi06		77En02		76Do05		89Kr05	Ref.
				77En02		74Kn07		90En08		81De19		66Hi06	01Kr01	Ref.

Additional data on this isotope can be found in [81No05, 74Al13, 70Fu01].
Abundance: 93.2581(44) %.
Values S'^+_p and S^-_p were evaluated by P.Endt [77En02] from the results of 13 experimental works.
Data on $(2J+1)S^+_p=S'^+_p$ are from [74Kn07] as given in [90En08].
Data on S^-_p from the (d,τ) reaction are from [81De19] as given in [90En08].
$S_N=S^-_p$ from the (d,τ) reaction are from [67Hi06] as given in [90En08].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [90En08, 98En04]. Part 2

$^{39}_{19}$K

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
				E_f^*:	0	2522	2814	3019	3597	3883	3944	4126
[keV]		Γ_{cm}		$2J_f^\pi$:	3^+	1^+	7^-	3^-	9^-	5^-	11^-	7^-
0	3^+	Stable	77En02									
2522.5(2)	1^+	57(6) fs	76Do05		100							
2814.3(2)	7^-	47(2) ps	66Hi06		100	<6						
3019.2(2)	3^-	14(2) fs	89Kr05		100	<6						
3597.5(2)	9^-	38(2) ps	66Hi06		54(2)	<4	46(2)					
3883.1(4)	5^-	7.1(10) fs	66Hi06		100	<2	<2	<2	<2			
3938.8(3)	3^+	50(20) fs	66Hi06		92(1)	8(1)						
3944.3(2)	11^-	9.0(10) ps					63(1)		37.0(10)			
4082.3(4)	3^-	24(4) fs	74Kn07		67(3)	21(3)		12(2)				
4095.3(3)	1^+	63(9) fs	81De19			85(1)		15.4(11)				
4126.0(3)	7^-	45(9) fs	66Hi06				100					
4475.1(5)	$\langle 1,3\rangle^-$	210(45) fs	74Kn07		37(5)	47(5)		16(5)				
4514.3(7)	5^+	22(4) fs	90En08		100							
4520.2(3)	9^-	105(35) fs	90En08						89(1)		9.2(7)	2.0(5)
4678.6(3)	7^-	95(20) fs	81De19				92.5(9)					7.5(9)
4737.5(5)	$\langle 5,7,9\rangle^-$	80(35) fs	66Hi06				100					
4737.9(19)	5^+	22(4) fs			100							
4930.1(4)	3^+	40(20) fs	66Hi06		76(2)	24(2)						
5009.1(3)	7^-	255(40) fs	74Kn07						23(5)			77(5)
5010.6(8)	3–7^-	35(9) fs	74Kn07					36(5)		64(5)		
5163.9(3)	9^-	55(9) fs									55(2)	23.3(12)
5165.5(5)	$\langle 5,7,9\rangle^-$	190(10) fs	66Hi06				100					
5173.4(8)		15(6) fs			100							
5262.7(7)	5^+	1.3(2) fs	81De19		100							
5318.2(9)	3^+	1.4(2) fs	67Hi06		100							
5354.0(2)	11^-	95(30) fs	66Hi06								100	
5501.9(3)	7^-	100(70) fs	81De19				12(3)		32(2)			
5597.9(13)	5^+	2.0(2) fs	81De19		100		<5					<3
5643.4(4)	7^-	75(40) fs	74Kn07									
5711.5(19)	3^+	<14 fs			100							
5718.3(2)	13^-	185(25) fs	66Hi06								98.4(2)	
5788.3(8)	$\langle 5,7\rangle^+$		67Hi06		100							
5801.6(6)	7^-	14(7) fs					30(2)					18(4)
5826.3(7)	$\langle 1,3\rangle^-$	<14 fs	74Kn07		100							
5891(2)	7^-		74Kn07				71(7)					12(5)
5937.9(11)	5^+	2.6(3) fs	81De19		100							
6005.6(4)	11^-										100	
6042(3)	$\langle 1$–$7^+\rangle$	35(15) fs			100							
6093.0(7)	$\langle 5,7\rangle^-$	<14 fs	81De19				100					
6110.5(10)	$\langle 1,3\rangle^-$	75(30) fs	74Kn07		22(5)	78(5)						
6186(2)	$\langle 1^+$–$7^+\rangle$				39(5)							
6192(2)	$\langle 7^-$–$13^-\rangle$		66Hi06								21(5)	
6246(2)	1^+		81De19		100							
6246.8(16)	$\langle 5,7,9\rangle$	20(15) fs	81De19				65(5)					
6331.0(8)	3^+	0.27(2) fs	74Kn07		100							

(continued) **$^{39}_{19}$K**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
				E_f^*:	0	2522	2814	3019	3597	3883	3944	4126
[keV]		Γ_{cm}		$2J_f^\pi$:	3^+	1^+	7^-	3^-	9^-	5^-	11^-	7^-
6356(2)	5^+		81De19		x					x		
6396(2)							x					x
6410(2)	$\langle 3\text{–}7^+\rangle$				93(4)							
6434.2(3)	13^+	130(25) fs									100	
6460(3)	$\langle 1,3,5\rangle^+$				x							
6475.1(2)	15^+	8.2(3) ps										
6501(2)	$\langle 3,5\rangle^+$		66Hi06		x					x		
6528(2)	$\langle 1\text{–}7^+\rangle$				100							
6546(2)	7^-	<14 fs	74Kn07				100					
6550(3)												
6653(2)	$\langle 3,5\rangle^+$	25(15) fs	81De19		x							
6686(2)		<35 fs			x							
6740(2)	$\langle 3,5\rangle^+$		81De19		x					x		
6818(3)	$\langle 3,5\rangle^+$		81De19		x							
6828(2)		<50 fs			x							
6916(2)					100							
6943(2)	$\langle 3,5\rangle^+$		81De19		100							
7021(2)	$\langle 3,5\rangle^+$		81De19		100							
7051(2)	$\langle 3,5\rangle^-$				x		x					
7092.1(5)	$\langle 9,13^+\rangle$	60(20) fs									100	
7141.7(2)	15^-	290(60) fs									60(2)	
7170(2)					100							
7200(2)			81De19		x		x					
7260(2)					x		x					
7430	$\langle 3,5\rangle^+$		76Do05									
7568.6(2)		245(50) fs	67Hi06									
7502	[3]		81De19									
7588(2)		<210 fs										
7631(3)												
7739.1(5)	3^-	1.1(2) keV										
7776.4(2)	17^+	1.3(5) ps										
7780	$\langle 3,5\rangle^+$		76Do05									
7867(2)												
7978(3)	$[5^+]$		67Hi06									
7990	$\langle 1,3\rangle^-$		76Do05									
8017	$[5^-]$		81De19									
8028.4(2)	19^-	13.9(10) ps										
8170	$\langle 3^+,5^+\rangle$		76Do05									
8253(2)					x							
8292	[5]		81De19									
8369.9(7)		35(18) fs										
8390(2)					x							
8430	$\langle 3,5\rangle^+$		76Do05									
8550	$\langle 3,5\rangle^+$		76Do05									
8703	[5]		81De19									

(continued) **$^{39}_{19}$K**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
				E_f^*:	0	2522	2814	3019	3597	3883	3944	4126
[keV]		Γ_{cm}		$2J_f^\pi$:	3^+	1^+	7^-	3^-	9^-	5^-	11^-	7^-
8900	$\langle 3,5\rangle^+$		76Do05									
9100	$\langle 3,5\rangle^+$		76Do05									
9750	$\langle 3,5\rangle^+$		76Do05									
9909.6(9)	$\langle 21^+\rangle$	<1.4 ps										
			Ref.									
			Ref.									

Energy levels and branching ratios [90En08, 98En04]. Part 3 **$^{39}_{19}$K**

E^*	$2J^\pi$				Branching ratios in percentage						
		E_f^*:	4475	4514	4520	4679	4737	4738	4930	5164	5173
[keV]		$2J_f^\pi$:	$\langle 1,3\rangle^-$	5^+	9^-	7^-		5^+	3^+	9^-	
5163.9(3)	9^-				21.4(10)						
5501.9(3)	7^-				7(2)	49(2)					
5643.4(4)	7^-					75(10)	25(10)				
5801.6(6)	7^-				27(2)					25(2)	
5891(2)	7^-				14(5)					3(2)	
6192(2)	$\langle 7^-\text{–}13^-\rangle$				79(5)						
6246.8(16)	$\langle 5,7,9\rangle$					35(5)					
6410(2)	$\langle 3\text{–}7^+\rangle$			7(4)							
6653(2)	$\langle 3,5\rangle^+$		x								
6740(2)	$\langle 3,5\rangle^+$							x			x
6828(2)									x		

Energy levels and branching ratios [90En08, 98En04]. Part 4 **$^{39}_{19}$K**

E^*	$2J^\pi$					Branching ratios in percentage					
		E_f^*:	5263	5354	5711	5718	6434	6475	7142	7776	8028
[keV]		$2J_f^\pi$:	5^+	11^-	3^+	13^-	13^+	15^+	15^-	17^+	19^-
5718.3(2)	13^-			1.6(2)							
6186(2)	$\langle 1^+\text{–}7^+\rangle$		61(5)								
6460(3)	$\langle 1,3,5\rangle^+$				x						
6475.1(2)	15^+					100					
7141.7(2)	15^-			34(2)		6.0(15)					
7568.6(2)						x		x			
7588(2)								100			
7776.4(2)	17^+						66(8)	34(8)			
7867(2)								100			
8028.4(2)	19^-								89.0(10)	11.0(10)	

(continued) **$^{39}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage								
	E^*_f:	5263	5354	5711	5718	6434	6475	7142	7776	8028
[keV]	$2J^\pi_f$:	5^+	11^-	3^+	13^-	13^+	15^+	15^-	17^+	19^-
8369.9(7)							100			
9909.6(9)	$\langle 21^+ \rangle$								40(10)	60(10)

Energy levels and branching ratios [90En08, 98En04]. **$^{40}_{19}$K**

E^*	J^π	T	ℓ_p	S^-_p	S^-_p	ℓ_n	S^+_n	S'^+_n	σ (d,p)	S_N	S^-_n	S^-_n	L	σ (τ,t)	Ref.
[keV]				eval			eval	(d,p)	μb/sr	(d,p)	eval		(τ,t)	μb/sr	
0	4^-	1	2	2.5(7)	1.13	3	0.94(14)	8.1	3000	0.9*	0.56(10)	0.61	3+5	25	77En02
29.8299(5)	3^-	1	2	2.5(7)	0.88	1	0.03(2)	0.12	2400	0.9*	small	0.60			77En02
						3	0.96(12)	6.3			0.56(10)				77En02
800.143(2)	2^-	1	2	1.2(4)	0.63	1	0.02(1)	0.07	1800	0.9*	0.01(1)	0.01	3+5	10	77En02
						3	0.77(9)	4.6			0.07(2)	0.07			77En02
891.40(2)	5^-	1	2	3.2(9)	1.38	3	0.88(10)	8.9	3600	0.8*	0.31(6)	0.34		incl	77En02
1643.64(1)	0^+					2	0.10(3)	$\langle 0.1 \rangle$	70		0.06(2)	0.06		57	77En02
1959.07(1)	2^+					0	0.01(1)	0.01	200		0.02(1)	0.02	2+4	63	77En02
						2	0.02(1)	0.08			0.07(2)	0.07			77En02
2047.35(2)	2^-	1				1	0.52(13)	2.6	13000	0.52					77En02
2069.81(2)	3^-	1	2	0.6(2)		1	0.37(10)	2.6	13000	0.37					77En02
2103.67(2)	1^-	1						2.2	11000	0.73*					74Fi08
2260.40(4)	3^+					2	0.04(2)	$\langle 0.3 \rangle$	180		0.86(22)	0.86			77En02
2289.87(1)	1^+					0			800			0.11			73Wi16
						2						0.09			73Wi16
2290.49(2)	3^-								incl			incl			73Wi16
2397.16(3)	4^-		0					0.06	320			0.16			79Ro05
2419.17(2)	2^-					1		0.09	460						74Fi08
2542.8(2)	7^+														76De24
2558															
2575.93(3)	$\langle 2 \rangle^+$					2		0.26	200			0.07			74Fi08
2625.99(3)	0^-	1				1		0.76	4000						74Fi08
2730.37(2)	1														
2746.91(5)	$\langle 2,3 \rangle^-$					1		0.25	1400						74Fi08
2756.72(3)	2^+													150	68We09
2786.64(2)	3^+		0						65					incl	79Ro05
2787.4(3)	$\langle 3,4 \rangle^-$		0												79Ro05
2807.88(4)	$\langle 1,2 \rangle^-$		0			1		0.05	280						74Fi08
2879.0(2)	6^+														
2950.8(6)									≈70						
2985.87(4)	$\langle 2^-,3^+ \rangle$								≈100						
3027.95(3)	2^-								≈40						
3100.2(7)	$\langle 4,5 \rangle^+$													90	68We09
3109.72(2)	$\langle 1,2 \rangle^+$								≈90						

(continued) **$^{40}_{19}$K**

E^* [keV]	J^π	T	ℓ_p	S_p^- eval	S_p^-	ℓ_n	S_n^+ eval	$S_n'^+$ (d,p)	σ (d,p) μb/sr	S_N (d,p)	S_n^- eval	S_n^-	L (τ,t)	σ (τ,t) μb/sr	Ref.
3128.36(8)	2^-								≈50						
3146.44(5)	1								≈40						
3153.81(6)	$\langle 2,3\rangle^-$														
3228.67(5)	2^-					1		0.92	4600						74Fi08
3272															
3293(10)	UNN														
3368.03(8)	$\langle 2,3\rangle^-$					1		0.31	1700						74Fi08
3393.63(5)	2^-					1		0.09	500						74Fi08
3414.34(3)	2^+					0		0.04	520						74Fi08
						2		0.11							74Fi08
3439.14(3)	$\langle 2^+\rangle$													80	68We09
3448(10)	$\langle 3,5\rangle^+$														76De24
3486.21(3)	2^-					1		0.17	900						74Fi08
3517															
3556.97(4)	$\langle 1^-$–$4^+\rangle$														
3599.24(3)	2^-					1		1.1	190						74Fi08
3629.95(4)	$2^-,3^-$								6000						
3663.74(2)	$\langle 3,4\rangle^+$														
3717(4)	$\langle \leq 3\rangle^-$					1			400						
3738.48(3)	1^+													90	68We09
3767.8(1)	$\langle \leq 3\rangle^-$					1		0.08	≈500						
3797.57(3)	$\langle 1^+\rangle$					1		0.08	540						74Fi08
3821.43(3)	2^-					1		0.08	530						74Fi08
3840.23(2)	$\langle 1,2^+\rangle$														
3868.66(4)	2^-					1		0.61	3800						74Fi08
3887.92(5)	$\langle 1^-,2,3\rangle$														
3898(8)															
3923.9(2)	$\langle 1^-$–$4^+\rangle$								≈260						
3996(10)	UNN														
4020.35(4)	$\langle \leq 3\rangle^-$					1		0.40	2600						74Fi08
4075(5)									150						
4104.46(4)	$\langle 1^-$–$3^-\rangle$					1		0.66	4200						74Fi08
4110.84(3)	$\langle 1^-$–$3\rangle$					1		incl	150						74Fi08
4149.01(3)	$\langle 2^-,3\rangle$														
4180.03(3)	$\langle 3^-\rangle$														
4213.07(9)	$\langle 2^-,3^+\rangle$														
4253.62(4)	1^-					1		1.3	8300						74Fi08
4280.52(8)	2^-														
4300(5)	2^-					1		0.12	600						74Fi08
4352(5)	UNN								130						
4365.6(4)	$\langle 8^+\rangle$														
4384.0(3)	0^+	2											0	600	68We09
4395.88(3)	$\langle 0,1,2\rangle^-$					1		0.58	3600						74Fi08
4419.36(7)	$\langle 2^-,3,4^+\rangle$														
4472.99(6)	$\langle 2,3\rangle^-$					1		0.68	4200						74Fi08

(continued) **$^{40}_{19}$K**

E^*	J^π	ℓ_p	S_p^-	S_p^-	ℓ_n	S_n^+	$S_n'^+$	σ (d,p)	S_N	S_n^-	S_n^-	L	σ (τ,t)	Ref.
[keV]			eval			eval	(d,p)	μb/sr	(d,p)	eval		(τ,t)	μb/sr	
4508(15)														85Aj03
4537.06(4)	2^-				1		0.63	4000						74Fi08
4587(4)	2^-				1		0.30	2200						74Fi08
4659(4)	2^-				1		0.16	1200						74Fi08
4697(10)	UNN													
4744.09(2)	$\langle 2^+ \rangle$													
4761(5)	$\langle 1,2 \rangle^+$				0		0.06	900						74Fi08
4788.65(8)	$\langle 1^+ \rangle$						0.20	1600						74Fi08
4805(4)	$\langle \leq 3 \rangle^-$				1		0.35	2800						74Fi08
4848(10)														
4872.55(6)	$\langle 2,3 \rangle^-$				1		0.04	360						74Fi08
4875.6(4)	9^+													
4910(9)	2^-				1		0.35	2500						74Fi08
4944(5)	$\langle \leq 3 \rangle^-$				1		0.08	700						74Fi08
4992.94(9)	$\langle 2^-,3^+ \rangle$							100						
5027(5)								100						
5063.47(5)	$\langle 2^-,3^+ \rangle$													
5077(5)	$\langle \leq 3 \rangle^-$				1		0.05	380						74Fi08
5112(5)	2^-				1		0.06	460						74Fi08
5136(5)	$\langle \leq 3 \rangle^-$				1		0.12	1100						74Fi08
5158(5)	$\langle \leq 3 \rangle^-$				1		0.05	440						74Fi08
5208(5)	2^-				1		0.10	800						74Fi08
5870														
6227.0(5)	$\langle 8,10 \rangle^-$													
7000														
7472.4(5)	$\langle 9^-,11^- \rangle$													
7799														
			77En02	79Ro05		77En02	74Fi08	74Fi08	74Fi08		90En08			Ref.
										77En02			68We09	Ref.

Additional data on this isotope can be found in [73Wi16, 68We09].

Abundance: 0.0117(1) %.

* Values S_N are given in [02Fo09] where properties of low-lying multiplets in ^{40}K-^{40}Ca-^{40}Sc (marked here T=1) are considered; stable 4^--5^- splitting (891-893-894 keV) is connected with a purity of states.

The first value S_p^- is from the evaluation [77En02] obtained by inclusion of S_n^- for ^{40}Ca (T=1), the second value S_p^- is a result of single-particle model calculations for $1f_{7/2} - (1d_{3/2})^{-1}$ configuration [79Ro05].

The parameters S_n^+ and S_n^- are evaluated values [77En02] from 9 experimental works while $(2J+1)S_n^+$ and the second S_n^- are from experiments [74Fi08, 73Wi16] with resolution ≈15 keV [90En08].

Relative values of cross sections σ (t,τ)=0.24(4) and 0.51(13) for 1^+ levels with E^*=2288 and 3272 keV were found in [85Aj03].

Energy levels and branching ratios [90En08, 98En04]. Part 2 **$^{40}_{19}$K**

E^*	J^π	σ (α,d)	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
					E_f^*:	0	29.83	800.1	891.4	1644	1959
[keV]		μb/sr	(d,τ)	Γ_{cm}	J_f^π:	4^-	3^-	2^-	5^-	0^+	2^+
0	4^-	60	1.03(12)	1.251(11)·10^9 yr	77En02						
29.8299(5)	3^-		0.86(8)	4.25(6) ns	77En02	100					
					77En02						
800.143(2)	2^-	70	0.57(7)	0.28(4) ps	77En02	<0.15	100				
					77En02						
891.40(2)	5^-	200	1.46(17)	0.87(14) ps	77En02	100	<1.4				
1643.64(1)	0^+			0.336 μs	77En02		81.3(19)	19(3)			
1959.07(1)	2^+			0.59(10) ps	77En02		18.0(20)	82.0(20)			
					77En02						
2047.35(2)	2^-			0.34(4) ps	77En02	29(2)	31(2)	40(2)			
2069.81(2)	3^-	45	0.30(2)	0.47(10) ps	77En02	37(2)	50(2)	8(1)	5(1)		
2103.67(2)	1^-			0.52(10) ps	74Fi08		71(4)	29(4)		<1.5	
2260.40(4)	3^+			59(10) fs	77En02	19(3)	81.3(20)				
2289.87(1)	1^+	65		83(14) fs	73Wi16			33(2)		58(2)	9.0(9)
					73Wi16						
2290.49(2)	3^-			0.156(20) ps	73Wi16	83(2)			17(2)		
2397.16(3)	4^-		0.73(8)	35(14) fs	79Ro05	26(2)	67(2)				
2419.17(2)	2^-			0.55(14) ps	74Fi08	8(1)	17(2)	75(2)			<1.7
2542.8(2)	7^+	1000		1.09(7) ns	76De24	11.2(4)			89(2)		
2558						100					
2575.93(3)	$\langle 2\rangle^+$			0.130(17) ps	74Fi08		100				
2625.99(3)	0^-			0.215(35) ps	74Fi08			30(2)			
2730.37(2)	1			<28 fs				7(4)		82.0(8)	x
2746.91(5)	$\langle 2,3\rangle^-$			0.130(35) ps	74Fi08	30(2)	61(2)	5(1)			4(1)
2756.72(3)	2^+			<21 fs	68We09		45(3)	53(3)		0.8(2)	
2786.64(2)	3^+			<38 fs	79Ro05	5(2)	75(2)				17(2)
2787.4(3)	$\langle 3,4\rangle^-$	700	0.61(23)	<28 fs	79Ro05	41(8)			19(8)		
2807.88(4)	$\langle 1,2\rangle^-$		incl	0.14(4) ps	74Fi08			95(2)			<3.9
2879.0(2)	6^+			0.27(10) ps					36(3)		
2950.8(6)				35(21) fs		100					
2985.87(4)	$\langle 2^-,3^+\rangle$			69(28) fs			45(11)	51(11)			4(1)
3027.95(3)	2^-			<50 fs		[45]					
3100.2(7)	$\langle 4,5\rangle^+$	150		69(21) fs	68We09	55(10)			45(10)		
3109.72(2)	$\langle 1,2\rangle^+$			<97 fs						48(5)	42(5)
3128.36(8)	2^-			<21 fs		58(7)	35(7)				
3146.44(5)	1							60(3)		35(3)	5(1)
3153.81(6)	$\langle 2,3\rangle^-$			<21 fs		93(7)				<5.4	
3228.67(5)	2^-			28(21) fs	74Fi08	20(2)	24(4)	40(4)			
3272											
3293(10)	UNN										
3368.03(8)	$\langle 2,3\rangle^-$				74Fi08	6(2)	76(2)	<1.9			
3393.63(5)	2^-				74Fi08			78(3)			22(3)
3414.34(3)	2^+				74Fi08		24(2)	70(2)		<1.9	
					74Fi08						
3439.14(3)	$\langle 2^+\rangle$				68We09			26(2)		33(3)	39(3)

(continued) **$^{40}_{19}$K**

E^*	J^π	σ (α,d)	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
					E_f^*:	0	29.83	800.1	891.4	1644	1959
[keV]		μb/sr	(d,τ)	Γ_{cm}	J_f^π:	4^-	3^-	2^-	5^-	0^+	2^+
3448(10)	$\langle 3,5\rangle^+$	120			76De24						
3486.21(3)	2^-				74Fi08			<79			
3517											
3556.97(4)	$\langle 1^- – 4^+\rangle$						78(2)				22(2)
3599.24(3)	2^-				74Fi08		23(2)	48(3)			
3629.95(4)	$2^-,3^-$			<69 fs		46(2)	27(2)				
3663.74(2)	$\langle 3,4\rangle^+$					13(1)	19(2)				28(3)
3717(4)	$\langle \leq 3\rangle^-$										
3738.48(3)	1^+				68We09			58(4)		4(1)	
3767.8(1)	$\langle \leq 3\rangle^-$							100			
3797.57(3)	$\langle 1^+\rangle$				74Fi08					59(3)	33(3)
3821.43(3)	2^-				74Fi08		23(3)				
3840.23(2)	$\langle 1,2^+\rangle$							42(2)		23(2)	34(3)
3868.66(4)	2^-				74Fi08	8(3)	44(3)	18(3)			
3887.92(5)	$\langle 1^-,2,3\rangle$						51(4)	32(5)			
3898(8)											
3923.9(2)	$\langle 1^- – 4^+\rangle$						[85]				[15]
3996(10)	UNN										
4020.35(4)	$\langle \leq 3\rangle^-$				74Fi08			29(3)			
4075(5)											
4104.46(4)	$\langle 1^- – 3^-\rangle$				74Fi08			66(5)			
4110.84(3)	$\langle 1^- – 3\rangle$				74Fi08		36(3)	14(3)		<8	
4149.01(3)	$\langle 2^-,3\rangle$					6.4(8)		53(3)			
4180.03(3)	$\langle 3^-\rangle$								20(5)		24(3)
4213.07(9)	$\langle 2^-,3^+\rangle$									<24	
4253.62(4)	1^-				74Fi08		17(1)	35(2)		29(2)	
4280.52(8)	2^-					34(4)	11(3)	12(3)			
4300(5)	2^-				74Fi08						
4352(5)	UNN										
4365.6(4)	$\langle 8^+\rangle$			0.36(14) ps							
4384.0(3)	0^+				68We09						
4395.88(3)	$\langle 0,1,2\rangle^-$				74Fi08						
4419.36(7)	$\langle 2^-,3,4^+\rangle$						46(4)				
4472.99(6)	$\langle 2,3\rangle^-$				74Fi08	65(5)					
4508(15)					85Aj03						
4537.06(4)	2^-				74Fi08		32(2)	47(3)			13(1)
4587(4)	2^-				74Fi08						
4659(4)	2^-				74Fi08						
4697(10)	UNN										
4744.09(2)	$\langle 2^+\rangle$							40(2)		15(6)	9(2)
4761(5)	$\langle 1,2\rangle^+$				74Fi08						
4788.65(8)	$\langle 1^+\rangle$				74Fi08					39(4)	
4805(4)	$\langle \leq 3\rangle^-$				74Fi08						
4848(10)											
4872.55(6)	$\langle 2,3\rangle^-$				74Fi08	38(3)	11(2)				21(3)

(continued) **$^{40}_{19}$K**

E^*	J^π	σ (α,d)	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage						
						E_f^*:	0	29.83	800.1	891.4	1644	1959
[keV]		μb/sr	(d,τ)	Γ_{cm}		J_f^π:	4^-	3^-	2^-	5^-	0^+	2^+
4875.6(4)	9^+			<0.7 ps								
4910(9)	2^-				74Fi08							
4944(5)	$\langle\leq 3\rangle^-$				74Fi08							
4992.94(9)	$\langle 2^-,3^+\rangle$							[15(3)]				
5027(5)												
5063.47(5)	$\langle 2^-,3^+\rangle$						10(1)					
5077(5)	$\langle\leq 3\rangle^-$				74Fi08							
5112(5)	2^-				74Fi08							
5136(5)	$\langle\leq 3\rangle^-$				74Fi08							
5158(5)	$\langle\leq 3\rangle^-$				74Fi08							
5208(5)	2^-				74Fi08							
5870												
6227.0(5)	$\langle 8,10\rangle^-$			<1.4 ps								
7000												
7472.4(5)	$\langle 9^-,11^-\rangle$											
7799												
		76De24	79Ro05		Ref.							
					Ref.							

Energy levels and branching ratios [90En08, 98En04]. Part 3 **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	2047	2070	2104	2260	2289.9	2290.5	2397.2	2419.2	2542.8
[keV]	J_f^π:	2^-	3^-	1^-	3^+	1^+	3^-	4^-	2^-	7^+
2289.87(1)	1^+			<3.2						
2397.16(3)	4^-		7.1(10)							
2419.17(2)	2^-	<2.1	0.65(10)	<0.8						
2575.93(3)	$\langle 2\rangle^+$	<0.6			<2.2					
2625.99(3)	0^-			70(2)						
2730.37(2)	1			<0.7					11(2)	
2756.72(3)	2^+								1.0(2)	
2786.64(2)	3^+						1.9(2)			
2787.4(3)	$\langle 3,4\rangle^-$						40(8)			
2807.88(4)	$\langle 1,2\rangle^-$	4.6(15)								
2879.0(2)	6^+									64(2)
2985.87(4)	$\langle 2^-,3^+\rangle$						<4.5			
3027.95(3)	2^-		[8.4]				[47]			
3109.72(2)	$\langle 1,2\rangle^+$	9.6(12)			<19					
3128.36(8)	2^-					6(2)				
3146.44(5)	1								<1.2	
3153.81(6)	$\langle 2,3\rangle^-$							<19		
3228.67(5)	2^-			<19		16(2)				

(continued) **$^{40}_{19}$K**

E^*	J^π		Branching ratios in percentage								
		E_f^*:	2047	2070	2104	2260	2289.9	2290.5	2397.2	2419.2	2542.8
[keV]		J_f^π:	2^-	3^-	1^-	3^+	1^+	3^-	4^-	2^-	7^+
3368.03(8)	$\langle 2,3\rangle^-$		18(2)								
3439.14(3)	$\langle 2^+\rangle$				0.8(2)						
3486.21(3)	2^-		72(8)					18(2)			
3556.97(4)	$\langle 1^-\text{–}4^+\rangle$		<1.7	<7.4			<8.0				
3599.24(3)	2^-		5					<2.2	<2.2		
3629.95(4)	$2^-,3^-$			2.5(2)					19(2)		
3663.74(2)	$\langle 3,4\rangle^+$							39(3)			
3738.48(3)	1^+		9(1)			28(2)					
3767.8(1)	$\langle\leq 3\rangle^-$									<21	
3821.43(3)	2^-							8(2)	46(3)		
3840.23(2)	$\langle 1,2^+\rangle$			<2.1							
3868.66(4)	2^-				16(2)		2.5(3)				
4020.35(4)	$\langle\leq 3\rangle^-$		40(3)		31(3)						
4104.46(4)	$\langle 1^-\text{–}3^-\rangle$		9.3(11)		9.0(13)			4.8(6)			
4110.84(3)	$\langle 1^-\text{–}3\rangle$							<30			
4149.01(3)	$\langle 2^-,3\rangle$					4.7(5)		25(3)	10.6(11)		
4180.03(3)	$\langle 3^-\rangle$									<4	
4213.07(9)	$\langle 2^-,3^+\rangle$			100							
4253.62(4)	1^-		<15	10(5)	8.7(8)						
4280.52(8)	2^-		15(15)								
4365.6(4)	$\langle 8^+\rangle$										84(5)
4384.0(3)	0^+						76(3)				
4395.88(3)	$\langle 0,1,2\rangle^-$		52(7)								
4419.36(7)	$\langle 2^-,3,4^+\rangle$								21(2)		
4472.99(6)	$\langle 2,3\rangle^-$			19(2)							
4537.06(4)	2^-			<2.8							
4744.09(2)	$\langle 2^+\rangle$					1.2(3)	1.0(2)				
4788.65(8)	$\langle 1^+\rangle$				<33	19(2)					
4875.6(4)	9^+										64(7)
4992.94(9)	$\langle 2^-,3^+\rangle$			[46(4)]				[39(4)]			
5063.47(5)	$\langle 2^-,3^+\rangle$									35(5)	
6227.0(5)	$\langle 8,10\rangle^-$										<2

Energy levels and branching ratios [90En08, 98En04]. Part 4 **$^{40}_{19}$K**

E^*	J^π		Branching ratios in percentage								
		E_f^*:	2575.9	2626.0	2730.4	2746.9	2756.7	2786.6	2787.4	2807.9	2879.0
[keV]		J_f^π:	$\langle 2\rangle^+$	0^-	1	$\langle 2,3\rangle^-$	2^+	3^+	$\langle 3,4\rangle^-$	$\langle 1,2\rangle^-$	6^+
3109.72(2)	$\langle 1,2\rangle^+$		<1.7								
3128.36(8)	2^-						<16			0.8(5)	
3153.81(6)	$\langle 2,3\rangle^-$						7(2)				
3368.03(8)	$\langle 2,3\rangle^-$					<3.1					

(continued) **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2575.9	2626.0	2730.4	2746.9	2756.7	2786.6	2787.4	2807.9	2879.0
[keV]	J_f^π:	$\langle 2\rangle^+$	0^-	1	$\langle 2,3\rangle^-$	2^+	3^+	$\langle 3,4\rangle^-$	$\langle 1,2\rangle^-$	6^+
3414.34(3)	2^+						6(1)			
3439.14(3)	$\langle 2^+\rangle$		<1.2							
3486.21(3)	2^-			<26					<9	
3556.97(4)	$\langle 1^-$–$4^+\rangle$	<7.8				<4.8				
3599.24(3)	2^-	13(1)								
3738.48(3)	1^+	<27								
3767.8(1)	$\langle \leq 3\rangle^-$						<63			
3797.57(3)	$\langle 1^+\rangle$	5.0(6)								
3821.43(3)	2^-			5(1)	18(2)			<5		
3868.66(4)	2^-				8(1)					
3887.92(5)	$\langle 1^-,2,3\rangle$					17(2)				
3923.9(2)	$\langle 1^-$–$4^+\rangle$	<14								
4104.46(4)	$\langle 1^-$–$3^-\rangle$					<2.3				
4110.84(3)	$\langle 1^-$–$3\rangle$					18(2)				
4180.03(3)	$\langle 3^-\rangle$						16(2)			
4280.52(8)	2^-	29(15)								
4365.6(4)	$\langle 8^+\rangle$									16(5)
4384.0(3)	0^+			24(3)						
4395.88(3)	$\langle 0,1,2\rangle^-$			31(3)						
4419.36(7)	$\langle 2^-,3,4^+\rangle$	8.2(9)								
4472.99(6)	$\langle 2,3\rangle^-$		<17		<5.3					
4537.06(4)	2^-	6.4(7)								
4744.09(2)	$\langle 2^+\rangle$	7.3(8)		7(1)					5.1(9)	
4788.65(8)	$\langle 1^+\rangle$		5.7(7)			36(5)				
4872.55(6)	$\langle 2,3\rangle^-$					4.7(6)				

Energy levels and branching ratios [90En08, 98En04]. Part 5 **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2985.9	3027.9	3109.7	3128.4	3146.4	3153.8	3228.7	3368.0	3393.6	3414.3
[keV]	J_f^π:	$\langle 2^-,3^+\rangle$	2^-	$\langle 1,2\rangle^+$	2^-	1	$\langle 2,3\rangle^-$	2^-	$\langle 2,3\rangle^-$	2^-	2^+
3414.34(3)	2^+							<7.2			
3486.21(3)	2^-			10.2(13)							
3556.97(4)	$\langle 1^-$–$4^+\rangle$		<1.3								
3599.24(3)	2^-	11(1)									
3629.95(4)	$2^-,3^-$		4.8(8)								
3663.74(2)	$\langle 3,4\rangle^+$	<0.8			<0.3						
3767.8(1)	$\langle \leq 3\rangle^-$				<27	<43					
3797.57(3)	$\langle 1^+\rangle$	1.7(3)									1.5(3)
3840.23(2)	$\langle 1,2^+\rangle$			1.6(3)							
3868.66(4)	2^-							<3.1			2.8(4)
3923.9(2)	$\langle 1^-$–$4^+\rangle$							<17			

(continued) **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	2985.9	3027.9	3109.7	3128.4	3146.4	3153.8	3228.7	3368.0	3393.6	3414.3
[keV]	J_f^π:	$\langle 2^-,3^+\rangle$	2^-	$\langle 1,2\rangle^+$	2^-	1	$\langle 2,3\rangle^-$	2^-	$\langle 2,3\rangle^-$	2^-	2^+
4020.35(4)	$\langle\leq 3\rangle^-$	<5								<1.2	
4104.46(4)	$\langle 1^-\text{–}3^-\rangle$	3.6(5)									
4110.84(3)	$\langle 1^-\text{–}3\rangle$	<13	23(3)	9(1)							
4149.01(3)	$\langle 2^-,3\rangle$	<15						<0.8		<4	
4180.03(3)	$\langle 3^-\rangle$							5.7(6)			
4213.07(9)	$\langle 2^-,3^+\rangle$										<45
4253.62(4)	1^-	<2.1			<2.4		0.9(1)				
4395.88(3)	$\langle 0,1,2\rangle^-$				<23						
4419.36(7)	$\langle 2^-,3,4^+\rangle$			<6			25(2)				
4472.99(6)	$\langle 2,3\rangle^-$	<15								16(2)	
4537.06(4)	2^-			0.9(1)				<1.8			
4788.65(8)	$\langle 1^+\rangle$		<4								
4872.55(6)	$\langle 2,3\rangle^-$					<5	25(1)				
4992.94(9)	$\langle 2^-,3^+\rangle$					<15					
5063.47(5)	$\langle 2^-,3^+\rangle$			42(4)					13(2)		

Energy levels and branching ratios [90En08, 98En04]. Part 6 **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	3439.1	3486.2	3556.9	3599.2	3663.7	3738.5	3797.6	3840.2	3868.7	3923.9
[keV]	J_f^π:	$\langle 2^+\rangle$	2^-	$\langle 1^-\text{–}4^+\rangle$	2^-	$\langle 3,4\rangle^+$	1^+	$\langle 1^+\rangle$	$\langle 1,2^+\rangle$	2^-	$\langle 1^-\text{–}4^+\rangle$
3821.43(3)	2^-		<5								
3923.9(2)	$\langle 1^-\text{–}4^+\rangle$						<47				
4020.35(4)	$\langle\leq 3\rangle^-$		<1.1								
4104.46(4)	$\langle 1^-\text{–}3^-\rangle$				4.2(12)	3.2(4)					
4180.03(3)	$\langle 3^-\rangle$	34(3)									
4213.07(9)	$\langle 2^-,3^+\rangle$		<10								
4395.88(3)	$\langle 0,1,2\rangle^-$						17(2)				
4419.36(7)	$\langle 2^-,3,4^+\rangle$			<1.5		<10					
4472.99(6)	$\langle 2,3\rangle^-$	<6									
4537.06(4)	2^-						<2.6				
4744.09(2)	$\langle 2^+\rangle$				3(1)			1.5(2)	6.1(6)		
4788.65(8)	$\langle 1^+\rangle$					<17				<2.4	
4992.94(9)	$\langle 2^-,3^+\rangle$										<56

Energy levels and branching ratios [90En08, 98En04]. Part 7 **$^{40}_{19}$K**

E^*	J^π	Branching ratios in percentage									
	E_f^*:	4104.5	4110.8	4149.0	4180.0	4253.6	4365.6	4473.0	4537.1	4875.6	6227.0
[keV]	J_f^π:			$\langle 2^-,3\rangle$	$\langle 3^-\rangle$	1^-	$\langle 8^+\rangle$	$\langle 2,3\rangle^-$	2^-	9^+	$\langle 8,10\rangle^-$
4744.09(2)	$\langle 2^+\rangle$	<1.8			3.0(4)						
4788.65(8)	$\langle 1^+\rangle$		<4	<6		<1.2		<9			
4872.55(6)	$\langle 2,3\rangle^-$								<6		
4875.6(4)	9^+						36(11)				
4992.94(9)	$\langle 2^-,3^+\rangle$				<6						
6227.0(5)	$\langle 8,10\rangle^-$						<5			100	
7472.4(5)	$\langle 9^-,11^-\rangle$										100

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. **$^{41}_{19}$K**

E^*	$2J^\pi$	$2T$	$S_p'^+$	σ (τ,d)	L	C^2S'	L	C^2S'	L	S_p^-	C^2S	C^2S	L	σ (p,α)	$T_{1/2}$ or	Ref.
[keV]			eval	μb/sr		(d,n)		(τ,d)		eval	(d,τ)	(t,α)	(p,α)	μb/sr	Γ_{cm}	
0.0	3^+		0.40(9)		2	1.6	2	1.53	2	3.2(4)	3.43	2.85	2	11.6	Stable	77En02
980.476(8)	1^+		0.09(2)		0	0.16	0	0.16	0	1.2(3)	0.77	0.81	0	6.0	0.29(7) ps	77En02
1293.609(8)	7^-		0.35(5)		3	2.0	3	2.91	3	<0.5	0.93	0.45	3	15.0	7.35(20) ns	77En02
1559.90(1)	3^+								2		0.16	0.3	2	5.9	0.39(5) ps	76Do05
1582.00(1)	3^-						1	0.69	1		0.10				9.3(4) ps	75Me05
1593.11(1)	1^+								0		0.17	0.2	0	incl	90(30) fs	76Do05
1677.23(1)	7^+					0.32									1.4(3) ps	70Fu01
1698.01(2)	5^+							weak				0.13	2		0.85(20) ps	68Sa09
2143.82(2)	5^+												$\langle 2\rangle$	2.8	0.26(6) ps	71MaXU
2166.70(2)	3^-						1	0.052					$\langle 3\rangle$	incl	1.9(2) ps	75Me05
2316.62(2)	5^-						3	0.069							0.36(10) ps	75Me05
2440.1(2)	$\langle 3,5^+\rangle$														0.13(3) ps	
2447.83(7)	$\langle 3^+–7^+\rangle$															
2494.91(3)	9^+														3.0(5) ps	
2507.93(3)	7^+														0.20(6) ps	
2527.66(3)	11^+														151(4) ps	
2593.97(3)	$1^-,3^-$						1	0.18							0.19(8) ps	75Me05
2600(1)															0.16(4) ps	
2676.1(7)	1^+						0	0.021	0		0.64	0.39	0			75Me05
2710.3(2)	$3^+,5^+$						2	0.047								75Me05
2712.57(3)	$\langle 7\rangle^-$												$\langle 3\rangle$	12.4	0.54(15) ps	71MaXU
2756.73(3)	5^+						2	0.055					$\langle 2\rangle$	incl	52(21) fs	75Me05
2761.73(3)	11^-														0.48(5) ps	
2774.25(3)	13^+														51.3(16) ps	
3048.22(5)	$1^-,3^-$						1	0.14								75Me05
3141.84(3)	$\langle 7^-\rangle$															
3142.43(3)	5^-														0.14(4) ps	
3162.2(8)	$\langle 1–7^+\rangle$														<21 fs	
3179.8(2)	$3^+,5^+$								2		0.21					76Do05

(continued) **$^{41}_{19}$K**

E^* [keV]	$2J^\pi$	$2T$	S'^+_p eval	σ (τ,d) μb/sr	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	S^-_p eval	C^2S (d,τ)	C^2S (t,α)	L (p,α)	σ (p,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
3213.61(4)	5^-						3	0.16							125(55) fs	75Me05
3229.8(6)	$\langle 1^+,3^-\rangle$						[1]	0.01								
3235.57(4)	$\langle 3^-$–$7\rangle$														38(35) fs	
3240.65(4)	$\langle 5^+,7^-\rangle$															
3277.9(5)	$\langle 1$–$5^+\rangle$														76(69) fs	
3431.84(4)	$\langle 9^-,7^-\rangle$															
3450.1(2)	$5^-,7^-$						3	0.24							4.2(28) fs	75Me05
3480(10)	$5^-,7^-$						3	0.076								75Me05
3488.5(3)	$\langle 5\rangle^+$								2		0.81	0.43	2	35.2	<3.5 fs	76Do05
3521.38(9)	$\langle 5^+,7^+\rangle$															
3534.45(4)	$\langle 7^+,9\rangle$															
3572.38(5)	$\langle 3^+$–$9^-\rangle$															
3578.3(4)	$\langle 3^+$–$7^+\rangle$															
3579.2(5)	$\langle 1^+$–$7^+\rangle$															
3612.77(5)	$\langle 3^-,5^+\rangle$															
3626.1(5)	$\langle 1$–$7^-\rangle$						1	0.0051								75Me05
3651.46(5)	$\langle 5,7,9^+\rangle$															
3740.1(10)	$1^-,3^-$						1	0.049								75Me05
3761.54(5)	$\langle 5^+,7^+\rangle$														4.9(28) fs	
3774.66(5)	$5^-,7^-$						3	0.13								75Me05
3819(10)	$1^-,3^-$						1	0.029								75Me05
3826.90(10)	$\langle 5,7^+\rangle$															
3861.3(5)	$\langle 1,3,5^+\rangle$															
3870.52(6)	$5^-,7^-$						3	0.11								75Me05
3897.0(5)	$\langle 11^+,15^+\rangle$														0.31(8) ps	
3911.7(6)	$1^-,3^-$						1	0.071								75Me05
3990.40(5)	$7^-,9,11^+$															
3996.49(4)	$\langle 5^+\rangle$														97(35) fs	
4026.7(5)	$\langle 3^-,5,7^-\rangle$															
4026.94(7)	$\langle 3^-,5,7^+\rangle$						2	0.051								75Me05
4075(10)																
4146.15(6)	$5^-,7^-$						3	0.21								75Me05
4164.57(4)	$\langle 5^+,7,9^+\rangle$															
4220.62(5)	$\langle 5\rangle$															
4228.99(5)	$\langle 5\rangle^-$						3	0.16								75Me05
4244.22(5)	$\langle 3\rangle^-$						1	0.047								75Me05
4260.36(13)	$\langle 3^-,5\rangle$															
4274.2(3)	15^-														0.10(6) ps	
4274.96(5)	$\langle 7^-,9^+\rangle$												$\langle>3\rangle$	18.9		71MaXU
4303.01(5)	$\langle 5^+,7^+\rangle$															
4340.9(5)	$\langle 1,3,5\rangle$															
4345.66(5)	$\langle 5,7^-\rangle$						3	0.043								75Me05
4400(20)	$3^+,5^+$								2		0.23					76Do05
4459.72(5)	$\langle 3\rangle^-$						1	0.035								75Me05
4478(10)	$1^-,3^-$						1	0.025								75Me05

(continued) **$^{41}_{19}$K**

E^* [keV]	$2J^\pi$	$2T$	S'^+_p eval	σ (τ,d) μb/sr	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	S^-_p eval	C^2S (d,τ)	C^2S (t,α)	L (p,α)	σ (p,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
4525.37(5)	⟨3$^-$,5,7⟩															
4568.75(5)	⟨9$^+$,11$^-$⟩															
4587(10)	5$^-$,7$^-$					3	0.032									75Me05
4609.48(7)	⟨5$^+$,7,9$^+$⟩															
4661(10)	⟨1–7⟩$^-$					3	0.024									75Me05
4674(3)						[1]	0.003									75Me05
4730.70(5)	⟨3⟩$^-$					1	0.010									75Me05
4735.86(6)	⟨5$^+$,7$^+$⟩															
4745.49(10)	⟨5$^+$⟩															
4749.47(8)	⟨3$^-$,5,7$^+$⟩															
4823.33(5)	⟨7$^+$,9$^+$⟩															
4848.5(5)	⟨3⟩$^-$					1	0.009									75Me05
4862.43(6)	⟨5⟩															
4922(10)						3+1	0.037							11.0		75Me05
4927.83(6)	⟨5⟩$^+$						incl									75Me05
4948.94(6)	⟨3$^-$,5,7$^-$⟩															
4962.3(5)	⟨1,3,5⟩							2		0.42						76Do05
4982.9(2)	19$^-$														70.7(21) ps	
4995(10)	5$^-$,7$^-$					3	0.056									75Me05
5021.23(8)	⟨5$^+$⟩															
5060(20)	3$^+$,5$^+$							2		0.57						76Do05
5091(10)	1$^-$,3$^-$					1	0.026									75Me05
5096.20(8)	⟨5,7,9$^-$⟩															
5101.2(20)	1$^-$,3$^-$															
5129.4(5)														14.5		71MaXU
5160(10)	5$^-$,7$^-$					3	0.044									75Me05
5185.27(6)	⟨5,7$^-$⟩															
5235(10)	1$^-$,3$^-$					1	0.032									75Me05
5270(10)	1$^-$,3$^-$					1	0.014									75Me05
5298.86(6)	⟨3$^-$,5,7$^-$⟩															
5335(10)	1$^-$,3$^-$					1	0.003									75Me05
5401.7(5)	1$^-$,3$^-$					1	0.065									75Me05
5448(10)	1$^-$,3$^-$					1	0.016									75Me05
5496.61(7)	⟨7$^+$⟩															
5543(10)						3+1	0.03	2		0.45						75Me05
5548.19(7)	⟨5$^+$,7$^+$⟩						incl						⟨>3⟩	14.0		75Me05
5557.39(9)	⟨3$^-$,5$^+$⟩															
5575.24(8)	⟨3$^-$,5,7$^+$⟩															
5604.58(8)	⟨3$^-$,5,7$^+$⟩															
5610.83(6)	⟨5,7$^+$⟩															
5620(10)	1$^-$,3$^-$					1	0.007									75Me05
5655.66(8)	⟨3$^-$,5$^+$⟩															
5659.25(8)	⟨3$^-$,5,7$^+$⟩					1	0.010									75Me05
5717(10)	1$^-$,3$^-$					1	0.027									75Me05
5800.80(7)	⟨3$^+$,5$^+$⟩															

(continued) **$^{41}_{19}$K**

E^* [keV]	$2J^\pi$	$2T$	S'^+_p eval	σ (τ,d) μb/sr	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	S^-_p eval	C^2S (d,τ)	C^2S (t,α)	L (p,α)	σ (p,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
5816(10)	1^+						0	0.009								75Me05
5826.66(7)	$\langle 5\rangle^+$								2		0.48					76Do05
5852(10)	5^-,7^-						3	0.033								75Me05
5886.95(8)	$\langle 3\rangle^-$						1	0.027								75Me05
5912.50(8)	$\langle 9^+\rangle$															
5933(10)	1^-,3^-						1	0.014								75Me05
5952.41(8)	7^-,9,11^-															
5968.89(8)	$\langle 9^+$,$11^-\rangle$															
5986(10)	$\langle 1$–$7\rangle^-$						3+1	0.085								75Me05
6040.67(10)	$\langle 3^-$,5,7$\rangle$															
6062(10)	1^-,3^-						1	0.033								75Me05
6070.76(9)	$\langle 5$,7,$9^+\rangle$															
6078.56(7)	$\langle 3\rangle^-$															
6109(10)	1^-,3^-						1	0.010								75Me05
6186.04(11)	$\langle 5$,7$\rangle$															
6190(10)	1^-,3^-						1	0.019								75Me05
6211.50(7)	$\langle 7^+$,$9^-\rangle$															
6229.88(10)	$\langle 3^-$,5,$7^-\rangle$															
6255.96(8)	$\langle 5$,$7^-\rangle$															
6261(10)	1^-,3^-						1	0.021								75Me05
6290.05(14)	$\langle 3\rangle^-$						1	0.013								75Me05
6350(10)	5^-,7^-						3	0.049								75Me05
6394.31(10)	$\langle 3^-$,5,$7^-\rangle$															
6434.51(9)	$\langle 3^-$,5,$7^-\rangle$															
6450.15(10)	$\langle 3^-$,5,$7^+\rangle$															
6497.00(10)	$\langle 3\rangle^-$						1	0.056								75Me05
6528.13(9)	$\langle 3^-$,5,$7^-\rangle$								2		0.37					76Do05
6601(10)	1^-,3^-						1	0.007								75Me05
6630(20)	3^+,5^+								2		0.22					76Do05
6654(10)	1^-,3^-						1	0.027								75Me05
6704(10)	5^-,7^-							0.032								75Me05
6769.77(10)	$\langle 3^-$,5,$7^-\rangle$															
6782.54(10)	$\langle 3^-$–$9^-\rangle$															
6791.36(9)	$\langle 5$,7,$9^-\rangle$															
6809(10)	1^-,3^-						1	0.033								75Me05
6835.43(9)	$\langle 5$,$7^-\rangle$															
6874(10)	1^-,3^-						1	0.023								75Me05
6919(10)	1^-,3^-						1	0.016								75Me05
6980(10)	1^-,3^-						1	0.018								75Me05
6995.53(11)	$\langle 5$,7,$9^+\rangle$															
7020.97(10)	$\langle 3\rangle^-$						1	0.018								75Me05
7035.28(14)	$\langle 5\rangle^-$						3	0.041								75Me05
7085(10)	5^-,7^-						3	0.078								75Me05
7159(10)	1^-,3^-						1	0.032								75Me05
7232(10)	1^-,3^-						1	0.013								75Me05

(continued) **$^{41}_{19}$K**

E^* [keV]	$2J^\pi$	$2T$	S'^+_p eval	σ (τ,d) μb/sr	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	S^-_p eval	C^2S (d,τ)	C^2S (t,α)	L (p,α)	σ (p,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
7319(10)	$\langle 1$–$7\rangle^-$						3	0.035								75Me05
7361.15(11)	$\langle 3^-,5,7^-\rangle$						1	0.012								75Me05
7420(10)	$1^-,3^-$						1	0.032								75Me05
7471(10)	$5^-,7^-$						3	0.035								75Me05
7511(10)	$1^-,3^-$						1	0.013								75Me05
7593.06(9)	$\langle 5^+$–$11^-\rangle$															
7617(10)	$1^-,3^-$						1	0.016								75Me05
7654.93(9)	$\langle 3^-,5,7^-\rangle$															
7836(15)	$\langle 1^-,3,5^+\rangle$			286			2	0.076								75Me10
7893(15)	$\langle 1^-,3,5^+\rangle$			176			2	0.048								75Me10
7938.98(10)	$\langle 5$–$11^-\rangle$			224			$\langle 3\rangle$	0.067								75Me10
8000(20)									$\langle 2\rangle$		0.2					76Do05
8041(15)				127			$\langle 3\rangle$	0.039								75Me10
8116(15)	$1^-,3^-$			236			1	0.048								75Me10
8152(15)	$1^-,3^-$			127			1	0.026								75Me10
8190.21(12)	$\langle 3^-,5,7^-\rangle$															
8200.11(9)	$\langle 3^+,5^-,7^-\rangle$			67.6			$\langle 3\rangle$	0.022								75Me10
8268(15)	$1^-,3^-$			104			1	0.022								75Me10
8349(15)	$5^-,7^-$	5		2452	$\langle 3\rangle$	0.9	3	0.84					3	32.7*		71MaXU
8464(15)	$1^-,3^-$			180			1	0.044								75Me10
8548(15)	$\langle 5^-,7^-\rangle$	$\langle 5\rangle$		254			$\langle 3\rangle$	0.092								75Me10
8660(15)	$1^-,3^-$			181			1	0.048								75Me10
8748(15)	$1^-,3^-$			217	1	0.09	1	0.064								70Ha37
8801(15)	$\langle 1^-,3^-\rangle$			101			$\langle 1\rangle$	0.029								75Me10
8870(5)	3^-	5		663	1	0.09	1	0.18								70Ha37
9050(15)	$\langle 1^-,3^-\rangle$			301			$\langle 1\rangle$	0.15								75Me10
9116(15)	$\langle 5^-,7^-\rangle$			179			$\langle 3\rangle$	0.074								75Me10
9203(15)	$\langle 1$–$7^-\rangle$			88.8			3	0.038								75Me10
9243(15)	$1^-,3^-$			101			1	0.023								75Me10
9376(15)	$\langle 3^+,5^+\rangle$	5		443			$\langle 2\rangle$	0.16								75Me10
9420(50)	$3^+,5^+$												2	13.3*		71MaXU
9471(15)	$\langle 1^-,3^-\rangle$			232			$\langle 1\rangle$	0.083								75Me10
9630(5)	3^-	5		974			1	0.38								90En08
9740.70(10)	$\langle 3\rangle^-$			71			1	0.038								75Me10
9789(15)	$\langle 1^-,3^-\rangle$			65.4			$\langle 1\rangle$	0.033								75Me10
9857(15)	$1^-,3^-$			76.7			1	0.042								75Me10
9936(15)	$\langle 1^-,3^-\rangle$	$\langle 5\rangle$		64.2			$\langle 1\rangle$	0.036								75Me10
10093(15)	$1^-,3^-$			154			1	0.048								75Me10
10190(5)	1^+						0	0.032								90En08
10195(15)	X^-			45.9			1	0.026								75Me10
10239(15)	$\langle 1^-,3^-\rangle$			152			$\langle 1\rangle$	0.054								75Me10
12220(50)	$3^+,5^+$												2	18.4		71MaXU

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$	$2T$	S'^+_p	σ (τ,d)	L	C^2S'	L	C^2S'	L	S^-_p	C^2S	C^2S	L	σ (p,α)	$T_{1/2}$ or	Ref.
[keV]			eval	μb/sr		(d,n)		(τ,d)		eval	(d,τ)	(t,α)	(p,α)	μb/sr	Γ_{cm}	
			77En02	75Me10		70Fu01		75Me05		77En02		68Sa09		71MaXU		Ref.
						70Ha37		75Me10			76Do05	76Do05				Ref.

Additional data on this isotope can be found in [87Kr01, 75Me10, 70Ha37].
Abundance: 6.7302(44) %.
* IAR of the ground state ($7/2^-$) and the level at E^*=1035 keV ($3/2^+$) in ^{41}Ar
S'^+_p and S^-_p are evaluated values [77En02] from 4 experimental works.
Comparison of C^2S from neutron pickup reactions (d,t), (τ,α) and (p,d) can be found in [69Yn01].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 2 **$^{41}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage								
		E^*_f:	0.0	980.5	1293.6	1559.9	1582.0	1593.1	1677.2	1698.0	2143.8
[keV]		$2J^\pi_f$:	3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+
980.476(8)	1^+		100								
1293.609(8)	7^-		100								
1559.90(1)	3^+		81.9(6)	18.1(6)							
1582.00(1)	3^-		81.3(7)	18(2)	0.8(2)						
1593.11(1)	1^+		61(1)	39(1)							
1677.23(1)	7^+		99(1)		0.71(11)						
1698.01(2)	5^+		100								
2143.82(2)	5^+		70(3)	4.8(11)		21(4)	0.21(4)	0.13(4)		3.5(8)	
2166.70(2)	3^-		35(3)	43(12)		1.9(6)	16(3)	3.8(9)			
2316.62(2)	5^-		3.1(6)		91(3)		5.6(4)		0.26(14)		
2440.1(2)	$\langle 3,5^+\rangle$		63(2)	16(2)		6(1)		x		14(2)	
2447.83(7)	$\langle 3^+–7^+\rangle$		100								
2494.91(3)	9^+				32(1)				49(1)	19(1)	
2507.93(3)	7^+		44(4)		9(2)	7(1)			37(8)		2.7(4)
2527.66(3)	11^+								100		
2593.97(3)	$1^-,3^-$		12(2)				88.0(20)			<1	
2600(1)						x					
2676.1(7)	1^+		36			64					
2710.3(2)	$3^+,5^+$		x	x				x			x
2712.57(3)	$\langle 7\rangle^-$				64(1)		17(3)			6(1)	
2756.73(3)	5^+		56(3)		15(4)	10(2)			3(1)	10(2)	7(2)
2761.73(3)	11^-				100						
3048.22(5)	$1^-,3^-$		74(5)	x			x	16(5)			10(2)
3142.43(3)	5^-				72(7)				24(6)		0.9(2)
3162.2(8)	$\langle 1–7^+\rangle$		100								
3179.8(2)	$3^+,5^+$		76(5)			24(5)					
3213.61(4)	5^-		5.0(8)		85(8)		10(3)				
3229.8(6)	$\langle 1^+,3^-\rangle$		22(8)	33(8)		45(12)					

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage								
		E^*_f:	0.0	980.5	1293.6	1559.9	1582.0	1593.1	1677.2	1698.0	2143.8
[keV]		$2J^\pi_f$:	3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+
3235.57(4)	$\langle 3^- – 7\rangle$				69(7)						
3240.65(4)	$\langle 5^+,7^-\rangle$				50(5)					3.4(4)	12(2)
3277.9(5)	$\langle 1 – 5^+\rangle$		42	58							
3431.84(4)	$\langle 9^-,7^-\rangle$				54(5)						
3450.1(2)	$5^-,7^-$				100						
3488.5(3)	$\langle 5\rangle^+$		69(5)	4.5(10)	2.6(9)			2.8(9)		8.4(13)	
3521.38(9)	$\langle 5^+,7^+\rangle$		85(7)								
3572.38(5)	$\langle 3^+ – 9^-\rangle$								86(9)		
3578.3(4)	$\langle 3^+ – 7^+\rangle$					23(3)			38(9)	39(7)	
3579.2(5)	$\langle 1^+ – 7^+\rangle$		x			x					x
3612.77(5)	$\langle 3^-,5^+\rangle$		56(3)				27(5)	17(3)			
3626.1(5)	$\langle 1 – 7^-\rangle$						100				
3651.46(5)	$\langle 5,7,9^+\rangle$				18(2)				82(8)		
3740.1(10)	$1^-,3^-$		50(10)				50(10)				
3761.54(5)	$\langle 5^+,7^+\rangle$		72(4)			11.0(11)				7(2)	
3774.66(5)	$5^-,7^-$		30(4)	14(4)	33(3)		13(2)				
3826.90(10)	$\langle 5,7^+\rangle$		38(3)						41(4)	12(1)	
3861.3(5)	$\langle 1,3,5^+\rangle$		51(4)	7(2)		42(4)					
3870.52(6)	$5^-,7^-$				47(6)						53(6)
3911.7(6)	$1^-,3^-$		20(6)	80(6)							
3996.49(4)	$\langle 5^+\rangle$		24(1)	1.3(2)	5	10(1)			13(1)	4	
4026.7(5)	$\langle 3^-,5,7^-\rangle$				60(7)						
4026.94(7)	$\langle 3^-,5,7^+\rangle$					100					
4146.15(6)	$5^-,7^-$				95(11)						
4164.57(4)	$\langle 5^+,7,9^+\rangle$								59(6)	19(6)	
4220.62(5)	$\langle 5\rangle$		20(1)		46(5)				17(2)	9(1)	
4228.99(5)	$\langle 5\rangle^-$		5.4(7)		47(5)						
4244.22(5)	$\langle 3\rangle^-$				73(7)						
4260.36(13)	$\langle 3^-,5\rangle$		31(2)							60(6)	
4274.96(5)	$\langle 7^-,9^+\rangle$				83(8)					3.5(4)	
4303.01(5)	$\langle 5^+,7^+\rangle$		13(2)							58(6)	
4340.9(5)	$\langle 1,3,5\rangle$		100								
4345.66(5)	$\langle 5,7^-\rangle$				10(1)		16(2)		32(3)	3.1(4)	7(1)
4459.72(5)	$\langle 3\rangle^-$		34(2)	11(1)		46(5)					
4525.37(5)	$\langle 3^-,5,7\rangle$										92(15)
4674(3)			100								
4730.70(5)	$\langle 3\rangle^-$				77(5)						
4735.86(6)	$\langle 5^+,7^+\rangle$		4.9(6)							21(3)	
4745.49(10)	$\langle 5^+\rangle$		23(1)				33(2)		20(2)		
4749.47(8)	$\langle 3^-,5,7^+\rangle$		37(2)		57(3)						
4823.33(5)	$\langle 7^+,9^+\rangle$				9(1)				26(2)	3(1)	
4848.5(5)	$\langle 3\rangle^-$		62(10)								38(10)
4862.43(6)	$\langle 5\rangle$		38(2)						36(5)		
4927.83(6)	$\langle 5\rangle^+$				4			9(1)	16(8)	23(6)	
4948.94(6)	$\langle 3^-,5,7^-\rangle$				40(5)		59(4)				

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage								
		E_f^*:	0.0	980.5	1293.6	1559.9	1582.0	1593.1	1677.2	1698.0	2143.8
[keV]		$2J_f^\pi$:	3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+
4962.3(5)	⟨1,3,5⟩		100								
5021.23(8)	⟨5^+⟩		71(5)	29(7)							
5101.2(20)	1^-,3^-		45(15)								
5129.4(5)					21(6)						
5298.86(6)	⟨3^-,5,7^-⟩						11(2)				17(3)
5401.7(5)	1^-,3^-		84(5)								
5496.61(7)	⟨7^+⟩		45(2)								
5548.19(7)	⟨5^+,7^+⟩		44(3)						29(2)		
5575.24(8)	⟨3^-,5,7^+⟩		28(3)								
5604.58(8)	⟨3^-,5,7^+⟩		54(4)								
5610.83(6)	⟨5,7^+⟩		32(5)						39(7)		
5655.66(8)	⟨3^-,5^+⟩							8(1)			
5659.25(8)	⟨3^-,5,7^+⟩		65(5)			22(2)					
5800.80(7)	⟨3^+,5^+⟩			19(1)							
5826.66(7)	⟨5⟩$^+$				39(5)						
5886.95(8)	⟨3⟩$^-$			23(7)							
6070.76(9)	⟨5,7,9^+⟩				20(2)					20(2)	
6078.56(7)	⟨3⟩$^-$						15(2)			14(3)	
6186.04(11)	⟨5,7⟩								8(1)		
6255.96(8)	⟨5,7^-⟩						45(3)				
6290.05(14)	⟨3⟩$^-$		33(3)	6(1)			7(2)	34(2)			
6394.31(10)	⟨3^-,5,7^-⟩									34(2)	
6450.15(10)	⟨3^-,5,7^+⟩		12(1)								
6497.00(10)	⟨3⟩$^-$				100						
6769.77(10)	⟨3^-,5,7^-⟩				20(2)						
6791.36(9)	⟨5,7,9^-⟩								28(3)		
6835.43(9)	⟨5,7^-⟩				26(2)				7(1)		
6995.53(11)	⟨5,7,9^+⟩								5(1)		
7020.97(10)	⟨3⟩$^-$				40(3)						
7035.28(14)	⟨5⟩$^-$					11(1)			40(4)		9(1)
7361.15(11)	⟨3^-,5,7^-⟩						12(4)				
7654.93(9)	⟨3^-,5,7^-⟩										23(1)
7938.98(10)	⟨5–11^-⟩				34(2)						
8200.11(9)	⟨3^+,5^-,7^-⟩								2		
9740.70(10)	⟨3⟩$^-$				9(2)						

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 3 $^{41}_{19}$K

E^*	$2J^\pi$		Branching ratios in percentage								
		E^*_f:	2166.7	2316.6	2447.8	2494.9	2507.9	2527.7	2594.0	2712.6	2756.7
[keV]		$2J^\pi_f$:	3^-	5^-		9^+	7^+	11^+	$1^-,3^-$	$\langle 7\rangle^-$	5^+
2507.93(3)	7^+			0.11(3)							
2712.57(3)	$\langle 7\rangle^-$		1.4(3)	11(1)							
2761.73(3)	11^-					0.27(9)					
2774.25(3)	13^+							100			
3048.22(5)	$1^-,3^-$								x		
3141.84(3)	$\langle 7^-\rangle$			3(1)		32(7)	57(14)				8(2)
3142.43(3)	5^-							1.9(5)			
3235.57(4)	$\langle 3^- – 7\rangle$			31(7)							
3240.65(4)	$\langle 5^+,7^-\rangle$					9(2)	26(6)				
3431.84(4)	$\langle 9^-,7^-\rangle$			10(2)						15(3)	
3488.5(3)	$\langle 5\rangle^+$				13(3)						
3521.38(9)	$\langle 5^+,7^+\rangle$					15(4)					
3534.45(4)	$\langle 7^+,9\rangle$					53(11)	7(2)	38(8)			
3572.38(5)	$\langle 3^+ – 9^-\rangle$			14(5)							
3761.54(5)	$\langle 5^+,7^+\rangle$					6.1(14)					3.9(8)
3774.66(5)	$5^-,7^-$						8(2)				
3996.49(4)	$\langle 5^+\rangle$						3(1)				
4026.7(5)	$\langle 3^-,5,7^-\rangle$			40(7)							
4164.57(4)	$\langle 5^+,7,9^+\rangle$				1.2(3)						
4228.99(5)	$\langle 5\rangle^-$		10(1)				25(2)				
4244.22(5)	$\langle 3\rangle^-$		12(1)						7.0(13)		
4260.36(13)	$\langle 3^-,5\rangle$								8(1)		
4303.01(5)	$\langle 5^+,7^+\rangle$			10(1)		8(3)					
4568.75(5)	$\langle 9^+,11^-\rangle$							63(6)			
4609.48(7)	$\langle 5^+,7,9^+\rangle$					62(6)					30(3)
4735.86(6)	$\langle 5^+,7^+\rangle$			31(3)		44(4)					
4745.49(10)	$\langle 5^+\rangle$			12(1)		12(1)					
4823.33(5)	$\langle 7^+,9^+\rangle$				5(1)	9(1)	30(5)	12(1)			4(1)
4862.43(6)	$\langle 5\rangle$								26(3)		
4927.83(6)	$\langle 5\rangle^+$			17(2)						8(1)	24(2)
5096.20(8)	$\langle 5,7,9^-\rangle$				20(2)		33(6)			32(5)	
5101.2(20)	$1^-,3^-$			55(15)							
5129.4(5)				79(11)							
5185.27(6)	$\langle 5,7^-\rangle$						62(6)				
5298.86(6)	$\langle 3^-,5,7^-\rangle$				33(7)						
5401.7(5)	$1^-,3^-$			16							
5496.61(7)	$\langle 7^+\rangle$			22(1)		4.5(5)	1.2(3)	7(1)		9(1)	
5575.24(8)	$\langle 3^-,5,7^+\rangle$									67(7)	
5655.66(8)	$\langle 3^-,5^+\rangle$		49(6)								
5800.80(7)	$\langle 3^+,5^+\rangle$						31(3)				
5886.95(8)	$\langle 3\rangle^-$										39(4)
5912.50(8)	$\langle 9^+\rangle$					16(2)	28(2)				
6040.67(10)	$\langle 3^-,5,7\rangle$			15(2)							25(6)
6211.50(7)	$\langle 7^+,9^-\rangle$			7.2(10)		8.8(14)		84(5)			
6255.96(8)	$\langle 5,7^-\rangle$						16(3)				

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage								
		E_f^*:	2166.7	2316.6	2447.8	2494.9	2507.9	2527.7	2594.0	2712.6	2756.7
[keV]		$2J_f^\pi$:	3^-	5^-		9^+	7^+	11^+	1^-,3^-	$\langle 7\rangle^-$	5^+
6394.31(10)	$\langle 3^-,5,7^-\rangle$		11(2)								
6434.51(9)	$\langle 3^-,5,7^-\rangle$			37(2)							
6528.13(9)	$\langle 3^-,5,7^-\rangle$									74(2)	
6769.77(10)	$\langle 3^-,5,7^-\rangle$								15(1)		
6782.54(10)	$\langle 3^-–9^-\rangle$			14(2)							
6791.36(9)	$\langle 5,7,9^-\rangle$			6(1)							
6835.43(9)	$\langle 5,7^-\rangle$		8(1)								
6995.53(11)	$\langle 5,7,9^+\rangle$										27(2)
7035.28(14)	$\langle 5\rangle^-$									11(1)	
7361.15(11)	$\langle 3^-,5,7^-\rangle$									13(1)	
7593.06(9)	$\langle 5^+–11^-\rangle$									4.3(8)	
7938.98(10)	$\langle 5–11^-\rangle$									13(2)	
9740.70(10)	$\langle 3\rangle^-$									43(4)	

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 4 **$^{41}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage								
		E_f^*:	2761.7	2774.2	3048.2	3141.8	3142.4	3213.6	3235.6	3240.6	3431.8
[keV]		$2J_f^\pi$:	11^-	13^+	1^-,3^-	$\langle 7^-\rangle$	5^-	5^-		$\langle 5^+,7^-\rangle$	$\langle 9^-,7^-\rangle$
3141.84(3)	$\langle 7^-\rangle$		0.4(2)								
3142.43(3)	5^-		1.4(2)								
3431.84(4)	$\langle 9^-,7^-\rangle$		21(5)								
3534.45(4)	$\langle 7^+,9\rangle$									2.0(4)	
3774.66(5)	$5^-,7^-$							0.6(2)	1.0(2)		
3826.90(10)	$\langle 5,7^+\rangle$					8(2)				0.9(4)	
3897.0(5)	$\langle 11^+,15^+\rangle$			100							
3990.40(5)	$7^-,9,11^+$		65(14)								
3996.49(4)	$\langle 5^+\rangle$					0.04(1)	24(7)				
4164.57(4)	$\langle 5^+,7,9^+\rangle$										19(5)
4228.99(5)	$\langle 5\rangle^-$								1.8(4)	3.2(7)	
4244.22(5)	$\langle 3\rangle^-$						6.7(15)				
4274.2(3)	15^-		80.5(10)	19.5(10)							
4274.96(5)	$\langle 7^-,9^+\rangle$		12.8(13)								
4345.66(5)	$\langle 5,7^-\rangle$						5(1)		21(4)		
4568.75(5)	$\langle 9^+,11^-\rangle$			33(3)							
4609.48(7)	$\langle 5^+,7,9^+\rangle$									9(2)	
4730.70(5)	$\langle 3\rangle^-$					23(2)					
5185.27(6)	$\langle 5,7^-\rangle$										13(1)
5298.86(6)	$\langle 3^-,5,7^-\rangle$										8(1)
5548.19(7)	$\langle 5^+,7^+\rangle$						9(1)				
5655.66(8)	$\langle 3^-,5^+\rangle$					15(1)				29(3)	
5826.66(7)	$\langle 5\rangle^+$								14(4)		

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	2761.7	2774.2	3048.2	3141.8	3142.4	3213.6	3235.6	3240.6	3431.8
[keV]	$2J_f^\pi$:	11^-	13^+	$1^-,3^-$	$\langle 7^- \rangle$	5^-	5^-		$\langle 5^+,7^- \rangle$	$\langle 9^-,7^- \rangle$
5912.50(8)	$\langle 9^+ \rangle$	14(2)	16(1)						14(2)	
5952.41(8)	$7^-,9,11^-$	77(8)				23(3)				
5968.89(8)	$\langle 9^+,11^- \rangle$	57(6)	34(9)							
6040.67(10)	$\langle 3^-,5,7 \rangle$						17(2)	37(4)		
6078.56(7)	$\langle 3 \rangle^-$								27(3)	
6186.04(11)	$\langle 5,7 \rangle$					37(3)			19(2)	
6229.88(10)	$\langle 3^-,5,7^- \rangle$					19(6)				
6434.51(9)	$\langle 3^-,5,7^- \rangle$			44(3)						
6769.77(10)	$\langle 3^-,5,7^- \rangle$				35(2)					
6782.54(10)	$\langle 3^- – 9^- \rangle$								22(8)	
6835.43(9)	$\langle 5,7^- \rangle$					9(1)				
7020.97(10)	$\langle 3 \rangle^-$							43(12)		
8200.11(9)	$\langle 3^+,5^-,7^- \rangle$			21(2)						
9740.70(10)	$\langle 3 \rangle^-$									48(12)

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 5 **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	3488.5	3521.4	3534.4	3560.6	3612.8	3651.5	3761.5	3774.7	3826.9
[keV]	$2J_f^\pi$:	$\langle 5 \rangle^+$	$\langle 5^+,7^+ \rangle$	$\langle 7^+,9 \rangle$		$\langle 3^-,5^+ \rangle$		$\langle 5^+,7^+ \rangle$	$5^-,7^-$	$\langle 5,7^+ \rangle$
3990.40(5)	$7^-,9,11^+$				35(6)					
3996.49(4)	$\langle 5^+ \rangle$						14(2)			
4146.15(6)	$5^-,7^-$								5.5(9)	
4164.57(4)	$\langle 5^+,7,9^+ \rangle$							0.7(2)		
4220.62(5)	$\langle 5 \rangle$				2.0(5)	7(2)				
4228.99(5)	$\langle 5 \rangle^-$									0.9(2)
4244.22(5)	$\langle 3 \rangle^-$						0.7(2)			
4274.96(5)	$\langle 7^-,9^+ \rangle$			1.1(3)						
4303.01(5)	$\langle 5^+,7^+ \rangle$			10(3)						
4345.66(5)	$\langle 5,7^- \rangle$						6(1)			
4459.72(5)	$\langle 3 \rangle^-$					3.9(9)			4.9(11)	
4749.47(8)	$\langle 3^-,5,7^+ \rangle$								6(1)	
5096.20(8)	$\langle 5,7,9^- \rangle$								15(4)	
5185.27(6)	$\langle 5,7^- \rangle$				17(2)					
5298.86(6)	$\langle 3^-,5,7^- \rangle$	7(3)								
5604.58(8)	$\langle 3^-,5,7^+ \rangle$						21(3)			
5800.80(7)	$\langle 3^+,5^+ \rangle$								10(3)	
5826.66(7)	$\langle 5 \rangle^+$		15(2)							
5886.95(8)	$\langle 3 \rangle^-$									18(2)
6040.67(10)	$\langle 3^-,5,7 \rangle$							6(1)		
6070.76(9)	$\langle 5,7,9^+ \rangle$					17(2)				
6394.31(10)	$\langle 3^-,5,7^- \rangle$				17(2)				26(3)	12(1)

(continued) **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	3488.5	3521.4	3534.4	3560.6	3612.8	3651.5	3761.5	3774.7	3826.9
[keV]	$2J_f^\pi$:	$\langle 5\rangle^+$	$\langle 5^+,7^+\rangle$	$\langle 7^+,9\rangle$		$\langle 3^-,5^+\rangle$		$\langle 5^+,7^+\rangle$	$5^-,7^-$	$\langle 5,7^+\rangle$
6450.15(10)	$\langle 3^-,5,7^+\rangle$							60(6)		
6528.13(9)	$\langle 3^-,5,7^-\rangle$						5.4(7)			
7035.28(14)	$\langle 5\rangle^-$					12(2)				
7361.15(11)	$\langle 3^-,5,7^-\rangle$					12(2)				
8190.21(12)	$\langle 3^-,5,7^-\rangle$	24(3)	16(2)					11(2)		
8200.11(9)	$\langle 3^+,5^-,7^-\rangle$				6					8(1)

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 6 **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	3870.5	3990.4	3996.5	4026.9	4146.1	4164.6	4220.6	4229.0	4244.2
[keV]	$2J_f^\pi$:	$5^-,7^-$		$\langle 5^+\rangle$		$5^-,7^-$		$\langle 5\rangle$	$\langle 5\rangle^-$	$\langle 3\rangle^-$
4220.62(5)	$\langle 5\rangle$				0.2(1)					
4228.99(5)	$\langle 5\rangle^-$	7(2)								
4525.37(5)	$\langle 3^-,5,7\rangle$							3.4(11)	4.5(11)	
5496.61(7)	$\langle 7^+\rangle$			9(2)						
5548.19(7)	$\langle 5^+,7^+\rangle$		16(2)							
5557.39(9)	$\langle 3^-,5^+\rangle$				79(11)					
5826.66(7)	$\langle 5\rangle^+$							20(2)		
5912.50(8)	$\langle 9^+\rangle$						6(1)			
5968.89(8)	$\langle 9^+,11^-\rangle$						9(2)			
6078.56(7)	$\langle 3\rangle^-$							43(4)		
6186.04(11)	$\langle 5,7\rangle$				32(3)					
6229.88(10)	$\langle 3^-,5,7^-\rangle$					67(7)				
6255.96(8)	$\langle 5,7^-\rangle$									37(4)
6290.05(14)	$\langle 3\rangle^-$									20(2)
6528.13(9)	$\langle 3^-,5,7^-\rangle$			20(2)						
6995.53(11)	$\langle 5,7,9^+\rangle$				36(4)					
7020.97(10)	$\langle 3\rangle^-$			17(2)						
7654.93(9)	$\langle 3^-,5,7^-\rangle$									18(2)
7938.98(10)	$\langle 5\text{–}11^-\rangle$					23(3)				
8190.21(12)	$\langle 3^-,5,7^-\rangle$									23(4)

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 7 $^{41}_{19}$K

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	4260.4	4274.9	4303.0	4345.7	4459.7	4525.4	4609.5	4730.7	4735.9
[keV]	$2J_f^\pi$:	$\langle 3^-,5\rangle$	$\langle 7^-,9^+\rangle$	$\langle 5^+,7^+\rangle$	$\langle 5,7^-\rangle$	$\langle 3\rangle^-$			$\langle 3\rangle^-$	$\langle 5^+,7^+\rangle$
4568.75(5)	$\langle 9^+,11^-\rangle$		3.8(8)							
4823.33(5)	$\langle 7^+,9^+\rangle$		2(1)							
4948.94(6)	$\langle 3^-,5,7^-\rangle$							1.4(4)		
4982.9(2)	19^-		100							
5185.27(6)	$\langle 5,7^-\rangle$						3.6(9)		3.2(7)	
5298.86(6)	$\langle 3^-,5,7^-\rangle$						12(4)		11(2)	
5496.61(7)	$\langle 7^+\rangle$							2.4(7)		
5610.83(6)	$\langle 5,7^+\rangle$								29(6)	
5659.25(8)	$\langle 3^-,5,7^+\rangle$			13(3)						
5800.80(7)	$\langle 3^+,5^+\rangle$									33(7)
5826.66(7)	$\langle 5\rangle^+$									12(3)
5886.95(8)	$\langle 3\rangle^-$								20(6)	
6229.88(10)	$\langle 3^-,5,7^-\rangle$					15(1)				
6434.51(9)	$\langle 3^-,5,7^-\rangle$				10(1)					
6450.15(10)	$\langle 3^-,5,7^+\rangle$							19(2)		
6782.54(10)	$\langle 3^-\text{–}9^-\rangle$	25(3)								
6835.43(9)	$\langle 5,7^-\rangle$		15(2)							
6995.53(11)	$\langle 5,7,9^+\rangle$			32(4)						
7593.06(9)	$\langle 5^+\text{–}11^-\rangle$		50(4)							
7654.93(9)	$\langle 3^-,5,7^-\rangle$		19(1)							16(2)
8200.11(9)	$\langle 3^+,5^-,7^-\rangle$	18(2)				18(2)				

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 8 $^{41}_{19}$K

E^*	$2J^\pi$	Branching ratios in percentage							
	E_f^*:	4745.5	4749.5	4823.3	4862.4	4927.8	4948.9	5021.2	5096.2
[keV]	$2J_f^\pi$:	$\langle 5^+\rangle$		$\langle 7^+,9^+\rangle$	$\langle 5\rangle$	$\langle 5\rangle^+$		$\langle 5^+\rangle$	
5185.27(6)	$\langle 5,7^-\rangle$			1.6(3)					
5548.19(7)	$\langle 5^+,7^+\rangle$					0.9(2)			
5575.24(8)	$\langle 3^-,5,7^+\rangle$				5(1)				
5604.58(8)	$\langle 3^-,5,7^+\rangle$				21(4)		2.3(6)		
5800.80(7)	$\langle 3^+,5^+\rangle$		7(2)						
5912.50(8)	$\langle 9^+\rangle$							5(1)	
6070.76(9)	$\langle 5,7,9^+\rangle$			44(9)					
6791.36(9)	$\langle 5,7,9^-\rangle$							13(1)	
6835.43(9)	$\langle 5,7^-\rangle$								22(2)
7035.28(14)	$\langle 5\rangle^-$			16(2)					
7361.15(11)	$\langle 3^-,5,7^-\rangle$	24(2)				36(4)			
7654.93(9)	$\langle 3^-,5,7^-\rangle$					11(1)			

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 9 **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage							
	E_f^*:	5185.3	5298.9	5496.6	5548.2	5610.8	5655.7	5659.2	5826.7
[keV]	$2J_f^\pi$:	$\langle 5,7^- \rangle$		$\langle 7^+ \rangle$	$\langle 5^+,7^+ \rangle$	$\langle 5,7^+ \rangle$	$\langle 3^-,5^+ \rangle$		$\langle 5 \rangle^+$
5557.39(9)	$\langle 3^-,5^+ \rangle$		21(4)						
5604.58(8)	$\langle 3^-,5,7^+ \rangle$	1.5(4)							
6078.56(7)	$\langle 3 \rangle^-$							1.6(4)	
6186.04(11)	$\langle 5,7 \rangle$		4(1)						
6255.96(8)	$\langle 5,7^- \rangle$					2.5(5)			
6434.51(9)	$\langle 3^-,5,7^- \rangle$								10(3)
6450.15(10)	$\langle 3^-,5,7^+ \rangle$								8(2)
6769.77(10)	$\langle 3^-,5,7^- \rangle$		30(14)						
6782.54(10)	$\langle 3^- – 9^- \rangle$			38(11)					
6791.36(9)	$\langle 5,7,9^- \rangle$	35(4)							
6835.43(9)	$\langle 5,7^- \rangle$	13(1)							
7361.15(11)	$\langle 3^-,5,7^- \rangle$								3.7(6)
7654.93(9)	$\langle 3^-,5,7^- \rangle$		6(1)		7(1)				
8190.21(12)	$\langle 3^-,5,7^- \rangle$						26(3)		

Energy levels and branching ratios [90En08, 98En04, 01Ca59]. Part 10 **$^{41}_{19}$K**

E^*	$2J^\pi$	Branching ratios in percentage							
	E_f^*:	5886.9	5952.4	6070.8	6078.6	6211.5	6290.1	6497.0	6528.1
[keV]	$2J_f^\pi$:	$\langle 3 \rangle^-$			$\langle 3 \rangle^-$	$\langle 7^+,9^- \rangle$	$\langle 3 \rangle^-$	$\langle 3 \rangle^-$	
6791.36(9)	$\langle 5,7,9^- \rangle$	11(2)			6(1)				
6835.43(9)	$\langle 5,7^- \rangle$							0.3(2)	
7020.97(10)	$\langle 3 \rangle^-$								0.5(1)
7593.06(9)	$\langle 5^+ – 11^- \rangle$								46(10)
7938.98(10)	$\langle 5 – 11^- \rangle$		9(1)	8(1)		14(2)			
8200.11(9)	$\langle 3^+,5^-,7^- \rangle$				7(1)		20(2)		

Energy levels and branching ratios [90En08, 98En04, 01Si10]. **$^{42}_{19}$K**

E^*	J^π	T	ℓ_p	S_p^-	σ (d,p)	$d\sigma/d\Omega$	ℓ	S'	σ (α,d)	L	C^2S	σ (d,α)	σ (t,τ)	$T_{1/2}$ or	Ref.
[keV]				eval	rel.u.	μb/sr		(d,p)	μb/sr		(d,τ)	μb/sr	*rel.*	Γ_{cm}	
0	2^-		2	0.5(1)	93	710	3	3.02	32	2	0.36	80		12.36(1) h	77En02
106.83(1)	3^-		2	0.9*	112	820	1	0.16	15	2	0.70	30		0.28(4) ns	78Li27
							3	2.7							
258.26(1)	4^-		2	1.1*	114	800	3	3.3		2	0.92	32		130(8) ps	78Li27
638.73(1)	3^-				31	280	3	1.21				<2		<1.4 ns	78Li27
681.94(1)	$\langle 2,3 \rangle$														
699.08(3)	5^-		2	1.4*	207	1910	3	8.12	150	2	1.07	43		41(8) ps	78Li27

(continued) **$^{42}_{19}$K**

E^* [keV]	J^π	T	ℓ_p	S_p^- eval	σ (d,p) rel.u.	$d\sigma/d\Omega$ μb/sr	ℓ	S' (d,p)	σ (α,d) μb/sr	L	C^2S (d,τ)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
783.87(2)	2^-				38	910						<2			78Li27
841.94(1)	3^-				6							7			77Pa24
1110.75(2)	3^+				6							160			77Pa24
1143.59(2)	4^+								50					<1.4 ns	76De24
1197.90(2)	4^-		0	0.7*	14					0	0.53	75			69Yn01
1254.82(2)	$\langle 2,3\rangle^-$				163	1720	1	0.51							78Li27
1266.30(2)	$\langle 1–3\rangle^-$											80			77Pa24
1273.54(2)	$\langle 2^- – 4^+\rangle$														
1376.0(1)	6^+				62	570	1	0.20						1.1(1) ns	78Li27
1377.12(2)	$\langle 2,3\rangle^-$				incl										
1400.04(5)	$\langle 2,3\rangle$				12							30			77Pa24
1407.92(2)	1^-,2,3														
1453.07(5)	$\langle 2^- – 4^-\rangle$				8										
1463.65(2)	$\langle 1^-,2,3\rangle$				8					0	0.08				69Yn01
1489.27(9)	$\langle 1^- – 5^-\rangle$														
1513.08(4)	$\langle 1^- – 5^-\rangle$														
1538.73(7)	$\langle 3^+,5^+\rangle$								300			70		<3.5 ps	76De24
1692.00(4)	$\langle 1^- – 5^-\rangle$											33			77Pa24
1723.42(4)	2,3,4^+														
1745.61(3)	$\langle 2^+ – 4^+\rangle$				29							27			77Pa24
1816.87(3)	$\langle 2,3\rangle$														
1842.98(3)	$\langle 1^-,2,3\rangle$				369	3280	1	0.90							78Li27
1861.90(2)	2^-														
1913.48(2)	$\langle 2^-,3\rangle$					2320	1	0.77				31			78Li27
1936.1(1)	$\langle 3^- – 6^-\rangle$				341	incl									78Li27
1937.50(2)	$\langle 1–3\rangle^-$				incl										
1947.4(3)	7^+								700					<1.1 ps	76De24
1987.97(3)	$\langle 0^- – 4^-\rangle$									0	0.27				69Yn01
2049.32(4)	3^+				18							60			77Pa24
2072.00(4)	$\langle 2,3\rangle^-$				199	1400	1	0.38							78Li27
2113.8(3)	$\langle 0^- – 4^-\rangle$									0	0.27				69Yn01
2161.62(6)	$\langle 2^+ – 4^+\rangle$				33										
2187.20(7)	3^+				26							220			77Pa24
2204.03(6)	$\langle 2^- – 4^+\rangle$														
2238.62(5)	$\langle 1–3\rangle^-$				143	870	1	0.22							78Li27
2251.09(5)	$\langle 0^- – 4^-\rangle$														
2314(14)	$\langle 3,5\rangle^+$								350			30			76De24
2359.0(1)	$\langle 4^+ – 7^-\rangle$				960	3930	1	1.06							78Li27
2366.19(5)	$\langle 2,3\rangle^-$				860		[1]								
2388.83(6)	3^+				incl							35			77Pa24
2401.82(5)	$\langle 2,3\rangle^-$					4800	1	1.25							78Li27
2422.13(5)	1^-,2,3														
2482.16(5)	$\langle 1–3\rangle^-$				415	2640	1	0.68							78Li27
2524.7	$\langle 2–5^-\rangle$				49										
2553.7(2)	$\langle 0–3\rangle^-$				49	610	1	0.15				32			78Li27

(continued) **$^{42}_{19}$K**

E^* [keV]	J^π	T	ℓ_p	S_p^- eval	σ (d,p) rel.u.	$d\sigma/d\Omega$ μb/sr	ℓ	S' (d,p)	σ (α,d) μb/sr	L	C^2S (d,τ)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
2573.63(6)	⟨2,3⟩														
2607.02(6)	1$^-$,2,3				41										
2627.85(6)	⟨2$^-$,3⟩				160	4070	1	1.00				7			77Pa24
2644.31(6)	3$^-$				522										
2653.79(11)	⟨2$^-$,3⟩											9			77Pa24
2718.12(6)	⟨2$^-$,3⟩				186										
2765.96(6)	⟨2$^+$,3⟩											35			77Pa24
2802(15)									190			33			76De24
2844(12)									incl						
2862.71(7)	⟨2$^-$,3⟩				43							37	0.53(11)		85Aj03
2877.98(6)	3$^-$														
2917.02(8)	⟨1$^-$–4$^+$⟩				156										
2926.09(6)	⟨2,3⟩$^-$				149	2220									78Li27
2938.59(7)	1$^-$,2,3														
2991.51(13)	⟨5$^+$–9$^+$⟩														
3008.35(7)	3				614										
3014.46(7)	⟨1$^-$–4$^+$⟩					420									78Li27
3021.10(7)	⟨2$^-$,3⟩											37			77Pa24
3040.15(8)	3$^-$														
3090(9)	[1$^+$]											36	0.42(11)		85Aj03
3132(15)															85Aj03
3168.1(4)	⟨2$^+$–5⟩														
3195.82(7)	⟨2$^-$,3⟩					720									78Li27
3210.64(7)	⟨1$^+$,2,3⟩											35			77Pa24
3233.92(7)	⟨3,4$^+$⟩														
3284.40(7)	⟨2$^-$,3⟩														
3287.19(7)	⟨2$^-$–4$^+$⟩														
3295.32(9)	⟨2,3⟩												0.82(16)		85Aj03
3304.34(9)	⟨1$^+$–4$^+$⟩											62			77Pa24
3323.74(8)	3$^-$												0.33(11)		85Aj03
3367.34(8)	⟨0$^-$–3⟩												0.31(11)		85Aj03
3418.45(8)	⟨2,3⟩$^-$														
3421.28(8)	⟨0$^-$–3⟩														
3497.81(23)	⟨2$^+$–9$^-$⟩														
3502.90(8)	⟨2$^+$–4$^+$⟩											42			77Pa24
3528.95(17)	⟨0$^-$–3⟩														
3559.9(5)	⟨5$^+$–9$^+$⟩														
3587(15)															
3621.24(9)	⟨2,3⟩														
3658.59(8)	⟨2$^-$,3⟩														
3674.15(8)	⟨1$^-$,2,3⟩														
3696.44(10)	⟨3$^-$,4$^+$⟩														
3758(10)															
3770.64(10)	⟨0$^-$–3⟩														
3794.64(9)	⟨0$^-$–3⟩														

(continued) **$^{42}_{19}$K**

E^* [keV]	J^π	T	ℓ_p	S_p^- eval	σ (d,p) rel.u.	$d\sigma/d\Omega$ μb/sr	ℓ	S' (d,p)	σ (α,d) μb/sr	L	C^2S (d,τ)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
3798.15(10)	$\langle 2^-$–$4^+\rangle$														
3831.71(10)	$\langle 1^+,2,3\rangle$														
3861.99(9)	$\langle 1^-$–$4^+\rangle$														
3876.98(8)	$\langle 1^-$–$4^+\rangle$														
3888.34(10)	$\langle 1^+$–$4^+\rangle$														
3890.13(9)	$\langle 0^-$–$3\rangle$														
3934.64(10)	$\langle 2^-,3,4^+\rangle$														
4013.92(9)	$\langle 1^+,2,3\rangle$														
4036.93(11)	3^-														
4039.95(8)	$\langle 1^+,2,3\rangle$														
4053.90(9)	$\langle 1^+,2,3\rangle$														
4092.14(22)	$\langle 3^+$–$9^-\rangle$														
4103.77(10)	$\langle 1^-$–$4^+\rangle$														
4105.3(4)	$\langle 0^-$–$3\rangle$														
4128.34(9)	$\langle 2^+,3\rangle$														
4152.39(9)	$\langle 2^-,3,4^+\rangle$														
4154.67(11)	$\langle 1^-,2,3\rangle$														
4179.44(10)	$\langle 2^-,3,4^+\rangle$														
4259.12(10)	$\langle 1^-,2,3\rangle$														
4389.78(15)	$\langle 2^-,3,4^+\rangle$														
4416.61(9)	$\langle 2^-,3\rangle$														
4428.25(9)	$\langle 1^+,2,3\rangle$														
4443.15(10)	$\langle 0^-$–$4^+\rangle$														
4481.05(10)	$\langle 2,3\rangle$														
4556.67(10)	$\langle 1^-,2,3\rangle$														
4576.26(10)	$\langle 2,3\rangle^-$														
4590.59(10)	$\langle 2^-,3,4^+\rangle$														
4603.5(7)															
4612.78(11)	$\langle 2^+,3\rangle$														
4660.73(13)	$\langle 2^-,3\rangle$														
4715.41(17)	$\langle 2^-,3\rangle$														
4745.9(3)	$\langle 3^+$–$10\rangle$														
4748.54(13)	3^-														
4778.04(12)	$\langle 1^-$–$4^+\rangle$														
4806.84(10)	$\langle 0$–$3\rangle^-$														
4853.60(10)	$\langle 0$–$3\rangle^-$														
4878.6(3)	$\langle 1^+$–$4^+\rangle$														
4904	$\langle 3^-,4^+\rangle$														
4939	$\langle 1^-,2,3\rangle$														
4943	$\langle 1^-$–$4^-\rangle$														
4960	$\langle 0^-$–$4^+\rangle$														
5003	$\langle 1^-,2,3\rangle$														
5064	$\langle 1^-$–$4^+\rangle$														
5081	$\langle 1^-,2,3\rangle$														
5097	$\langle 0^-$–$3\rangle$														

(continued) **$^{42}_{19}$K**

E^* [keV]	J^π	T	ℓ_p	S_p^- eval	σ (d,p) rel.u.	$d\sigma/d\Omega$ μb/sr	ℓ	S' (d,p)	σ (α,d) μb/sr	L	C^2S (d,τ)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
5142															
5179	$\langle 0^-$–$4^+\rangle$														
5247	$\langle 1^-$–$4^+\rangle$														
5319	$\langle 2^-,3\rangle$														
5363.5(4)															
5380.1(15)															
5477	$\langle 1^+,2,3\rangle$														
5484.0(6)															
5555.7(6)															
5622.5(3)															
5630	$\langle 0$–$4^+\rangle$														
5654.6(3)															
5682.7(3)															
5697	$\langle 0$–$4^+\rangle$														
5711	$\langle 2^-,3,4^+\rangle$														
5723.5(6)															
5737.5(4)															
5747.7(8)															
5760	$\langle 1^-$–$4^+\rangle$														
5772.4(6)															
5790	$\langle 0$–$4^+\rangle$														
5809.3(3)															
5819.4(3)															
5847	$\langle 1^+$–$4^+\rangle$														
5896.4(4)															
5927.2(5)															
5954	$\langle 1$–$4^+\rangle$														
5968.7(5)															
5978	$\langle 1$–$4^+\rangle$														
6012.6(5)															
6450	$\langle 0^+\rangle$	3													
					77Pa24	78Li27		01Si10	76De24			77Pa24	85Aj03		Ref.

Additional data on this isotope can be found in [98Mo16, 88Kr07, 85Kr06, 82Ba55, 78Li27, 73Du02, 69Ly02].

* values S_p^- from the (d,τ) reaction [69Yn01]

S_n^+=0.34(9) for the ground state (ℓ_n=3) and S_p^- given in the Table are results of evaluation [77En02]; σ (d,p), $d\sigma/d\Omega$ and S' from the (d,p) reaction are the experimental values from [77Pa24], [78Li27] and [01Si10]; cross sections of two-nucleon transfer and pickup σ (α,d) and σ (d,α) are from [76De24] and [77Pa24].

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 2 **$^{42}_{19}$K**

E^*	J^π	ℓ_n	S_n^+	Ref.	Branching ratios in percentage						
				E_f^*:	0	106.8	258.3	638.7	682	699	784
[keV]			eval	J_f^π:	2^-	3^-	4^-	3^-	$\langle 2,3\rangle$	5^-	2^-
0	2^-	3	0.3(1)	77En02							
106.83(1)	3^-			78Li27	100						
258.26(1)	4^-			78Li27	<0.4	100					
638.73(1)	3^-			78Li27	39(2)	38(2)	23(2)				
681.94(1)	$\langle 2,3\rangle$				99.3(2)	0.7(2)					
699.08(3)	5^-			78Li27		4.4(3)	96(1)				
783.87(2)	2^-			78Li27	100						
841.94(1)	3^-			77Pa24	86(3)	14(3)					
1110.75(2)	3^+			77Pa24	51(6)				5(1)		
1143.59(2)	4^+			76De24		6(1)		66(5)		25(5)	
1197.90(2)	4^-			69Yn01	7(1)	33(4)	49(5)	11(2)			
1254.82(2)	$\langle 2,3\rangle^-$			78Li27	17(3)		31(4)	50(10)			
1266.30(2)	$\langle 1–3\rangle^-$			77Pa24	65(4)			27(4)	8(2)		
1273.54(2)	$\langle 2^-–4^+\rangle$					8(2)	16(3)	2.3(5)			
1376.0(1)	6^+			78Li27						90(1)	
1377.12(2)	$\langle 2,3\rangle^-$				77(4)				23(4)		
1400.04(5)	$\langle 2,3\rangle$			77Pa24	67(5)			6.9(10)			
1407.92(2)	1^-,2,3				82(3)	14(2)			4.3(8)		
1453.07(5)	$\langle 2^-–4^-\rangle$						8(2)				
1463.65(2)	$\langle 1^-$,2,3$\rangle$			69Yn01	16(3)						
1489.27(9)	$\langle 1^-–5^-\rangle$					41(10)		59(10)			
1513.08(4)	$\langle 1^-–5^-\rangle$								15(3)		
1538.73(7)	$\langle 3^+,5^+\rangle$			76De24							
1692.00(4)	$\langle 1^-–5^-\rangle$			77Pa24		73(7)					
1723.42(4)	2,3,4^+					6(1)		4.0(10)			
1745.61(3)	$\langle 2^+–4^+\rangle$			77Pa24							
1816.87(3)	$\langle 2,3\rangle$					81(3)					
1842.98(3)	$\langle 1^-$,2,3$\rangle$			78Li27	35(4)						
1861.90(2)	2^-				49(4)	7(1)	2.6(6)	1.2(2)	23(3)		
1913.48(2)	$\langle 2^-$,3$\rangle$			78Li27	1.5(5)		28(4)				
1936.1(1)	$\langle 3^-–6^-\rangle$			78Li27			44(11)			56(5)	
1937.50(2)	$\langle 1–3\rangle^-$				38(5)	4.1(7)			52(5)		5(1)
1947.4(3)	7^+			76De24							
1987.97(3)	$\langle 0^-–4^-\rangle$			69Yn01	14(2)						82(3)
2049.32(4)	3^+			77Pa24							
2072.00(4)	$\langle 2,3\rangle^-$			78Li27	57(3)	12(2)		18(3)			
2113.8(3)	$\langle 0^-–4^-\rangle$			69Yn01	100						
2161.62(6)	$\langle 2^+–4^+\rangle$										
2187.20(7)	3^+			77Pa24							45(5)
2204.03(6)	$\langle 2^-–4^+\rangle$						92.0(20)				
2238.62(5)	$\langle 1–3\rangle^-$			78Li27	75(4)	0.7(2)					
2251.09(5)	$\langle 0^-–4^-\rangle$								5.0(10)		
2314(14)	$\langle 3,5\rangle^+$			76De24							
2359.0(1)	$\langle 4^+–7^-\rangle$			78Li27						20(3)	

(continued) **$^{42}_{19}$K**

E^*	J^π	ℓ_n	S_n^+	Ref.		Branching ratios in percentage						
					E_f^*:	0	106.8	258.3	638.7	682	699	784
[keV]			eval		J_f^π:	2^-	3^-	4^-	3^-	$\langle 2,3\rangle$	5^-	2^-
2366.19(5)	$\langle 2,3\rangle^-$					55(3)	30(3)	0.5(1)		1.5(4)		
2388.83(6)	3^+			77Pa24		30(3)	4.9(7)			9(1)		
2401.82(5)	$\langle 2,3\rangle^-$			78Li27		6.5(8)	60(3)	13(1)				
2422.13(5)	1^-,2,3					3.0(4)	60(3)		16(2)	16(2)		
2482.16(5)	$\langle 1–3\rangle^-$			78Li27		2.7(5)	9(1)			15(2)		
2524.7	$\langle 2–5^-\rangle$											
2553.7(2)	$\langle 0–3\rangle^-$			78Li27								
2573.63(6)	$\langle 2,3\rangle$					29(6)	55(5)					
2607.02(6)	1^-,2,3								14(2)			
2627.85(6)	$\langle 2^-,3\rangle$			77Pa24		9(1)	11(1)	17(2)				
2644.31(6)	3^-						16(2)		4(1)	57(4)		
2653.79(11)	$\langle 2^-,3\rangle$			77Pa24		21(3)		79(3)				
2718.12(6)	$\langle 2^-,3\rangle$											16(2)
2765.96(6)	$\langle 2^+,3\rangle$			77Pa24		36(3)				30(3)		
2802(15)				76De24								
2844(12)												
2862.71(7)	$\langle 2^-,3\rangle$			85Aj03								
2877.98(6)	3^-					3.4(6)	5(1)			15(2)	25(2)	10(1)
2917.02(8)	$\langle 1^–4^+\rangle$						69(4)					
2926.09(6)	$\langle 2,3\rangle^-$			78Li27		68(3)						
2938.59(7)	1^-,2,3					34(5)						
2991.51(13)	$\langle 5^+–9^+\rangle$											
3008.35(7)	3					16(1)						
3014.46(7)	$\langle 1^–4^+\rangle$			78Li27		54(4)			9.9(10)			3.7(8)
3021.10(7)	$\langle 2^-,3\rangle$			77Pa24		32(3)		6.4(9)				
3040.15(8)	3^-					70(3)					7.9(10)	
3090(9)	$[1^+]$			85Aj03								
3132(15)				85Aj03								
3168.1(4)	$\langle 2^+–5\rangle$											
3195.82(7)	$\langle 2^-,3\rangle$			78Li27		30(2)			16(2)			8(2)
3210.64(7)	$\langle 1^+,2,3\rangle$			77Pa24		71(3)						
3233.92(7)	$\langle 3,4^+\rangle$						16(1)					
3284.40(7)	$\langle 2^-,3\rangle$						17(1)					44(3)
3287.19(7)	$\langle 2^–4^+\rangle$							61(2)	27(2)			
3295.32(9)	$\langle 2,3\rangle$			85Aj03		39(3)	10(2)					
3304.34(9)	$\langle 1^+–4^+\rangle$			77Pa24						15(3)		
3323.74(8)	3^-			85Aj03		66(2)	14(2)	7.5(9)			13(2)	
3367.34(8)	$\langle 0^–3\rangle$			85Aj03		29(3)				26(3)		
3418.45(8)	$\langle 2,3\rangle^-$							21(1)	11(1)			
3421.28(8)	$\langle 0^–3\rangle$					68(4)						
3497.81(23)	$\langle 2^+–9^-\rangle$											
3502.90(8)	$\langle 2^+–4^+\rangle$			77Pa24						5.1(8)		
3528.95(17)	$\langle 0^–3\rangle$					33(5)						23(3)
3559.9(5)	$\langle 5^+–9^+\rangle$											
3587(15)												

(continued) **$^{42}_{19}$K**

E^*	J^π	ℓ_n	S_n^+ Ref.		Branching ratios in percentage						
				E_f^*:	0	106.8	258.3	638.7	682	699	784
[keV]			eval	J_f^π:	2^-	3^-	4^-	3^-	$\langle 2,3\rangle$	5^-	2^-
3621.24(9)	$\langle 2,3\rangle$					15(2)					
3658.59(8)	$\langle 2^-,3\rangle$						10.1(7)				
3674.15(8)	$\langle 1^-,2,3\rangle$								12(2)		
3696.44(10)	$\langle 3^-,4^+\rangle$					29(1)			30(1)	2.6(5)	
3758(10)											
3770.64(10)	$\langle 0^-–3\rangle$								58(3)		18(2)
3794.64(9)	$\langle 0^-–3\rangle$				5.5(6)				20(2)		24(2)
3798.15(10)	$\langle 2^-–4^+\rangle$						18(3)				
3831.71(10)	$\langle 1^+,2,3\rangle$				49(4)						
3861.99(9)	$\langle 1^-–4^+\rangle$					20(2)		2.3(4)	27(4)		
3876.98(8)	$\langle 1^-–4^+\rangle$					7.9(5)					
3888.34(10)	$\langle 1^+–4^+\rangle$								8.0(10)		
3890.13(9)	$\langle 0^-–3\rangle$				36(3)						
3934.64(10)	$\langle 2^-,3,4^+\rangle$					15(2)					19(3)
4013.92(9)	$\langle 1^+,2,3\rangle$				54(2)						
4036.93(11)	3^-				5.6(8)					11.1(10)	
4039.95(8)	$\langle 1^+,2,3\rangle$				11(1)						
4053.90(9)	$\langle 1^+,2,3\rangle$				18(2)						8.0(10)
4092.14(22)	$\langle 3^+–9^-\rangle$										
4103.77(10)	$\langle 1^-–4^+\rangle$										
4105.3(4)	$\langle 0^-–3\rangle$				25(2)						75(2)
4128.34(9)	$\langle 2^+,3\rangle$				2.2(2)			24(1)			
4152.39(9)	$\langle 2^-,3,4^+\rangle$						25.8(10)				
4154.67(11)	$\langle 1^-,2,3\rangle$				18.8(10)						
4179.44(10)	$\langle 2^-,3,4^+\rangle$										
4259.12(10)	$\langle 1^-,2,3\rangle$				18(1)				26(2)		
4389.78(15)	$\langle 2^-,3,4^+\rangle$						11(1)		20(2)		
4416.61(9)	$\langle 2^-,3\rangle$				20(1)	4.5(3)	0.8(2)	6.2(6)			
4428.25(9)	$\langle 1^+,2,3\rangle$										
4443.15(10)	$\langle 0^-–4^+\rangle$										
4481.05(10)	$\langle 2,3\rangle$				7.0(7)	26(2)		7.6(6)			
4556.67(10)	$\langle 1^-,2,3\rangle$								47(3)		
4576.26(10)	$\langle 2,3\rangle^-$										
4590.59(10)	$\langle 2^-,3,4^+\rangle$					4.9(5)	3.1(3)				
4603.5(7)											
4612.78(11)	$\langle 2^+,3\rangle$				1.6(4)						
4660.73(13)	$\langle 2^-,3\rangle$						26(3)				
4715.41(17)	$\langle 2^-,3\rangle$				6.0(10)		10.0(10)		30(3)		
4745.9(3)	$\langle 3^+–10\rangle$										
4748.54(13)	3^-				5.0(10)					23(2)	
4778.04(12)	$\langle 1^-–4^+\rangle$								6.7(8)		
4806.84(10)	$\langle 0–3\rangle^-$								1.5(2)		34(2)
4853.60(10)	$\langle 0–3\rangle^-$				57(3)						
4878.6(3)	$\langle 1^+–4^+\rangle$										
4904	$\langle 3^-,4^+\rangle$						33(2)			6.8(8)	

(continued) **$^{42}_{19}$K**

E^*	J^π	ℓ_n	S_n^+	Ref.	Branching ratios in percentage						
				E_f^*:	0	106.8	258.3	638.7	682	699	784
[keV]			eval	J_f^π:	2^-	3^-	4^-	3^-	$\langle 2,3\rangle$	5^-	2^-
4939	$\langle 1^-,2,3\rangle$				19(1)						
4943	$\langle 1^-–4^-\rangle$										
4960	$\langle 0^-–4^+\rangle$										
5003	$\langle 1^-,2,3\rangle$					3.8(6)					3.8(6)
5064	$\langle 1^-–4^+\rangle$							32(2)			
5081	$\langle 1^-,2,3\rangle$				31(2)			40(2)	15(1)		
5097	$\langle 0^-–3\rangle$				8.7(6)						
5142											
5179	$\langle 0^-–4^+\rangle$										
5247	$\langle 1^-–4^+\rangle$										
5319	$\langle 2^-,3\rangle$								6.1(8)		17(1)
5363.5(4)											
5380.1(15)											
5477	$\langle 1^+,2,3\rangle$										15(3)
5484.0(6)											
5555.7(6)											
5622.5(3)											
5630	$\langle 0–4^+\rangle$										
5654.6(3)											
5682.7(3)											
5697	$\langle 0–4^+\rangle$							5.3(8)			
5711	$\langle 2^-,3,4^+\rangle$						12.5(9)				
5723.5(6)											
5737.5(4)											
5747.7(8)											
5760	$\langle 1^-–4^+\rangle$										
5772.4(6)											
5790	$\langle 0–4^+\rangle$										
5809.3(3)											
5819.4(3)											
5847	$\langle 1^+–4^+\rangle$										
5896.4(4)											
5927.2(5)											
5954	$\langle 1–4^+\rangle$										
5968.7(5)											
5978	$\langle 1–4^+\rangle$							20(1)			
6012.6(5)											
6450	$\langle 0^+\rangle$										
				Ref.							

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 3 **$^{42}_{19}$K**

E^*	J^π		Branching ratios in percentage								
		E^*_f:	842	1111	1144	1198	1254.8	1266.3	1273.5	1376.0	1377.1
[keV]		J^π_f:	3^-	3^+	4^+	4^-	$\langle 2,3\rangle^-$			6^+	$\langle 2,3\rangle^-$
1110.75(2)	3^+		44(6)								
1143.59(2)	4^+		3.0(10)								
1254.82(2)	$\langle 2,3\rangle^-$		1.3(4)								
1273.54(2)	$\langle 2^-\text{–}4^+\rangle$		73(4)								
1376.0(1)	6^+				10.3(7)						
1400.04(5)	$\langle 2,3\rangle$			26(5)							
1453.07(5)	$\langle 2^-\text{–}4^-\rangle$						92.0(20)				
1463.65(2)	$\langle 1^-,2,3\rangle$		84(3)								
1513.08(4)	$\langle 1^-\text{–}5^-\rangle$		85(3)								
1538.73(7)	$\langle 3^+,5^+\rangle$				100						
1692.00(4)	$\langle 1^-\text{–}5^-\rangle$						27(7)				
1723.42(4)	$2,3,4^+$		4.0(9)	86(3)							
1745.61(3)	$\langle 2^+\text{–}4^+\rangle$		53(5)		47(5)						
1816.87(3)	$\langle 2,3\rangle$						14(2)	5.0(10)			
1842.98(3)	$\langle 1^-,2,3\rangle$		46(5)						19(3)		
1861.90(2)	2^-							12(2)			
1913.48(2)	$\langle 2^-,3\rangle$		70(4)								
1937.50(2)	$\langle 1\text{–}3\rangle^-$								0.9(2)		
1947.4(3)	7^+									100	
1987.97(3)	$\langle 0^-\text{–}4^-\rangle$							3.7(9)			
2049.32(4)	3^+		70(4)		30(4)						
2072.00(4)	$\langle 2,3\rangle^-$					13(2)					
2161.62(6)	$\langle 2^+\text{–}4^+\rangle$		36(5)		64(5)						
2187.20(7)	3^+			21(4)	34(5)						
2204.03(6)	$\langle 2^-\text{–}4^+\rangle$						8.0(20)				
2238.62(5)	$\langle 1\text{–}3\rangle^-$							3.7(6)			
2251.09(5)	$\langle 0^-\text{–}4^-\rangle$								95.0(10)		
2359.0(1)	$\langle 4^+\text{–}7^-\rangle$									53(6)	
2366.19(5)	$\langle 2,3\rangle^-$										5.2(8)
2388.83(6)	3^+							29(4)			14(2)
2401.82(5)	$\langle 2,3\rangle^-$						8(1)	1.2(2)	2.6(4)		
2482.16(5)	$\langle 1\text{–}3\rangle^-$		6.0(10)								
2524.7	$\langle 2\text{–}5^-\rangle$		x								
2607.02(6)	$1^-,2,3$						34(4)				37(4)
2627.85(6)	$\langle 2^-,3\rangle$		22(3)					35(4)			
2644.31(6)	3^-				8(2)						
2718.12(6)	$\langle 2^-,3\rangle$					10(2)		45(4)			20(3)
2765.96(6)	$\langle 2^+,3\rangle$				1.9(3)						
2862.71(7)	$\langle 2^-,3\rangle$		25(3)			1.7(4)		12(2)			3.8(7)
2917.02(8)	$\langle 1^-\text{–}4^+\rangle$						31(4)				
2926.09(6)	$\langle 2,3\rangle^-$						9(2)				
2938.59(7)	$1^-,2,3$		12(2)								
3008.35(7)	3		50(3)		15(2)	8(1)					
3021.10(7)	$\langle 2^-,3\rangle$						51(4)				
3168.1(4)	$\langle 2^+\text{–}5\rangle$				62(14)						

(continued) **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	842	1111	1144	1198	1254.8	1266.3	1273.5	1376.0	1377.1
[keV]	J_f^π:	3^-	3^+	4^+	4^-	$\langle 2,3\rangle^-$			6^+	$\langle 2,3\rangle^-$
3195.82(7)	$\langle 2^-,3\rangle$				8(1)					16(2)
3233.92(7)	$\langle 3,4^+\rangle$			17(2)	21(2)					
3284.40(7)	$\langle 2^-,3\rangle$				36(3)					
3287.19(7)	$\langle 2^-–4^+\rangle$									12(2)
3295.32(9)	$\langle 2,3\rangle$		51(4)							
3304.34(9)	$\langle 1^+–4^+\rangle$		16(3)							
3367.34(8)	$\langle 0^-–3\rangle$					10(2)	8(2)			26(3)
3418.45(8)	$\langle 2,3\rangle^-$		4.3(5)		34(3)	6.0(7)				
3502.90(8)	$\langle 2^+–4^+\rangle$	4.3(7)		54(3)						8.0(10)
3528.95(17)	$\langle 0^-–3\rangle$						14(2)			
3658.59(8)	$\langle 2^-,3\rangle$				22(2)	17(2)	32(2)	13(1)		
3674.15(8)	$\langle 1^-,2,3\rangle$	39(4)								
3696.44(10)	$\langle 3^-,4^+\rangle$		2.5(7)							19(2)
3770.64(10)	$\langle 0^-–3\rangle$						23(3)			
3798.15(10)	$\langle 2^-–4^+\rangle$		33(3)							
3861.99(9)	$\langle 1^-–4^+\rangle$									4(1)
3876.98(8)	$\langle 1^-–4^+\rangle$	56(2)								
3934.64(10)	$\langle 2^-,3,4^+\rangle$		9(2)							
4013.92(9)	$\langle 1^+,2,3\rangle$						9.0(9)	20(2)		
4036.93(11)	3^-					83.3(20)				
4053.90(9)	$\langle 1^+,2,3\rangle$						63(3)			
4128.34(9)	$\langle 2^+,3\rangle$	2.1(3)		3.0(3)			11(1)	2.7(3)		9(1)
4152.39(9)	$\langle 2^-,3,4^+\rangle$	57(2)								
4154.67(11)	$\langle 1^-,2,3\rangle$	31(2)								
4179.44(10)	$\langle 2^-,3,4^+\rangle$				27(4)					
4259.12(10)	$\langle 1^-,2,3\rangle$	17(2)								
4389.78(15)	$\langle 2^-,3,4^+\rangle$		16(3)							
4416.61(9)	$\langle 2^-,3\rangle$	2.6(3)				20(2)				
4428.25(9)	$\langle 1^+,2,3\rangle$		2.4(3)				28(3)			
4481.05(10)	$\langle 2,3\rangle$	4.1(4)	36(3)							
4556.67(10)	$\langle 1^-,2,3\rangle$	3.8(5)					4.7(7)	18(2)		
4576.26(10)	$\langle 2,3\rangle^-$		19(1)							
4590.59(10)	$\langle 2^-,3,4^+\rangle$		44(2)							
4612.78(11)	$\langle 2^+,3\rangle$			45(3)			5.5(7)			
4660.73(13)	$\langle 2^-,3\rangle$						21(2)			
4778.04(12)	$\langle 1^-–4^+\rangle$	6.0(7)								
4806.84(10)	$\langle 0–3\rangle^-$					7.7(6)				
4943	$\langle 1^-–4^-\rangle$	10.1(9)								
4960	$\langle 0^-–4^+\rangle$									24(2)
5064	$\langle 1^-–4^+\rangle$							37(2)		
5081	$\langle 1^-,2,3\rangle$						14(3)			
5247	$\langle 1^-–4^+\rangle$	54(4)								33(2)
5319	$\langle 2^-,3\rangle$				35(2)					
5477	$\langle 1^+,2,3\rangle$		12(3)							
5630	$\langle 0–4^+\rangle$								24(2)	

(continued) **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	842	1111	1144	1198	1254.8	1266.3	1273.5	1376.0	1377.1
[keV]	J_f^π:	3^-	3^+	4^+	4^-	$\langle 2,3\rangle^-$			6^+	$\langle 2,3\rangle^-$
5697	$\langle 0–4^+\rangle$									77(4)
5847	$\langle 1^+–4^+\rangle$		11(2)							
5954	$\langle 1–4^+\rangle$					42(2)				
5978	$\langle 1–4^+\rangle$									6.8(8)

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 4 **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1400.0	1408	1453.1	1464	1489.3	1513.1	1538.7	1692.0	1723.4
[keV]	J_f^π:	$\langle 2,3\rangle$				$\langle 1^–5^-\rangle$	$\langle 1^–5^-\rangle$	$\langle 3^+,5^+\rangle$	$\langle 1^–5^-\rangle$	
1861.90(2)	2^-		3.9(8)	1.0(3)						
2366.19(5)	$\langle 2,3\rangle^-$		6.0(9)							
2401.82(5)	$\langle 2,3\rangle^-$		5.8(9)			0.4(1)				2.5(4)
2524.7	$\langle 2–5^-\rangle$							x		
2573.63(6)	$\langle 2,3\rangle$							16(3)		
2644.31(6)	3^-									8(1)
2862.71(7)	$\langle 2^-,3\rangle$		57(4)							
2877.98(6)	3^-		11(2)							
2926.09(6)	$\langle 2,3\rangle^-$			14(2)						
2938.59(7)	$1^-,2,3$			11(2)						
3014.46(7)	$\langle 1^–4^+\rangle$					6(2)				
3195.82(7)	$\langle 2^-,3\rangle$		21(3)							
3210.64(7)	$\langle 1^+,2,3\rangle$		29(3)							
3233.92(7)	$\langle 3,4^+\rangle$	18(2)								
3502.90(8)	$\langle 2^+–4^+\rangle$			15(2)						
3528.95(17)	$\langle 0^–3\rangle$				30(4)					
3658.59(8)	$\langle 2^-,3\rangle$							5.4(8)		
3696.44(10)	$\langle 3^-,4^+\rangle$			13(1)						
3798.15(10)	$\langle 2^–4^+\rangle$	49(4)								
3861.99(9)	$\langle 1^–4^+\rangle$					11(1)				16(2)
3876.98(8)	$\langle 1^–4^+\rangle$	24(2)			12(2)					
3888.34(10)	$\langle 1^+–4^+\rangle$		26(4)							
4013.92(9)	$\langle 1^+,2,3\rangle$		13(1)		3.9(5)					
4039.95(8)	$\langle 1^+,2,3\rangle$		27(3)							
4128.34(9)	$\langle 2^+,3\rangle$		15(1)							
4154.67(11)	$\langle 1^-,2,3\rangle$				50(3)					
4179.44(10)	$\langle 2^-,3,4^+\rangle$						73(4)			
4259.12(10)	$\langle 1^-,2,3\rangle$								38(3)	
4389.78(15)	$\langle 2^-,3,4^+\rangle$		14(2)							
4416.61(9)	$\langle 2^-,3\rangle$				15(1)					
4428.25(9)	$\langle 1^+,2,3\rangle$				21(2)					
4556.67(10)	$\langle 1^-,2,3\rangle$				27(2)					

(continued) **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1400.0	1408	1453.1	1464	1489.3	1513.1	1538.7	1692.0	1723.4
[keV]	J_f^π:	⟨2,3⟩				⟨1$^-$–5$^-$⟩	⟨1$^-$–5$^-$⟩	⟨3$^+$,5$^+$⟩	⟨1$^-$–5$^-$⟩	
4576.26(10)	⟨2,3⟩$^-$				33(2)					
4590.59(10)	⟨2$^-$,3,4$^+$⟩				14(1)		10.3(7)			
4660.73(13)	⟨2$^-$,3⟩		22(2)							
4806.84(10)	⟨0–3⟩$^-$				2.1(3)					
4878.6(3)	⟨1$^+$–4$^+$⟩		48(2)						25(1)	
4904	⟨3$^-$,4$^+$⟩			60(8)						
4960	⟨0$^-$–4$^+$⟩						61(4)			
5003	⟨1$^-$,2,3⟩									6.0(16)
5630	⟨0–4$^+$⟩					14(2)				
5697	⟨0–4$^+$⟩				7.3(8)					
5760	⟨1$^-$–4$^+$⟩					7.6(7)				
5978	⟨1–4$^+$⟩						3.6(8)			

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 5 **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1745.6	1817	1843.0	1861.9	1913.5	1936.1	1937.5	1947.4	1988.0
[keV]	J_f^π:		⟨2,3⟩		2$^-$	⟨2$^-$,3⟩	⟨3$^-$–6$^-$⟩		7$^+$	⟨0$^-$–4$^-$⟩
2238.62(5)	⟨1–3⟩$^-$				21(4)					
2359.0(1)	⟨4$^+$–7$^-$⟩						26(3)			
2366.19(5)	⟨2,3⟩$^-$									2.0(5)
2388.83(6)	3$^+$		9(1)					5(1)		
2422.13(5)	1$^-$,2,3			4.3(7)						
2482.16(5)	⟨1–3⟩$^-$				65(4)			1.9(5)		
2607.02(6)	1$^-$,2,3	16(3)								
2627.85(6)	⟨2$^-$,3⟩				5(1)					
2644.31(6)	3$^-$							7(1)		
2718.12(6)	⟨2$^-$,3⟩				9(1)					
2765.96(6)	⟨2$^+$,3⟩							28(3)		
2877.98(6)	3$^-$					7(1)				
2938.59(7)	1$^-$,2,3		43(6)							
2991.51(13)	⟨5$^+$–9$^+$⟩								61(5)	
3233.92(7)	⟨3,4$^+$⟩			29(3)						
3304.34(9)	⟨1$^+$–4$^+$⟩	69(4)								
3418.45(8)	⟨2,3⟩$^-$			7(2)						1.7(3)
3421.28(8)	⟨0$^-$–3⟩		24(4)							
3502.90(8)	⟨2$^+$–4$^+$⟩							13(2)		
3559.9(5)	⟨5$^+$–9$^+$⟩								x	
3621.24(9)	⟨2,3⟩				22(3)					
3674.15(8)	⟨1$^-$,2,3⟩				6(1)					
3794.64(9)	⟨0$^-$–3⟩					50(3)				
3861.99(9)	⟨1$^-$–4$^+$⟩	17(3)								

(continued) **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	1745.6	1817	1843.0	1861.9	1913.5	1936.1	1937.5	1947.4	1988.0
[keV]	J_f^π:		⟨2,3⟩		2^-	⟨2^-,3⟩	⟨3^-–6^-⟩		7^+	⟨0^-–4^-⟩
3888.34(10)	⟨1^+–4^+⟩									20(4)
3890.13(9)	⟨0^-–3⟩					37(4)				
4103.77(10)	⟨1^-–4^+⟩					52(7)				48(7)
4128.34(9)	⟨2^+,3⟩	9(1)			7(1)					
4416.61(9)	⟨2^-,3⟩		9(1)		6(1)					
4428.25(9)	⟨1^+,2,3⟩							22(2)		
4443.15(10)	⟨0^-–4^+⟩									25(3)
4481.05(10)	⟨2,3⟩		12(2)							7(1)
4590.59(10)	⟨2^-,3,4^+⟩		9.0(10)							
4715.41(17)	⟨2^-,3⟩		54(3)							
4778.04(12)	⟨1^-–4^+⟩		25(2)							
4806.84(10)	⟨0–3⟩$^-$				8(1)					
4939	⟨1^-,2,3⟩					45(3)				
5064	⟨1^-–4^+⟩			31(1)						
5179	⟨0^-–4^+⟩					25(2)				
5247	⟨1^-–4^+⟩	4.9(8)								8(2)
5477	⟨1^+,2,3⟩		57(5)							
5790	⟨0–4^+⟩									10.9(12)

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 6 **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2049.3	2072.0	2113.8	2161.6	2187.2	2204.0	2238.6	2251.1	2358.9
[keV]	J_f^π:	3^+	⟨2,3⟩$^-$	⟨0^-–4^-⟩		3^+			⟨0^-–4^-⟩	⟨4^+–7^-⟩
2877.98(6)	3^-		25(3)							
2991.51(13)	⟨5^+–9^+⟩									39(4)
3008.35(7)	3				11(2)					
3021.10(7)	⟨2^-,3⟩						10(2)			
3168.1(4)	⟨2^+–5⟩			38(10)						
3284.40(7)	⟨2^-,3⟩						3.6(6)			
3418.45(8)	⟨2,3⟩$^-$	12(2)								
3421.28(8)	⟨0^-–3⟩						7.9(10)			
3497.81(23)	⟨2^+–9^-⟩									100
3621.24(9)	⟨2,3⟩	63(4)								
3674.15(8)	⟨1^-,2,3⟩		42(4)							
3831.71(10)	⟨1^+,2,3⟩					51(4)				
3888.34(10)	⟨1^+–4^+⟩						46(6)			
4092.14(22)	⟨3^+–9^-⟩									26(8)
4128.34(9)	⟨2^+,3⟩					3.1(5)			11(1)	
4576.26(10)	⟨2,3⟩$^-$		9(1)						12(1)	
4612.78(11)	⟨2^+,3⟩				22(3)		16(2)			
4748.54(13)	3^-					14(2)				

(continued) **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2049.3	2072.0	2113.8	2161.6	2187.2	2204.0	2238.6	2251.1	2358.9
[keV]	J_f^π:	3^+	$\langle 2,3\rangle^-$	$\langle 0^- – 4^-\rangle$		3^+			$\langle 0^- – 4^-\rangle$	$\langle 4^+ – 7^-\rangle$
4778.04(12)	$\langle 1^- – 4^+\rangle$		13(2)							
4806.84(10)	$\langle 0 – 3\rangle^-$						6.5(8)			
4939	$\langle 1^-,2,3\rangle$							23(3)		
4960	$\langle 0^- – 4^+\rangle$		15(3)							
5319	$\langle 2^-,3\rangle$							7(1)		
5697	$\langle 0 – 4^+\rangle$		10.2(8)							
5711	$\langle 2^-,3,4^+\rangle$								27(2)	
5954	$\langle 1 – 4^+\rangle$		4.6(6)							
5978	$\langle 1 – 4^+\rangle$				24(2)					

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 7 **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2366.2	2388.8	2401.8	2422.1	2482.2	2573.6	2607.0	2627.8	2718.1
[keV]	J_f^π:	$\langle 2,3\rangle^-$	3^+	$\langle 2,3\rangle^-$			$\langle 2,3\rangle$		$\langle 2^-,3\rangle$	$\langle 2^-,3\rangle$
2765.96(6)	$\langle 2^+,3\rangle$					4(1)				
2926.09(6)	$\langle 2,3\rangle^-$		9(2)							
3014.46(7)	$\langle 1^- – 4^+\rangle$		27(4)							
3040.15(8)	3^-				22(3)					
3418.45(8)	$\langle 2,3\rangle^-$							3.0(5)		
3696.44(10)	$\langle 3^-,4^+\rangle$	4(1)								
4039.95(8)	$\langle 1^+,2,3\rangle$	14(2)								
4053.90(9)	$\langle 1^+,2,3\rangle$		11(2)							
4152.39(9)	$\langle 2^-,3,4^+\rangle$		11(2)							
4389.78(15)	$\langle 2^-,3,4^+\rangle$	39(3)								
4416.61(9)	$\langle 2^-,3\rangle$		3(1)	12(1)						
4443.15(10)	$\langle 0^- – 4^+\rangle$	45(5)								
4576.26(10)	$\langle 2,3\rangle^-$					16(2)				
4590.59(10)	$\langle 2^-,3,4^+\rangle$			15(2)						
4612.78(11)	$\langle 2^+,3\rangle$								10(2)	
4748.54(13)	3^-									58(3)
4806.84(10)	$\langle 0 – 3\rangle^-$							7(1)	20(2)	
4853.60(10)	$\langle 0 – 3\rangle^-$	43(5)								
5003	$\langle 1^-,2,3\rangle$				23(3)					
5097	$\langle 0^- – 3\rangle$	13(2)		28(3)			40(4)			
5954	$\langle 1 – 4^+\rangle$							6.5(8)		
5978	$\langle 1 – 4^+\rangle$								46(6)	

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 8 $^{42}_{19}$K

E^*	J^π	Branching ratios in percentage								
	E_f^*:	2765.9	2862.7	2878.0	2917.0	2926.1	2938.6	2991.5	3021.1	3233.9
[keV]	J_f^π:	$\langle 2^+,3\rangle$	$\langle 2^-,3\rangle$	3^-	$\langle 1^- – 4^+\rangle$	$\langle 2,3\rangle^-$		$\langle 5^+ – 9^+\rangle$	$\langle 2^-,3\rangle$	$\langle 3,4^+\rangle$
3861.99(9)	$\langle 1^- – 4^+\rangle$						4(1)			
3890.13(9)	$\langle 0^- – 3\rangle$		9(2)				18(3)			
4039.95(8)	$\langle 1^+,2,3\rangle$									48(4)
4092.14(22)	$\langle 3^+ – 9^-\rangle$							74(7)		
4152.39(9)	$\langle 2^-,3,4^+\rangle$						7(1)			
4428.25(9)	$\langle 1^+,2,3\rangle$		10(2)							
4576.26(10)	$\langle 2,3\rangle^-$				11(2)					
4745.9(3)	$\langle 3^+ – 10\rangle$							47(8)		
4778.04(12)	$\langle 1^- – 4^+\rangle$	50(3)								
4806.84(10)	$\langle 0 – 3\rangle^-$									14(3)
4939	$\langle 1^-,2,3\rangle$			13(3)						
4943	$\langle 1^- – 4^-\rangle$								12(2)	
5003	$\langle 1^-,2,3\rangle$					63(8)				
5319	$\langle 2^-,3\rangle$			16(2)						
5477	$\langle 1^+,2,3\rangle$	15(5)								
5760	$\langle 1^- – 4^+\rangle$		9(2)	6(1)						
5847	$\langle 1^+ – 4^+\rangle$	26(4)								

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 9 $^{42}_{19}$K

E^*	J^π	Branching ratios in percentage								
	E_f^*:	3284.4	3287.2	3295.3	3304.3	3367.3	3418.4	3421.3	3497.8	3502.9
[keV]	J_f^π:	$\langle 2^-,3\rangle$		$\langle 2,3\rangle$	$\langle 1^+ – 4^+\rangle$	$\langle 0^- – 3\rangle$	$\langle 2,3\rangle^-$	$\langle 0^- – 3\rangle$	$\langle 2^+ – 9^-\rangle$	
4428.25(9)	$\langle 1^+,2,3\rangle$									16(2)
4443.15(10)	$\langle 0^- – 4^+\rangle$		30(4)							
4745.9(3)	$\langle 3^+ – 10\rangle$								53(7)	
4878.6(3)	$\langle 1^+ – 4^+\rangle$					26(4)				
5097	$\langle 0^- – 3\rangle$	11(2)								
5179	$\langle 0^- – 4^+\rangle$		75(12)							
5319	$\langle 2^-,3\rangle$						19(3)			
5630	$\langle 0 – 4^+\rangle$			62(9)						
5760	$\langle 1^- – 4^+\rangle$				21(3)		12(2)	45(5)		
5847	$\langle 1^+ – 4^+\rangle$				62(8)					
5954	$\langle 1 – 4^+\rangle$									26(5)

Energy levels and branching ratios [90En08, 98En04, 01Si10]. Part 10 **$^{42}_{19}$K**

E^*	J^π	Branching ratios in percentage							
	E_f^*:	3559.9	3621.2	3658.6	3674.1	3890.1	4036.9	4039.9	4103.8
[keV]	J_f^π:	$\langle 5^+–9^+\rangle$	$\langle 2,3\rangle$	$\langle 2^-,3\rangle$		$\langle 0^-–3\rangle$	3^-		$\langle 1^-–4^+\rangle$
3934.64(10)	$\langle 2^-,3,4^+\rangle$			57(7)					
4603.5(7)		x							
4660.73(13)	$\langle 2^-,3\rangle$				30(4)				
4943	$\langle 1^-–4^-\rangle$					78(12)			
5711	$\langle 2^-,3,4^+\rangle$						23(4)		37(6)
5790	$\langle 0–4^+\rangle$							89(14)	
5954	$\langle 1–4^+\rangle$		21(3)						

Energy levels and branching ratios [90En08, 98En04, 01Ca24]. **$^{43}_{19}$K**

E^*	$2J^\pi$	S_p^-	L	C^2S	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
							E_f^*:	0	561	738	975	1110
[keV]		eval		(d,τ)	(t,α)	Γ_{cm}	$2J_f^\pi$:	3^+	1^+	7^-	3^-	3^+
0	3^+	4.0(15)	2	3.15	2.4	22.3(1) h	77En02					
561.2(1)	1^+	1.9(5)	0	1.15	1.4	1.4(+17-7) ps	77En02	100				
738.1(1)	7^-		3	0.85	0.52	200(5) ns	76Do05	100				
975.0(1)	3^-		1	0.16	0.11	1.6(+14-6) ps	76Do05	95.9	4.1(3)			
1110.3(2)	3^+		2	0.36	0.22	1.0(8) ps	76Do05	70(3)	30(3)			
1206.9(3)	$\langle 5,7\rangle^+$		$\langle 2\rangle$		0.06	>4.8 ps	70Aj01	100				
1509.9(2)	7^+					5.7(15) ps		92(2)				
1549.6(2)	$3^+,5^+$		2	0.24		0.09(6) ps	76Do05	89(2)				11(2)
1815(10)	$\langle 5–11\rangle^+$											
1850.1(4)	11^-					4.6(12) ps				100		
1866.0(4)	$\langle 1–5^+\rangle$							36(2)	1.6(3)		61(2)	0.9(3)
1956(10)	$\langle 5–11\rangle^+$											
2035(10)	3^+											
2048.3(6)	$\langle 5–9\rangle$					1.7(6) ps				100		
2086(10)	$5–11^+$											
2177.6(4)	5		$\langle 2\rangle$		0.05	<0.1 ps	70Aj01	0.6(1)		76(4)	23(4)	
2189.5(5)	$\langle 1–7\rangle$							74(3)				16(3)
2218(10)	$\langle 3–9\rangle^-$											
2344.8(5)	$1^+–5^+$					0.7(+14-4) ps		39(2)	2.2(2)		35(2)	1.1(2)
2451(10)	1^+		0	0.32	0.26		76Do05					
2509.3(3)	5–11					>5 ps						
2548(10)	$\langle 1–5\rangle^-$											
2670(10)	$3^+,5^+$		2	0.41	0.49		76Do05					
2784(10)	$\langle 1–7\rangle^+$											
2879(10)	$\langle 1–7\rangle^+$											
2980(13)												
3057.0(5)	$\langle 5\rangle^+$		2	0.16			76Do05			100		
3084(15)												
3115.2(5)	15^-					3.5(7) ps						

(continued) **$^{43}_{19}$K**

E^*	$2J^\pi$	S_p^-	L	C^2S	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
								E_f^*:	0	561	738	975	1110
[keV]		eval		(d,τ)	(t,α)	Γ_{cm}		$2J_f^\pi$:	3^+	1^+	7^-	3^-	3^+
3139													
3155(15)													
3190(10)	$\langle 1–7\rangle^+$												
3250(10)	$3^+,5^+$		2	0.20	0.21		76Do05						
3263.6(9)	$\langle 1–5^+\rangle$								49(3)	4(1)		16(3)	
3309.4(5)	$\langle 1^+–5\rangle$								4.6(6)			50(6)	
3330(10)	$3^+,5^+$		2	0.56	0.49		76Do05						
3393.1(5)	$\langle 1–7\rangle^+$								100				
3454.9(5)	$\langle 1–5^+\rangle$								2(1)	17(1)		63(2)	1.2(4)
3560(30)													
3608.1(7)	$\langle 5,7\rangle$										12(1)		
3646.0(4)	$\langle 3–7^+\rangle$								6(1)				14(4)
3714.2(6)	$\langle 3,5\rangle$		$\langle 2\rangle$	0.13			76Do05		68(4)			15(3)	7(3)
3841(13)													
3878(13)			$\langle 2\rangle$	0.1			76Do05						
3950(30)													
4022(11)	$3^+,5^+$		2	0.15	0.26		76Do05						
4050(30)													
4128(11)	$3^+,5^+$		2	0.31	0.06		68Sa09						
4181(13)			2	0.17			76Do05						
4238(13)													
4270(30)													
4390(40)													
4470(15)	$3^+,5^+$												
4520(30)													
4660(40)													
4792(13)	$3^+,5^+$		2	0.14			76Do05						
4840(40)													
4900(40)													
5010(40)													
5130(40)													
5188(13)	$3^+,5^+$		2	0.23			76Do05						
5240(30)													
5360(40)													
5610(15)	$3^+,5^+$		2	0.23			76Do05						
5900(15)	$3^+,5^+$		2	0.30			76Do05						
7450(15)			$\langle 2\rangle$	0.1			76Do05						
		77En02		76Do05	68Sa09		Ref.						

Additional data on this isotope can be found in [98Mo16].

S_p^- are evaluated values [77En02] from two experimental works.

Energy levels and branching ratios [90En08, 98En04, 01Ca24]. Part 2 **$^{43}_{19}$K**

E^*	$2J^\pi$					Branching ratios in percentage					
		E^*_f:	1206.9	1509.9	1549.6	1850.1	1866.0	2048.3	2177.6	2189.5	2344.8
[keV]		$2J^\pi_f$:	$\langle 5,7\rangle^+$	7^+	$3^+,5^+$	11^-		$\langle 5,7,9\rangle$	5	$\langle 1–7\rangle$	
1509.9(2)	7^+		8(2)								
2177.6(4)	5			0.40(10)							
2189.5(5)	$\langle 1–7\rangle$				10.0(10)						
2344.8(5)	$1^+–5^+$		1.5(3)				21(1)		0.44(5)		
2509.3(3)	5–11			x				x			
3115.2(5)	15^-					100					
3139						x					
3263.6(9)	$\langle 1–5^+\rangle$						31(2)				
3309.4(5)	$\langle 1^+–5\rangle$		6(1)				30(6)		7(1)	2.0(9)	
3454.9(5)	$\langle 1–5^+\rangle$				3.8(7)		10.3(10)		2.4(4)		
3608.1(7)	$\langle 5,7\rangle$		5(1)	16(3)	17(2)			30(5)		21(2)	
3646.0(4)	$\langle 3–7^+\rangle$		80(4)								
3714.2(6)	$\langle 3,5\rangle$		7(2)								2.9(17)

Energy levels and branching ratios [90En08, 98En04, 99Ca45]. **$^{44}_{19}$K**

E^*	J^π	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
					E^*_f:	0.0	182.7	382.9	520.1	811.7
[keV]		(t,τ)	Γ_{cm}		J^π_f:	2^-				
0.0	2^-	1+3	22.13(19) m	85Aj03						
182.7(1)	$\langle 1–3^+\rangle$		<0.9 ns			100				
382.9(1)	2^-	1+3	<0.7 ns	85Aj03		100				
520.1(1)	4^-	3+5	<0.7 ns	85Aj03		30.2(5)		69.8(5)		
811.7(1)	5^-	5		85Aj03					100	
969.0(3)	3^+	2+4		85Aj03				100		
1013.6(1)	4^+	4		85Aj03				100		<10
1051.4(1)	$4^+,3$			85Aj03		96.9(6)			3.1(6)	
1076.8(1)	2^-	1+3		85Aj03		52(3)	35(3)	13(2)		
1241.0(2)									30	
1367.9(2)			<0.7 ns							15
1459.6(1)	$\langle 0^-,1\rangle$					28(2)	20(2)			
1480(10)	$\langle 1^+\rangle$	$\langle 0+2\rangle$		85Aj03						
1500(15)				85Aj03						
1886.1(1)	1^+					34.0(11)	61(2)			
1990(20)				85Aj03						
2060(20)	$5^+,4$			85Aj03						
2325.9(2)	1^+					26(2)	24(2)			
2574.3(2)	1^+									
	85Aj03	85Aj03		Ref.						

Level at E^*=183 keV is weakly populated in the (t,τ) reaction [85Aj03].

Energy levels and branching ratios [90En08, 98En04, 99Ca45]. Part 2 **$^{44}_{19}$K**

E^*	J^π		Branching ratios in percentage				
		E_f^*:	1013.6	1051.4	1076.8	1241.0	1459.6
[keV]		J_f^π:					$\langle 0^-,1\rangle$
1241.0(2)			70				
1367.9(2)						85	
1459.6(1)	$\langle 0^-,1\rangle$			52(2)			
1886.1(1)	1^+				2.1(2)		2.8(1)
2325.9(2)	1^+						50(3)
2574.3(2)	1^+						100

Energy levels and branching ratios [92Bu01, 83Bu21]. **$^{45}_{19}$K**

E^*	$2J^\pi$	L	C^2S	C^2S	C^2S	L	σ (p,α)	Ref.
[keV]			(t,α)	(d,τ)	(t,α)	(p,α)	μb/sr	
0.0	3^+	2	3.1	1.5	2.25	2	11.0	68Sa09
474.45(14)	1^+	0	1.4	1.0	1.05	0	6.4	71Yn02
1020.03(4)	3–7^+					$\langle 3\rangle$	3.7	71MaXU
1081.38(5)	5^-,7^-	$\langle 3\rangle$	0.25			doubl	incl	68Sa09
1424.3(3)	1–$5^{\langle +\rangle}$	0	0.08			$\langle 2\rangle$	27	68Sa09
1473.9(3)						doubl	incl	71MaXU
1639.15(7)								
1722.6(3)		$\langle 0,2\rangle$	0.1,0.4					68Sa09
2188.22(8)						3	23	71MaXU
2517.0(3)								
2568.7(4)								
2747.9(6)						$\langle >3\rangle$	14.6	71MaXU
2786.6(6)								
3311.2(2)						$\langle \geq\rangle$	24	71MaXU
3398.3(6)								
3440(30)								
3690(30)	$\langle 5^+\rangle$					2	34	71MaXU
3707.2(3)								
3753(10)	3^+,5^+	$\langle 2\rangle$	0.6					68Sa09
3996.6(1)						$\langle \geq 3\rangle$	64	71MaXU
4044.0(10)								
4357.3(4)								
4569.1(10)								
4900(30)							4.6	71MaXU
5130(30)						$\langle \geq 3\rangle$	16	71MaXU
7770(50)								
12620(50)						3	29.5	71MaXU
			68Sa09	71Yn02	71Yn02		71MaXU	Ref.

Parameters of two-proton pickup reactions (t,α) [68Sa09, 71Yn02] and (d,τ) [71Yn02] are given for comparison.

Energy levels and branching ratios [92Bu01, 83Bu21]. Part 2 **$^{45}_{19}$K**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
				E_f^*:	0.0	474	1020	1081	1424	1473.9	1639.2	1722.6	2188.2
[keV]		Γ_{cm}		$2J_f^\pi$:	3^+	1^+		$\langle X^- \rangle$					
0.0	3^+	17.3(6) m	68Sa09										
474.45(14)	1^+		71Yn02		100								
1020.03(4)	3–7^+	<0.7 ns	71MaXU		100								
1081.38(5)	5^-,7^-	3.2(4) ns	68Sa09		5(2)		95(1)						
1424.3(3)	1–$5^{\langle+\rangle}$		68Sa09		39.5(7)	60.5(7)							
1473.9(3)		≤0.7 ns	71MaXU		100								
1639.15(7)					64(2)		20(2)	15.7(7)					
1722.6(3)			68Sa09		100								
2188.22(8)			71MaXU					81(3)			19(1)		
2517.0(3)					31(6)			36(8)		33(5)			
2568.7(4)							74(4)					25.7(4)	
2747.9(6)			71MaXU		60(9)				40(9)				
2786.6(6)													100
3311.2(2)			71MaXU								20(3)		80(3)
3398.3(6)													100
3440(30)													
3690(30)	$\langle 5^+ \rangle$		71MaXU										
3707.2(3)					76(2)		21(2)		1.9(5)				
3753(10)	3^+,5^+		68Sa09										
3996.6(1)			71MaXU		1.2(3)						35(1)		58.5(15)
4044.0(10)					100								
4357.3(4)					22(5)		25.4(9)			14(6)			
4569.1(10)					100								
4900(30)			71MaXU										
5130(30)			71MaXU										
7770(50)													
12620(50)			71MaXU										
			Ref.										

Energy levels and branching ratios [92Bu01, 83Bu21]. Part 3 **$^{45}_{19}$K**

E^*	$2J^\pi$		Branching ratios in percentage				
		E_f^*:	2517.0	2568.7	2786.6	3311.2	3398.3
[keV]		$2J_f^\pi$:					
3707.2(3)				1.5(5)			
3996.6(1)					<2.2	5.4(8)	<1.5
4357.3(4)			38(7)				

Energy levels and branching ratios [00Wu08]. $^{46}_{19}$K

E^* [keV]	J^π	A_{20}	L (d,α)	σ (d,α) μb/sr	σ (p,τ) μb/sr	σ (p,t) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	$\langle 2^- \rangle$	–0.44	1+3	280	37	5	105(10) s	80An15
587.4(4)	3^-	+0.89(11)	3	90	27	12		80An15
690.9(4)	$\langle 4^- \rangle$	–0.43	3+5	650	63	4		80An15
885.5(7)	5^-	+0.71(5)	5	75	9	11		80An15
1369.9(7)	3^-	+0.54(12)						80An15
1738.4(21)	$\langle 4^- \rangle$	–1.12		≈12	2	<2		80An15
1944.34(9)	1^+	+0.03	$\langle 2,3 \rangle$	300	80	4		80An15
2222(5)	$\langle 0^+ \rangle$			<5	11	8		73Da02
2790(6)	$\langle 2^+ \rangle$			<5	7	7		73Da02
2969(6)	$\langle 4^- \rangle$			<5	4	<2		73Da02
3383(7)				<5	18	≈2		73Da02
3606(8)				≈5	12	<2		73Da02
≈4340	$\langle 3^+ \rangle$							
≈4540	7^+							
≈5950	7^+							
≈11470	$\langle 0^+ \rangle$							
		80An15	73Da02	73Da02	73Da02	73Da02		Ref.

Additional data on this isotope can be found in [73Du02].

The tensor analyzing powers A_{20} in (d,α) reaction were measured at 4° [80An15] for spin-parity determination of excited states.

Energy levels and branching ratios [00Wu08]. Part 2 $^{46}_{19}$K

E^* [keV]	J^π	E^*_f: J^π_f:	Branching ratios in percentage 0.0 $\langle 2^- \rangle$	587.4 3^-	690.9 $\langle 4^- \rangle$
587.4(4)	3^-		100		
690.9(4)	$\langle 4^- \rangle$		28(8)	72	
885.5(7)	5^-				100
1369.9(7)	3^-				100
1738.4(21)	$\langle 4^- \rangle$			100	
1944.34(9)	1^+		100		

Energy levels [95Bu05, 01Br35]. **$^{47}_{19}$K**

E^* [keV]	$2J^\pi$	L	C^2S (d,τ)	I_τ arb.u	C^2S (d,τ)	$n\ell j$	S_N (t,α)	$T_{1/2}$ or Γ_{cm}	Ref.
0(6)	1^+	0	1.55		1.49	2s1/2	1.4	17.5(2) s	68Sa09
359(5)	3^+	2	4.16		3.88	1d3/2	4.0		68Sa09
2020(20)	$\langle 7^- \rangle$	3	0.08	15					85Ba14
2287									01Br35
3350(30)	5^+,3^+	2	0.05	9					85Ba14
3432(19)	$\langle 5 \rangle^+$	2	0.97	117	0.95	1d5/2			85Ba14
3720(20)				15					
3850(20)	1^+	0	0.28	51	0.3	2s1/2			85Ba14
3930(20)	3^+	2	0.70	48	0.4	1d5/2			85Ba14
4170(60)									
4360(40)									
4433									01Br35
4740(40)									
4900(40)									
5220(20)	5^+	2	0.32	42	0.33	1d5/2			85Ba14
5465(25)	5^+	2	0.94	129	1.01	1d5/2			85Ba14
5790(20)									
6150(40)	5^+,3^+	2	0.04	9					85Ba14
6260(40)									
6420(40)									
6462(32)	$\langle 5 \rangle^+$	2	0.22	24	0.38	1d5/2			85Ba14
6870(40)	$\langle 5 \rangle^+$	2	0.14	18					85Ba14
7150(50)									
7380(40)									
7570(30)	$\langle 5 \rangle^+$	2	0.14	18					85Ba14
7762(33)	$\langle 5 \rangle^+$	2	0.71	60	0.58	1d5/2			85Ba14
8035(38)	$\langle 5 \rangle^+$	2	0.33	30	0.55	1d5/2			85Ba14
8530(20)	5^+,3^+	2			0.14	1d5/2			76Do05
			85Ba14	85Ba14	76Do05		68Sa09		Ref.

I_τ is a ^{3}He-yield (in counts per channel [85Ba14]) measured at 10°; Values C^2S from two measurements of the (d,τ) proton pickup reaction [85Ba14, 76Do05] are given for comparison; the expected theoretical values for two low-lying states are 2.0 and 4.0 [68Ne03].

Energy levels [93Bu04]. **$^{48}_{19}$K**

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}
0.0	$\langle 2^- \rangle$	6.8(2) s
≈350		
580		

(continued) $^{48}_{19}$K

E^* [keV]	J^π	$T_{1/2}$ or Γ_{cm}
≈800		
≈2100		