Energy levels [99Hu14]. **$^{53}_{27}$Co**

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}
0.0	$\langle 7^- \rangle$	240(20) ms
3190	$\langle 19^- \rangle$	247(12) ms
4390	$\langle 7^- \rangle$	

Energy levels and branching ratios [87Wa04, 93Hu04]. **$^{54}_{27}$Co**

E^* [keV]	J^π	T	σ (τ,t) μb	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
						E_f^*:	0.0	197.4	937	1446	1614	1822	1887
						J_f^π:	0^+	$\langle 7 \rangle^+$	1^+	2^+	1^+	3^+	5^+
0.0	0^+	1	37(8)	193.2(1) ms	69Br04								
197.4(5)	$\langle 7 \rangle^+$		35(7)	1.48(2) m	69Br04								
936.88(15)	1^+	0	52(10)		69Br04		100						
1445.69(15)	2^+	1	25(7)		69Br04		9.4(3)		91(9)				
1590(20)													
1614.09(17)	1^+	0					100						
1821.51(21)	3^+	0	19(5)		69Br04				2.2(3)	98(11)			
1887.0(3)	5^+	0	14(4)		69Br04			100					
2010	1^+												
2082.7(3)	$\langle 3^+ \rangle$		18(4)		00Sc06							70(2)	30(3)
2086(4)	$\langle 5^+ \rangle$		incl										
2149.6(6)	5^+	0						100					
2173.65(18)	3^+	0	13(4)		69Br04				22(4)	40(4)	38(4)		
2277.5(6)	$\langle 3^+ \rangle$		13(4)		69Br04					100			
2289.32(25)	$\langle 3 \rangle$	0	incl							100			
2350	1^+												
2390													
2652.01(24)	4^+	$\langle 1 \rangle$	13(4)		00Sc06					<1		64(2)	36(1)
2657.3(9)										x	x		
2839(4)													
2851.3(3)	4^+	$\langle 0 \rangle$			00Sc06							66(2)	34(2)
2911.8(4)	$\langle 6^+ \rangle$		33(8)		69Br04								20(10)
2913.9(11)													
2919.2(11)	3									x			
3045													
3085(4)													
3094.7(8)									x	x			
3109.2(8)									x	x			
3128(4)													
3142.6(7)												x	x
3155.6(6)										x			
3166.5(11)										x			
3171.4(11)	$\langle 9^+ \rangle$							100					

(continued) **$^{54}_{27}$Co**

E^*	J^π	T	σ (τ,t)	$T_{1/2}$ orRef.	Branching ratios in percentage							
					E_f^*:	0.0	197.4	937	1446	1614	1822	1887
[keV]			μb	Γ_{cm}	J_f^π:	0^+	$\langle 7\rangle^+$	1^+	2^+	1^+	3^+	5^+
3200												
3265.3(8)												
3306.8(11)												
3325.8(11)												
3346.0(11)												
3399.3(9)	1^+											
3504.0(11)									x			
3680(20)												
3870(20)	1^+											
4000												
4078.3(11)												
4105	1^+											
4420												
4570(20)	1^+											
4728.5(15)	$\langle 11^+\rangle$											
4800	1^+											
5000(20)												
5046(4)												
5185(20)	1^+											
5320	1^+											
5400	1^+											
5890(20)	1^+											
6150	1^+											
6250(20)												
6360(20)												
6510(20)	1^+											
6800(20)	1^+											
7150(20)												
7243(4)												
7380(20)												
7460	1^+											
7560(20)												
7620(20)												
7720(20)	1^+											
7880(20)												
7960(20)	1^+											
8100(20)												
8170(20)												
8290	1^+											
8370(20)												
8790	1^+											
9070(20)	1^+											
9130(20)												
9150(20)												
9380(30)	1^+											

(continued) **$^{54}_{27}$Co**

E^*	J^π	T	σ (τ,t)	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
						E_f^*:	0.0	197.4	937	1446	1614	1822	1887
[keV]			μb	Γ_{cm}		J_f^π:	0^+	$\langle 7\rangle^+$	1^+	2^+	1^+	3^+	5^+
9440(30)													
9680	1^+												
9810(30)													
9860(30)													
9950(30)													
10010(30)	1^+												
10100(30)													
10220(30)													
10230	1^+												
10450(30)													
10500	1^+												
10550(30)													
11020(30)													
11400													
11660(30)													
11750													
12210													
13440													
			69Br04		Ref.								

Additional data on this isotope can be found in [04Vo04, 02Vo12, 02Li35, 00Sc06, 99Ru01].
Uncertainties in E^*, $T_{1/2}$ and branching ratios are given in Supplement.

Energy levels and branching ratios [87Wa04, 93Hu04]. Part 2 **$^{54}_{27}$Co**

E^*	J^π		Branching ratios in percentage						
		E_f^*:	2083	2174	2289	2652	2657	3171	4728
[keV]		J_f^π:	$\langle 3^+,4^+\rangle$	3^+	$\langle 3\rangle$	4^+		$\langle 9^+\rangle$	$\langle 11^+\rangle$
2911.8(4)	$\langle 6^+\rangle$					80(10)			
2913.9(11)			x						
3142.6(7)						x			
3155.6(6)			x		x				
3265.3(8)			x		x				
3306.8(11)			x						
3325.8(11)						x			
3346.0(11)				x					
3399.3(9)	1^+			x			x		
4078.3(11)						x			
4728.5(15)	$\langle 11^+\rangle$							100	
5046(4)								100	
7243(4)									100

Energy levels and branching ratios [91Hu07].

$^{55}_{27}$Co

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or Γ_{cm}	Ref.
0.0	7^-		3	1.95	3	1.68	3	1.70	0.21	3	1.9	410	100.0	17.53(3) h	81Ka38
2165.88(5)	3^-		1	0.94	1	1.20	1	0.85	0.22	1	1.1	2900	42.1	98(8) fs	74Go31
2565.85(3)	3^-		1	0.58	1	0.80	1	0.76	0.11	1	0.64	1800		0.39(9) ps	81Ka38
2659.47(6)	5^-													21(3) fs	
2918.57(6)	7^-													47(11) fs	
2922.2(1)	1^+													49(3) fs	
2939.09(8)	1^-		1	0.023		0.29			0.08	1	0.28	760		120(49) fs	70Ha54
2960.0(5)															
2973.5(2)	11^-												17.5		
2976.3(2)	9^-												incl	49(18) fs	
2990(80)	$\langle 3\rangle^-$						$\langle 1\rangle$	1.29					incl		
3303.1(1)	5^-				3	2.31			0.32	3	2.2	1300		52(11) fs	82Ke12
3323.2(1)	1^-				1	0.40			0.17					44(5) fs	82Ke12
3335(20)	$\langle 5\rangle^-$		3	1.55			3	2.41							70Ha54
3552.9(10)	$\langle 3,5\rangle$												30.8		
3563.0(1)*	$\langle 3^+\rangle$												incl	30(14) fs	
3643.00(8)	3^-		1	0.1	1	0.17	1	0.67	0.03					240(71) fs	70Ha54
3650	1^-,3^-			incl				incl							70Ha54
3682(2)															
3704(10)	1^-,3^-				3	0.01									77Fo06
3725.0(1)	5^-													40(6) fs	
3736.6(2)	13^-														
3774.6(2)	15^-														
3859.3(1)														71(21) fs	
3866(20)															
3870.9(7)	1^-,3^-						1	0.38							70Ro22
3933	$\langle 3^-\rangle$														
3942.1(1)	1^-,3^-				1	0.02								>120 fs	77Fo06
3980			$\langle 1\rangle$												70Ha54
4164.2(1)*	1^-				1	0.27			0.13					32(4) fs	82Ke12
4177.3(1)	5^-		3	0.76	3	0.81	3	0.84	0.13					11(3) fs	70Ha54
4264.1(4)															
4325(1)*															
4339(1)*							$\langle 1\rangle$	$\langle 0.6\rangle$							70Ro22
4474.0(3)															
4491(1)*															
4514(1)*	17^-														
4537(1)*															
4548.3(1)	5^-				3	0.04								31(7) fs	77Fo06
4587.5(2)*							$\langle 4\rangle$	$\langle 0.1\rangle$							70Ro22
4628.2(1)	1^-,3^-				1	0.05								9(4) fs	77Fo06
4686.3(4)*	15^-														
4712.6(7)	1^-,3^-													0.2(1) ps	
4721.4(1)**	3^-	3			1	0.45			0.11				0.6	<21 fs	82Ke12
4748.1(1)**	3^-	3	1	0.7	1	0.37	1	0.88						21(7) fs	70Ha54

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or Γ_{cm}	Ref.
4851.3(8)*													6.7		
4872.5(6)													incl		
4882(2)*													incl		
4903(2)*															
4920.8(5)	$\langle 15^- \rangle$														
4961.1(2)	$\langle 1 \rangle$													6(4) fs	
4988.2(2)*														<4 fs	
5064.8*															
5081.0(2)*															
5099.3(2)														<11 fs	
5122.1(2)															
5172.5(2)*	1^-	3	1	0.31	1	0.32	1	0.80	0.08					7(3) fs	70Ha54
5189(2)*	$\langle 1 \rangle^-$														
5242(10)															
5259.0(2)														11(6) fs	
5268(2)*															
5293.0(7)															
5309(2)*															
5320(80)	5^-,7^-						$\langle 3 \rangle$	0.80					6.7		70Ro22
5351.0(3)*															
5365(2)*															
5427(2)*															
5431.7(4)	17^-														
5460.7(2)														<6 fs	
5484(2)*	X^-						$\langle 1,3 \rangle$	$\langle 0.6 \rangle$							70Ro22
5526(2)*															
5541(2)*															
5560.0(3)	1^-,3^-		1	0.11	1	0.16									70Ha54
5642(2)*															
5673(2)*															
5697(2)*															
5717(1)															
5743(2)*	5^-	3	3	1.2	3	1.45	3	1.77	0.15				4.7		79Sm03
5764(2)*	$\langle 5^- \rangle$		3		$\langle 3 \rangle$	0.10			incl						77Fo06
5781(2)*															
5860*															
5883(10)	1^-,3^-				1	0.04									77Fo06
5933(1)*			[2]												70Ha54
5943(1)															
5960(2)*															
5986(2)*	7^+,9^+						4	$\langle 1.5 \rangle$							70Ro22
6008(1)	1^-,3^-				1	0.07									77Fo06
6035(2)*															
6063(2)*															
6068.8(9)	9^+		4		4	2.77			0.21				14.9	<17 fs	82Ke12

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or Γ_{cm}	Ref.
6093(2)*	$\langle 7\rangle^-$	3			3	0.12							incl		77Fo06
6127(2)*															
6145(1)*															
6149.9(2)	$\langle 5\rangle^+$				2	0.03							14.9		77Fo06
6167(2)*													incl		
6176(1)															
6205.3(2)	$\langle 5\rangle^+$				2	0.08									77Fo06
6218(2)*															
6250(2)*					3	0.08									77Fo06
6268.2(1)	3^-														
6328.3(1)	$\langle 3\rangle^-$				1	0.08									77Fo06
6332.7(5)	$\langle 17^-\rangle$														
6341(2)*	5^-,7^-						$\langle 3,1\rangle$	$\langle 0.7\rangle$							70Ro22
6361(2)*															
6369.3(2)	$\langle 5\rangle^+$				2	0.04									77Fo06
6377(2)*															
6405(2)*															
6426(4)*															
6447(2)*	$\langle 5\rangle^-$				3	0.07									77Fo06
6465(1)	$\langle 21^-\rangle$														
6486															
6508(2)*															
6513.45(9)	3,$\langle 5\rangle$														
6531															
6541(2)*															
6576(2)*							[1]	$\langle 0.8\rangle$							70Ro22
6596.6(3)	19^-														
6603(2)*	7^+,9^+				4	0.19									77Fo06
6627															
6641.5(4)	19^-														
6652(2)*															
6673(1)	$\langle 5\rangle^-$				3	0.07									77Fo06
6689.1(2)															
6701.2(2)	5														
6713.2(1)	$\langle 1\rangle^-$	3			1	0.05							15.4		77Fo06
6755.4(2)	5												incl		
6780.2(1)	5^-				$\langle 1\rangle$										77Fo06
6802(1)	$X^{\langle +\rangle}$														
6825(1)															
6834.3(1)	3^-	3			1	0.09									77Fo06
6835.7(6)	$5^{\langle -\rangle}$														
6876.3(2)	7^-,9														
6886(1)															
6893(1)	$\langle 5\rangle^-$	3			3	0.15							6.0		77Fo06
6917.3(1)	5^-	3			3	0.30			0.04				incl		82Ke12

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
6940(1)															
6944.2(2)	$\langle 1^- \rangle$														
6951.1(1)															
7008.2(1)															
7025.3(2)															
7038.2(2)	$\langle 1^-,3^- \rangle$				$\langle 1 \rangle$	0.01									77Fo06
7101.5(1)	5														
7110(10)	$\langle 9 \rangle^+$				4	0.61									77Fo06
7153.2(3)															
7193.1(1)	5														
7233.5(3)	$\langle 3 \rangle$														
7237(7)	$\langle 1^- \rangle$														
7239(3)	$7^+,9^+$				4	0.10									77Fo06
7239.3(1)	$\langle 3^- \rangle$														
7261(1)	$\langle 1^- \rangle$														
7269.2(1)	3^-	3			1	0.13									77Fo06
7284.4(3)															
7293.3(1)	5^-														
7319.6(1)	5														
7325.4(1)															
7328(7)	$\langle 1^- \rangle$														
7332.3(2)															
7335.8(10)															
7345.7(10)															
7361.1(10)															
7364.1(11)															
7372.1(10)															
7374.6(11)															
7381.4(11)	1^-														
7393.1(10)															
7402.8(11)															
7455.6(70)	1^-														
7457.3(20)	1^-														
7460.1(10)	$3^{\langle - \rangle}$				$\langle 1 \rangle$	$\langle 0.06 \rangle$									77Fo06
7496.7															
7500.5(20)															
7519.2(10)	1^-														
7525.1(20)					$\langle 1 \rangle$	$\langle 0.04 \rangle$									77Fo06
7529.0(10)	19^-														
7564.4(2)															
7578.4(3)	$\langle 3 \rangle^+$				2	0.02									77Fo06
7595.3(3)	$\langle 3^- \rangle$														
7611.4(2)															
7622(2)	$3^+,5^+$				2	0.05									77Fo06
7627.7(5)	$\langle 5 \rangle$														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
7633.6(2)	$\langle 5^-\rangle$														
7642.5(2)	$\langle 1^-\rangle$														
7650.8(2)	$\langle 5\rangle^-$				3	0.07									77Fo06
7663.0(2)	$\langle 1^-\rangle$														
7680.3(3)	$\langle 5\rangle$														
7704.0(2)	$\langle 5\rangle^-$				3	0.05									77Fo06
7747.1(3)	$\langle 5\rangle$				3	0.06									77Fo06
7748.9(10)	$\langle 5\rangle^-$														
7765(7)	3^-				$\langle 1\rangle$	0.08									77Fo06
7766(7)	1^-					incl									77Fo06
7779(7)	1^+														
7791(1)															
7806.1(5)															
7815.8(2)	1^-														
7833.2(3)	21^-														
7837(7)	1^-														
7855.4(21)															
7867.6(3)	$\langle 5\rangle$														
7876.9(2)	$\langle 5^-\rangle$														
7881.0(3)	$\langle 3^-\rangle$														
7885.1(3)	$\langle 7\rangle$														
7889(1)	5^+				2	0.10									77Fo06
7896(1)															
7909(1)															
7921(1)	19^-														
7931(1)															
7938.8(2)	$\langle 3^-\rangle$														
7941.1(10)															
7946.4(10)															
7951.9(10)															
7956(7)	1^+														
7965.1(2)	1^-														
7966.8(3)	$\langle 5\rangle^+$				2	0.12									77Fo06
7976.8(1)	$\langle 5^+\rangle$														
7984.6(10)															
8007.3(10)															
8016.9(10)															
8020.6(4)	$\langle 5\rangle^-$				3	0.08									77Fo06
8030(7)	1^-														
8030(7)	1^-														
8050.8(10)															
8056.7(3)	1^-														
8066(7)	3^-				3	0.07									77Fo06
8067.0(3)	3^-					incl									77Fo06
8071.5(3)	$\langle 7\rangle^-$														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
8075.5(10)															
8089(7)	$\langle 3^+\rangle$														
8090.1(14)															
8096.8(10)															
8105.9(2)	$\langle 5\rangle^-$				3	0.06									77Fo06
8124(7)	$\langle 1^-\rangle$														
8130.6(3)	5^+				2	0.88									77Fo06
8134.1(3)	1^-														
8137.1(10)	5^-														
8140.6(10)	3^-														
8144.9(3)	1^-														
8155.6(10)	7^-														
8158.7(5)	21^-														
8168.3(10)	5^+														
8172.0(10)	5^+														
8173(7)	$\langle 1\rangle^-$				1	0.07									77Fo06
8180.3(10)															
8190.9(4)	1^-														
8200.0(10)	5^-														
8204.6(10)															
8208.7(10)															
8212(7)	1^+														
8215(7)	$\langle 3^+\rangle$														
8221.5(10)															
8235(7)	$\langle 5\rangle^+$				2	0.07									77Fo06
8240.4(3)															
8259***	9^+				4	0.13									77Fo06
8261.8(10)	3^-														
8273.4(3)	$\langle 5\rangle$														
8283.9(3)	3^-														
8286(7)	3^-														
8288.3(20)	3^-														
8291.0(3)	$\langle 5\rangle^-$				3	0.12									77Fo06
8294.8(3)	3^-														
8299.8(20)	1^-,3^-														
8308.5(10)															
8336.7(10)	5^+														
8348.8(4)	23^-														
8356.0(10)															
8360.0(7)	7,9														
8369.3(10)	3^-				3	0.10									77Fo06
8374.0(5)	1^-,3^-				1	0.11									77Fo06
8384.1(3)	5^+														
8388.5(20)	3^-														
8390.8(3)	5^+														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
8395.1(20)	3^-														
8400.7(10)															
8412.0(3)	$\langle 3\rangle$														
8417.9(3)	5^+				2	0.22									77Fo06
8421.3(20)	$\langle 5\rangle^+$														
8431.2(4)	3^-														
8435.7(5)	3^+,$\langle 5^+\rangle$														
8440.0(3)															
8444.8(20)	$\langle 1,3\rangle^-$														
8456.7(5)	$\langle 1,3\rangle$														
8457.4(20)	3^+,$\langle 5^+\rangle$														
8463.9(5)	9^+	3			4	1.90									77Fo06
8465.6(10)															
8467.3(7)	9^+													<6 fs	
8468.7(4)	7^+													<6 fs	
8476.5(7)	9^+														
8476.7(20)	1^-														
8478.7(5)	5														
8494.1(20)	1^-														
8503.8(20)	3^-														
8505.3(3)	7^-														
8507.4(20)	5^+														
8514.8(10)	5^-														
8532.4(10)	5^-														
8557.0(4)	7^-														
8559.3(5)	7,9														
8561.5(10)															
8565.3(20)	1^-,3^-				1	0.07									77Fo06
8566.8(20)	3^-														
8569.0(20)	1^+														
8575.2(20)	3^+														
8583.6(5)	5^+														
8596.5(10)															
8605.4(10)	3^-														
8628.1(20)	3^-														
8635.2(10)	$\langle 3\rangle$														
8644.2(4)	5^+				2	0.02									77Fo06
8649.2(20)	3^+														
8652.4(5)															
8659.1(20)	1^-														
8662.1(20)	3^+														
8663(10)	$\langle 9\rangle^+$				4	0.08									77Fo06
8667.6(20)	3^-														
8679.6(10)	1^+														
8682.7(10)															

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
8686.9(5)	21														
8688.9(20)	3^+,5^+														
8689.5(3)	23^-														
8692.0(10)															
8697(10)	$\langle 9\rangle^+$				4	0.08									77Fo06
8703.2(10)	9^+														
8706.4(10)	3,5														
8710.8(10)															
8717.7(10)															
8720.4(20)	1^+														
8724.8(20)	$\langle 5^+\rangle$														
8729.6(10)	3^+														
8745.1(10)	3^-														
8745.4(20)	$\langle 5\rangle^+$				2	0.09									77Fo06
8749.4(10)	5^-														
8752.2(20)	3^+														
8753.4(10)	5^-														
8757.3(10)															
8766.1(10)															
8768.6(10)															
8773.2(20)	1^+														
8790.2(10)	$\langle 5,7\rangle$														
8798.0(10)	3^-														
8799.7(20)	5^-														
8801.9(20)	5^+														
8803.0(10)	7^-														
8813.8(20)	5^+														
8825.6(10)	7^-														
8834.7(10)	$\langle 5^-\rangle$	3			3	0.34									77Fo06
8844.6(20)	1^-														
8854.4(20)	5^-														
8855.2(10)	5^+														
8879.4(20)	3^-														
8883.4(20)	5^+														
8886.3(20)	5^+														
8895.5(20)	1^+														
8898.0(20)	1^-														
8912.9(20)	5^+														
8918.0(20)	$\langle 5^+\rangle$														
8921.3(20)	$\langle 5^+\rangle$														
8934.9(20)	3^+														
8937.4(20)	$\langle 1^-\rangle$														
8941.0(20)	3^-														
8953.2(20)	7^+														
8962.0(20)	1^-,3^-														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
8963.5(20)	$\langle 3^+\rangle$,5^+														
8981.4(20)	1^+														
8989.6(20)	3^+														
9003.4(20)	$\langle 5\rangle^+$				2	0.09									77Fo06
9006.8(20)	3^+,5^+					incl									77Fo06
9015.2(20)	5^+														
9020.3(20)	1^+														
9030.8(20)	1^+,3^-														
9044.2(20)	3^-														
9046.3(20)	$\langle 1^-\rangle$														
9053.4(20)	3^+,5^+														
9063.6(20)	5^+														
9074.0(20)	5^+														
9077.3(20)	1^+														
9085.2(20)	$\langle 5^-\rangle$														
9091.1(20)	3^-														
9105.2(20)	$\langle 9^+\rangle$														
9110.7(20)	1^+														
9124.8(20)	5^+	3			2	0.23									77Fo06
9139.4(20)	5^+														
9145.2(20)	3^+,$\langle 5^+\rangle$														
9169.8(20)	1^+														
9179.6(20)	$\langle 5^+\rangle$														
9183.8(20)	$\langle 3^-\rangle$														
9190.5(20)	1^+														
9194.4(20)	3^+				$\langle 2\rangle$	0.02									77Fo06
9206.0(20)	3^-														
9209.0(20)	1^-														
9213.7(20)	$\langle 5^+\rangle$														
9217.6(20)	1^+														
9225.4(20)	3^-,$\langle 9^+\rangle$														
9228.5(20)	3^-,$\langle 5^+\rangle$														
9231.0(20)															
9237.7(20)	3^-														
9242.0(20)	3^+,$\langle 5^+\rangle$				2	0.07									77Fo06
9244.1(20)	5^-														
9247.2(20)	5^+														
9251.6(20)	1^-														
9258.2(20)	$\langle 3^+\rangle$														
9263.9(20)	1^-														
9273.8(20)	1^+														
9278.9(20)	$\langle 3^+\rangle$,5^+														
9290.6(20)	3^-														
9291.0(20)	5^+														
9293.5(20)	3^+														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
9301.9(20)	5^+														
9302.9(20)	1^-				1	$\langle 0.32\rangle$									77Fo06
9312.3(20)	3^-					incl									77Fo06
9329.0(20)	5^-														
9337.9(20)	3^-														
9345.0(20)	5^+														
9358.8(20)	3^-														
9362.7(20)	3^+														
9372.4(20)	1^-														
9378.9(20)	1^+														
9382.7(20)	$\langle 5^+\rangle$														
9390.0(20)	3^-														
9397.8(20)	1^+,$\langle 5^+\rangle$														
9400.4(20)	1^+														
9418.1(20)	3^+														
9424.6(20)	$\langle 7\rangle^+$				4	0.04									77Fo06
9429.1(20)	5^+														
9447.6(20)	1^+,3^-														
9448.1(20)	$\langle 3^+\rangle$														
9453.1(20)	$\langle 3^+\rangle$														
9454.3(20)	$\langle 5^-\rangle$														
9457.8(20)	$\langle 5^+\rangle$				4	0.15									77Fo06
9485.5(20)	3^-														
9486.2(20)	5^+														
9492.8(20)	3^-														
9496.8(20)	5^-														
9505.1(20)	$\langle 1^-\rangle$														
9510.0(20)	1^+														
9540	7^+,9^+				4	0.15									77Fo06
9557.8(7)	1^+														
9601	7^+,9^+				4	0.07									77Fo06
9642															
9651.1(7)	1^+														
9698.5(3)	25^-														
9721	$\langle 9\rangle^+$				4	0.09									77Fo06
9726.7(7)	1^+														
9758(10)	$\langle 9\rangle^+$				4	0.10									77Fo06
9782.1(9)															
9793(10)	$\langle 5^+\rangle$				$\langle 2\rangle$	0.10									77Fo06
9807.3(7)	1^+														
9863(10)															
9899(10)															
9942(10)															
10112.8(7)	$\langle 23\rangle$														
10545.4(5)	$\langle 23\rangle$														

(continued) **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$	$2T$	L	C^2S' (d,n)	L	C^2S' (τ,d)	L	C^2S' (α,t)	C^2S (^{7}Li,^{6}He)	L	C^2S' (τ,d)	σ (τ,d) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
10579.8(5)	25^-														
10760(1)															
11469.9(5)	25														
11908.0(5)	25														
11962.6(8)	$\langle 27\rangle$														
12118.5(8)															
12363.0(5)	27														
12613(1)															
12835(1)	$\langle 27\rangle$														
13163(1)															
13339.1(5)	29														
13516.4(8)	$\langle 27^-\rangle$														
13685(3)															
13818(1)															
14125(3)															
14672.3(6)	31														
14730(3)															
14881(1)															
				70Ha54		77Fo06		70Ro22			67Ob04		79Sm03		Ref.
						81Ka38						67Ob04			Ref.

Additional data on this isotope can be found in [99Ru01, 78Jo08, 76Ca22, 74Go01, 67Ar05, 81Ka38, 69Co10].

* E^* are from [74Go31].

** Isobar analog state (IAS) of ^{55}Fe ground state.

*** Seen in the (τ,d) reaction, not included in Adopted Levels [91Hu07].

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

Energy levels and branching ratios [91Hu07]. Part 2 **$^{55}_{27}$Co**

E^* [keV]	$2J^\pi$		Branching ratios in percentage									
		$E^*_{\rm f}$:	0.0	2166	2566	2659	2919	2922	2939	2960	2973.5	2976.3
		$2J^\pi_{\rm f}$:	7^-	3^-	3^-	5^-	7^-	1^+	1^-		11^-	9^-,$\langle 7\rangle$
2165.88(5)	3^-		100									
2565.85(3)	3^-		100									
2659.47(6)	5^-		100									
2918.57(6)	7^-		100	x								
2922.2(1)	1^+			100	x							
2939.09(8)	1^-			74(2)	26(2)							
2960.0(5)			38	62								
2973.5(2)	11^-		100									
2976.3(2)	9^-		100									
3303.1(1)	5^-		83(3)		17(3)							

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$		Branching ratios in percentage									
		E_f^*:	0.0	2166	2566	2659	2919	2922	2939	2960	2973.5	2976.3
[keV]		$2J_f^\pi$:	7^-	3^-	3^-	5^-	7^-	1^+	1^-		11^-	9^-,$\langle 7\rangle$
3323.2(1)	1^-			54(8)	41(8)	5						
3335(20)	$\langle 5\rangle^-$		100									
3552.9(10)	$\langle 3,5\rangle$			100								
3563.0(1)*	$\langle 3^+\rangle$		7(2)		82(3)	4(2)		7(2)				
3643.00(8)	3^-		9(4)	56(5)	13(3)	12(3)			10(3)			
3725.0(1)	5^-		54(4)		26(4)		20(4)					
3736.6(2)	13^-										100	
3774.6(2)	15^-										93(3)	
3859.3(1)			56(5)	7(3)		37(5)						
3870.9(7)	1^-,3^-			52	48							
3933	$\langle 3^-\rangle$			21	79							
3942.1(1)	1^-,3^-			17(3)	76(5)				7(3)			
4164.2(1)*	1^-				100							
4177.3(1)	5^-		100									
4264.1(4)			100									
4474.0(3)			100									
4548.3(1)	5^-		60(6)	25(5)	15(5)							
4587.5(2)*			100									
4628.2(1)	1^-,3^-			100								
4686.3(4)*	15^-										52(9)	
4712.6(7)	1^-,3^-				34(6)				66(6)			
4721.4(1)**	3^-				62(3)				13(3)			
4748.1(1)**	3^-			18(3)	14(2)	21(3)		10(2)	15(2)			
4872.5(6)			100									
4961.1(2)	$\langle 1\rangle$				76(6)				24(6)			
4988.2(2)*			87(4)		5(2)							
5099.3(2)						29(2)			29(2)			
5122.1(2)			30		70							
5172.5(2)*	1^-			25(3)	49(5)							
5242(10)			100									
5259.0(2)			13(5)	16(5)	54(7)							
5293.0(7)					100							
5351.0(3)*			31(7)						43(7)			
5460.7(2)				15		30						
5560.0(3)	1^-,3^-		100									
5717(1)						100						
6068.8(9)	9^+		100									
6149.9(2)	$\langle 5\rangle^+$			2.3	20.1				39.5			
6205.3(2)	$\langle 5\rangle^+$		10	44.4	18.5	12.0	0.6	0.9		5.9		
6268.2(1)	3^-		3.5	46.4		9.1	6.2		2.5			
6328.3(1)	$\langle 3\rangle^-$			1.5	8.1	17.4	3.4		1.4			
6369.3(2)	$\langle 5\rangle^+$				2.5	38.8	21.3	2.7				
6513.45(9)	3,$\langle 5\rangle$		26	4.4	2.3				40.3			
6689.1(2)				16	7	13	12		11			
6701.2(2)	5		19	62.3	1.9	2.0	4.3	2.5				

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$		Branching ratios in percentage									
		E^*_f:	0.0	2166	2566	2659	2919	2922	2939	2960	2973.5	2976.3
[keV]		$2J^\pi_f$:	7^-	3^-	3^-	5^-	7^-	1^+	1^-		11^-	9^-,$\langle 7\rangle$
6713.2(1)	$\langle 1\rangle^-$			40.0	2.4			5.6	3.6			
6755.4(2)	5		92	4.1	1.0	0.4	2.3					
6780.2(1)	5^-		12	22.0	22.7	15.0	1.7		3.4			
6834.3(1)	3^-			4.6	2.5	31.6	3.1		2.8			
6835.7(6)	$5^{\langle -\rangle}$		100									
6876.3(2)	7^-,9		94.2	2.7		0.6						
6917.3(1)	5^-		17	0.5	19.7	0.8						
6944.2(2)	$\langle 1^-\rangle$			63	4			4.2	2.9			
6951.1(1)			6.9	26.5	4.8	6.0	7.8		21.8			
7008.2(1)			7.7		4.9	2.9	2.0		11.9			
7025.3(2)			25	53.6	6.2	7.4						
7038.2(2)	$\langle 1^-,3^-\rangle$		20	14.2	6.4				1.2			
7101.5(1)	5		41	5.9	1.2	31.1	5.6					0.7
7153.2(3)			71	18.5	2.0	4.1						
7193.1(1)	5		65	2.5	21.8	0.3	4.1	0.6				
7233.5(3)	$\langle 3\rangle$		1.3	72.7	2.3	13.8	0.8	6.6				
7239.3(1)	$\langle 3^-\rangle$			37.6	6.9	4.0		3.4	8.8			
7269.2(1)	3^-		1.2	6.5		22.5	1.7					
7284.4(3)				26.5	13.1	15.8	1.7		15.3			
7293.3(1)	5^-		7.6	20.0		2.3	30.5					
7319.6(1)	5		82		6.5		3.4					3.6
7325.4(1)			22	8.9	10.6	9.3	3.0	3.9	3.1			1.7
7332.3(2)				5.3	32.7	5.4			25.9			
7564.4(2)			11	4	1	16		3	7			
7578.4(3)	$\langle 3\rangle^+$		14	18	15							
7595.3(3)	$\langle 3^-\rangle$			24	7	12		3				
7611.4(2)			20	9		8	10					
7627.7(5)	$\langle 5\rangle$		52	12	36							
7633.6(2)	$\langle 5^-\rangle$		79	3	3		2					2
7642.5(2)	$\langle 1^-\rangle$			22		7		37	10			
7650.8(2)	$\langle 5\rangle^-$		41		4		25					3
7663.0(2)	$\langle 1^-\rangle$			21	41	5			6			
7680.3(3)	$\langle 5\rangle$		17		5							
7704.0(2)	$\langle 5\rangle^-$		2	10	14	7			25			
7747.1(3)	$\langle 5\rangle$		64		23	5						
7806.1(5)				78								
7815.8(2)	1^-		48	5		16	2		20			
7867.6(3)	$\langle 5\rangle$		21.8	4.6	14.9							
7876.9(2)	$\langle 5^-\rangle$		33		27	3	8					4
7881.0(3)	$\langle 3^-\rangle$		9.18	8.16	11.23	13.26			6.12			
7885.1(3)	$\langle 7\rangle$		9			10	14					24.0
7938.8(2)	$\langle 3^-\rangle$		5	4	39	8		7	9			
7965.1(2)	1^-		2	7		9		16	14			4
7966.8(3)	$\langle 5\rangle^+$		45	6	14	16						
7976.8(1)	$\langle 5^+\rangle$		82					6				

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$		Branching ratios in percentage									
		E_f^*:	0.0	2166	2566	2659	2919	2922	2939	2960	2973.5	2976.3
[keV]		$2J_f^\pi$:	7^-	3^-	3^-	5^-	7^-	1^+	1^-		11^-	9^-,$\langle 7\rangle$
8020.6(4)	$\langle 5\rangle^-$		87				1					4
8056.7(3)	1^-			27.4					12.3			
8067.0(3)	3^-			30	23	16						
8071.5(3)	$\langle 7\rangle^-$		27				20					5
8105.9(2)	$\langle 5\rangle^-$			16	17				6			
8130.6(3)	5^+		13	17	31							
8134.1(3)	1^-		10	21	9		17					
8144.9(3)	1^-			10		13			15			
8190.9(4)	1^-				19				46			
8240.4(3)			39.6	12.9	4.9	6.9						
8273.4(3)	$\langle 5\rangle$		50.6		3.4							
8283.9(3)	3^-		32.1		19.8	14.1						
8291.0(3)	$\langle 5\rangle^-$		26.0		34.4			16.7				
8294.8(3)	3^-			27	25				14			
8360.0(7)	7,9		79									21
8374.0(5)	1^-,3^-		25			43						
8384.1(3)	5^+		8	22	36							
8390.8(3)	5^+		6	46	21	7		10				
8412.0(3)	$\langle 3\rangle$					21.1	6.7		2.2			
8417.9(3)	5^+		20	31	28							
8431.2(4)	3^-				8			66				
8435.7(5)	3^+,$\langle 5^+\rangle$		75			14						
8440.0(3)			32		16	7			14			
8456.7(5)	$\langle 1,3\rangle$								44			
8463.9(5)	9^+		84				4					4
8465.6(10)			100									
8467.3(7)	9^+		53(2)				26(4)					
8468.7(4)	7^+		55.2			x	25(2)					x
8476.5(7)	9^+		53(2)				27(2)					
8478.7(5)	5		30			20						
8505.3(3)	7^-		35	29		14		8				
8557.0(4)	7^-		44				17					
8559.3(5)	7,9		41				22					37.00
8583.6(5)	5^+		86		6	8						
8644.2(4)	5^+		79			9						
8652.4(5)			20						48			
8679.6(10)	1^+		32		15	5		45				
8682.7(10)			15.8	15.8	9.9			31.7				
8692.0(10)			24	11	9	16	9					11
8703.2(10)	9^+		83									10
8706.4(10)	3,5		84	4	5		1	2				
8745.1(10)	3^-		12	10		25						
8749.4(10)	5^-		100									
8753.4(10)	5^-		25	14								25
8798.0(10)	3^-			69								

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	0.0	2166	2566	2659	2919	2922	2939	2960	2973.5	2976.3
[keV]	$2J_f^\pi$:	7^-	3^-	3^-	5^-	7^-	1^+	1^-		11^-	9^-,$\langle 7\rangle$
8803.0(10)	7^-	40	6	5	6						
8855.2(10)	5^+	54	13	3		2					

Energy levels and branching ratios [91Hu07]. Part 3 **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	3303.1	3323.2	3563.0	3643.0	3725.0	3736.6	3774.6	3859.3	3942.1	4164.2
[keV]	$2J_f^\pi$:	5^-	1^-	$\langle 3^+\rangle$	3^-	5^-	13^-	15^-		1^-,3^-	1^-
3774.6(2)	15^-						6.5(6)				
4514(1)*	17^-						6.6(3)	93(3)			
4686.3(4)*	15^-						48(6)				
4721.4(1)**	3^-	18(3)	6(2)								
4748.1(1)**	3^-					12(2)				10(2)	
4920.8(5)	$\langle 15^-\rangle$							100			
4988.2(2)*		8(2)									
5099.3(2)		42(2)									
5172.5(2)*	1^-									17(2)	9(2)
5259.0(2)						17(5)					
5431.7(4)	17^-							80(2)			
5460.7(2)		55									
6149.9(2)	$\langle 5\rangle^+$				5.4					18.4	3.7
6205.3(2)	$\langle 5\rangle^+$			7.8							
6268.2(1)	3^-			2.30		2.70					6.0
6328.3(1)	$\langle 3\rangle^-$	13.0	10.5							9.9	8.4
6369.3(2)	$\langle 5\rangle^+$			32.1							
6513.45(9)	3,$\langle 5\rangle$	3.0	9.3							2.10	
6596.6(3)	19^-							25(1)			
6641.5(4)	19^-							15(1)			
6689.1(2)			11								
6701.2(2)	5			8.3							
6713.2(1)	$\langle 1\rangle^-$		12.2		2.7					15.1	2.8
6755.4(2)	5			0.40							
6780.2(1)	5^-		10.0		3.1	5.4				2.8	
6834.3(1)	3^-	2.5	13.3	0.9	1.2	8.5				0.8	2.3
6876.3(2)	7^-,9			0.9	0.9				0.7		
6917.3(1)	5^-			2.2	1.3	8.8			7.9		
6944.2(2)	$\langle 1^-\rangle$		23	2.9							
6951.1(1)		3.7	9.3	3.9		1.5					2.3
7008.2(1)			15.6	2.2	8.2	3.6				15.9	4.3
7025.3(2)				1.60					1.00		
7038.2(2)	$\langle 1^-$,$3^-\rangle$	4.1							16.6		
7101.5(1)	5	1.4		1.8	2.3	1.5			2.8		

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	3303.1	3323.2	3563.0	3643.0	3725.0	3736.6	3774.6	3859.3	3942.1	4164.2
[keV]		$2J_f^\pi$:	5^-	1^-	$\langle 3^+ \rangle$	3^-	5^-	13^-	15^-		1^-,3^-	1^-
7153.2(3)						2.1				2.1		
7193.1(1)	5				3.2	1.6						
7233.5(3)	$\langle 3 \rangle$			1.3	1.2							
7239.3(1)	$\langle 3^- \rangle$		5.4	2.1	2.9	8.9					4.4	2.8
7269.2(1)	3^-		4.1		2.4		17.9					4.0
7284.4(3)				16.2		11.4						
7293.3(1)	5^-					1.4						
7319.6(1)	5		2.4							1.0		
7325.4(1)			7.1	4.0	2.2	1.0					9.5	1.4
7332.3(2)			13.1			8.0					1.7	
7564.4(2)			2	14	7	6	3					2
7578.4(3)	$\langle 3 \rangle^+$				25	15	4					
7595.3(3)	$\langle 3^- \rangle$		7			12	9					
7611.4(2)					4	13				4		
7633.6(2)	$\langle 5^- \rangle$		2			1	1			4		
7642.5(2)	$\langle 1^- \rangle$			8	3							
7650.8(2)	$\langle 5 \rangle^-$		5				2			4		
7663.0(2)	$\langle 1^- \rangle$			6	7							5
7680.3(3)	$\langle 5 \rangle$					48	10			15		
7704.0(2)	$\langle 5 \rangle^-$		6	9		2	1					2
7747.1(3)	$\langle 5 \rangle$					6						
7806.1(5)							22					
7815.8(2)	1^-			2		2	2			1		2
7867.6(3)	$\langle 5 \rangle$					31						
7876.9(2)	$\langle 5^- \rangle$				4	3						
7881.0(3)	$\langle 3^- \rangle$				7.1	35.7					9.1	
7885.1(3)	$\langle 7 \rangle$		13.00				11.00					
7938.8(2)	$\langle 3^- \rangle$		3	16		6	3					
7965.1(2)	1^-		6	10	6	16	6					
7966.8(3)	$\langle 5 \rangle^+$					7						
7976.8(1)	$\langle 5^+ \rangle$		4							3		
8020.6(4)	$\langle 5 \rangle^-$										2	
8056.7(3)	1^-			17.9	5.7	14.1						
8067.0(3)	3^-			6		21						
8071.5(3)	$\langle 7 \rangle^-$		11				11			14		
8105.9(2)	$\langle 5 \rangle^-$		8		6	14				7		
8130.6(3)	5^+				5							
8134.1(3)	1^-			12		31						
8144.9(3)	1^-		7	28		12	9					6
8190.9(4)	1^-					10					14	11
8240.4(3)					24.7	10.8						
8273.4(3)	$\langle 5 \rangle$		12.3		8.9		6.7					
8283.9(3)	3^-				3.7							4.7
8291.0(3)	$\langle 5 \rangle^-$				11.4							
8294.8(3)	3^-			2		32						

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	3303.1	3323.2	3563.0	3643.0	3725.0	3736.6	3774.6	3859.3	3942.1	4164.2
[keV]	$2J_f^\pi$:	5^-	1^-	$\langle 3^+\rangle$	3^-	5^-	13^-	15^-		1^-,3^-	1^-
8374.0(5)	1^-,3^-	32									
8384.1(3)	5^+			8							
8390.8(3)	5^+		10								
8412.0(3)	$\langle 3\rangle$	6.7	31.1		23.3						8.9
8431.2(4)	3^-	16	10								
8435.7(5)	3^+,$\langle 5^+\rangle$	11									
8440.0(3)										7	18
8456.7(5)	$\langle 1,3\rangle$			56							
8468.7(4)	7^+					x					
8478.7(5)	5								50.0		
8505.3(3)	7^-		5.00								6
8557.0(4)	7^-								29.00		
8652.4(5)			32.00								
8682.7(10)				7.92							
8692.0(10)						11				9	
8703.2(10)	9^+									4	
8706.4(10)	3,5			1							
8745.1(10)	3^-		53								
8753.4(10)	5^-					8			12		
8798.0(10)	3^-				23						8
8803.0(10)	7^-		3		20						
8855.2(10)	5^+	9		6	2	5					

Energy levels and branching ratios [91Hu07]. Part 4 **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	4177.3	4264.1	4339.2	4474.0	4513.8	4548.3	4587.5	4628.2	4686.3	4721.4
[keV]	$2J_f^\pi$:	5^-				17^-	5^-		1^-,3^-	15^-	3^-
5351.0(3)*		26(7)									
5431.7(4)	17^-					12(2)				8(2)	
6149.9(2)	$\langle 5\rangle^+$								2.6		
6268.2(1)	3^-	3.30					2.90				10.6
6328.3(1)	$\langle 3\rangle^-$	15.6									2.3
6332.7(5)	$\langle 17^-\rangle$					67(11)				5(5)	
6465(1)	$\langle 21^-\rangle$					x					
6513.45(9)	3,$\langle 5\rangle$								2.10		10.6
6596.6(3)	19^-					74(3)					
6641.5(4)	19^-					84(4)					
6689.1(2)		18					12				
6713.2(1)	$\langle 1\rangle^-$								1.6		
6780.2(1)	5^-						1.6				
6834.3(1)	3^-						2.9	0.5	2.5		2.4

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$		Branching ratios in percentage									
		E_f^*:	4177.3	4264.1	4339.2	4474.0	4513.8	4548.3	4587.5	4628.2	4686.3	4721.4
[keV]		$2J_f^\pi$:	5^-				17^-	5^-		1^-,3^-	15^-	3^-
6917.3(1)	5^-		5.3			2.2						10.6
6951.1(1)												1.9
7008.2(1)								1.8		6.1		5.3
7025.3(2)									1.00			1.7
7038.2(2)	$\langle 1^-,3^-\rangle$		2.50					20.1		6.3		3.8
7101.5(1)	5		0.90					3.30		0.80		
7193.1(1)	5									0.70		
7239.3(1)	$\langle 3^-\rangle$		4.1							3.6		
7269.2(1)	3^-		9.7					3.1		4.3		5.4
7293.3(1)	5^-					2.1		7.1	1.5	2.0		6.1
7319.6(1)	5			1.1								
7325.4(1)			1.5							1.5		2.6
7332.3(2)			1.0					5.9				
7529.0(10)	19^-						57(7)				43(7)	
7564.4(2)			3					1	4			1
7578.4(3)	$\langle 3\rangle^+$			2		3						1
7595.3(3)	$\langle 3^-\rangle$		14							2		
7611.4(2)			2						4	5		
7642.5(2)	$\langle 1^-\rangle$		4							2		
7650.8(2)	$\langle 5\rangle^-$								4			
7663.0(2)	$\langle 1^-\rangle$		5							2		2
7704.0(2)	$\langle 5\rangle^-$							9				2
7833.2(3)	21^-						83(4)					
7855.4(21)											100	
7867.6(3)	$\langle 5\rangle$		14.9						12.6			
7876.9(2)	$\langle 5^-\rangle$			5		2			3			4
7885.1(3)	$\langle 7\rangle$		13.00					6				
7921(1)	19^-						88(4)					
7966.8(3)	$\langle 5\rangle^+$							2		7		
7976.8(1)	$\langle 5^+\rangle$								5			
8020.6(4)	$\langle 5\rangle^-$					2			4			
8056.7(3)	1^-		13.21			9.4						
8067.0(3)	3^-								4			
8071.5(3)	$\langle 7\rangle^-$		12									
8090.1(14)							30					
8105.9(2)	$\langle 5\rangle^-$			5					6	7		8
8130.6(3)	5^+								6.00	17.00		11.00
8158.7(5)	21^-						30(4)					
8273.4(3)	$\langle 5\rangle$			7.8		10.1						
8283.9(3)	3^-		25.4									
8291.0(3)	$\langle 5\rangle^-$									3.1		8.3
8384.1(3)	5^+									6		10
8400.7(10)							44(6)					
8417.9(3)	5^+											10
8440.0(3)												3

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E^*_f:	4177.3	4264.1	4339.2	4474.0	4513.8	4548.3	4587.5	4628.2	4686.3	4721.4
[keV]		$2J^\pi_f$:	5^-				17^-	5^-		1^-,3^-	15^-	3^-
8467.3(7)	9^+				x				x			
8468.7(4)	7^+				x				x			
8476.5(7)	9^+				x	x						
8505.3(3)	7^-							3				
8557.0(4)	7^-							10				
8644.2(4)	5^+											6
8682.7(10)				5.9		4.9		3.9		3.9		
8703.2(10)	9^+								3			
8706.4(10)	3,5											3
8753.4(10)	5^-							16				
8803.0(10)	7^-		4	10								3
8855.2(10)	5^+			3				3				

Energy levels and branching ratios [91Hu07]. Part 5 **$^{55}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E^*_f:	4748.1	4851.3	4872.5	4920.8	4961.1	4988.2	5099.3	5122.1	5172.5	5259.0
[keV]		$2J^\pi_f$:	3^-			$\langle 15^-\rangle$	$\langle 1\rangle$				1^-	
6149.9(2)	$\langle 5\rangle^+$						8.00					
6268.2(1)	3^-							4.5				
6328.3(1)	$\langle 3\rangle^-$		6.7					1.8				
6332.7(5)	$\langle 17^-\rangle$					11(5)						
6369.3(2)	$\langle 5\rangle^+$				2.60							
6596.6(3)	19^-					0.3(3)						
6713.2(1)	$\langle 1\rangle^-$						5.9					
6834.3(1)	3^-						5.7	1.5		1.4		
6917.3(1)	5^-		8.2						4.8	0.5		5.2
6951.1(1)											3.6	
7008.2(1)			1.8							2.2	3.6	
7025.3(2)								1.5	1.2			
7239.3(1)	$\langle 3^-\rangle$		1.8					2.8				0.5
7269.2(1)	3^-		4.2				6.0					5.8
7293.3(1)	5^-		6.1					9.1	2.6			
7325.4(1)								1		6		
7332.3(2)								1				
7564.4(2)			5	4			1	3				2
7578.4(3)	$\langle 3\rangle^+$		3									
7595.3(3)	$\langle 3^-\rangle$									3		
7611.4(2)									12			9
7633.6(2)	$\langle 5^-\rangle$							3				
7642.5(2)	$\langle 1^-\rangle$		2				5					
7650.8(2)	$\langle 5\rangle^-$		2					5				1

(continued) **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	4748.1	4851.3	4872.5	4920.8	4961.1	4988.2	5099.3	5122.1	5172.5	5259.0
[keV]	$2J_f^\pi$:	3^-			$\langle 15^- \rangle$	$\langle 1 \rangle$				1^-	
7704.0(2)	$\langle 5 \rangle^-$	2							9		
7747.1(3)	$\langle 5 \rangle$	2.00									
7876.9(2)	$\langle 5^- \rangle$	4									
7965.1(2)	1^-	4									
7966.8(3)	$\langle 5 \rangle^+$	3									
8090.1(14)					40						
8384.1(3)	5^+	10									
8417.9(3)	5^+	11									
8440.0(3)		3									
8644.2(4)	5^+	6									
8679.6(10)	1^+	3									
8803.0(10)	7^-	3									

Energy levels and branching ratios [91Hu07]. Part 6 **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	5293.0	5351.0	5431.7	5460.7	5560.0	5642.1	6068.8	6332.7	6596.6	6641.5
[keV]	$2J_f^\pi$:			17^-		$1^-,3^-$		9^+	$\langle 17^- \rangle$	19^-	19^-
6332.7(5)	$\langle 17^- \rangle$			17(5)							
6641.5(4)	19^-			1.3(4)							
6713.2(1)	$\langle 1 \rangle^-$				8.1						
6834.3(1)	3^-				9.0						
6917.3(1)	5^-		3.4		1.1						
7038.2(2)	$\langle 1^-,3^- \rangle$	5.1									
7269.2(1)	3^-					1.2					
7293.3(1)	5^-					1.6					
7595.3(3)	$\langle 3^- \rangle$						7				
7650.8(2)	$\langle 5 \rangle^-$		4								
7680.3(3)	$\langle 5 \rangle$					5					
7833.2(3)	21^-			6.6(4)						7.4(4)	3(1)
7921(1)	19^-								10(2)	2.7(13)	
8090.1(14)				30(10)							
8158.7(5)	21^-			35(6)						24(2)	11(2)
8348.8(4)	23^-									38(3)	47(3)
8400.7(10)										56(11)	
8463.9(5)	9^+							8.00			
8467.3(7)	9^+							21(2)			
8468.7(4)	7^+							20(2)			
8476.5(7)	9^+							20.0(10)			
8686.9(5)	21									14(7)	
8689.5(3)	23^-									30(3)	
9782.1(9)										55(9)	

Energy levels and branching ratios [91Hu07]. Part 7 **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	7529.0	7833.2	7921.2	8158.7	8348.8	8390.8	8686.9	8688.9	8689.5	9698.5
[keV]	$2J_f^\pi$:	19^-	21^-	19^-	21^-	23^-	5^+	21	$3^+,5^+$	23^-	25^-
8348.8(4)	23^-		14.7(6)								
8686.9(5)	21			86(3)							
8689.5(3)	23^-	2.3(6)	64(6)			3.5(6)					
9698.5(3)	25^-		8.6(4)		3.4(4)	73(4)				15.0(4)	
9782.1(9)						45(9)					
10112.8(7)	$\langle 23 \rangle$						11(4)	89(4)			
10545.4(5)	$\langle 23 \rangle$		34(7)	38(3)				28(7)			
10579.8(5)	25^-					47(5)				48(3)	5(1)
10760(1)			67(13)			33(7)					
11469.9(5)	25		11(4)					46(6)	29(10)		
11908.0(5)	25		30(10)			20(10)		30(10)			
11962.6(8)	$\langle 27 \rangle$					19(4)			38(2)		43(4)
12118.5(8)											71(7)
12363.0(5)	27					6(1)					
12613(1)						37(12)			37(6)		25(6)
12835(1)	$\langle 27 \rangle$										32(4)
13163(1)						100					
13516.4(8)	$\langle 27^- \rangle$										63(4)
13685(3)						100					
13818(1)											63(5)
14125(3)											100
14730(3)											100

Energy levels and branching ratios [91Hu07]. Part 8 **$^{55}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E_f^*:	10113	10545	10580	10760	11470	11908	11963	12118	12363	12613
[keV]	$2J_f^\pi$:	$\langle 23 \rangle$	$\langle 23 \rangle$	25^-		25	25	$\langle 27 \rangle$		27	
11469.9(5)	25		13(4)								
11908.0(5)	25		20(10)								
12118.5(8)					29(7)						
12363.0(5)	27		16(3)	32(1)		37(1)	8(1)				
12835(1)	$\langle 27 \rangle$	28(8)		40(4)							
13339.1(5)	29									100	
13516.4(8)	$\langle 27^- \rangle$			18(4)					18(8)		
13818(1)								37(5)			
14881(1)								26(5)			37(10)

Energy levels and branching ratios [91Hu07]. Part 9

$^{55}_{27}$Co

E^*	$2J^\pi$			Branching ratios in percentage			
		E_f^*:	12835	13163	13339	13516	13818
[keV]		$2J_f^\pi$:	⟨27⟩		29	⟨27⁻⟩	
14672.3(6)	31		12(4)		88(9)		
14881(1)				10(5)		10(5)	16(5)

Energy levels and branching ratios [99Hu04].

$^{56}_{27}$Co

E^*	J^π	T	L	L	σ (p,τ)	L	σ (τ,p)	I_d	L	σ (d,α)	σ (d,α)	$T_{1/2}$ or	Ref.
[keV]			(τ,t)	(p,τ)	μb	(τ,p)	μb/sr	(α,d)	(d,α)	μb/sr	μb/sr	Γ_{cm}	
0.0	4^+		2+4	4	9.8(17)				4	16	14	77.23(3) d	77Zi02
158.38(3)	3^+		2+4	2	15.8(19)	2	12		2	86	100	<0.1 ns	77Zi02
576.50(7)	5^+		6	4	23.4(28)	4	9	47	4	230	200	0.28(+7-5) ps	70Br48
829.61(5)	4^+			4	3.7(12)				⟨4⟩	3.7		>1.7 ps	70Br48
970.23(4)	2^+		2	2	10.9(22)	2	19		2	12	11	0.12(+12-6) ps	70Br48
1009.1(1)	5^+			2	14.4(29)	4	8	38	4	100	120	0.38(+14-9) ps	70Br48
1114.5(1)	3^+		2+4	4	4.1(10)		3		⟨2+4⟩	18	22	0.19(+9-6) ps	70Br48
1450.7(1)	0^+		2	0	11.9(18)	0	345			0		1.58(6) ns	70Br48
1585(10)							8						73Ca07
1720.2(1)	1^+		0+2	0+2	5.7(16)	0+2	1105	71	0	17	14	0.34(+35-12) ps	70Br48
1930.4(2)	3^+		2+4	2	15.2(23)	2	151	61	2	180	190	33(+8-7) fs	70Br48
2060.0(2)	2^+		2	2	22.6(23)		54		2	34	48	24(6) fs	70Br48
2224.9(2)	2^+		⟨2⟩	2	4.5(11)				2	32	39		70Br48
2282.6(1)	7^+		2+6	6	41.2(41)				6	300	430	>1 ps	93Cr04
2290.1(3)			2+6			2	126						77Zi02
2306.1(2)	$\langle 2\rangle^+$									<30			71Sc18
2357.4(3)	1^+				7.6(23)			47	0	9			71Sc18
2371.8(2)	6^+							incl	6	10		42(21) fs	71Sc18
2456	0^+,1^+			0	12.8(22)								70Br48
2469.6(6)						4	23		4,3	55		16(9) fs	71Sc18
2609.5(7)	3^+								2	23			71Sc18
2623(10)							59						73Ca07
2635.6(2)	1^+		0+2	2	11.8(20)				⟨0⟩	36		14(8) fs	70Br48
2647.2(7)	$\langle 0^+,1^+\rangle$								⟨0⟩	15			71Sc18
2665.1(7)	$\langle 3^+\rangle$									8			71Sc18
2729.9(2)	1^+		0+2		9.5(17)	0+2	140		0	27		69(+21-17) fs	70Br48
2770(5)													
2789(5)										2.5			71Sc18
2926(5)	$\langle 2^+\rangle$									2.5			71Sc18
2969(5)	2^+		2		2.2(9)		50			4			77Zi02
3048(5)	3^+–5^+			4	9.8(17)					10			70Br48
3060(5)	5^+		2+4						4	20			77Zi02
3075.9(2)	1^+					0+2	357		2	25		22(+8-6) fs	71Sc18
3140(5)	3^+			2+4	14.3(23)				2	77			70Br48

(continued) **$^{56}_{27}$Co**

E^* [keV]	J^π	T	L (τ,t)	L (p,τ)	σ (p,τ) μb	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	L (d,α)	σ (d,α) μb/sr	σ (d,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
3180(5)	1^+,3^+		0+4				20		⟨2⟩	18			77Zi02
3234(5)	⟨0^+⟩								⟨0⟩	3			71Sc18
3255(5)										9			71Sc18
3297(5)	4^+								4	16			71Sc18
3366(5)	X$^{\langle-\rangle}$									8			71Sc18
3378(10)	1^+					0+2	112						
3382(5)	2^+			2	9.4(19)					8			70Br48
3436(5)	0^+,1^+								0	31			71Sc18
3493(5)										<5			71Sc18
3510(11)	⟨0^+⟩			0	15.7(34)		257			<5			70Br48
3527(1)*	0^+		0						⟨2⟩	17		6(5) fs	77Zi02
3544(11)	7^+								6	30			71Sc18
3570								94					94Fi01
3592(12)*	⟨0^+⟩	2	0	0	19.5(37)					<5			77Zi02
3598.6(2)	0^+,1^+					0	604			10		18(5) fs	73Ca07
3610(5)										2			71Sc18
3638.1(2)	8^+											55(+28-12) fs	
3642(11)	X$^{\langle-\rangle}$									7			71Sc18
3694(12)													
3717(5)	X$^{\langle-\rangle}$								⟨3⟩	40			71Sc18
3798(11)	X$^{\langle+\rangle}$					2	27		⟨6⟩	13			71Sc18
3807(10)	1^+–3^+								⟨2⟩	8			71Sc18
3863(12)							20		3,4	20			71Sc18
3876(12)	X$^{\langle+\rangle}$								⟨2⟩	10			71Sc18
3900(12)										4			71Sc18
3935(12)										9			71Sc18
3960(12)													
4011(12)	3^+–5^+							99	4	22			71Sc18
4019(12)													
4032(10)	1^+–3^+					2	51		⟨3⟩	10			71Sc18
4062(12)									⟨3⟩	9			71Sc18
4094(12)										7			71Sc18
4139(12)	3^+–5^+								4	95			71Sc18
4180.2(2)	9^+											0.41(4) ps	
4183(10)	X$^{\langle+\rangle}$						30		[2]	30			73Ca07
4209(13)										<4			71Sc18
4222(13)										<4			71Sc18
4281(13)										11			71Sc18
4293(13)										≈10			71Sc18
4308(13)										≈10			71Sc18
4349(13)										<5			71Sc18
4372(3)	1^+											10(8) fs	
4388(13)	1^+–3^+					0+2	91		2	29			71Sc18
4429(3)	⟨2^+⟩	2		2	15.8(24)								70Br48
4441(13)	7^+								6	25			71Sc18

(continued) **$^{56}_{27}$Co**

E^* [keV]	J^π	T	L (τ,t)	L (p,τ)	σ (p,τ) μb	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	L (d,α)	σ (d,α) μb/sr	σ (d,α) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.
4453(13)							180			<10			73Ca07
4501(14)										<10			71Sc18
4531(14)										<10			71Sc18
4560(14)										<10			71Sc18
4684(14)										<10			71Sc18
4743(14)										<10			71Sc18
4768(14)										16			71Sc18
4796(10)							67						73Ca07
4846(15)										≈80			71Sc18
4928(15)										≈80			71Sc18
4992(10)	8^-						50	226		≈50			73Ca07
5008(15)										≈40			71Sc18
5081(10)					51.4(64)		76						70Br48
5146(15)	5^+								4	≈250			71Sc18
5187	1^+–3^+			2	15.4(62)								70Br48
5239(10)							53			≈80			73Ca07
5274.57(20)	10^+											42(14) fs	
5338(3)							272					≤8 fs	73Ca07
≈5430	6^-							353					94Fi01
5472.3(20)	1^+,2^+						628					7(3) fs	73Ca07
5500(80)													
5562(10)	1^+–3^+					2	110						73Ca07
≈5620													
6069(10)							155						73Ca07
6228(10)							93						73Ca07
6319(10)	0^+,1^+					⟨0⟩	177						73Ca07
6545(10)							187						73Ca07
≈6570	6^-							150					94Fi01
≈6850													
≈7350								118					94Fi01
≈7480													
≈7870													
8920(30)	9^+							301					94Fi01
			77Zi02		70Br48		73Ca07	94Fi01		71Sc18	93Cr04		Ref.

Additional data on this isotope can be found in [04Iz01, 02ReZW, 94Fi01, 88Na01, 82Na05, 81Na13].

* Isobar analog (IAS) of 0^+ ground state in ^{56}Fe [70Dz01].

The state at 1450 keV is anti-analog of 0^+ ground state in ^{56}Fe [75Ri05].

Presented here L from the (τ,t) [77Zi02], (p,τ) [70Br48] and (d,α) [71Sc18, 82Na05] reactions are given for comparison.

For two-nucleon transfer reaction (α,d) approximate values of the deuteron yield I_d at 17.5° in units counts per channel are from [94Fi01]; for two-nucleon pickup reaction the (d,α) cross sections from [71Sc18, 93Cr04] are given at right.

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

Energy levels and branching ratios [99Hu04]. Part 2 **$^{56}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E_f^*:	0.0	158	576	830	970	1009	1114	1451	1720.2	2060.0
[keV]		J_f^π:	4^+	3^+	5^+	4^+	2^+	5^+	3^+	0^+	1^+	2^+
158.38(3)	3^+		100									
576.50(7)	5^+		100									
829.61(5)	4^+		25(1)	74(1)	1.5(2)							
970.23(4)	2^+		0.30(5)	100								
1009.1(1)	5^+		88(9)		6.3(8)	5.3(6)						
1114.5(1)	3^+		84(1)	4.8(3)		11(1)						
1450.7(1)	0^+						100					
1720.2(1)	1^+			14.0(6)			50(1)			36.5(8)		
1930.4(2)	3^+			37(4)		11(3)	52(6)					
2060.0(2)	2^+			32(5)			15(3)		53(8)			
2224.9(2)	2^+			x			x		x			
2282.6(1)	7^+				100							
2290.1(3)			45(9)	31(8)			24(5)					
2306.1(2)	$\langle 2\rangle^+$		18(6)	51(10)			31(6)					
2357.4(3)	1^+			x			x					
2371.8(2)	6^+				72(6)			28(3)				
2469.6(6)					x							
2609.5(7)	3^+			x								
2635.6(2)	1^+									x		
2647.2(7)	$\langle 0^+,1^+\rangle$			x								
2665.1(7)	$\langle 3^+\rangle$			x								
2729.9(2)	1^+						33(5)			14(4)		25(6)
3075.9(2)	1^+						7(3)			75(3)		18(3)
3527(1)*	0^+										x	
3598.6(2)	$0^+,1^+$										51(3)	
4372(3)	1^+										x	
4429(3)	$\langle 2^+\rangle$									x		
5472.3(20)	$1^+,2^+$										x	

Energy levels and branching ratios [99Hu04]. Part 3 **$^{56}_{27}$Co**

E^*	J^π		Branching ratios in percentage								
		E_f^*:	2224.9	2282.6	2290.1	2306.1	2635.6	2729.9	3638.1	4180.2
[keV]		J_f^π:	2^+	7^+		$\langle 2\rangle^+$	1^+	1^+	8^+	9^+
2729.9(2)	1^+		14.0(30)			14.0(30)				
3598.6(2)	$0^+,1^+$						17(3)	32(4)		
3638.1(2)	8^+			100						
4180.2(2)	9^+			73(3)					27(1)	
5274.57(20)	10^+									100
5338(3)					x					

Energy levels and branching ratios [98Bh11].

$^{57}_{27}$Co

E^* [keV]	$2J^\pi$	L	$G_{\ell j}$ (d,n)	L	C^2S' (τ,d)	L	$G_{\ell j}$ (d,τ)	$n\ell j$ (d,τ)	C^2S (d,τ)	L	$G_{\ell j}$ (t,α)	L	$G_{\ell j}$ (p,α)	C^2S' (^{7}Li,^{6}He)	Ref.
0.0	7^-	3	1.9(6)	3	1.56	3	4.27	1f7/2	5.09	3	5.53	3	100.0	1.32	87Re10
1223.98(4)	9^-					5	0.06	1h9/2	0.10				2.3		85Ma23
1377.66(2)	3^-	1	1.1(3)	1	1.26	1	0.06	2p3/2	0.07	1	0.06		0.6	1.04	66Bl15
1504.83(2)	1^-	1	0.45(10)	1	0.58	1	0.01							0.37	87En04
1689.6(5)	11^-					⟨5⟩	0.04	1h11/2	0.02				7.9		79Sm03
1757.61(2)	3^-	1	0.20(6)	1	0.24	1	0.11	2p3/2	0.15	1	0.19		⟨0.6⟩	0.17	76Ad05
1897.40(3)	7^-					3	0.92	1f7/2	1.14	3	1.37		8.9		79Sm03
1919.50(3)	5^-														
2133(5)	3^+,5^+					2	0.04			⟨2⟩	⟨0.1⟩			1.37	85Ma23
2133.06(5)	5^-	3	1.2(4)	3	1.62			1f5/2	0.07					incl	76Ad05
2311.4(5)	7^-	3	0.35(10)	3	0.44	3	0.14	1f7/2	0.18	3	0.20		2.9	0.22	79Sm03
2479.0(10)															
2486.1(6)	9^-					5	0.06	1h9/2	0.08						85Ma23
2514.0(10)															
2524.1(6)	⟨13⟩$^-$														
2559.8(6)	⟨7$^-$–11$^-$⟩												4.6		79Sm03
2611.2(10)	7^-					3	0.06	1f7/2	0.07	3	0.07				85Ma23
2614.5(10)															
2723.0(10)								1f7/2	0.04	3	0.04				66Bl15
2730.98(4)	3^-,5					3	0.03		incl						85Ma23
2743.5(12)	⟨9–13⟩														
2804.29(2)	⟨3$^-$,5⟩														
2879.2(6)	3^-	1	0.14(4)	1	0.25	1	0.012							0.10	76Ad05
2980.9(7)	1^+			0	0.03	0	1.05	2s1/2	1.86	0	1.31	0	42.1		79Sm03
2982.05															
3108.16(4)	⟨3⟩$^-$	1	0.09(3)	1	0.03										76Ad05
3121.4(9)															
3164.9(11)															
3177.39(4)	5^-,7^-	3	0.8(3)	3	0.67			1f5/2	0.19					0.41	76Ad05
3184.2(10)	3^+,5^+					2	0.14						11.5		79Sm03
3246.3(10)															
3262.7(7)	⟨3$^-$–7$^-$⟩							1f7/2	0.09	3	0.14				66Bl15
3272.2(11)	5^-,7^-	3	≈0.8	3	1.0	3	0.07							0.66	76Ad05
3296															
3343(10)										[3]	0.11				66Bl15
3356.7(7)	3^-	1	0.3(1)					1p3/2	0.07						76Ad05
3365(5)	1^-,3^-			1	0.37	1	0.035							0.20	85Ma23
3393.7(10)													8.9		79Sm03
3431(2)															
3460.6(6)	⟨3$^-$–7$^-$⟩														
3468.6(7)	3^-	1	0.23(8)	1	0.30	1	0.013							0.11	76Ad05
3522.1(12)															
3540.4(10)															
3553.9(7)	3^+,5^+					2	1.50	1d3/2	2.46	2	2.32		36.2		85Ma23
3622.3(11)															

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	L	$G_{\ell j}$ (d,n)	L	C^2S' (τ,d)	L	$G_{\ell j}$ (d,τ)	$n\ell j$ (d,τ)	C^2S (d,τ)	L	$G_{\ell j}$ (t,α)	L (p,α)	$G_{\ell j}$ (p,α)	C^2S' (^{7}Li,^{6}He)	Ref.
3665(10)								1f7/2	0.10						87Re10
3671.6(7)															
3681.3(11)	5^-,7^-					3	0.10			3	0.13				85Ma23
3701.1(10)	$\langle 7^- \rangle$													0.14	
3719.7(10)															
3722	$\langle 1^+ \rangle$	$\langle 0 \rangle$	0.02(1)												76Ad05
3728(20)	7^+,9^+			4	0.17										98Bh11
3762.0(11)															
3769.6(13)															
3833.7(11)													1.2		79Sm03
3851(2)															
3854.2(6)	3^+,5^+			2	0.32										98Bh11
3901.1(10)															
3909.2(12)										[2]	$\langle 0.2 \rangle$		17.1		79Sm03
3918.1(10)*	5^-,7^-					3	0.1	1f7/2	0.09						85Ma23
3921(20)*	1^-,3^-	1	0.04(1)	1	0.04										76Ad05
3973(10)															
3990.9(7)	5													0.21	
3999.5(10)*		1	0.03	$\langle 1 \rangle$	0.05										76Ad05
		+3	0.17(6)												76Ad05
4036.0(12)	$\langle 15 \rangle$												3.7		79Sm03
4036.7(6)															
4046.1(13)															
4057.5(14)															
4064(20)	3^-			1	0.02										98Bh11
4111.2(11)															
4186.9(12)															
4195.2(10)	1^-,3^-			1	0.04										98Bh11
4216.8(12)															
4237.7(10)															
4250.8(12)*	5^-,7^-	3	0.5(2)	3	0.44			1f5/2	0.12					0.36	76Ad05
4271.6(13)															
4284.1(13)															
4297.1(10)				1	0.05								7.7	0.13	79Sm03
4308.0(13)															
4318(5)	$\langle 3^+$,$5^+ \rangle$					$\langle 2 \rangle$	0.2	1d5/2	0.23						85Ma23
4329.5(12)															
4356.8(12)															
4377.4(6)															
4391.3(13)*		1	0.03(1)												76Ad05
4398.7(14)*															
4416.2(12)															
4438.1(12)															
4447.9(13)															
4454(20)								1d5/2	0.10						87Re10

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	L	$G_{\ell j}$ (d,n)	L	C^2S' (τ,d)	L	$G_{\ell j}$ (d,τ)	$n\ell j$ (d,τ)	C^2S (d,τ)	L	$G_{\ell j}$ (t,α)	L (p,α)	$G_{\ell j}$ (p,α)	C^2S' (^{7}Li,^{6}He)	Ref.
4465.6(12)*		1	0.03												76Ad05
		+3	0.23(8)												76Ad05
4475.1(20)*															
4496.8(12)															
4511.4(15)															
4519.9(14)															
4530(5)	1^-,3^-			1	0.06	1	0.03								85Ma23
4550.1(12)															
4575.8(18)														1.7**	
4586.3(8)	$9^{\langle+\rangle}$												10.6		79Sm03
4597.3(8)*	9^+	4	2.0(7)	4	3.31										76Ad05
4608.4(23)*		[2]	0.3												76Ad05
4619.5(14)	$\langle 3^+,5^+\rangle$					$\langle 2\rangle$	0.06								85Ma23
4644.9(13)															
4659.2(13)															
4674.6(10)	5^+			$\langle 1\rangle$	0.3								7.6	0.2**	79Sm03
4699.7(6)*		2	1.1(3)												76Ad05
4719.5(13)															
4752.7(13)															
4761.9(14)													1.2		79Sm03
4772.1(15)	$\langle 3^+,5^+\rangle$					$\langle 2\rangle$	0.13								85Ma23
4780*	5^-,7^-	3	0.3(1)												76Ad05
4793.4(13)															
4800.5(8)															
4814.5(6)	$\langle 17\rangle$														
4845.3(6)															
4852.8(17)															
4871.6(14)															
4880.9(14)	$\langle 5^-,7^-\rangle$					$\langle 3\rangle$	0.05								85Ma23
4911.4(13)															
4921.9(14)															
4933.7(15)	1^+			0	0.03										98Bh11
4948.1(15)													12.3		79Sm03
4959.6(14)															
4971.0(15)															
4981															
5057(5)	$\langle 1^-,3^-\rangle$					$\langle 1\rangle$	0.01								85Ma23
5103(5)	3^+,5^+					2	0.10						26.4		79Sm03
5138															
5157(5)	$\langle 1^-,3^-\rangle$					$\langle 1\rangle$	0.02								85Ma23
5167															
5222(5)	3^+,5^+					2	0.04								85Ma23
5223(15)	1^+			0	0.04										98Bh11
5296															
5384(5)	1^-,3^-			1	0.09	$\langle 1\rangle$	0.06								85Ma23

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	L	$G_{\ell j}$ (d,n)	L	C^2S' (τ,d)	L	$G_{\ell j}$ (d,τ)	$n\ell j$ (d,τ)	C^2S (d,τ)	L	$G_{\ell j}$ (t,α)	L (p,α)	$G_{\ell j}$ (p,α)	C^2S' (^{7}Li,^{6}He)	Ref.
5425(20)	1^-,3^-			1	0.04										98Bh11
5434.6(6)															
5459(5)	$\langle 5^-,7^-\rangle$					$\langle 3\rangle$	0.06								85Ma23
5524(5)	1^-,3^-					1	0.02								85Ma23
5559(20)	1^-,3^-			1	0.1										98Bh11
5571.5(10)															
5638(5)	1^-,3^-			1	0.45	$\langle 1\rangle$	0.03								85Ma23
5653(20)															
5707.3(7)															
5715(5)	$\langle 1^-,3^-\rangle$					$\langle 1\rangle$	0.01								85Ma23
5743(20)	1^-,3^-			1	0.05										98Bh11
5756.6(7)															
5799(20)															
5845.9(7)															
5877(5)	3^+,5^+					2	0.3			2	0.23				85Ma23
5919.0(8)	$\langle 19\rangle$														
5987(5)	3^+,5^+					2	0.3								85Ma23
6013(20)	3^+,5^+									2	0.29				66Bl15
6093(20)															
6148(5)	1^-,3^-			1	0.06	$\langle 1\rangle$	0.01								85Ma23
6184(20)															
6228(5)															
6268(20)	1^-,3^-			1	$\langle 0.08\rangle$										98Bh11
6306(5)	1^-,3^-					1	0.013								85Ma23
6344(20)					$\langle 0.15\rangle$										98Bh11
6391	1^-,3^-			1	$\langle 0.06\rangle$										98Bh11
6398(5)	3^+,5^+					2	0.2								85Ma23
6442.1(7)															
6492(20)															
6504	$\langle 5^-,7^-\rangle$			$\langle 3\rangle$											98Bh11
6518.8(7)															
6540															
6594(20)															
6671(5)	$\langle 3^+,5^+\rangle$					$\langle 2\rangle$	0.08								85Ma23
6739(20)															
6768(20)															
6817(5)	$\langle 3^+,5^+\rangle$					$\langle 2\rangle$	0.04								85Ma23
6859.3(7)															
6901(5)	$\langle 1^-,3^-\rangle$			$\langle 1\rangle$	$\langle 0.1\rangle$	$\langle 1\rangle$	0.02								85Ma23
6976.5(10)															
7020(20)	$\langle 1^-,3^-\rangle$			$\langle 1\rangle$	$\langle 0.07\rangle$										98Bh11
7066															
7115(20)	$\langle 1^-,3^-\rangle$			$\langle 1\rangle$											98Bh11
7162(20)	1^-,3^-			1	$\langle 0.08\rangle$										98Bh11
7187	1^-,3^-			1	$\langle 0.09\rangle$										98Bh11

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	L	$G_{\ell j}$ (d,n)	L	C^2S' (τ,d)	L	$G_{\ell j}$ (d,τ)	$n\ell j$ (d,τ)	C^2S (d,τ)	L	$G_{\ell j}$ (t,α)	L (p,α)	$G_{\ell j}$ (p,α)	C^2S' (^{7}Li,^{6}He)	Ref.
7230(20)													10.7		79Sm03
7254(2)	3^-														
7267(2)	3^-			1	$\langle 0.22\rangle$										98Bh11
7272(2)	3^-														
7288(7)	$\langle 3^-\rangle$														
7296(20)															
7324(20)															
7367(20)															
7400															
7411(3)	$5^{\langle -\rangle}$														
7419(3)	$5^{\langle -\rangle}$														
7423(3)	$5^{\langle -\rangle}$			3	$\langle 0.67\rangle$										98Bh11
7480(20)															
7512.2(7)															
7527.5(10)															
7598(2)	3^-														
7622(2)	3^-														
7642(2)	3^-														
7648(2)	3^-														
7663	$\langle 3\rangle^-$			1	$\langle 0.08\rangle$										98Bh11
7708															
7782.4(7)															
7809	3^+,5^+			2	$\langle 0.05\rangle$										98Bh11
7839	3^+,5^+			2	$\langle 0.08\rangle$										98Bh11
7982															
7992.7(9)															
8056	3														
8087.1(8)															
8409.6(7)															
8632.9(7)															
8874.3(11)															
9280.0(7)															
9317.5(8)															
9600															
9682(1)	9^+														
9689(1)	9^+														
9735(1)	5^+														
9755(1)	5^+														
10077.1(9)															
10294.4(9)															
11070.1(10)															
11291.5(11)															

(continued) **$^{57}_{27}$Co**

E^*	$2J^\pi$	L	$G_{\ell j}$	L	C^2S'	L	$G_{\ell j}$	$n\ell j$	C^2S	L	$G_{\ell j}$	L	$G_{\ell j}$	C^2S'	Ref.
[keV]			(d,n)		(τ,d)		(d,τ)	(d,τ)	(d,τ)		(t,α)	(p,α)	(p,α)	(^{7}Li,^{6}He)	
			76Ad05 98Bh11		98Bh11		85Ma23	 87Re10	87Re10		66Bl15		79Sm03	 87En04	

Additional data on this isotope can be found in [03Ca05, 02ReZW, 02Re09, 01Re05, 96Re15, 91El01, 90Sc23, 87En04, 78Jo08, 75Ba63, 67Ar05].

* unresolved doublet

** See comments in [87En04].

Data for C^2S' from the (τ,d) reaction [67Ro04, 72Ha27, 75Ba63] were compared, renormalized and evaluated in [98Bh11]; it was noticed there that values C^2S' in [67Ro04] and [72Ha27] differ by more than a factor of two.

Parameter $G_{\ell j}$=C^2S=$S_{\rm N}$ for the (t,α) reaction [66Bl15,98Bh11] is determined from the relation $d\sigma/d\Omega$=(1/2)N$S_{\rm N}\sigma_{theor}$ with the constant N=38; parameters $G_{\ell j}$ for the (d,τ) reaction correspond to one-proton pickup [85Ma23, 87Re10]; the data from the second, the most recent work [87Re10] given in the second column are presented together with the $n\ell j$ values assumed in DWBA calculation; additionally for 30 groups of levels with E^* up to 10 MeV values $n\ell j$ and C^2S are given in [87Re10].

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

Energy levels and branching ratios [98Bh11]. Part 2 **$^{57}_{27}$Co**

E^*	$2J^\pi$	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage							
					$E^*_{\rm f}$:	0.0	1224	1378	1505	1690	1758	1897	1919
[keV]		(^{7}Li,^{6}He)	$\Gamma_{\rm cm}$		$2J^\pi_{\rm f}$:	7^-	9^-	3^-	1^-	11^-	3^-	7^-	5^-
0.0	7^-	0.16	271.7(1) d	87Re10									
1223.98(4)	9^-		54(5) fs	85Ma23		100							
1377.66(2)	3^-	0.26	19(4) ps	66Bl15		100							
1504.83(2)	1^-	0.18	0.21(2) ns	87En04				100					
1689.6(5)	11^-		0.24(2) ps	79Sm03		46(2)	54(2)						
1757.61(2)	3^-	0.04	0.27(2) ps	76Ad05		99(2)		1	0.5				
1897.40(3)	7^-		110(10) fs	79Sm03		47(4)	53(1)						
1919.50(3)	5^-		22(3) fs			100	0.01(1)	0.03			0.20(1)		
2133(5)	3^+,5^+			85Ma23									
2133.06(5)	5^-	0.23	0.34(6) ps	76Ad05		83(2)		14(2)	3(1)				
2311.4(5)	7^-	0.03	0.21(4) ps	79Sm03		20(3)	70(2)	10(2)					
2479.0(10)													
2486.1(6)	9^-		59(8) fs	85Ma23		65(6)	12(4)			12(4)		11(3)	
2514.0(10)													
2524.1(6)	$\langle 13\rangle^-$		0.26(5) ps							100			
2559.8(6)	$\langle 7^-$–$11^-\rangle$		0.45(8) ps	79Sm03		42(7)	42(7)			16(5)			
2611.2(10)	7^-		85(9) fs	85Ma23		100							x
2614.5(10)													
2723.0(10)				66Bl15			100						
2730.98(4)	3^-,5		91(12) fs	85Ma23		100							

(continued)

$^{57}_{27}$Co

E^* [keV]	$2J^\pi$	C^2S (^{7}Li,^{6}He)	$T_{1/2}$ or Γ_{cm}	Ref.	E_f^*: $2J_f^\pi$:	Branching ratios in percentage 0.0 7^-	1224 9^-	1378 3^-	1505 1^-	1690 11^-	1758 3^-	1897 7^-	1919 5^-
2743.5(12)	⟨9–13⟩		47(21) fs							100			
2804.29(2)	⟨3$^-$,5⟩		37(7) fs			33(1)					46(1)	21(1)	
2879.2(6)	3$^-$	0.03	111(21) fs	76Ad05		40(7)					20(6)		40(7)
2980.9(7)	1$^+$			79Sm03				x			x		
2982.05													
3108.16(4)	⟨3⟩$^-$		54(12) fs	76Ad05		x		87(1)	7(1)		3(2)		
3121.4(9)							x						
3164.9(11)						x						x	
3177.39(4)	5$^-$,7$^-$	0.05	152(35) fs	76Ad05		53(3)						47(4)	
3184.2(10)	3$^+$,5$^+$			79Sm03		x		x					
3246.3(10)							x						
3262.7(7)	⟨3$^-$–7$^-$⟩			66Bl15		48(5)					52(5)		
3272.2(11)	5$^-$,7$^-$	0.11		76Ad05									
3296													
3343(10)				66Bl15									
3356.7(7)	3$^-$			76Ad05		x		x					
3365(5)	1$^-$,3$^-$	0.10		85Ma23									
3393.7(10)				79Sm03									
3431(2)													
3460.6(6)	⟨3$^-$–7$^-$⟩					x		x					x
3468.6(7)	3$^-$	0.03		76Ad05				x					x
3522.1(12)													
3540.4(10)													
3553.9(7)	3$^+$,5$^+$			85Ma23				54			46		
3622.3(11)													
3665(10)				87Re10									
3671.6(7)						x						x	
3681.3(11)	5$^-$,7$^-$			85Ma23									
3701.1(10)	⟨7$^-$⟩	0.02				100							
3719.7(10)						100							
3722	⟨1$^+$⟩			76Ad05									
3728(20)	7$^+$,9$^+$			98Bh11									
3762.0(11)													
3769.6(13)													
3833.7(11)				79Sm03									
3851(2)													
3854.2(6)	3$^+$,5$^+$			98Bh11		x		≈50	≈50				
3901.1(10)						100							
3909.2(12)				79Sm03									
3918.1(10)*	5$^-$,7$^-$			85Ma23					x				
3921(20)*	1$^-$,3$^-$			76Ad05									
3973(10)													
3990.9(7)	5	0.03				90					10		
3999.5(10)*				76Ad05					x		x		
				76Ad05									

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	C^2S (^{7}Li,^{6}He)	$T_{1/2}$ or Γ_{cm}	Ref.	E_f^*: $2J_f^\pi$:	0.0 7^-	1224 9^-	1378 3^-	1505 1^-	1690 11^-	1758 3^-	1897 7^-	1919 5^-
						Branching ratios in percentage							
4036.0(12)	⟨15⟩		0.05(2) ps	79Sm03									
4036.7(6)						x							
4046.1(13)													
4057.5(14)													
4064(20)	3^-			98Bh11									
4111.2(11)													
4186.9(12)													
4195.2(10)	1^-,3^-			98Bh11		100							
4216.8(12)													
4237.7(10)						x							
4250.8(12)*	5^-,7^-	0.05		76Ad05									
4271.6(13)													
4284.1(13)													
4297.1(10)		0.03		79Sm03		x							
4308.0(13)													
4318(5)	⟨3^+,5^+⟩			85Ma23									
4329.5(12)													
4356.8(12)													
4377.4(6)										x			
4391.3(13)*				76Ad05									
4398.7(14)*													
4416.2(12)													
4438.1(12)													
4447.9(13)													
4454(20)				87Re10									
4465.6(12)*				76Ad05									
				76Ad05									
4475.1(20)*													
4496.8(12)													
4511.4(15)													
4519.9(14)													
4530(5)	1^-,3^-			85Ma23									
4550.1(12)													
4575.8(18)		0.21											
4586.3(8)	$9^{\langle+\rangle}$			79Sm03		35							
4597.3(8)*	9^+			76Ad05		50(25)							
4608.4(23)*				76Ad05									
4619.5(14)	⟨3^+,5^+⟩			85Ma23									
4644.9(13)													
4659.2(13)													
4674.6(10)	5^+	0.08		79Sm03				x					
4699.7(6)*				76Ad05						x			
4719.5(13)													
4752.7(13)													
4761.9(14)				79Sm03									

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	C^2S (^{7}Li,^{6}He)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	1224	1378	1505	1690	1758	1897	1919
					$2J_f^\pi$:	7^-	9^-	3^-	1^-	11^-	3^-	7^-	5^-
4772.1(15)	$\langle 3^+,5^+\rangle$			85Ma23									
4780*	$5^-,7^-$			76Ad05									
4793.4(13)													
4800.5(8)													
4814.5(6)	$\langle 17\rangle$		9.9(2) ps										
4845.3(6)										x			
4852.8(17)													
4871.6(14)													
4880.9(14)	$\langle 5^-,7^-\rangle$			85Ma23									
4911.4(13)													
4921.9(14)													
4933.7(15)	1^+			98Bh11									
4948.1(15)				79Sm03									
4959.6(14)													
4971.0(15)													
4981													
5057(5)	$\langle 1^-,3^-\rangle$			85Ma23									
5103(5)	$3^+,5^+$			79Sm03									
5138													
5157(5)	$\langle 1^-,3^-\rangle$			85Ma23									
5167													
5222(5)	$3^+,5^+$			85Ma23									
5223(15)	1^+			98Bh11									
5296													
5384(5)	$1^-,3^-$			85Ma23									
5425(20)	$1^-,3^-$			98Bh11									
5434.6(6)													
5459(5)	$\langle 5^-,7^-\rangle$			85Ma23									
5524(5)	$1^-,3^-$			85Ma23									
5559(20)	$1^-,3^-$			98Bh11									
5571.5(10)													
5638(5)	$1^-,3^-$			85Ma23									
5653(20)													
5707.3(7)													
5715(5)	$\langle 1^-,3^-\rangle$			85Ma23									
5743(20)	$1^-,3^-$			98Bh11									
5756.6(7)													
5799(20)													
5845.9(7)													
5877(5)	$3^+,5^+$			85Ma23									
5919.0(8)	$\langle 19\rangle$		0.13(4) ps										
5987(5)	$3^+,5^+$			85Ma23									
6013(20)	$3^+,5^+$			66Bl15									
6093(20)													
6148(5)	$1^-,3^-$			85Ma23									

(continued) **$^{57}_{27}$Co**

E^* [keV]	$2J^\pi$	C^2S (^{7}Li,^{6}He)	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage							
					E_f^*:	0.0	1224	1378	1505	1690	1758	1897	1919
					$2J_f^\pi$:	7^-	9^-	3^-	1^-	11^-	3^-	7^-	5^-
6184(20)													
6228(5)													
6268(20)	1^-,3^-			98Bh11									
6306(5)	1^-,3^-			85Ma23									
6344(20)				98Bh11									
6391	1^-,3^-			98Bh11									
6398(5)	3^+,5^+			85Ma23									
6442.1(7)													
6492(20)													
6504	$\langle 5^-,7^-\rangle$			98Bh11									
6518.8(7)													
6540													
6594(20)													
6671(5)	$\langle 3^+,5^+\rangle$			85Ma23									
6739(20)													
6768(20)													
6817(5)	$\langle 3^+,5^+\rangle$			85Ma23									
6859.3(7)													
6901(5)	$\langle 1^-,3^-\rangle$			85Ma23									
6976.5(10)													
7020(20)	$\langle 1^-,3^-\rangle$			98Bh11									
7066													
7115(20)	$\langle 1^-,3^-\rangle$			98Bh11									
7162(20)	1^-,3^-			98Bh11									
7187	1^-,3^-			98Bh11									
7230(20)				79Sm03									
7254(2)	3^-												
7267(2)	3^-			98Bh11									
7272(2)	3^-												
7288(7)	$\langle 3^-\rangle$												
7296(20)													
7324(20)													
7367(20)													
7400													
7411(3)	$5^{\langle -\rangle}$												
7419(3)	$5^{\langle -\rangle}$												
7423(3)	$5^{\langle -\rangle}$			98Bh11									
7480(20)													
7512.2(7)													
7527.5(10)													
7598(2)	3^-												
7622(2)	3^-												
7642(2)	3^-												
7648(2)	3^-												
7663	$\langle 3\rangle^-$			98Bh11									

(continued) **$^{57}_{27}$Co**

E^*	$2J^\pi$	C^2S	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
					E_f^*:	0.0	1224	1378	1505	1690	1758	1897	1919
[keV]		(^{7}Li,^{6}He)	Γ_{cm}		$2J_f^\pi$:	7^-	9^-	3^-	1^-	11^-	3^-	7^-	5^-
7708													
7782.4(7)													
7809	3^+,5^+			98Bh11									
7839	3^+,5^+			98Bh11									
7982													
7992.7(9)													
8056	3												
8087.1(8)													
8409.6(7)													
8632.9(7)													
8874.3(11)													
9280.0(7)													
9317.5(8)													
9600													
9682(1)	9^+												
9689(1)	9^+												
9735(1)	5^+												
9755(1)	5^+												
10077.1(9)													
10294.4(9)													
11070.1(10)													
11291.5(11)													
		87En04											

Energy levels and branching ratios [98Bh11]. Part 3 **$^{57}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage										
	E_f^*:	2133.06	2311.4	2486.1	2524.1	2559.8	2804.29	2980.9	4036.7	4377.4	4699.7	
[keV]	$2J_f^\pi$:	5^-	7^-	9^-	$\langle 13\rangle^-$		$\langle 3^-,5\rangle$	1^+				
2980.9(7)	1^+	x										
3108.16(4)	$\langle 3\rangle^-$						3(1)					
3121.4(9)			x									
3522.1(12)				x								
3540.4(10)								x				
4036.0(12)	$\langle 15\rangle$				100							
4586.3(8)	$9^{\langle +\rangle}$		65									
4597.3(8)*	9^+		50(20)									
4699.7(6)*					x							
4800.5(8)						x						
4814.5(6)	$\langle 17\rangle$				x				x		x	
4845.3(6)					x					x		

(continued) $^{57}_{27}$Co

E^* [keV]	$2J^\pi$	E_f^*: $2J_f^\pi$:	2133.06 5^-	2311.4 7^-	2486.1 9^-	2524.1 $\langle 13\rangle^-$	2559.8	2804.29 $\langle 3^-,5\rangle$	2980.9 1^+	4036.7	4377.4	4699.7
Branching ratios in percentage												
5434.6(6)						x					x	
5707.3(7)						x						x
5756.6(7)												x
5845.9(7)						x				x		
6442.1(7)										x		

Energy levels and branching ratios [98Bh11]. Part 4 $^{57}_{27}$Co

E^* [keV]	$2J^\pi$	E_f^*: $2J_f^\pi$:	4800.5	4814.5 $\langle 17\rangle$	4845.3	5434.6	5707.3	5756.6	5845.9	5919.0 $\langle 19\rangle$	6442.1	6518.8
Branching ratios in percentage												
5434.6(6)					x							
5571.5(10)			x									
5756.6(7)						x						
5919.0(8)	$\langle 19\rangle$			100								
6442.1(7)									x			
6518.8(7)								x				
6859.3(7)							x					
6976.5(10)										x		
7512.2(7)											x	
7527.5(10)										x		
7782.4(7)				x							x	
7992.7(9)												x
8087.1(8)								x				
8632.9(7)								x				x
9280.0(7)												x
9317.5(8)												x

Energy levels and branching ratios [98Bh11]. Part 5 $^{57}_{27}$Co

E^* [keV]	$2J^\pi$	E_f^*: $2J_f^\pi$:	6859.3	6976.5	7512.2	7782.4	8087.1	8409.6	8632.9	9280.0	9317.5	10077.1	10294.4
Branching ratios in percentage													
8409.6(7)			x		x	x							
8632.9(7)							x						
8874.3(11)				x									
9280.0(7)								x	x				
9317.5(8)									x				
10077.1(9)										x			

(continued) **$^{57}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage										
	E^*_f:	6859.3	6976.5	7512.2	7782.4	8087.1	8409.6	8632.9	9280.0	9317.5	10077.1	10294.4
[keV]	$2J^\pi_f$:											
10294.4(9)										x		
11070.1(10)											x	
11291.5(11)												x

Energy levels and branching ratios [97Bh02]. **$^{58}_{27}$Co**

E^*	J^π	L	σ (τ,p)	L	C^2S	σ (τ,d)	L	C^2S	L	σ (d,α)	σ (t,τ)	$T_{1/2}$ or	Ref.
[keV]		(τ,p)	μb/sr	(τ,d)	(τ,d)	μb/sr		(d,t)	(d,α)	μb/sr	*rel.*	Γ_{cm}	
0.0	2^+	2	19	1	0.02	105	1+3	0.2+0.1	2	25		70.86(6) d	73Ca07
24.95(6)	5^+		small				1+3	0.4+0.4	4	262		9.04(11) h	73Ha27
53.15(7)	4^+			3	0.86	339	1+3	0.2+0.4	⟨4⟩	5.5		10.4 μs	72Sc13
111.76(7)	3^+			3	0.52	210	1+3	0.1+0.2				0.18(3) ns	72Sc13
365.66(7)	3^+			3	0.17	73	1+3	0.4+0.2				1.2(+7-4) ps	72Sc13
373.9(1)	5^+	2	26				1+3	0.2+0.1	4	343		0.6(+5-2) ps	73Ca07
457.50(8)	4^+				≈0	<5	1+3	0.7+0.1	4	15		0.9(3) ps	72Sc13
885.6(1)	3^+,4^+			3	0.07	33	1+3	0.05	⟨4⟩	5.9		0.14(+6-4) ps	72Sc13
1040.1(1)	3^+								2	136		0.14(+6-4) ps	72Sc13
1044.3(1)	3^+,4^+			1	0.41	2620	1+3	0.1				>1.2 ps	72Sc13
1050.2(1)	1^+	0+2	261								1.08(22)	0.14(+6-4) ps	73Ca07
1075.5(3)	6^+						3	0.09	6	8.6			71Ro08
1133(15)													
1184.6(1)	5^+								4	53		0.14(+6-4) ps	72Sc13
1236.6(1)	2^+		15	1	0.56	3720			⟨2⟩	13			73Ca07
1351.5(2)				1	0.07	493				<5			72Sc13
1353.5(1)	$\langle 2\rangle^+$											0.6(+14-4) ps	
1369(4)				1	0.26	1640							72Sc13
1376.9(1)		0+2	31	1	0.05	283					0.16(2)	0.16(+9-6) ps	73Ca07
1418.1(2)	$\langle 5\rangle^+$								4	12			
1424(8)	3^+	0+2	29										73Ca07
1424.6(2)	⟨6⟩												
1434.9(3)	1^+			1	0.34	2200			⟨0⟩	5.9	0.23(2)	0.6(+21-3) ps	72Sc13
1513.3(1)	3^+–5^+			1	0.007	45			2	11			72Sc13
1522.6(2)													
1524.4(4)													
1548.8(2)	5^+								4	31			72Sc13
1554.7(1)	$\langle 1^+$–$3^+\rangle$												
1605.6(2)	3^+	2	33	3	0.14	49			⟨4⟩	11			73Ca07
1669.9(10)	3^+	4	21	1+3	0.07	493			⟨2,4⟩	12			73Ca07
1729.2(2)	1^+	0+2	175	1	0.04	272			0	32	1.06(19)		73Ca07
1740.5(4)				1	0.035	236			⟨4⟩	11			72Sc13
1749.4(2)	$\langle 3,4\rangle^+$												

(continued) **$^{58}_{27}$Co**

E^* [keV]	J^π	L (τ,p)	σ (τ,p) μb/sr	L (τ,d)	C^2S (τ,d)	σ (τ,d) μb/sr	L (d,t)	C^2S (d,t)	L (d,α)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
1757.2(3)	$\langle 1^+$–$3^+\rangle$												
1778(5)	3^+–5^+								4	19			72Sc13
1813.3(6)	0^+	0	195	1	0.006	42							73Ca07
1828(4)									$\langle 2,4\rangle$	34			72Sc13
1843(4)	3^+								2	68			72Sc13
1865.8(3)	2^+–4^+			1	0.15	1059							72Sc13
1867.7(5)	1^+	0+2	364						0	85	1.93(23)		73Ca07
1929.0(2)	1^+–3^+								$\langle 2\rangle$	12			72Sc13
1978.8(10)	3^+	2	79	3+1	0.49	183			2	25			73Ca07
2007(6)	2^+–4^+			3	0.041	15				6.2			72Sc13
2070(6)	4^+			3	0.073	27			4	37			72Sc13
2105(3)													
2166(6)	3^+			3	0.10	33			2	18			72Sc13
2225(7)	5^+–7^+								$\langle 6\rangle$	11			72Sc13
2248.8(10)	1^+	0+2	115	1	0.037	272			0	11	0.25(5)		85Aj03
2335.3(10)	1^+–3^+	2	10										73Ca07
2420(5)													
2444(7)	1^+,2^+			$\langle 1\rangle$	0.012	89			$\langle 2\rangle$	5.8			72Sc13
2456(7)										6.4			72Sc13
2477(7)	2^+			1	0.015	110							72Sc13
2510(8)													
2534.4(10)	1^+	0+2	46	1	0.12	996			2	20			73Ca07
2605(8)	3^+–5^+								$\langle 4\rangle$	4.9			72Sc13
2625(4)	0^+–2^+			1	0.20	1550							72Sc13
2631(8)	3^+	0+2	41						4	8.3			73Ca07
2640.7(10)	1^+		incl										73Ca07
2646(7)	$\langle 2\rangle^+$			3+1	0.42	183							72Sc13
2692(8)	7^+								6	157			72Sc13
2695(8)	0^+–2^+			1	0.09	671							72Sc13
2733(8)	$\langle 2^+\rangle$			1+3	0.62	362			$\langle 2,3\rangle$	20			72Sc13
2741(15)	5^+		17										73Ca07
2761(8)									$\langle 6\rangle$	3.7			72Sc13
2781(8)	$\langle 1\rangle^+$			1	0.05	393			$\langle 0+2\rangle$	15			72Sc13
2792(8)	$\langle 1^+\rangle$								$\langle 0+2\rangle$	8.3			72Sc13
2819(8)	3^+–5^+								4	6.6			72Sc13
2837(9)													
2844(9)	3^-–5^-			4	0.12	25							
2849(9)	3^+–5^+		12						4	14			73Ca07
2865(9)													
2884(9)	0^+–2^+			1	0.004	32			$\langle 2\rangle$	10			72Sc13
2907(9)													
2931(9)	7^+								6	9.7			72Sc13
2946(9)	2^+,3^+			3	0.19	89			2	8.4			72Sc13
2987(9)	1^+–3^+								2	139			72Sc13
2995(9)	$\langle 0^-$,$1^-\rangle$			$\langle 0\rangle$	0.002	63							72Sc13

(continued) **$^{58}_{27}$Co**

E^* [keV]	J^π	L (τ,p)	σ (τ,p) μb/sr	L (τ,d)	C^2S (τ,d)	σ (τ,d) μb/sr	L (d,t)	C^2S (d,t)	L (d,α)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
3010(4)	2^+			3	0.096	incl				7.0			72Sc13
3044(9)													
3062(9)	2^+–4^+			3	0.17	78				4.4			72Sc13
3072(9)	5^+								⟨6⟩	5.3			72Sc13
3096(9)				1	0.03	141			⟨1,2⟩	14			72Sc13
3118(9)	0^+,1^+								0	13			72Sc13
3123(9)	2^+	2	55	3	0.05	61							73Ca07
3146(9)	⟨1^+–3^+⟩								⟨2⟩	18			72Sc13
3169(10)										20			72Sc13
3184(10)	1^+								0	20			72Sc13
3186(10)	2^+–4^+			3	0.075	36							72Sc13
3199(9)	0^-,1^-			0	0.004	78			⟨1⟩	15			72Sc13
3214(10)	3^+								⟨3⟩	13			72Sc13
3226(10)	⟨2⟩$^+$			1+3	0.04	298							72Sc13
3232(10)	⟨0^-–2^-⟩								⟨1⟩	22			72Sc13
3243(9)				⟨1⟩	0.013	49							72Sc13
3261(9)	⟨2⟩$^+$			1+3	0.01	83			⟨2⟩	14			72Sc13
3284(4)	1^+	0+2	166										73Ca07
3337(10)	1^+,2^+			1+3	0.12	1050			2	9.8			72Sc13
3376(10)	2^+			1+3	0.20	209							72Sc13
3394(10)									⟨0,1⟩	31			72Sc13
3403(15)	4^+,5^+												
3410(10)	⟨0^-–2^-⟩								⟨1⟩	28			72Sc13
3414(10)	⟨2⟩$^+$	2+4	58	1+3	0.05	403							73Ca07
3427(5)	3^+								⟨2,3⟩	27			72Sc13
3442(10)	0^+–2^+			1	0.03	267							72Sc13
3455(10)	2^+–4^+			3	0.35	181			⟨0⟩	34			72Sc13
3470(10)													
3484(20)	3^+–5^+								4	15			72Sc13
3507(10)	⟨2^-–4^-⟩								⟨3⟩	20			72Sc13
3512(5)	0^+–2^+												
3518(20)	⟨3^+–5^+⟩			1	0.03	278			⟨0⟩	12			72Sc13
3526(10)	⟨2^+⟩			1+3	0.08	83							72Sc13
3548(10)	1^+,2^+	2	34	1	0.01	8				5.8			73Ha27
3559(10)	⟨0^-,1^-⟩			⟨0⟩	0.00	5							72Sc13
3574(11)													
3604(11)	⟨3^+–5^+⟩								⟨4⟩	5.8			72Sc13
3607(11)	⟨2^+⟩			1+3	0.036	50							72Sc13
3616(7)	1^+	0+2	46			31							73Ca07
3639(4)		0+2		1	0.048	403			⟨3⟩	8.3			73Ca07
3659(11)										5.3			72Sc13
3669(7)	1^+	0+2	298	1	0.16	1310							73Ca07
3685(11)	0^+–2^+			1	0.19	157							72Sc13
3689(11)	⟨2^-–4^-⟩								⟨3⟩	11			72Sc13
3720(20)	⟨3^+⟩												

(continued) **$^{58}_{27}$Co**

E^* [keV]	J^π	L (τ,p)	σ (τ,p) μb/sr	L (τ,d)	C^2S (τ,d)	σ (τ,d) μb/sr	L (d,t)	C^2S (d,t)	L (d,α)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
3725(11)	$\langle 2\rangle^+$			3+1	0.07	36							72Sc13
3736(11)	$\langle 0^-\text{–}2^-\rangle$								$\langle 1\rangle$	8.6			72Sc13
3750(30)	$\langle 8\rangle^-$												
3759(11)									$\langle 1,4\rangle$	20			72Sc13
3775(11)	$0^+\text{–}2^+$			1	0.07	576							72Sc13
3779(11)	$\langle 0^-\text{–}2^-\rangle$								$\langle 1\rangle$	9.2			72Sc13
3790(11)	$\langle 1^-,0^-\rangle$			$\langle 0\rangle$	0.01	210							72Sc13
3804(20)	7^+								6	15			72Sc13
3806(11)	$1^-\text{–}3^-$			2	0.13	472							72Sc13
3833(11)													
3853(11)	$0^+\text{–}2^+$			1	0.05	419							72Sc13
3869(11)	$0^+\text{–}2^+$			1	0.01	73							72Sc13
3890(20)	$\langle 2^+\rangle$												
3898(11)	$1^-,0^-$			0	0.005	99							72Sc13
3916(11)	$1^-\text{–}3^-$			2	0.06	210							72Sc13
3925(20)	$\langle 2^+,1^+\rangle$												73Ha27
3943(11)	$0^+\text{–}2^+$			1	0.01	78							72Sc13
3957(11)	$\langle 2\rangle^+$		18	1+3	0.04	330							73Ca07
4006(12)	$0^+\text{–}2^+$		27	1	0.065	550							73Ca07
4021(20)	$\langle 3^+\rangle$												
4049(10)	2^+		20										73Ca07
4082(12)	$\langle 2\rangle^+$			1+3	0.045	419							72Sc13
4087(20)	$\langle 4^+\rangle$												
4097(12)				$\langle 1\rangle$	0.03	241							72Sc13
4097(12)				$\langle 4\rangle$	0.62	incl							72Sc13
4107(10)	$\langle 1^+\rangle$	$\langle 0+2\rangle$	46										73Ca07
4110(12)	$\langle 3^+\rangle$			4+2	0.71	309							72Sc13
4127													
4175(10)			28										73Ca07
4206(20)													
4253(10)			35										73Ca07
4287(20)													
4325(10)	$3^+\text{–}5^+$	4	21										73Ca07
4400(13)													
4448(10)		2	49										73Ca07
4555(10)		$\langle 2\rangle$	39										73Ca07
4650	$\langle 5\rangle^+$									146**			94Fi01
4708(10)			30										73Ca07
4790(30)	7^+								6				73Sc13
4849(10)			117										73Ca07
5040(30)	5^+								4				
5057(10)			56										73Ca07
5183(10)			49										73Ca07
5306(10)			30										73Ca07
5392(10)	1^+	0+2	103										73Ca07

(continued) **$^{58}_{27}$Co**

E^* [keV]	J^π	L (τ,p)	σ (τ,p) μb/sr	L (τ,d)	C^2S (τ,d)	σ (τ,d) μb/sr	L	C^2S (d,t)	L (d,α)	σ (d,α) μb/sr	σ (t,τ) *rel.*	$T_{1/2}$ or Γ_{cm}	Ref.
5454(10)			62										73Ca07
5493(20)		2	47										73Ca07
5531(10)		$\langle 0\rangle$	80										73Ca07
5651(10)	0^+,1^+	0	162										73Ca07
5738(8)*	0^+	0	965										73Ca07
5756(8)	0^+												
5852(20)			90										72Ly01
5888(20)			80										72Ly01
5948(20)			110										72Ly01
6140(19)	$\langle 1^-,0^-\rangle$			$\langle 0\rangle$	0.035	1040							72Sc13
6400(30)	$\langle 1\rangle^+$									113**			94Fi01
6790(30)	$\langle 9\rangle^+$									254**			94Fi01
8552(3)													
8623(3)													
			73Ca07		72Sc13	72Sc13					85Aj03		Ref.
			72Ly01					71Ro08		94Fi01			Ref.

Additional data on this isotope can be found in [94Fi01, 88Na01, 81Na13, 78Ik02, 72Ha61, 65Ba29].
* Possible doublet; $d\sigma/d\Omega$=90(18) and 98(20) μb/sr for these two 0^+ states at 5739 and 5759 keV were found in the (τ,t) reaction [71Be29, 70Dz01].
** Approximate values of the deuteron yield I_d at 17.5° in units counts per channel [94Fi01] from two-nucleon transfer reaction (α,d) instead of the cross section of two-nucleon pickup reaction (d,α) [72Sc13].
Relative strength of excitation in the (p,n) reaction can be found in [78Wo14, 75Br05, 72Ha61].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [97Bh02]. Part 2 **$^{58}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E_f^*:	0.0	24.95	53.15	111.76	365.66	373.93	457.50	885.63	1040.12	1044.26
[keV]		J_f^π:	2^+	5^+	4^+	3^+	3^+	5^+	4^+	3^+,4^+	3^+	$\langle 3^+,4^+\rangle$
24.95(6)	5^+		100									
53.15(7)	4^+		70	30(3)								
111.76(7)	3^+		61		39(4)							
365.66(7)	3^+		99(3)		x	0.9(2)						
373.9(1)	5^+			5.7(2)	94							
457.50(8)	4^+			82(3)	0.7(1)	16.0(7)	1.2(1)					
885.6(1)	3^+,4^+			16(2)	6(1)	53(2)	25(2)	x				
1040.1(1)	3^+		30(4)				24(2)		46(2)			
1044.3(1)	3^+,4^+		82(4)			18(2)		x				
1050.2(1)	1^+		61(7)			36(4)	3(1)					
1075.5(3)	6^+							100				

(continued) **$^{58}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E_f^*:	0.0	24.95	53.15	111.76	365.66	373.93	457.50	885.63	1040.12	1044.26
[keV]		J_f^π:	2^+	5^+	4^+	3^+	3^+	5^+	4^+	$3^+,4^+$	3^+	$\langle 3^+,4^+\rangle$
1184.6(1)	5^+			10(1)	21(2)				69(3)			
1236.6(1)	2^+		75(4)			25(3)						
1351.5(2)									93(3)	7(2)		
1353.5(1)	$\langle 2\rangle^+$		20(5)			24(6)	56(8)					
1376.9(1)			49(4)									44(2)
1418.1(2)	$\langle 5\rangle^+$							100				
1424.6(2)	$\langle 6\rangle$			10.4(7)				90(10)				
1434.9(3)	1^+		100									
1513.3(1)	3^+–5^+			38(7)			40(6)	10(2)			13(2)	
1522.6(2)						56(12)	44(12)					
1524.4(4)			55(5)				45(8)					
1548.8(2)	5^+									67(5)		
1554.7(1)	$\langle 1^+$–$3^+\rangle$		28(5)				x					
1605.6(2)	3^+		26(4)			74(8)			x			
1729.2(2)	1^+		10(3)				75(4)	16(5)				
1740.5(4)						100						
1749.4(2)	$\langle 3,4\rangle^+$		29(5)		25(3)					46(6)		
1757.2(3)	$\langle 1^+$–$3^+\rangle$					59(9)						
1865.8(3)	2^+–4^+		x		x				x	x		
1867.7(5)	1^+		60(2)		40(10)							
1978.8(10)	3^+											100
2248.8(10)	1^+		100									
2335.3(10)	1^+–3^+		100									
3284(4)	1^+		x				x					

Energy levels and branching ratios [97Bh02]. Part 3 **$^{58}_{27}$Co**

E^*	J^π		Branching ratios in percentage							
		E_f^*:	1050.19	1075.5	1353.47	1376.88	1424.60	1434.9	1729.24	1867.7
[keV]		J_f^π:	1^+	6^+	$\langle 2\rangle^+$		$\langle 6\rangle$	1^+	1^+	1^+
1376.9(1)			7							
1548.8(2)	5^+			33(5)						
1554.7(1)	$\langle 1^+$–$3^+\rangle$		72(4)							
1669.9(10)	3^+		100							
1757.2(3)	$\langle 1^+$–$3^+\rangle$		41(2)							
1867.7(5)	1^+		x							
1929.0(2)	1^+–3^+						100			
2534.4(10)	1^+				100					
2640.7(10)	1^+		x							
3284(4)	1^+									x
3639(4)			x			x		x		

(continued) **$^{58}_{27}$Co**

E^*	J^π	Branching ratios in percentage							
	E_f^*:	1050.19	1075.5	1353.47	1376.88	1424.60	1434.9	1729.24	1867.7
[keV]	J_f^π:	1^+	6^+	$\langle 2\rangle^+$		$\langle 6\rangle$	1^+	1^+	1^+
5738(8)*	0^+	x						x	
5756(8)	0^+							x	

Energy levels and branching ratios [02Ba42]. **$^{59}_{27}$Co**

E^*	$2J^\pi$	L	C^2S	L	C^2S	L	C^2S	L	C^2S	L	C^2S	$G_{\ell j}$	Ref.	Branching ratios in percentage				
														E_f^*:	0.0	1099	1190	1292	1434
[keV]			(τ,d)		(α,t)		(n,d)		(d,τ)		(t,α)	(p,α)		$2J_f^\pi$:	7^-	3^-	9^-	3^-	1^-
0.0	7^-	3	0.17	3	0.19	$\langle 3\rangle$	5.8(19)	3	3.81	3	6.61	100.0	92Ma28						
1099.26(1)	3^-	1	0.11	1	0.08		0.7(5)	1	0.15	1	0.29	1.3	92Ma28		100				
1190.4(2)	9^-					$\langle 1\rangle$	incl					3.9	95Ma24		100				
1291.60(1)	3^-	1	0.34	1	0.26		incl	1	0.07	1	0.07	10.0	65Bl13		93(1)	6.6			
1434.26(1)	1^-	1	0.37	1	0.29								67Ar05			21(1)		79(3)	
1459.5(1)	11^-														93(1)		7(2)		
1481.7(1)	5^-														76(2)	23(2)		1(1)	
1744.7(2)	7^-					$\langle 3\rangle$	3.4(12)	3	0.60	3	1.01	5.1	92Ma28		56(2)		34(3)		
2061.8(2)	7^-		0.38				incl	3	0.48	3	0.80		92Ma28		8(3)		47(2)		
2087.2(3)	$5^{\langle -\rangle}$		incl												45(5)			39(9)	
2153.6(2)	$\langle 9,13\rangle$																		
2183.5(4)	$\langle 11\rangle$														10(3)		78(3)	12	
2204.8(2)	$5^{\langle -\rangle}$							3	0.20	$\langle 3\rangle$	0.20		92Ma28		7(4)		22(5)	26(3)	9(2)
2394.8(4)	$\langle 9\rangle$														33(3)				
2478.7(4)	$\langle 5\rangle^-$														87				
2540.4(3)	$5^{\langle -\rangle}$–9														14(3)		14(4)		
2581.7(1)	3^-–7^-							3	0.41			4.0	92Ma28		100				
2585.8(5)	7^-								incl	3	0.61	incl	92Ma28		58(6)		42(6)		
2713.1(5)	1^+					$\langle 0\rangle$	0.9(7)	0	1.29	0	1.66	44.2	92Ma28			100			
2722.4(9)												incl							
2770.2(8)	3^-–7^-																		x
2781.7(6)	$\langle 5^-\rangle$														85	15			
2816.8(7)	3^-–7^-									1	0.48		66Bl15		100				
2824.2(9)								1	0.13		incl		92Ma28		56				
2826.2(3)	$\langle 7^-\rangle$														32	62	6(2)		
2829.1(13)																100			
2912.0(7)	$\langle 3^-\rangle$														71				
2914.6(10)																	47(7)		
2957.9(15)	3^-–7^-															50			
2963.1(3)															x		x		
2965.9(6)	$\langle 3^-\rangle$														65	9			
2973.0(4)																			
2977.0(13)																			
3014.9(8)	$\langle 7^-\rangle$														28			22	

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	L	C^2S	L	C^2S	L	C^2S	L	C^2S	L	C^2S	$G_{\ell j}$	Ref.	Branching ratios in percentage				
														E^*_f:	0.0	1099	1190	1292	1434
[keV]			(τ,d)		(α,t)		(n,d)		(d,τ)		(t,α)	(p,α)		$2J^\pi_f$:	7^-	3^-	9^-	3^-	1^-
3016.8(10)																			
3062.7(3)	$\langle 1^- \rangle$																		
3081.6(2)	$\langle 9^- \rangle$																100		
3090.4(5)	$\langle 7^- \rangle$															26		26	
3120.9(16)															100				
3122.1(2)																100			
3140.5(14)	$\langle 7,9 \rangle$														49		22		
3141.0(2)	$\langle 7^- \rangle$																		
3160.4(5)	3^+					$\langle 2 \rangle$	7(4)	2	2.27	2	2.39	44.9	92Ma28		100				
3163.7(3)												incl				100			
3193.8(10)	$\langle 5,7 \rangle$														50		9	11	
3219.5(17)	$\langle 3^- \rangle$														49				
3223.8(3)	$\langle 13 \rangle$																		
3236.4(11)																			
3241.0(2)																100			
3276.0(9)	$\langle 3^- \rangle$														100				
3320.0(2)																x			
3323.4(8)	$\langle 7^- \rangle$														32			17	28
3325.4(4)	$\langle 15 \rangle$																		
3329.8(13)															100				
3350.9(13)																			
3366.0(12)																			
3382.0(5)	$\langle 7^- \rangle$							3	0.18				92Ma28		>8				
3414.5(10)	$\langle 9^- \rangle$														16	37			
3426.1(10)	$\langle 7^- \rangle$														38				
3491.6(11)																x		x	
3497.4(8)	$\langle 7^- \rangle$							3	0.20				92Ma28		100				
3565.0(13)																		x	
3570.1(4)																			
3580.1(12)																			
3599.5(11)																			
3622.8(11)															100				
3626(1)	$\langle 5 \rangle$																		
3652.8(13)																100			
3667.2(8)	$\langle 5 \rangle$														43	57			
3737.3(11)																			
3757.5(12)																			
3768.9(14)																			
3792.4(15)																			
3807.7(13)																			
3820.9(12)																			
3832.1(12)																			
3842.7(3)	$\langle 11 \rangle$																53(5)		
3854.9(13)								2	0.46				92Ma28						
3888.6(16)																			

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	L	C^2S	L	C^2S	L	C^2S	L	C^2S	L	C^2S	$G_{\ell j}$	Ref.	Branching ratios in percentage				
														E_f^*:	0.0	1099	1190	1292	1434
[keV]			(τ,d)		(α,t)		(n,d)		(d,τ)		(t,α)	(p,α)		$2J_f^\pi$:	7^-	3^-	9^-	3^-	1^-
3915.2(14)																			
3926.3(17)																			
3944.2(3)	$\langle 7^+ \rangle$																	100	
3950.1(12)															100				
3981.8(14)																			
4000.0(25)																			
4009.4(4)																			x
4014.1(13)																			
4026.4(17)																			
4060.6(13)																			
4086.3(4)	$\langle 17 \rangle$																		
4099.6(15)																			
4128.8(23)																			
4151.8(15)	5^-,7^-							3	0.3,0.2				92Ma28						
4169.7(14)																			
4176.7(3)	$\langle 13 \rangle$																		
4195.5(14)																			
4235.7(15)																			
4267.2(16)																			
4291.0(14)																			
4307.4(14)															100				
4320.9(14)																			
4347.6(14)																			
4356.9(20)																			
4377.5(16)																			
4390.7(15)																			
4406.8(14)															x				
4412.1(3)																			x
4412.7(4)	$\langle 15 \rangle$																		
4438.5(14)																			
4457.7(19)																			
4466.7(14)	5^-,7^-							3	0.9,0.5				92Ma28		100				
4480.0(14)																			
4491.0(17)																			
4506.8(15)																			
4516.9(16)																			
4552.2(15)																			
4566.3(15)																			
4581.3(15)																			
4606.3(15)																			
4616.8(17)																			
4632.7(15)																			
4642.9(17)																			
4688.2(16)																			
4699.5(18)																			

(continued) **$^{59}_{27}$Co**

E^* [keV]	$2J^\pi$	L	C^2S (τ,d)	L	C^2S (α,t)	L	C^2S (n,d)	L	C^2S (d,τ)	L	C^2S (t,α)	$G_{\ell j}$ (p,α)	Ref.	Branching ratios in percentage E^*_f: 0.0 1099 1190 1292 1434 $2J^\pi_f$: 7^- 3^- 9^- 3^- 1^-
4714.8(5)	⟨17⟩													
4715.0(15)														
4730.6(17)														
4743.2(19)														
4760.2(16)														
4767.9(15)														
4798.5(5)	⟨19⟩													
4806.4(15)	5^-,7^-							3	0.4,0.2				92Ma28	
4818.0(17)														
4836.3(17)														
4855.7(15)														
4877.0(15)														
4890.5(16)														
4906.2(15)														
4909.0(5)														
4917.2(17)														
4927.9(18)														
4959.2(16)														
4969.1(17)														
4983.1(17)														
4990.9(17)														
5001.8(26)														
5120(40)	3^+,5^+							2	0.80				92Ma28	
5256.0(9)	⟨21⟩													
5368.0(5)	⟨19⟩													
5390(50)	⟨3^+⟩							2	0.35				92Ma28	
5705	3^+,5^+							2	0.4,0.3	2	0.62		92Ma28	
6362.2(6)	⟨21⟩													
6570(80)														
6878.7(8)														
7457.2(11)	⟨23⟩													
7620(60)														
8430														
9541.14(18)	⟨3^-⟩													18 11 7 3
9549.70(15)	⟨3^-⟩													5 3 18 9
9553.13(12)	⟨3^-⟩													1 5 17 19
9835(5)	⟨1^-⟩													
≈10293	⟨3^-⟩													
11148	⟨5^-⟩													
16300(500)	X^-													
16370	X^+													

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	L	C^2S	L	C^2S	L	C^2S	L	C^2S	L	C^2S	$G_{\ell j}$	Ref.	Branching ratios in percentage					
														E_f^*:	0.0	1099	1190	1292	1434
[keV]			(τ,d)		(α,t)		(n,d)		(d,τ)		(t,α)	(p,α)		$2J_f^\pi$:	7^-	3^-	9^-	3^-	1^-
18900	X^+																		
			65Bl13		67Ar05		95Ma24		92Ma28		66Bl15	79Sm03	Ref.						

Additional data on this isotope can be found in [92Ma28, 80Ha17].
Abundance: 100 %.
Parameter C^2S=S_N for the (t,α) reaction corresponds to the relation $d\sigma/d\Omega$=(1/2)N$S_N\sigma_{theor}$ with the constant N=38 [66Bl15,98Bh11].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [02Ba42]. Part 2 **$^{59}_{27}$Co**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage									
				E_f^*:	1459	1482	1745	2061.8	2087.2	2153.6	2183.5	2204.8	2394.8
[keV]		Γ_{cm}		$2J_f^\pi$:	11^-	5^-	7^-	7^-	$5^{\langle-\rangle}$	$\langle 9,13\rangle$	$\langle 11\rangle$	$5^{\langle-\rangle}$	$\langle 9\rangle$
0.0	7^-	Stable	92Ma28										
1099.26(1)	3^-	3.1 ps	92Ma28										
1190.4(2)	9^-	52 fs	95Ma24										
1291.60(1)	3^-	551 ps	65Bl13										
1434.26(1)	1^-	210 ps	67Ar05										
1459.5(1)	11^-	1.1 ps											
1481.7(1)	5^-	166 fs											
1744.7(2)	7^-	0.3 ps	92Ma28			11(2)							
2061.8(2)	7^-	0.13 ps	92Ma28			41(6)	4(2)						
2087.2(3)	$5^{\langle-\rangle}$	17 fs					16(5)						
2153.6(2)	$\langle 9,13\rangle$	$\geq$14 fs			100								
2183.5(4)	$\langle 11\rangle$	41 fs					x						
2204.8(2)	$5^{\langle-\rangle}$	$\geq$0.7 ps	92Ma28			36(3)							
2394.8(4)	$\langle 9\rangle$	0.13 ps			18(2)		44(3)	5(2)					
2478.7(4)	$\langle 5\rangle^-$	29 fs										13(10)	
2540.4(3)	$5^{\langle-\rangle}$–9	0.2 ps					72(9)						
2581.7(1)	3^-–7^-	0.2 ps	92Ma28										
2585.8(5)	7^-	68 fs	92Ma28										
2713.1(5)	1^+		92Ma28							<25			
2722.4(9)											100		
2770.2(8)	3^-–7^-							x					
2781.7(6)	$\langle 5^-\rangle$	97 fs											
2816.8(7)	3^-–7^-		66Bl15										
2824.2(9)		0.05 ps	92Ma28						24(8)	20(8)			
2826.2(3)	$\langle 7^-\rangle$	0.08 ps											
2829.1(13)													
2912.0(7)	$\langle 3^-\rangle$	43 fs						29					
2914.6(10)									25(5)				28(3)
2957.9(15)	3^-–7^-											17	

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage								
				E_f^*:	1459	1482	1745	2061.8	2087.2	2153.6	2183.5	2204.8	2394.8
[keV]		Γ_{cm}		$2J_f^\pi$:	11^-	5^-	7^-	7^-	$5^{\langle-\rangle}$	⟨9,13⟩	⟨11⟩	$5^{\langle-\rangle}$	⟨9⟩
2963.1(3)							x						
2965.9(6)	⟨3⁻⟩	30 fs									25		
2973.0(4)							100						
2977.0(13)													
3014.9(8)	⟨7⁻⟩	0.2 ps			33			18					
3016.8(10)					31(12)		49(15)						20(7)
3062.7(3)	⟨1⁻⟩												
3081.6(2)	⟨9⁻⟩	0.21 ps											
3090.4(5)	⟨7⁻⟩	0.21 ps							48				
3120.9(16)													
3122.1(2)													
3140.5(14)	⟨7,9⟩								29				
3141.0(2)	⟨7⁻⟩				x		x						
3160.4(5)	3^+		92Ma28										
3163.7(3)													
3193.8(10)	⟨5,7⟩									30			
3219.5(17)	⟨3⁻⟩												27
3223.8(3)	⟨13⟩	<0.7 ps			45(3)						55(3)		
3236.4(11)													
3241.0(2)													
3276.0(9)	⟨3⁻⟩												
3320.0(2)						x							
3323.4(8)	⟨7⁻⟩					5				12			
3325.4(4)	⟨15⟩	<320 fs								100			
3329.8(13)													
3350.9(13)													
3366.0(12)													
3382.0(5)	⟨7⁻⟩	76(14) fs	92Ma28		69		23						
3414.5(10)	⟨9⁻⟩					47							
3426.1(10)	⟨7⁻⟩	55(21) fs			62								
3491.6(11)						x							
3497.4(8)	⟨7⁻⟩		92Ma28										
3565.0(13)						x			x				
3570.1(4)													
3580.1(12)													
3599.5(11)													
3622.8(11)													
3626(1)	⟨5⟩	30(6) fs				100							
3652.8(13)													
3667.2(8)	⟨5⟩												
3737.3(11)													
3757.5(12)													
3768.9(14)													
3792.4(15)													
3807.7(13)													

(continued) **$^{59}_{27}$Co**

E^* [keV]	$2J^\pi$	$T_{1/2}$ or Γ_{cm}	Ref.	E_f^*: $2J_f^\pi$:	1459 11^-	1482 5^-	1745 7^-	2061.8 7^-	2087.2 $5^{\langle-\rangle}$	2153.6 $\langle 9,13\rangle$	2183.5 $\langle 11\rangle$	2204.8 $5^{\langle-\rangle}$	2394.8 $\langle 9\rangle$
					Branching ratios in percentage								
3820.9(12)													
3832.1(12)													
3842.7(3)	$\langle 11\rangle$				47(6)								
3854.9(13)			92Ma28										
3888.6(16)													
3915.2(14)													
3926.3(17)													
3944.2(3)	$\langle 7^+\rangle$	0.6(3) ps											
3950.1(12)													
3981.8(14)													
4000.0(25)													
4009.4(4)													
4014.1(13)													
4026.4(17)													
4060.6(13)													
4086.3(4)	$\langle 17\rangle$	<0.4 ps											
4099.6(15)													
4128.8(23)													
4151.8(15)	5^-,7^-		92Ma28										
4169.7(14)													
4176.7(3)	$\langle 13\rangle$				6(2)					4(2)	35(5)		
4195.5(14)													
4235.7(15)													
4267.2(16)													
4291.0(14)													
4307.4(14)													
4320.9(14)													
4347.6(14)													
4356.9(20)													
4377.5(16)													
4390.7(15)													
4406.8(14)								x					
4412.1(3)						x							
4412.7(4)	$\langle 15\rangle$									22(4)			
4438.5(14)													
4457.7(19)													
4466.7(14)	5^-,7^-		92Ma28										
4480.0(14)													
4491.0(17)													
4506.8(15)												x	
4516.9(16)													
4552.2(15)													
4566.3(15)													
4581.3(15)													
4606.3(15)													

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage									
				E_f^*:	1459	1482	1745	2061.8	2087.2	2153.6	2183.5	2204.8	2394.8
[keV]		Γ_{cm}		$2J_f^\pi$:	11^-	5^-	7^-	7^-	$5^{\langle-\rangle}$	$\langle 9,13\rangle$	$\langle 11\rangle$	$5^{\langle-\rangle}$	$\langle 9\rangle$
4616.8(17)													
4632.7(15)													
4642.9(17)													
4688.2(16)													
4699.5(18)													
4714.8(5)	$\langle 17\rangle$	0.8(3) ps											
4715.0(15)													
4730.6(17)													
4743.2(19)													
4760.2(16)													
4767.9(15)													
4798.5(5)	$\langle 19\rangle$	<0.14 ps											
4806.4(15)	5^-,7^-		92Ma28										
4818.0(17)													
4836.3(17)													
4855.7(15)													
4877.0(15)													
4890.5(16)													
4906.2(15)													
4909.0(5)		0.08(4) ps											
4917.2(17)													
4927.9(18)													
4959.2(16)													
4969.1(17)													
4983.1(17)													
4990.9(17)													
5001.8(26)													
5120(40)	3^+,5^+		92Ma28										
5256.0(9)	$\langle 21\rangle$												
5368.0(5)	$\langle 19\rangle$	0.07(4) ps											
5390(50)	$\langle 3^+\rangle$		92Ma28										
5705	3^+,5^+		92Ma28										
6362.2(6)	$\langle 21\rangle$	<0.14 ps											
6570(80)													
6878.7(8)		<0.10 ps											
7457.2(11)	$\langle 23\rangle$	<0.10 ps											
7620(60)													
8430													
9541.14(18)	$\langle 3^-\rangle$	15.5 eV				8		4	3				
9549.70(15)	$\langle 3^-\rangle$	≈102 eV				2			2				
9553.13(12)	$\langle 3^-\rangle$	≈57 eV				5			3				
9835(5)	$\langle 1^-\rangle$												
≈10293	$\langle 3^-\rangle$												
11148	$\langle 5^-\rangle$												
16300(500)	X^-	5.6(4) MeV											

(continued) **$^{59}_{27}$Co**

E^*	$2J^\pi$	$T_{1/2}$ or	Ref.	Branching ratios in percentage									
				E_f^*:	1459	1482	1745	2061.8	2087.2	2153.6	2183.5	2204.8	2394.8
[keV]		Γ_{cm}		$2J_f^\pi$:	11^-	5^-	7^-	7^-	$5^{\langle-\rangle}$	$\langle 9,13\rangle$	$\langle 11\rangle$	$5^{\langle-\rangle}$	$\langle 9\rangle$
16370	X^+	2.56 MeV											
18900	X^+	7.61 MeV											
			Ref.										

Energy levels and branching ratios [02Ba42]. Part 3 **$^{59}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	2478.7	2540.4	2581.7	2585.8	2713.1	2770.2	2781.7	2816.8	2824.2	2829.1
[keV]		$2J_f^\pi$:	$\langle 5\rangle^-$			7^-	1^+		$\langle 5^-\rangle$			
2722.4(9)				<25								
2957.9(15)	3^-–7^-					33						
3062.7(3)	$\langle 1^-\rangle$			100								
3219.5(17)	$\langle 3^-\rangle$										24	
3323.4(8)	$\langle 7^-\rangle$								6			
4506.8(15)							x					
9541.14(18)	$\langle 3^-\rangle$				12			3				5
9549.70(15)	$\langle 3^-\rangle$		4		14		2	2	2	2		
9553.13(12)	$\langle 3^-\rangle$		2		20		2	2				2

Energy levels and branching ratios [02Ba42]. Part 4 **$^{59}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	2957.9	2963.1	2973.0	3081.6	3090.4	3120.9	3141.0	3160.4	3163.7	3193.8
[keV]		$2J_f^\pi$:				$\langle 9^-\rangle$	$\langle 7^-\rangle$		$\langle 7^-\rangle$	3^+		$\langle 5,7\rangle$
4176.7(3)	$\langle 13\rangle$					12(3)						
4412.1(3)			x									
4506.8(15)										x		
9541.14(18)	$\langle 3^-\rangle$		3					1				1
9549.70(15)	$\langle 3^-\rangle$			5	5		1			2		
9553.13(12)	$\langle 3^-\rangle$			4	3				2		2	

Energy levels and branching ratios [02Ba42]. Part 5 **$^{59}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	3223.8	3241.0	3320.0	3325.4	3491.6	3570.1	3622.8	3652.8	3842.7	4009.4
[keV]		$2J_f^\pi$:	⟨13⟩			⟨15⟩					⟨11⟩	
4086.3(4)	⟨17⟩					100						
4176.7(3)	⟨13⟩										43(10)	
4412.7(4)	⟨15⟩		10(3)									
4909.0(5)						100						
9541.14(18)	⟨3⁻⟩			2	2		4		2	1		2
9549.70(15)	⟨3⁻⟩			2	1		5	2	2	2		1
9553.13(12)	⟨3⁻⟩						2					2

Energy levels and branching ratios [02Ba42]. Part 6 **$^{59}_{27}$Co**

E^*	$2J^\pi$					Branching ratios in percentage						
		E_f^*:	4086.3	4176.7	4406.8	4412.1	4412.7	4506.8	4715.0	4798.5	5368.0	6362.2
[keV]		$2J_f^\pi$:	⟨17⟩	⟨13⟩			⟨15⟩			⟨19⟩	⟨19⟩	⟨21⟩
4412.7(4)	⟨15⟩			68(5)								
4714.8(5)	⟨17⟩					100						
4798.5(5)	⟨19⟩		100									
5256.0(9)	⟨21⟩									100		
5368.0(5)	⟨19⟩								100			
6362.2(6)	⟨21⟩										100	
6878.7(8)										100		
7457.2(11)	⟨23⟩											100
9541.14(18)	⟨3⁻⟩				2		1	3				
9549.70(15)	⟨3⁻⟩				5	2		1				
9553.13(12)	⟨3⁻⟩				2		1	3				

Energy levels and branching ratios [03Tu08]. **$^{60}_{27}$Co**

E^*	J^π	σ (d,p)	$d\sigma/d\Omega$	S'	C^2S'	$d\sigma/d\Omega$	S''	L	S_{dp}	L	S_N	L	σ (τ,p)	I_d	Ref.
[keV]		arb.u	μb/sr	(d,p)	(d,p)	μb/sr	(d,p)	(d,p)	eval		(d,τ)	(τ,p)	μb/sr	(α,d)	
0.0	5^+	4.3	1150	4.68	4.29	4700	0.58(11)	1	0.54	3	2.76(24)	4	28(3)	77	75Jo08
							0.69(39)	+3							
58.59(1)	2^+	2.4	>640	2.53	1.97	2390	0.32(4)	1	0.25	3	1.32(15)	2	59(5)	incl	75Jo08
							0.27(16)	+3							
277.20(2)	4^+	0.9	443	7.8	4.82	1780	0.38(5)	3	0.38						78Ta02
				+1.2	1.42		+0.02(1)	+1	+0.02						
288.40(2)	3^+	1.7				incl	0.32(12)	3	0.32	3	0.64(8)	⟨4⟩	12(1)		78Ta02
							+0.18(3)	+1	+0.18						
435.71(4)	5^+	1.3	180	5.24	3.52	310	0.58(5)	3	0.44	⟨3⟩	0.08(5)	⟨4⟩	4(1)		75Jo08

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
506.20(3)	3^+	1.5	>363	1.39	1.22	1680	0.21(2)	1	0.15	3	0.59(6)	2	27(6)		75Jo08
542.82(2)	2^+	1.1	130	4.82	1.53	290	0.38(7)	3	0.19	⟨3⟩	0.03(1)	2	59(7)		75Jo08
					0.20		+0.02(1)	+1	+0.03						
614.55(2)	3^+	3.0	>722	2.47	1.48	2050	0.33(4)	1	0.19	3	0.47(4)	2	121(10)		75Jo08
							+0.2(2)	+3							
738.80(2)	1^+	0.4	55	1.66	0.90	96	0.16(2)	3	0.11			0+2	499(25)		75Jo08
785.71(1)	4^+	2.2	>524	1.76	1.30	1840	0.21(2)	1	0.16	3	1.01(11)	⟨2⟩	45(8)	54	75Jo08
							+0.26(2)	+3							
940(30)															
1003.91(2)	⟨3,4⟩														
1005.80(2)	4	5.2	1030	3.65	2.55	3770	0.45(7)	1	0.32	3	0.50(7)	⟨4⟩	29(3)		75Jo08
1015.6(5)*															
1107.0(6)*															
1132.0(2)		0.2					0.03(1)	⟨3⟩	0.03						78Ta02
1150.70(5)	2^+,3^+	0.1										⟨2⟩	39(6)		73Ca07
1207.83(3)	5^+	0.3					0.02(1)	1	0.02						78Ta02
1216.4(2)	6^+	1.4	156	3.33	1.90	330	0.32(8)	3	0.32			⟨6⟩	4(1)		78Ta02
				+0.22	0.12		+0.02(1)	+1	+0.02						
1216.85(3)	4	incl	incl												
1225.7(7)*															
1261.9(9)*															
1270.3(7)*															
1341.86(3)	2^+,3^+	0.4	>49	0.19	0.09	140	0.015(3)	1	0.011			0+2	43(7)		75Jo08
1379.74(6)	6^+	2.6	215	5.50	2.80	730	0.61(14)	3	0.35			2	60(8)	62	75Jo08
				+0.29	0.30		+0.06(2)	+1	0.04						
1380.97(4)	3^+	incl	incl											incl	
1451.21(3)	4^+	0.4	>87	0.22	0.14	230	0.021(4)	1	0.018			2	80(8)	incl	75Jo08
1488.5(7)*															
1508.30(9)	2^+,3^+	0.3					0.06(1)	⟨3⟩	0.06			2	19(6)		78Ta02
1510(10)	7^+	incl													
1515.80(3)	4^+	0.7	>165	0.46	0.24	380	0.05(1)	1	0.05						78Ta02
1523.2(6)*															
1561.2(5)*															
1565.94(3)	2	0.1													
1575.8(6)*															
1636.4(8)*															
1639.84(3)	3^+–5^+	0.7	56	1.13	0.62	340	0.04(1)	3	0.08						75Jo08
				+0.08	0.17			+1	0.02						
≈1669						21									
1677.3(9)*															
1686.21(5)	1^+											0+2	67(9)		
1702.0(7)*															
1709.7(1)		0.2	36			37									
1723.6(4)*															
1744.0(9)*															

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L (d,τ)	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
1749.29(3)	3^+	0.2	20		0.06	99	0.008(2)	1	0.007						75Jo08
1780.6(5)*															
1787.62(4)	$5^{\langle+\rangle}$	0.2					0.01(1)	3	0.01						78Ta02
							+0.004(1)	+1	0.004						
1792.5(4)*															
1800.2(2)	$\langle6\rangle^-$	3.3					1.19(23)	4	1.19			$\langle3\rangle$	23(4)		78Ta02
1808.6(2)	2^-–4^-	3.0	500	16.9	9.73	1580	0.94(34)	4	0.94						78Ta02
							+0.10(4)	+2	0.10						
1819.0(7)*															
1826.2(6)*															
1830.80(2)	4^+	0.6			0.13	220	0.02(1)	1	0.016					62	75Jo08
							+0.05(4)	+3							
1833.23(4)															
1837.0(2)*															
1852.71(4)	4^+	1.0	>124	0.35	0.30	500	0.05(1)	1	0.038						75Jo08
1877.15(5)	2														73Ca07
1882.5(8)*															
1888.90(4)	4^+	0.6	>84	0.23	0.19	310	0.03(1)	1	0.024						75Jo08
1924.3(2)	X^+	0.3	>60	0.14	0.09	160	0.015(3)	1	0.011						75Jo08
1951.2(5)*															
1981.20(5)	4	2.7	249	4.20	2.66	570		3	0.33			$\langle3\rangle$	36(5)		75Jo08
				0.38	0.14			+1	0.02						
1983.5(2)		incl					0.70(30)	4							
							+0.09(4)	+2							
2010.4(7)*															
2032.7(1)	2^+,3^+	0.6	78	0.14	0.14	270	0.024(2)	1	0.018			2	25(5)		75Jo08
					1.14			+3							
2045.4(1)		0.3	incl				0.004(2)	$\langle1\rangle$	0.004						78Ta02
2080.8(1)															
2106.4(10)*															
2121.82(5)	3^+,4^+	0.2				50	0.005(2)	$\langle1\rangle$	0.005						78Ta02
2132.2(2)	$\langle7^-\rangle$	3.3	170	8.19	10.1	440	1.34(15)	4	1.27						75Jo08
				0.37				+2							
2133.44(7)	3,4														
2142.4(5)*															
2151.9(3)		0.5			0.49	75	0.07(2)	3	0.061						75Jo08
2155.0(7)*															
2183.10(6)	2^+,3^+											2	56(7)		
2199.9(3)		0.2													
2221.56(9)	4^+	0.3					0.04(1)	$\langle3\rangle$	0.04			0+2	151(28)		78Ta02
2230.4(1)	$[1^+]$	0.2	61	0.09		55		0							73Ca07
2234.2(10)*															
2274.7(2)**		1.2	>230	0.58	0.35	620		1	0.04						75Jo08
2279.9(2)	5^+	0.5													

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
2282.6(6)*															
2310.2(1)**	3	0.4			0.10	210		1	0.01						75Jo08
2318.4(10)		0.2	61	0.27				2							
2321.0(6)*															
2324.3(4)															
2341.82(8)		0.4													
2351.9(1)**		1.9			0.62	500		2	0.08						75Jo08
2363.96(9)		0.2	194	0.15				0							
2423.3(1)**	4	0.2													73Ca07
2431.0(1)**	3$^-$,4$^-$	0.2	43		0.015	44		0	0.002					100	75Jo08
2450.9(2)	3,4	0.1												incl	
2469.7(2)		0.2				34									
2488.7(1)	5	0.2	30												
2512.5(9)*															
2529.0(2)		0.1	37			21									
2546(3)															
2560.0(3)		0.2						1	0.03						75Jo08
2569.96(7)	4	0.1	34			27									
2576.3(18)*															
2581.0(7)*															
2585.73(7)		0.3													
2598.1(1)	3$^+$	0.8	110	0.47	0.22	400		1							73Ca07
2607.6(1)		0.2				8									
2622.1(2)															
2655.7(2)		0.1	30			38									
2659.1(8)*															
2685.3(2)	3$^-$,4$^-$	0.3	36		0.045	150		0	0.006						75Jo08
2692.4(9)*															
2704.0(8)*															
2710.0(2)	2–4	0.2				30									
2718.8(2)	1														
2734.5(8)		0.3			0.06	120		1	0.007						75Jo08
2760.9(5)**		0.8	215	0.19	0.23	610		0							75Jo08
				+0.26	0.79			+2							
2764.2(18)*															
2768.1(3)		0.5						3+1	0.10+0.03						75Jo08
2771.3(2)		0.3													
2785.8(2)	3,4	0.2				18									
2791.9(9)*															
2798.0(9)*															
2801.6(3)		0.3				55									
2809.7(4)		0.3													
2823.2(5)	$\langle 8\rangle^-$	1.7			5.50	320		4	0.69						75Jo08
2825.6(1)	3$^-$,4$^-$					incl									
2835.3(9)*															

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
2845.0(1)		3.2	432	0.26 +0.66	0.66	1350		1	0.08						75Jo08
2857.2(10)*															
2867.6(1)		0.2												231	94Fi01
2884(10)	5^+	1.2												incl	
2884.92(8)	3^-,4^-		197	0.23		410		0	0.03						75Ue01
2897.4(8)		0.8				220									
2901.81(9)															
2917.6(8)		0.4			0.14	100		2	0.018						75Jo08
2920.4(4)															
2927.5(6)*															
2936.5(1)															
2939.2(9)		0.2			0.03	50									
2944.2(3)**		0.1						1	0.003						75Jo08
2963.1(1)		0.4				87									
2967.5(10)*															
2975.9(6)*															
2996.9(3)		0.6				72									
3010.1(3)		1.4	140	0.54	0.93	670		2	0.12						75Jo08
3022.28(9)	3,4	0.2													
3035.7(8)*															
3047.5(6)		0.4			0.08	170		1	0.010						75Jo08
3059.2(11)*															
3064.8(3)		1.0	54			120									
3068.2(6)*															
3077.1(3)		0.1													
3084.6(4)		0.4	83		0.20	430		1	0.025						75Jo08
3091.0(10)*															
3096.35(9)		0.4				76									
3108(10)	7^+														
3114.1(6)**	3,4	0.4	62			83		⟨2,3⟩							
3121.4(4)**		0.3	incl			incl									
3132.2(3)		0.3													
3141.5(1)															
3151.5(10)*															
3155.5(2)		0.4				100									
3158.0(11)*															
3162.7(3)						incl									
3179.8(9)*															
3186.6(4)	3^-,4^-	3.1	320	1.22	0.52	2000		0	0.07						75Jo08
3191.00(8)															
3199.3(9)		0.8				200									
3203.2(1)								3	0.20						75Jo08
3216.2(2)		1.4			1.63	380									
3231.9(10)*															

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
3238.5(3)			105	0.33	0.49	470		2	0.06						78Ro18
≈3265						40									
3272.9(8)*															
3279.5(1)															
3283.8(2)	3,4		282	0.99	0.45	1240		1	0.06						78Ro18
≈3314					0.16	160		2	0.02						78Ro18
3336.5(2)															
3343.26(18)			205	0.69	0.55	580		2	0.07						78Ro18
3359.9(9)*															
≈3367			75			84									
3375.4(11)*															
3380.1(5)*															
≈3393	3$^-$,4$^-$				0.02	91		0	0.0028						78Ro18
3415.51(12)			40			89									
≈3436						64									
3443.0(8)*															
3453.3(9)*															
3460.4(3)					0.38	96		3	0.048						78Ro18
3465.53(21)	[1$^+$]														73Ca07
3469(10)	7$^+$													115	94Fi01
3496.94(24)						170									
3510.7(3)*															
3514.79(23)						64									
3519.2(8)*															
3525.8(4)*															
3529(10)															
3536.7(17)*															
3560(20)	5$^+$														
3562.09(24)			149	0.37 +3.39	0.39	440		2 +4	0.049						78Ro18
3588.98(13)	3$^-$,4$^-$		190	0.12 +3.02	0.12	490		0 +4	0.015						78Ro18
3594.92(22)															73Ca07
3600.4(9)*															
≈3622	3$^-$,4$^-$				0.06	210		0	0.007						78Ro18
3635.1(9)*															
3646.6(5)	⟨9⟩														
3650.4(4)			191	0.12 +0.27	0.31	440		2 +4	0.039						78Ro18
3654.9(13)*															
3666.8(9)*															
3674(10)**	7$^+$				0.23	270									
3690.5(7)	⟨9⟩							2	0.029						78Ro18
3696.9(4)						140									
≈3721						50									

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
3734.7(6)*															
3742.44(16)			103			320									
3765.2(8)*															
3780(20)	7^+				0.79	170		3	0.099					115	78Ro18
3790.7(10)*															
3797.98(17)					0.11	120		2	0.014						78Ro18
3814.7(11)*															
3827.6(3)			100	0.28	0.22	250		2	0.028						78Ro18
3841.2(6)	⟨9⟩					53									
3871.1(6)	3^-,4^-		160	0.13		330		0	0.016						75Ue01
3914.8(8)			80	0.08		280		0	0.01						75Ue01
				+0.18				+2	0.02						
3921.7(9)*															
3928.0(9)						40									
≈3949					0.06	150		1	0.008						78Ro18
3987.1(6)			97			54									03Su36
≈4005	3^-,4^-				0.10	540		0	0.013						78Ro18
4012.16(16)	3,4														
4025.6(6)						190									03Su36
4041.3(9)	7^+		125												03Su36
≈4049					0.30	370		2	0.038						78Ro18
≈4067	3^-,4^-				0.09	470		0	0.011						78Ro18
≈4085						34									
4100.97(21)					0.24	62		3	0.03						78Ro18
4112.5(4)			122	0.10	0.12	270		1	0.015						78Ro18
≈4134						140									
4156.57(18)	3^-,4^-				0.04	200		0	0.005						78Ro18
≈4166						56									
4194.0(4)					0.27	330		2	0.034						78Ro18
≈4206			281	0.07	0.05	490		0	0.007						78Ro18
				+0.54	0.21			+2	0.03						
4212.8(7)	3,4														
4253.9(3)						140									
4270.02(24)	3^-,4^-		230	0.08	0.06	600		0	0.008						78Ro18
				+0.42	0.42			+2	0.05						
4277.0(6)	⟨10⟩														
4280(30)															
4292.05(12)						120									
4297.8(4)															
≈4307						55									
≈4325						34									
≈4341	$[1^+]$					110						2			73Ca07
≈4365	3^-,4^-		137		0.11	420		0	0.014						78Ro18
≈4390	3^-,4^-		680		0.26	1380		0	0.033						78Ro18
					0.78			+2	0.10						

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
≈4408						310								169	94Fi01
≈4420						110									
≈4452			256	0.14	0.61	540		3	0.08						78Ro18
					0.20			+1	0.03						
4485(10)					0.38	340		3	0.05			2			78Ro18
					0.11			+1	0.01						
≈4507			85		0.32	310		3	0.04						78Ro18
					0.09			+1	0.01						
4514.0(4)															
≈4523						110									
4540.7(12)					0.72	660		3	0.09						78Ro18
					0.24			+1	0.03						
4550(30)	7^+		264	0.20				0							
≈4563					0.28	390		2	0.035						78Ro18
≈4594					0.20	440		1	0.025						78Ro18
4601.0(2)			175	0.13				0							
≈4610					0.08	170		1	0.010						78Ro18
≈4626			85			260									73Ca07
≈4668			145			340									
≈4698	3^-,4^-				0.18	630		0	0.023						78Ro18
4700(30)	7^+														
≈4713			255	0.15		170		0							
4752.3(1)					0.38	470		2	0.048						78Ro18
≈4773			129		0.46	660		2	0.058						78Ro18
≈4786					0.34	430		2	0.043						78Ro18
4800(30)	7^+														
4800.1(3)	3^-,4^-				0.20	190		0	0.025						78Ro18
					0.61			+2	0.08						
4811.3(5)															
4817					0.40	530		2	0.050						78Ro18
4827.5(7)	⟨11⟩														
≈4841			213			25									
≈4864					0.15	200		2	0.019						78Ro18
4874.2(9)			100			160									
≈4893					0.11	150		2	0.014						78Ro18
≈4917	3^-,4^-				0.16	490		0	0.020						78Ro18
≈4932			79		0.38	520		2	0.048						78Ro18
≈4965			155		0.31	430		2	0.039						78Ro18
≈4980					0.68	590		3	0.08						78Ro18
					0.22			+1	0.03						
≈4995			140			430									
≈5014						100									
≈5031						150									
≈5057						150									
≈5083						450									

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (d,p) arb.u	$d\sigma/d\Omega$ μb/sr	S' (d,p)	C^2S' (d,p)	$d\sigma/d\Omega$ μb/sr	S'' (d,p)	L (d,p)	S_{dp} eval	L	S_N (d,τ)	L (τ,p)	σ (τ,p) μb/sr	I_d (α,d)	Ref.
≈5098						530									
≈5113					0.12	470		0	0.015						78Ro18
≈5133						220									
≈5146						270									
5160.8(6)	⟨11⟩					340									
≈5189						390									
≈5202					0.25	360		2	0.031						78Ro18
≈5243					0.33	490		2	0.041						78Ro18
≈5271					0.09	340		0	0.011						78Ro18
≈5291						110									
≈5306						220									
≈5326						540									
≈5350						140									
≈5372					0.24	350		2	0.030						78Ro18
≈5394						170									
≈5411					0.21	720									
5424**								0	0.026						78Ro18
≈5440						110									
≈5456						100									
≈5471					0.74	1030		2	0.093						78Ro18
≈5488					0.13	450		0	0.016						78Ro18
≈5529						340									
≈5545					0.18	600		0	0.023						78Ro18
≈5560						170								540	94Fi01
5575.6(8)															
≈5591					0.38	540		2	0.048						78Ro18
≈5610					0.44	630		2	0.055						78Ro18
≈5638					0.19	270		2	0.024						78Ro18
≈5655						280									
≈5670						240									
≈5684															
≈5705					0.31	440		2	0.039						78Ro18
≈5731					0.47	640		2	0.059						78Ro18
≈5750						150									
≈5773						130									
≈5809						100									
≈5822						190									
≈5838						210									
≈5852						580									
≈5871						350									
≈5889					0.57	910		2	0.071						78Ro18
≈5928					0.14	350		0	0.018						78Ro18
≈5943					0.40	620									
5955**								2	0.050						78Ro18
≈5973					0.13	320		0	0.016						78Ro18

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (d,p)	$d\sigma/d\Omega$	S'	C^2S'	$d\sigma/d\Omega$	S''	L	S_{dp}	L	S_N	σ (τ,p)	I_d	Ref.
[keV]		arb.u	μb/sr	(d,p)	(d,p)	μb/sr	(d,p)	(d,p)	eval		(d,τ)	μb/sr	(α,d)	
≈5987					0.34	540								
≈5999								2	0.043					78Ro18
≈6013						200								
≈6027						120								
≈6047						170								
≈6066						300								
≈6088						290								
≈6104						50								
≈6129						120								
≈6146						450								
≈6165						110								
≈6180						450								
≈6198						180								
6417(1)	⟨12⟩													
7050(50)														
7491.9(1)	3$^-$,4$^-$													
≈7514														
7790(40)														
8122(2)	⟨13⟩													
8690														
		75Jo08		75Ue01	78Ro18		78Ta02			78Ta02			94Fi01	Ref.
			75Ue01			78Ro18			03Tu08		73Ca07			Ref.

Additional data on this isotope can be found in [03Su36, 94Fi01, 88Na01].
* From [03Su36] not included in Adopted Levels [03Tu08].
** May include contribution from the neighbour level.
Some neughbour lines with E^* above 4500 keV could correspond to the same level [03Tu08].
Approximate values of the deuteron yield I_d at 25° in units counts per channel from two-nucleon transfer reaction (α,d) are from [94Fi01].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [03Tu08]. Part 2 **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
					E_f^*:	0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}		J_f^π:	5$^+$	2$^+$	4$^+$	3$^+$	5$^+$
0.0	5$^+$		1925.3(1) d	75Jo08						
58.59(1)	2$^+$	18	10.467(6) m	75Jo08		100				
277.20(2)	4$^+$	3		78Ta02		100				
288.40(2)	3$^+$			78Ta02			100			

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
				E_f^*:	0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}	J_f^π:	5^+	2^+	4^+	3^+	5^+
435.71(4)	5^+			75Jo08	39(1)		61.0(4)		
506.20(3)	3^+	7		75Jo08		99(1)		0.53(5)	
542.82(2)	2^+	15		75Jo08		38.1(4)		62(1)	
614.55(2)	3^+	31		75Jo08		96.5(9)	3.6(1)		
738.80(2)	1^+	355		75Jo08		58.6(9)			
785.71(1)	4^+		<3.2 ps	75Jo08	53(1)			44.0(3)	2.3(1)
940(30)									
1003.91(2)	⟨3,4⟩					49(1)	23.4(3)	2.3(2)	
1005.80(2)	4			75Jo08	6.3(3)			40.3(5)	
1015.6(5)*									
1107.0(6)*									
1132.0(2)				78Ta02					
1150.70(5)	2^+,3^+	12		73Ca07				100	
1207.83(3)	5^+			78Ta02	29(3)		71(1)		
1216.4(2)	6^+		0.3(1) ps	78Ta02	74				26(5)
1216.85(3)	4							19.2(6)	
1225.7(7)*									
1261.9(9)*									
1270.3(7)*									
1341.86(3)	2^+,3^+			75Jo08	4(1)	62(2)			
1379.74(6)	6^+		0.7(3) ps	75Jo08					84(5)
1380.97(4)	3^+						100		
1451.21(3)	4^+	18		75Jo08					
1488.5(7)*									
1508.30(9)	2^+,3^+			78Ta02					
1510(10)	7^+								
1515.80(3)	4^+			78Ta02	77(2)		9.3(2)		
1523.2(6)*									
1561.2(5)*									
1565.94(3)	2					70(2)		19.7(6)	
1575.8(6)*									
1636.4(8)*									
1639.84(3)	3^+–5^+			75Jo08			30(2)		
≈1669									
1677.3(9)*									
1686.21(5)	1^+								
1702.0(7)*									
1709.7(1)						100			

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (τ,p) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
				E_f^*:	0.0	58.6	277	288	436
				J_f^π:	5^+	2^+	4^+	3^+	5^+
1723.6(4)*									
1744.0(9)*									
1749.29(3)	3^+			75Jo08		35(2)	33(1)		
1780.6(5)*									
1787.62(4)	$5^{\langle+\rangle}$			78Ta02	30(10)				
1792.5(4)*									
1800.2(2)	$\langle 6\rangle^-$		1.7(6) ps	78Ta02	93(2)				
1808.6(2)	2^-–4^-			78Ta02	100				
1819.0(7)*									
1826.2(6)*									
1830.80(2)	4^+			75Jo08	93(4)		6.6(4)		
1833.23(4)						100			
1837.0(2)*									
1852.71(4)	4^+			75Jo08	100				
1877.15(5)	2	15		73Ca07		100			
1882.5(8)*									
1888.90(4)	4^+			75Jo08	27(2)				
1924.3(2)	X^+			75Jo08			100		
1951.2(5)*									
1981.20(5)	4			75Jo08				100	
1983.5(2)									
2010.4(7)*									
2032.7(1)	2^+,3^+			75Jo08					
2045.4(1)				78Ta02					
2080.8(1)						100			
2106.4(10)*									
2121.82(5)	3^+,4^+			78Ta02	21(5)				
2132.2(2)	$\langle 7^-\rangle$		<0.49 ps	75Jo08					
2133.44(7)	3,4					59(4)		41(3)	
2142.4(5)*									
2151.9(3)				75Jo08					
2155.0(7)*									
2183.10(6)	2^+,3^+								
2199.9(3)									
2221.56(9)	4^+			78Ta02	53(5)				
2230.4(1)	$[1^+]$	106		73Ca07		100			
2234.2(10)*									

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
				E_f^*:	0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}	J_f^π:	5^+	2^+	4^+	3^+	5^+
2274.7(2)**				75Jo08				100	
2279.9(2)	5^+				100				
2282.6(6)*									
2310.2(1)**	3			75Jo08			100		
2318.4(10)									
2321.0(6)*									
2324.3(4)						100			
2341.82(8)									
2351.9(1)**				75Jo08					
2363.96(9)									
2423.3(1)**	4	154		73Ca07					
2431.0(1)**	3^-,4^-			75Jo08	36(5)				
2450.9(2)	3,4								
2469.7(2)					100				
2488.7(1)	5				33(4)		9(4)		
2512.5(9)*									
2529.0(2)								10(5)	
2546(3)									
2560.0(3)				75Jo08		100			
2569.96(7)	4				46(3)			36(5)	
2576.3(18)*									
2581.0(7)*									
2585.73(7)						74(5)			
2598.1(1)	3^+	45		73Ca07				100	
2607.6(1)					100				
2622.1(2)									
2655.7(2)									
2659.1(8)*									
2685.3(2)	3^-,4^-			75Jo08					100
2692.4(9)*									
2704.0(8)*									
2710.0(2)	2–4								
2718.8(2)	1								
2734.5(8)				75Jo08					
2760.9(5)**								100	
2764.2(18)*									
2768.1(3)				75Jo08	58(10)				
2771.3(2)									
2785.8(2)	3,4					100			
2791.9(9)*									
2798.0(9)*									
2801.6(3)					100				
2809.7(4)									
2823.2(5)	$\langle 8\rangle^-$		<0.42 ps	75Jo08					

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (τ,p) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
				E_f^*:	0.0	58.6	277	288	436
				J_f^π:	5^+	2^+	4^+	3^+	5^+
2825.6(1)	3^-,4^-								
2835.3(9)*									
2845.0(1)				75Jo08					
2857.2(10)*									
2867.6(1)				94Fi01					
2884(10)	5^+								
2884.92(8)	3^-,4^-			75Ue01	47(4)				
2897.4(8)									
2901.81(9)									
2917.6(8)				75Jo08					
2920.4(4)						57(13)		43(9)	
2927.5(6)*									
2936.5(1)									
2939.2(9)									
2944.2(3)**				75Jo08					
2963.1(1)									
2967.5(10)*									
2975.9(6)*									
2996.9(3)									
3010.1(3)				75Jo08					
3022.28(9)	3,4						34(9)		
3035.7(8)*									
3047.5(6)				75Jo08				100	
3059.2(11)*									
3064.8(3)						59(6)			41(7)
3068.2(6)*									
3077.1(3)									100
3084.6(4)				75Jo08	100				
3091.0(10)*									
3096.35(9)									
3108(10)	7^+								
3114.1(6)**	3,4						100		
3121.4(4)**					69(8)			31(13)	
3132.2(3)									
3141.5(1)									
3151.5(10)*									
3155.5(2)					14(4)	61(4)		25(7)	
3158.0(11)*									
3162.7(3)									
3179.8(9)*									
3186.6(4)	3^-,4^-			75Jo08		100			
3191.00(8)									
3199.3(9)									
3203.2(1)				75Jo08			64(5)		

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*: 0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}		J_f^π: 5^+	2^+	4^+	3^+	5^+
3216.2(2)					100				
3231.9(10)*									
3238.5(3)				78Ro18					
≈3265									
3272.9(8)*									
3279.5(1)									
3283.8(2)	3,4			78Ro18	37(6)			35(3)	
≈3314				78Ro18					
3336.5(2)								54(5)	46(6)
3343.26(18)				78Ro18					
3359.9(9)*									
≈3367									
3375.4(11)*									
3380.1(5)*									
≈3393	3^-,4^-			78Ro18					
3415.51(12)									
≈3436									
3443.0(8)*									
3453.3(9)*									
3460.4(3)				78Ro18		100			
3465.53(21)	[1^+]	92		73Ca07					
3469(10)	7^+			94Fi01					
3496.94(24)									
3510.7(3)*									
3514.79(23)					38(9)				
3519.2(8)*									
3525.8(4)*									
3529(10)									
3536.7(17)*									
3560(20)	5^+								
3562.09(24)				78Ro18		12.0(16)			
3588.98(13)	3^-,4^-			78Ro18					
3594.92(22)		17		73Ca07					
3600.4(9)*									
≈3622	3^-,4^-			78Ro18					
3635.1(9)*									
3646.6(5)	⟨9⟩		<0.35 ps						
3650.4(4)		29		78Ro18					
3654.9(13)*									
3666.8(9)*									
3674(10)**	7^+								
3690.5(7)	⟨9⟩		<0.28 ps	78Ro18					

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*: 0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}		J_f^π: 5^+	2^+	4^+	3^+	5^+
3696.9(4)									
≈3721									
3734.7(6)*									
3742.44(16)								20(2)	
3765.2(8)*									
3780(20)	7^+			78Ro18					
3790.7(10)*									
3797.98(17)				78Ro18					
3814.7(11)*									
3827.6(3)				78Ro18					
3841.2(6)	⟨9⟩		<0.35 ps						
3871.1(6)	3^-,4^-			75Ue01					
3914.8(8)				75Ue01			28(14)		
3921.7(9)*									
3928.0(9)									
≈3949				78Ro18					
3987.1(6)				03Su36					
≈4005	3^-,4^-			78Ro18					
4012.16(16)	3,4								
4025.6(6)				03Su36					
4041.3(9)	7^+			03Su36					
≈4049				78Ro18					
≈4067	3^-,4^-			78Ro18					
≈4085									
4100.97(21)				78Ro18		18(4)	68(5)		
4112.5(4)				78Ro18	100				
≈4134									
4156.57(18)	3^-,4^-			78Ro18					
≈4166									
4194.0(4)				78Ro18					58(8)
≈4206				78Ro18					
4212.8(7)	3,4								
4253.9(3)									
4270.02(24)	3^-,4^-			78Ro18					
4277.0(6)	⟨10⟩		0.1(6) ps						
4280(30)									
4292.05(12)									
4297.8(4)									
≈4307									
≈4325									
≈4341	$[1^+]$	113		73Ca07					
≈4365	3^-,4^-			78Ro18					

(continued) **$^{60}_{27}$Co**

E^* [keV]	J^π	σ (τ,p) μb/sr	$T_{1/2}$ or Γ_{cm}	Ref.	Branching ratios in percentage				
				E_f^*:	0.0	58.6	277	288	436
				J_f^π:	5^+	2^+	4^+	3^+	5^+
≈4390	3^-,4^-			78Ro18					
≈4408				94Fi01					
≈4420									
≈4452				78Ro18					
4485(10)		73		78Ro18					
≈4507				78Ro18					
4514.0(4)									
≈4523									
4540.7(12)				78Ro18					
4550(30)	7^+								
≈4563				78Ro18					
≈4594				78Ro18					
4601.0(2)								32(4)	
≈4610				78Ro18					
≈4626		46		73Ca07					
≈4668									
≈4698	3^-,4^-			78Ro18					
4700(30)	7^+								
≈4713									
4752.3(1)				78Ro18					
≈4773				78Ro18					
≈4786				78Ro18					
4800(30)	7^+								
4800.1(3)	3^-,4^-			78Ro18	22(3)				
4811.3(5)									
4817				78Ro18					
4827.5(7)	⟨11⟩		<0.28 ps						
≈4841									
≈4864				78Ro18					
4874.2(9)									
≈4893				78Ro18					
≈4917	3^-,4^-			78Ro18					
≈4932				78Ro18					
≈4965				78Ro18					
≈4980				78Ro18					
≈4995									
≈5014									
≈5031									

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*: 0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}		J_f^π: 5^+	2^+	4^+	3^+	5^+
≈5057									
≈5083									
≈5098									
≈5113				78Ro18					
≈5133									
≈5146									
5160.8(6)	⟨11⟩		<0.28 ps						
≈5189									
≈5202				78Ro18					
≈5243				78Ro18					
≈5271				78Ro18					
≈5291									
≈5306									
≈5326									
≈5350									
≈5372				78Ro18					
≈5394									
≈5411									
5424**				78Ro18					
≈5440									
≈5456									
≈5471				78Ro18					
≈5488				78Ro18					
≈5529									
≈5545				78Ro18					
≈5560				94Fi01					
5575.6(8)			<0.14 ps						
≈5591				78Ro18					
≈5610				78Ro18					
≈5638				78Ro18					
≈5655									
≈5670									
≈5684									
≈5705				78Ro18					
≈5731				78Ro18					
≈5750									
≈5773									
≈5809									
≈5822									
≈5838									
≈5852									
≈5871									
≈5889				78Ro18					
≈5928				78Ro18					
≈5943									

(continued) **$^{60}_{27}$Co**

E^*	J^π	σ (τ,p)	$T_{1/2}$ or	Ref.	Branching ratios in percentage					
					E_f^*:	0.0	58.6	277	288	436
[keV]		μb/sr	Γ_{cm}		J_f^π:	5^+	2^+	4^+	3^+	5^+
5955**				78Ro18						
≈5973				78Ro18						
≈5987										
≈5999				78Ro18						
≈6013										
≈6027										
≈6047										
≈6066										
≈6088										
≈6104										
≈6129										
≈6146										
≈6165										
≈6180										
≈6198										
6417(1)	⟨12⟩		<0.14 ps							
7050(50)										
7491.9(1)	3^-,4^-									
≈7514										
7790(40)										
8122(2)	⟨13⟩		<0.35 ps							
8690										
		78Ta02		Ref.						
				Ref.						

Energy levels and branching ratios [03Tu08]. Part 3 **$^{60}_{27}$Co**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	506	543	614	738.8	785.7	1003.9	1005.8	1132.0	1150.7	1207.8
[keV]		J_f^π:	3^+	2^+	3^+	1^+	4^+	⟨3,4⟩	4		⟨2^+,3^+⟩	5^+
738.80(2)	1^+			41.4(6)								
785.71(1)	4^+				1.2(2)							
1003.91(2)	⟨3,4⟩			25.6(2)								
1005.80(2)	4				51.5(4)		1.84(7)					
1132.0(2)						100						
1216.85(3)	4		81(1)									
1341.86(3)	2^+,3^+			33.6(9)								
1379.74(6)	6^+											16(5)
1451.21(3)	4^+			58(2)			42(2)					
1508.30(9)	2^+,3^+		100									
1515.80(3)	4^+				13.2(2)							
1639.84(3)	3^+–5^+						69.6(16)					

(continued) **$^{60}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E_f^*:	506	543	614	738.8	785.7	1003.9	1005.8	1132.0	1150.7	1207.8
[keV]		J_f^π:	3^+	2^+	3^+	1^+	4^+	⟨3,4⟩	4		⟨2^+,3^+⟩	5^+
1686.21(5)	1^+					100						
1749.29(3)	3^+			12(2)			19.2(6)					
1787.62(4)	$5^{\langle+\rangle}$								70(2)			
1877.15(5)	2				x							
1888.90(4)	4^+				54(2)				19.6(10)			
2032.7(1)	2^+,3^+											100
2045.4(1)			65(8)									35(5)
2121.82(5)	3^+,4^+							79(4)				
2151.9(3)									100			
2221.56(9)	4^+								47(2)			
2341.82(8)							100					
2351.9(1)**				79(32)								
2423.3(1)**	4							100				
2488.7(1)	5		31(4)									
2569.96(7)	4		18(1)									
2655.7(2)											100	
2710.0(2)	2–4		100									
2768.1(3)			42(8)									
2771.3(2)										100		
2825.6(1)	3^-,4^-		100									
2845.0(1)			69(12)									
2867.6(1)			45(6)			55(5)						
2884.92(8)	3^-,4^-						53(3)					
2996.9(3)				100								
3096.35(9)						100						
3132.2(3)							100					
3283.8(2)	3,4		27(3)									
3343.26(18)							100					
3797.98(17)			32(9)									
3827.6(3)			60(8)									
3871.1(6)	3^-,4^-			100								
3914.8(8)			72(18)									
3928.0(9)												100
4194.0(4)				42(7)								
4212.8(7)	3,4			100								
4253.9(3)									100			
4292.05(12)					72(5)							
4540.7(12)				100								
4601.0(2)							68(4)					
4752.3(1)			4.7(12)				80(4)					

Energy levels and branching ratios [03Tu08]. Part 4 **$^{60}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E^*_f:	1216.4	1216.8	1341.9	1379.7	1381.0	1451.2	1508.3	1515.8	1565.9	1639.8
[keV]		J^π_f:	6^+	4	$2^+,3^+$	6^+	3^+	4^+	$2^+,3^+$	4^+	2	
1565.94(3)	2				10.4(15)							
1800.2(2)	$\langle 6\rangle^-$		6.0(20)			1.0(10)						
2132.2(2)	$\langle 7^-\rangle$		18(5)									
2183.10(6)	$2^+,3^+$										100	
2351.9(1)**				21(2)								
2488.7(1)	5			27(2)								
2585.73(7)										15.0(15)		
3022.28(9)	3,4											66(4)
3141.5(1)				100								
3650.4(4)			100									
3797.98(17)												68(7)
4297.8(4)									100			
4800.1(3)	$3^-,4^-$							24(4)				
4811.3(5)									100			
4874.2(9)							100					

Energy levels and branching ratios [03Tu08]. Part 5 **$^{60}_{27}$Co**

E^*	J^π		Branching ratios in percentage									
		E^*_f:	1686.2	1709.7	1749.3	1787.6	1800.2	1808.6	1833.2	1852.7	1983.5	2032.7
[keV]		J^π_f:	1^+		3^+	$5^{\langle+\rangle}$	$\langle 6\rangle^-$			4^+		$2^+,3^+$
1983.5(2)								100				
2132.2(2)	$\langle 7^-\rangle$						82(5)					
2529.0(2)							90(3)					
2622.1(2)												100
2845.0(1)			31(4)									
2936.5(1)				100								
3010.1(3)									100			
3279.5(1)												100
3465.53(21)	$[1^+]$					100						
3588.98(13)	$3^-,4^-$				100							
3594.92(22)								85(16)			15(3)	
3742.44(16)								25(2)	5(1)			
4270.02(24)	$3^-,4^-$					100						
4514.0(4)										19(4)		

Energy levels and branching ratios [03Tu08]. Part 6 **$^{60}_{27}$Co**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	2080.8	2121.8	2132.2	2133.4	2151.9	2199.9	2230.4	2351.9	2364.0	2431.0
[keV]		J_f^π:			$\langle 7^- \rangle$	3,4						$3^-,4^-$
2431.0(1)**	$3^-,4^-$					64(2)						
2450.9(2)	3,4		100									
2585.73(7)										11.0(5)		
2823.2(5)	$\langle 8 \rangle^-$				100							
2901.81(9)				100								
2944.2(3)**								100				
2963.1(1)												100
3191.00(8)											100	
3203.2(1)									36(2)			
3415.51(12)			100									
3696.9(4)							100					
3742.44(16)								7(1)				
4752.3(1)										15.2(20)		

Energy levels and branching ratios [03Tu08]. Part 7 **$^{60}_{27}$Co**

E^*	J^π					Branching ratios in percentage						
		E_f^*:	2469.7	2560.0	2685.3	2718.8	2768.1	2801.6	2809.7	2823.2	2936.5	
[keV]		J_f^π:			$3^-,4^-$	1				$\langle 8 \rangle^-$		
3162.7(3)				100								
3514.79(23)					62(5)							
3562.09(24)			88.0(21)									
3646.6(5)	$\langle 9 \rangle$									100		
3690.5(7)	$\langle 9 \rangle$									100		
3742.44(16)						43.3(10)						
3827.6(3)							40(4)					
3841.2(6)	$\langle 9 \rangle$									100		
4012.16(16)	3,4										100	
4514.0(4)									52(3)			
4800.1(3)	$3^-,4^-$							54(5)				

Energy levels and branching ratios [03Tu08]. Part 8 **$^{60}_{27}$Co**

E^*	J^π				Branching ratios in percentage						
		E_f^*:	3084.6	3096.3	3132.2	3646.6	3841.2	4277.0	4827.5	5160.8	5575.6
[keV]		J_f^π:				$\langle 9 \rangle$	$\langle 9 \rangle$	$\langle 10 \rangle$	$\langle 11 \rangle$	$\langle 11 \rangle$	
4100.97(21)					14(3)						
4277.0(6)	$\langle 10 \rangle$					89(4)	11(4)				
4292.05(12)				27.9(18)							

(continued) **$^{60}_{27}$Co**

E^*	J^π	Branching ratios in percentage								
	E_f^*:	3084.6	3096.3	3132.2	3646.6	3841.2	4277.0	4827.5	5160.8	5575.6
[keV]	J_f^π:				⟨9⟩	⟨9⟩	⟨10⟩	⟨11⟩	⟨11⟩	
4514.0(4)		29(3)								
4827.5(7)	⟨11⟩						100			
5160.8(6)	⟨11⟩						100			
5575.6(8)								100		
6417(1)	⟨12⟩								100	
8122(2)	⟨13⟩									100

Energy levels and branching ratios [99Bh04]. **$^{61}_{27}$Co**

E^*	$2J^\pi$	L	σ (t,p)	σ (t,p)	L	$G_{\ell j}$	L	C^2S	σ (t,α)	$G_{\ell j}$	$T_{1/2}$ or	Ref.
[keV]		(t,p)	μb/sr	μb/sr		(d,τ)		(t,α)	μb/sr	(p,α)	Γ_{cm}	
0.0	7^-	0	947	4820	0	4.47	0	4.77	3300	100.0	1.650(5) h	84Ma60
1027.48(8)	3^-	2	46	56	1	0.59	1	0.33	234	1.4	<100 ns	84Ma60
1205.09(9)	3^-–7^-	2	11	13					25		<100 ns	71Hu01
1272(25)									34	3.1		
1285.7(2)	X^-	2	38	44					33		0.6(1) ps	85Fo02
1325.4(1)	⟨1⟩								25		<100 ns	
1618.9(2)	5^-,7^-			54	3	0.44			171			84Ma60
1631(7)	⟨5,7⟩$^-$	2	25				⟨3⟩	0.48				71Hu01
1645.9(1)	⟨3^-–7^-⟩											
1664.6(5)	11^-		142	192						23.3	7(+7-2) ps	85Fo02
1682(25)	⟨5^-,7^-⟩	2	incl				⟨3⟩	0.28	99	4.1		71Hu01
1889.2(3)	5^-,7^-	2	8.8		3	0.21,0.12			95	2.6		84Ma60
1953.2(2)	1^-,3^-	4	4.4		1	0.06,0.05	1		44			84Ma60
2011.5(2)	X^-	2+4	4.1									85Fo02
2230.9(3)	X^-	2	24	28	0	1.50				44.2		84Ma60
2258(25)	1^+						0	1.22	1340			71Hu01
2303.0(2)	1^-,3^-	2+4	15	15	1	0.08,0.06				incl		84Ma60
2339.1(7)	⟨11^-⟩										1.7(3) ps	
2345.5(8)	5^-,7^-	0+4	52	74	3	0.15,0.25	3	0.24	129			84Ma60
2374.7(8)	⟨13⟩$^-$	4	14	9								85Fo02
2431.4(5)	X^-	2+4	14	13								85Fo02
2448(5)	5^-,7^-				3	0.11,0.06			75			84Ma60
2484.5(4)	X^-	4	4.8									85Fo02
2499(5)					2,3	0.05,0.03						84Ma60
2558.6(8)			70	40						42.5		85Fo02
2571.6(9)			incl							incl		
2574(5)	3^+,5^+	1	incl		2	1.35,0.1	2	1.03	580	incl		84Ma60
2642.3(8)	X^-	2	98	122								85Fo02
2706.7(11)	X^-	2	16									85Fo02
2726.5(10)			incl	18								

(continued) **$^{61}_{27}$Co**

E^* [keV]	$2J^\pi$	L (t,p)	σ (t,p) μb/sr	σ (t,p) μb/sr	L	$G_{\ell j}$ (d,τ)	L	C^2S (t,α)	σ (t,α) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or Γ_{cm}	Ref.
2754.5(4)	3^-–7^-	2	15	14								85Fo02
2780.1(10)			incl									
2864.4(2)	5^-,7^-	2+4	8.3	11	3	0.19,0.1	3	0.19	94			84Ma60
2920.1(5)												
2952.9(10)	X^-	2	9.3	13								85Fo02
2979.9(10)												
3000.3(2)	3^-–7^-	2+4	24									85Fo02
3026(5)	3^+,5^+			29	2	0.20,0.1						84Ma60
3028(25)	5^-,7^-						3	0.26	126			71Hu01
3077(4)	X^-	2	8.0									85Fo02
3104.4(5)												
3116.7(11)												
3127.1(7)	$\langle 15\rangle^-$	2+4	37									85Fo02
3151.7(11)			incl	29					47			
3176.0(9)												
3191.1(6)	X^-	0+4	23									85Fo02
3204.7(3)	X^-						$\langle 2\rangle$	0.37	209			71Hu01
3218(5)	3^+,5^+			31	2	0.37,0.3						84Ma60
3239.2(6)		0	16									85Fo02
3252(9)	X^-											
3349.4(11)												
3357.0(13)			31									
3365.0(7)			incl									
3384.3(11)												
3396.9(12)				31					60			
3409.7(11)												
3417(4)												
3428.4(11)	$\langle 9^-,11^-\rangle$		60		$\langle 5\rangle$	0.1.0.2						84Ma60
3445.1(12)				130					170			
3472.0(7)	$\langle 13^-\rangle$											
3484.8(11)	X^-	2+4	56									85Fo02
3492.5(14)	5^-,7^-				3	0.3,0.2	$\langle 3\rangle$	0.40				84Ma60
3513.6(11)				110								
3535.6(10)			38									85Fo02
3564.7(13)												
3575.3(13)	X^-	2+4		35					143			71Hu01
3599.6(14)					$\langle 0,3\rangle$	0.09						84Ma60
3609.4(13)			33									85Fo02
3658.3(7)	$\langle 15\rangle^-$	2+4										71Hu01
3660(4)	X^+	5	9.0	33					44			85Fo02
3691.5(10)	X^+	3+5	50									85Fo02
3700.2(15)	X^-	4	incl									71Hu01
3727.8(15)	X^-	2+6	16	9								85Fo02
3752.6(12)	X^-	2+4		52								85Fo02
3758.2(15)												

(continued) **$^{61}_{27}$Co**

E^* [keV]	$2J^\pi$	L (t,p)	σ (t,p) μb/sr	σ (t,p) μb/sr	L	$G_{\ell j}$ (d,τ)	L	C^2S (t,α)	σ (t,α) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or Γ_{cm}	Ref.
3775.3(11)	X^+	1	19									85Fo02
3800(5)	5^-,7^-				3	0.15,0.1	⟨3⟩	0.30	115			84Ma60
3806.3(13)												
3814.6(15)	X^-	2+4	24									85Fo02
3827.3(14)												
3869(30)	3^+,5^+			25			2	0.24	128			
3870(25)	$X^{\langle-\rangle}$	2+4										71Hu01
3889.8(13)	3^+,5^+				2	0.2,0.16						84Ma60
3905.6(12)												
3915.7(12)	X^+	3+5	36									85Fo02
3924.4(13)												
3937.1(12)												
3965(25)	⟨5,7⟩$^-$	2+4		32			⟨3⟩	0.31	113			71Hu01
3987	X^-		18									85Fo02
4002(5)					⟨0,3⟩	0.08						84Ma60
4071(6)		3	49									85Fo02
4095.7(5)	⟨17$^-$⟩										0.8(2) ps	
4152(7)	⟨7$^-$⟩	⟨0⟩	22									85Fo02
4211(6)	X^+	5	18									85Fo02
4267(5)					⟨0,3⟩	0.08						84Ma60
4282(4)	X^-	2+6	17									85Fo02
4349(6)	X^-	0	31									85Fo02
4382(5)	3^+,5^+				2	0.33,0.2						84Ma60
4389(3)	X^-	0	40									85Fo02
4455(5)	3^+,5^+				2	0.4,0.25						84Ma60
4499(15)	X^-	0+4	38									85Fo02
4534(6)	X^-	2+6	22									85Fo02
4622(5)	X^-	2	22									85Fo02
4656(5)	3^+,5^+				2	0.4,0.27						84Ma60
4671(7)	X^-	2+6	45									85Fo02
4730												
4753(5)	3^+,5^+				2	0.12,0.1						84Ma60
4766(5)	X^-	2+4	17									85Fo02
4804.2(16)	⟨19$^-$⟩											
4838(6)	X^-	2+6	18									85Fo02
4911(5)	X^-	2	27									85Fo02
4960(5)	5^+–9^+	1	68									85Fo02
4990(5)	3^+,5^+											
5061(5)					⟨2,3⟩	0.1,0.07						84Ma60
5081(12)	X^-	2+4	22									85Fo02
5150(5)					⟨2,3⟩	0.1,0.06						84Ma60
5164(5)	X^+	3	28									85Fo02
5214(5)		2	45									85Fo02
5271(4)	X^+	3+5	59									85Fo02
5321(6)			32									85Fo02

(continued) **$^{61}_{27}$Co**

E^* [keV]	$2J^\pi$	L (t,p)	σ (t,p) μb/sr	σ (t,p) μb/sr	L	$G_{\ell j}$ (d,τ)	L	C^2S (t,α)	σ (t,α) μb/sr	$G_{\ell j}$ (p,α)	$T_{1/2}$ or $\Gamma_{\rm cm}$	Ref.
5388(6)	X$^-$	2	28									85Fo02
		85Fo02	85Fo02			84Ma60			71Hu01			Ref.
				71Hu01				71Hu01		79Sm03		Ref.

Additional data on this isotope can be found in [66Bl15].
$G_{\ell j}$ – spectroscopic strength of the (d,τ) reaction was calculated using the expression $d\sigma/d\Omega_{exp}= =NG_{\ell j}(2j+1)^{-1}d\sigma/d\Omega_{DWBA}$, where j is the total angular momentum of the picked-up proton [84Ma60].

Energy levels and branching ratios [99Bh04]. Part 2 **$^{61}_{27}$Co**

E^*	$2J^\pi$		Branching ratios in percentage									
		$E_{\rm f}^*$:	0.0	1027	1205	1286	1325	1619	1646	1665	1889.2	1953.2
[keV]		$2J_{\rm f}^\pi$:	7$^-$	3$^-$		X$^-$	$\langle 1\rangle$	5$^-$,7$^-$		11$^-$	5$^-$,7$^-$	1$^-$,3$^-$
1027.48(8)	3$^-$		100									
1205.09(9)	3$^-$–7$^-$		96	4.4(4)								
1285.7(2)	X$^-$		100									
1325.4(1)	$\langle 1\rangle$			81(6)	19(2)							
1618.9(2)	5$^-$,7$^-$		62(7)			38(6)						
1645.9(1)	$\langle$3$^-$–7$^-\rangle$		86(4)	12(1)	2.7(6)							
1664.6(5)	11$^-$		80(12)			20(3)						
1889.2(3)	5$^-$,7$^-$		64(13)			26(11)			10(4)			
1953.2(2)	1$^-$,3$^-$			30(4)	70(7)							
2011.5(2)	X$^-$		78(5)	11(2)	3.5(9)		7.1(14)					
2230.9(3)	X$^-$		50(8)	x	x	50(15)						
2303.0(2)	1$^-$,3$^-$			35(7)	39(4)		4(2)		13(6)			9(2)
2339.1(7)	$\langle$11$^-\rangle$					100						
2374.7(8)	$\langle$13$\rangle^-$									100		
2431.4(5)	X$^-$			62(31)							38(19)	
2484.5(4)	X$^-$		100									
2754.5(4)	3$^-$–7$^-$		100									
2864.4(2)	5$^-$,7$^-$			11(2)	62(8)		22(4)					
2920.1(5)			100									
3000.3(2)	3$^-$–7$^-$			5(1)				30(4)				
3104.4(5)					100							
3127.1(7)	$\langle$15$\rangle^-$									20(8)		
3191.1(6)	X$^-$		100									
3204.7(3)	X$^-$		7(2)	32(7)	20(7)		40(6)					
3239.2(6)			100									
3365.0(7)			100									
3472.0(7)	$\langle$13$^-\rangle$									80(10)		

Energy levels and branching ratios [99Bh04]. Part 3 **$^{61}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage								
	E_f^*:	2011.5	2230.9	2303.0	2339.1	2374.7	3127.1	3472.0	3660	4095.7
[keV]	$2J_f^\pi$:	X^-	X^-	1^-,3^-	$\langle 11^-\rangle$	$\langle 13\rangle^-$	$\langle 15\rangle^-$	$\langle 13^-\rangle$	X^+	$\langle 17^-\rangle$
2864.4(2)	5^-,7^-			4(2)						
3000.3(2)	3^-–7^-	45(10)	12(3)	9(2)						
3127.1(7)	$\langle 15\rangle^-$					80(16)				
3472.0(7)	$\langle 13^-\rangle$				20(7)					
3658.3(7)	$\langle 15\rangle^-$						29(6)	71(9)		
4095.7(5)	$\langle 17^-\rangle$								100	
4804.2(16)	$\langle 19^-\rangle$									100

Energy levels and branching ratios [99Si11, 00Hu18]. **$^{62}_{27}$Co**

E^*	J^π	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	22	609.7	1216	1543
[keV]		(d,α)	Γ_{cm}		J_f^π:	2^+	5^+	5^+	$\langle 6^+\rangle$	
0.0	2^+	$\langle 0+2\rangle$	1.50(4) m	72Ba31						
22(5)	5^+		13.91(5) m							
230(5)		4		72Ba31						
244(5)										
506.1(1)	1^+	0+2		72Ba31		100				
530(8)	1^+	0+2		72Ba31						
609.71(14)	5^+	4		72Ba31			100			
696(10)										
706(10)	3^+–5^+	4		72Ba31						
863(10)										
901(10)										
920(10)										
1170(10)										
1216.30(15)	$\langle 6^+\rangle$						75	25.1		
1248(10)										
1271(5)	3^+,4^+									
1360(5)	1^+–3^+	2		72Ba31						
1470(8)	1^+–3^+									
1500(10)										
1543.2(2)			1.32(28) ps						100	
1660(15)										
1695(10)										
1803(10)	1^+–3^+	$\langle 2\rangle$		72Ba31						
1820(10)										
1873(15)										
1980(20)										
2079(10)										
2120(15)										
2135(15)										

(continued) **$^{62}_{27}$Co**

E^*	J^π	L	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
					E_f^*:	0.0	22	609.7	1216	1543
[keV]		(d,α)	Γ_{cm}		J_f^π:	2^+	5^+	5^+	$\langle 6^+ \rangle$	
2165(15)										
2281(10)										
2310(1)	$\langle 8 \rangle$		<0.28 ps							100
2344(10)	7^+	6		88Na01						
2420(10)										
2521(10)	1^+–3^+	$\langle 2 \rangle$		72Ba31						
2647(10)										
2754(10)										
2880(20)	7^+	6		88Na01						
4180(30)	7^+	6		88Na01						
4380(30)	7^+	6		88Na01						
4450(30)	7^+	6		88Na01						
4600(30)	7^+	6		88Na01						
		88Na01		Ref.						

Energy levels and branching ratios [01Ba27]. **$^{63}_{27}$Co**

E^*	$2J^\pi$	L	C^2S	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
								E_f^*:	0.0	995	1383	1427	1495
[keV]			(d,τ)		(t,α)	Γ_{cm}		$2J_f^\pi$:	7^-	3^-	$\langle 9^- \rangle$	$\langle 7^-,5^- \rangle$	$\langle 3^- \rangle$
0.0	7^-	3	4.53	3	6.93	27.4(5) s	91Se09						
994.9(2)	3^-	1	0.34	1	0.41	>10 ps	66Bl15		100				
1383.5(1)	$\langle 9^- \rangle$		0.06,0.03				91Se09		100				
1427.1(2)	$\langle 7^-,5^- \rangle$	$\langle 3 \rangle$	0.01,0.01				91Se09		88(8)	11.7(5)			
1494.7(2)	$\langle 3^- \rangle$		0.08,0.04	$\langle 1 \rangle$	0.03		66Bl15		85(5)	15(2)			
1576.9(3)										87(11)		13(3)	
1672	$\langle 11^- \rangle$	$\langle 5 \rangle$	0.17,0.54				91Se09		87(10)		13(5)		
1888.6(4)	1^-	1	0.04	$\langle 1 \rangle$	0.06		66Bl15			65(15)		35(10)	
2077.3(3)	$\langle 5,7 \rangle^-$	3					91Se09		48(6)				52(6)
2128.2(2)	7^-	3	0.73	3	1.36	155(+34-26) fs	66Bl15		53(2)		47(2)		
2190.6(2)	1^+	0	0.83	0	1.19	47(+45-21) fs	66Bl15			96(1)			
2330.0(1)	7^-	3	0.68	3	1.12	143(+22-16) fs	66Bl15		35(3)		38(3)		27(1)
2375(1)	$\langle 5$–$9 \rangle^-$					136(+108-4) fs			100				
2473(5)		3	0.06,0.03				91Se09						
2539	$\langle 11^- \rangle$								8(4)		92(8)		
2688.8(2)	$3^+,5^+$	2	0.99,0.61	2	1.42	238(+54-41) fs	66Bl15			78(1)		9(1)	
2793.9(3)		3	0.14,0.07				91Se09		7(2)	20(4)			73(5)
2882(5)		1	0.02,0.01				91Se09						
2932(25)	$7^-,5^-$	$\langle 3 \rangle$	0.17,0.09	3	0.25		66Bl15						
3007	$\langle 13^- \rangle$										45(20)		
3033	$\langle 13 \rangle$	3	0.19,0.10				91Se09						
3037(1)	$5,7^-$			3	0.20		66Bl15		100				

(continued)

$^{63}_{27}$Co

E^*	$2J^\pi$	L	C^2S	L	S_N	$T_{1/2}$ or	Ref.	Branching ratios in percentage				
								E_f^*:	0.0	995	1383	1427	1495
[keV]			(d,τ)		(t,α)	Γ_{cm}		$2J_f^\pi$:	7^-	3^-	$\langle 9^- \rangle$	$\langle 7^-,5^- \rangle$	$\langle 3^- \rangle$
3133.3(9)	$\langle 5^-,7^- \rangle$	$\langle 3 \rangle$	0.14,0.07			0.15(+10-5) ps	91Se09		100				
3179.8(8)	$5^-,7^-$	$\langle 3 \rangle$	0.51,0.26	3	0.42	56(+13-10) fs	66Bl15		100				
3203	$\langle 15 \rangle^-$												
3223	$\langle 15^- \rangle$												
3412.1(6)	$\langle 3,5 \rangle^+$	3,2				41(+41-20) fs	91Se09		73(3)		27(3)		
3422.0(11)	$\langle 7,5 \rangle^-$									100			
3581	$\langle 17 \rangle^-$					1.2(+6-3) ps							
3601.8(57)	$\langle 5,7 \rangle^-$	3	0.09,0.18				91Se09		100				
3610	$\langle 17^- \rangle$					0.7(2) ps							
3676(5)		3	0.10,0.05				91Se09						
3766(5)		3	0.16,0.07				91Se09						
3893(5)		$\langle 2 \rangle$	0.47,0.24				91Se09						
3985(5)		3	0.22,0.14				91Se09						
4039(5)	$3^+,5^+$	$\langle 2 \rangle$	0.02,0.01				91Se09						
4094(5)		$\langle 2 \rangle$	0.09,0.04				91Se09						
4127(5)		$\langle 2 \rangle$	0.15,0.10				91Se09						
4167	$\langle 19 \rangle^-$					0.2 ps							
4234(5)		$\langle 2 \rangle$	0.22,0.14				91Se09						
4376(5)		$\langle 2 \rangle$	0.20,0.13				91Se09						
4453(5)		$\langle 2 \rangle$	0.11,0.07				91Se09						
4524(5)		$\langle 2 \rangle$	0.07,0.03				91Se09						
4538(5)		$\langle 2 \rangle$	0.05,0.03				91Se09						
4588(5)		$\langle 2 \rangle$	0.08,0.05				91Se09						
4700(5)		$\langle 2 \rangle$	0.04,0.03				91Se09						
4722(5)		$\langle 2 \rangle$	0.05,0.03				91Se09						
4820(5)		$\langle 2 \rangle$	0.07,0.04				91Se09						
4886(5)		$\langle 2 \rangle$	0.13,0.08				91Se09						
4968(5)		$\langle 2 \rangle$	0.03,0.02				91Se09						
5010(5)		$\langle 2 \rangle$	0.05,0.03				91Se09						
5080(5)		$\langle 2 \rangle$	0.14,0.09				91Se09						
5215(5)		$\langle 2 \rangle$	0.12,0.07				91Se09						
5294(5)		$\langle 2 \rangle$	0.10,0.06				91Se09						
5342(5)		$\langle 2 \rangle$	0.11,0.07				91Se09						
5457(5)		$\langle 2 \rangle$	0.11,0.07				91Se09						
5659(5)	$3^+,5^+$	2	0.12,0.07				91Se09						
			91Se09		66Bl15		Ref.						

Additional data on this isotope can be found in [92Se03, 91Se09, 79Ha03].
S_N for the (t,α) reaction is defined by S_N=$d\sigma/d\Omega(exp)$=1/2×N×$S_N d\sigma/d\Omega(DWBA)$ with N=38.

Energy levels and branching ratios [01Ba27]. Part 2 **$^{63}_{27}$Co**

E^*	$2J^\pi$	Branching ratios in percentage									
	E^*_f:	1672	1889	2191	2539	3007	3033	3203	3223	3581	3610
[keV]	$2J^\pi_f$:	$\langle 11^- \rangle$	1^-	1^+	$\langle 11^- \rangle$	$\langle 13^- \rangle$	$\langle 13 \rangle$	$\langle 15 \rangle^-$	$\langle 15^- \rangle$	$\langle 17 \rangle^-$	$\langle 17^- \rangle$
2190.6(2)	1^+		4(1)								
2688.8(2)	$3^+,5^+$			13(1)							
3007	$\langle 13^- \rangle$	55(20)									
3033	$\langle 13 \rangle$				100						
3203	$\langle 15 \rangle^-$	44(15)				56(18)					
3223	$\langle 15^- \rangle$						100				
3581	$\langle 17 \rangle^-$								100		
3610	$\langle 17^- \rangle$							100			
4167	$\langle 19 \rangle^-$									58(8)	42(13)

Energy levels [96Si12, 00HaZL]. **$^{64}_{27}$Co**

E^*	J^π	L	σ (t,τ)	$T_{1/2}$ or	Ref.
[keV]		(t,τ)	μb/sr	Γ_{cm}	
0	1^+		7.3	0.30(3) s	72Fl17
176(30)			0.8		72Fl17
310.8			2.0		72Fl17
463(15)			3.9		72Fl17
703(15)			2.9		72Fl17
804(15)			6.7		72Fl17
867(15)			8.0		72Fl17
953(15)			4.3		72Fl17
1067(15)			1.6		72Fl17
1144(15)			9.7		72Fl17
1300(15)			1.4		72Fl17
1423(15)			1.7		72Fl17
1541(15)			2.2		72Fl17
1687(15)			1.7		72Fl17
1806(30)			1.4		72Fl17
1906(15)			8.4		72Fl17
2051(15)			5.5		72Fl17
			72Fl17		Ref.

Values tabulated are average of 20°, 25° and 30° cross sections [72Fl17].