Target isotope: $^{54}_{26}$Fe $I^{\pi}_{\circ} = 0^+$ *Abundance:* 5.845(35) % $S_{\mathrm{p}} = 5064.27(33)$ keV

$^{55}_{27}$Co(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_{p} [eV]	γ^2_{p} [keV]	$\Gamma_{\mathrm{p_1}}$ [eV]	$\gamma^2_{\mathrm{p_1}}$ [keV]	$\Gamma_{\mathrm{p_2}}$ [eV]	$\gamma^2_{\mathrm{p_2}}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_{cm} [keV]	E^* [keV]	Ref.			
884.5(10)										868	5933(3)	80Ha36	63Hu04		
894.9										879	5943(3)	80Ha36			
961.7										944	6009(3)	80Ha36	63Hu04		
1100.5										1081	6145(3)	80Ha36			
1105.8**										1086	6150(3)	80Ha36	63Hu04	67Er04	
1133.0										1112	6177(3)	80Ha36			
1162.4**	5^+									1141	6206(3)	80Ha36	67Er04		
1167										1146	6210(3)	67Er04			
1226.0**	5^-								0.078(2)	1204	6268(3)	80Ha36	67Er04	80Ul01	
1253										1230	6294(3)	67Er04			
1287.8**	3^-									1264	6329(3)	80Ha36	67Er04		
1328.9**	5^+									1305	6369(3)	80Ha36	67Er04		
1369**										1344	6408(3)	68Ma43	67Er04		
1386										1361	6425(3)	67Er04			
1476.2**	3								0.038(2)	1449	6514(3)	80Ha36	67Er04	80Ul01	
1638.7**										1609	6673(3)	80Ha36	67Er04		
1654.7**										1625	6689(3)	80Ha36	67Er04		
1667.0**	5								0.090(3)	1637	6701(3)	80Ha36	67Er04	80Ul01	
1679.9**	1^-								0.180(5)	1649	6714(3)	80Ha36	67Er04	80Ul01	
1698										1667	6731(3)	67Er04			
1722.4**	5								0.63(1)	1691	6755(3)	80Ha36	77Ri14	80Ul01	
1747.5**	3^-								0.42(2)	1716	6780(3)	80Ha36	67Er04	80Ul01	
1769.9**										1738	6802(3)	80Ha36	67Er04		
1794.0**										1761	6826(3)	80Ha36	67Er04		
1803.0	3^-	3	15(8)	7.55					0.98	1770	6834(3)	91Hu07	77Ri14	71Li14	71Le25
1803.5**	5^-									1771	6835(3)	91Hu07	67Er04		
1845.7**	7^-									1812	6876(3)	80Ha36	67Er04		
1855.5										1822	6886(3)	80Ha36			
1863.2										1829	6894(3)	80Ha36			
1887.4**	5^-	3							0.45	1853	6917(3)	80Ha36	77Ri14	67Er04	71Le25
1910.0										1875	6940(3)	80Ha36			
1914.5**	1^-		20(10)	5.89						1880	6944(3)	80Ha36	71Li14		
1921.5										1887	6951(3)	80Ha36	67Er04		
1957(6)										1921	6986(3)	67Er04			
1980.3										1944	7009(3)	80Ha36	67Er04		
1997.5										1961	7026(3)	80Ha36	67Er04		
2010.1										1974	7038(3)	80Ha36			
2075.1	5									2037	7102(3)	80Ha36			
2127.3										2089	7153(3)	80Ha36			
2168.1	5									2129	7193(3)	80Ha36			
2196.0										2156	7220(3)	80Ha36			
2209.4										2169	7234(3)	80Ha36			
2215.4	$\langle 1 \rangle$		30(10)	2.66						2175	7239(3)	80Ha36	71Li14		
2237.9	$\langle 1 \rangle$		8(5)	0.65						2197	7262(3)	80Ha36	71Li14		
2245.5	3^-		225(40)	17.7						2205	7269(3)	80Ha36	71Li14		

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.		
2260.8												2220	7284(3)	80Ha36		
2270.3	5^-											2229	7293(3)	80Ha36		
2297.1	5											2255	7320(3)	80Ha36		
2302.9												2261	7325(3)	80Ha36		
2309.6	$\langle 1\rangle$		25(10)	1.61								2268	7332(3)	80Ha36	71Li14	
2312.9												2271	7335(3)	89Di08	91Hu07	
2323.0												2281	7345(3)	89Di08	91Hu07	
2342.7**												2300	7364(3)	80Ha36	89Di08	
2353.4**												2311	7375(3)	80Ha36	89Di08	
2362.7**	1^-		60(15)	3.26								2320	7384(3)	80Ha36	89Di08	71Li14
2371.2												2328	7392(3)	89Di08	91Hu07	
2380.3	3^-											2337	7401(3)	89Di08	91Hu07	
2435.2*	1^-		200(35)	8.47								2391	7455(3)	71Li14	89Di08	
2436.3*	1^-		40(10)	1.69								2392	7456(3)	71Li14	89Di08	
2476.7	5^-											2432	7496(3)	89Di08	91Hu07	
2481.0												2436	7500(3)	77Er02	91Hu07	
2499.3												2454	7518(3)	89Di08	91Hu07	
2501.3*	1^-		125(25)	4.41								2456	7520(3)	71Li14	89Di08	
2545.4	5^-											2499	7563(3)	89Di08	91Hu07	
2547.5*	1^-		180(35)	5.57								2501	7566(3)	71Li14		
2559.5	5											2513	7577(3)	89Di08	91Hu07	
2577.6*	$\langle 3^-\rangle$		20(10)	0.57								2531	7595(3)	71Li14	89Di08	
2593.1	5^-											2546	7610(3)	89Di08	91Hu07	
2603.7	7^-											2556	7621(3)	89Di08	91Hu07	
2604.8*	5^+		35(10)	4.07								2557	7622(3)	71Li14		
2609.7	5											2562	7627(3)	89Di08	91Hu07	
2613.0												2565	7630(3)	77Er02	91Hu07	
2615.8	7^-											2568	7633(3)	89Di08	91Hu07	
2625.0	3											2577	7642(3)	89Di08	91Hu07	
2625.3*	1^-		35(10)	0.88								2578	7642(3)	71Li14		
2633.3	7^-											2585	7650(3)	89Di08	91Hu07	
2645.6*	$\langle 1^-\rangle$		25(10)	0.59								2598	7662(3)	71Li14	89Di08	
2663.3	5											2615	7679(3)	89Di08	91Hu07	
2685.4*	1^-		175(40)	3.76								2637	7701(3)	71Li14		
2687.5	5^-											2639	7703(3)	89Di08	91Hu07	
2730.2*	5^+		25(10)	2.04								2681	7745(3)	71Li14		
2733.5												2684	7748(3)	89Di08	91Hu07	
2750.0*	3^-		100(20)	1.82								2700	7765(3)	71Li14		
2750.9*	1^-		650(80)	11.8								2701	7765(3)	71Li14	69Ah01	
2764.7*	1^+		450(50)	3.77								2714	7779(3)	71Li14	69Ah01	
2766.7												2716	7781(3)	89Di08	91Hu07	
2776.9												2726	7791(3)	89Di08	91Hu07	
2791.3	3											2741	7805(3)	89Di08	91Hu07	
2799.7*	1^-		75(15)	1.22								2749	7813(3)	71Li14		
2823.3*	1^-		350(50)	5.39								2772	7836(3)	71Li14		

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.	
2855.5	5											2804	7868(3)	89Di08	91Hu07
2860.0												2808	7872(3)	77Er02	91Hu07
2863.2*	5^+		180(25)	10.3								2811	7875(3)	71Li14	
2863.4	5^-											2811	7876(3)	89Di08	91Hu07
2867.1*	3^-		10(5)	0.14								2815	7879(3)	71Li14	
2871.9	7											2820	7884(3)	89Di08	91Hu07
2876.2												2824	7888(3)	89Di08	91Hu07
2883.0												2831	7895(3)	89Di08	91Hu07
2896.7												2844	7908(3)	89Di08	91Hu07
2918.7												2866	7930(3)	89Di08	91Hu07
2926.6	3^-											2873	7938(3)	89Di08	91Hu07
2929.2												2876	7940(3)	89Di08	91Hu07
2934.6												2881	7946(3)	89Di08	91Hu07
2940.0												2887	7951(3)	89Di08	91Hu07
2944.5*	1^+		10(5)	0.06								2891	7955(3)	71Li14	89Di08
2953.0*	1^-		750(100)	8.62								2899	7964(3)	71Li14	89Di08
2954.9*	5^+		200(30)	9,17								2901	7965(3)	71Li14	89Di08
2964.9	5^+											2911	7975(3)	89Di08	91Hu07
2973.5												2919	7984(3)	89Di08	91Hu07
2996.6												2942	8006(3)	89Di08	91Hu07
3006.4												2952	8016(3)	89Di08	91Hu07
3009.8												2955	8019(3)	89Di08	91Hu07
3020.0*	1^-		500(60)	5.0								2965	8029(3)	71Li14	89Di08
3020.5*	1^-		200(30)	2.0								2966	8030(3)	71Li14	89Di08
3040.9												2986	8040(3)	89Di08	91Hu07
3046.2*	1^-		35(10)	0.33								2991	8055(3)	71Li14	
3046.6	3											2991	8056(3)	89Di08	91Hu07
3056.3*	3^-		250(30)	2.33								3001	8065(3)	71Li14	89Di08
3056.7*	3^-		100(20)	0.93								3001	8065(3)	71Li14	89Di08
3061.6	7											3006	8070(3)	89Di08	
3075.5												3020	8084(3)	89Di08	
3080.2*	3^+		30(10)	1.03								3024	8089(3)	71Li14	89Di08
3087.7												3032	8096(3)	89Di08	
3096.3*	$\langle 5^- \rangle$		8(5)	1.87								3040	8104(3)	71Li14	89Di08
3116.0	$\langle 1^- \rangle$		25(10)	0.11								3059	8124(3)	71Li14	89Di08
3121.9*	5^+		1200(100)	37.6								3065	8129(3)	71Li14	89Di08
3125.7*	1^-		60(15)	0.49								3069	8133(3)	71Li14	89Di08
3128.8	5^-											3072	8136(3)	89Di08	
3132.3	3^-											3075	8140(3)	89Di08	
3136.4	3^+											3079	8144(3)	89Di08	
3136.4*	1^-		70(15)	0.56								3079	8144(3)	71Li14	
3147.6	7^-											3090	8155(3)	89Di08	
3160.5	5^+											3103	8167(3)	89Di08	
3164.3	5^+											3107	8171(3)	89Di08	
3166.3*	1^-		1600(120)	12.1								3109	8173(3)	71Li14	89Di08

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3172.8										3115	8179(3)	89Di08		
3183.4	5^-									3126	8190(3)	89Di08		
3183.5*	1^-	40(15)	0.29							3126	8190(3)	71Li14		
3192.6	5^-									3135	8199(3)	89Di08		
3197.3										3139	8203(3)	89Di08		
3201.7										3144	8208(3)	89Di08		
3205.7*	1^+	550(60)	2.0							3147	8212(3)	71Li14	89Di08	
3208.8*	$\langle 3^+ \rangle$	15(8)	0.39							3151	8215(3)	71Li14	89Di08	
3214.7										3156	8221(3)	89Di08		
3229.2*	5^+	280(35)	7.01							3171	8235(3)	71Li14	89Di08	
3233.5	5									3175	8239(3)	89Di08		
3253.7	3^-									3195	8259(3)	89Di08		
3267.1	5									3208	8272(3)	89Di08		
3283.2(20)	3^-	20(10)	0.12							3224	8288(3)	77Fl12	75Br20	79Ar09
3285.1										3225	8290(3)	89Di08		
3287.6(20)	3^-	1400(200)	8.59							3228	8292(3)	77Fl12	75Br20	79Ar09
3289.0										3229	8293(3)	89Di08		
3294.9(20)	1^-	300(100)	1.82							3235	8299(3)	77Fl12	89Di08	
3303.3										3243	8308(3)	89Di08		
3332.0	5^+									3271	8336(3)	89Di08		
3351.6	3^-									3291	8355(3)	89Di08		
3355.2										3294	8359(3)	89Di08		
3370.7(20)	3^-	65(15)	0.35							3309	8374(3)	77Fl12	89Di08	
3381.4(20)	1^+	145(30)	0.41							3320	8384(3)	77Fl12	75Br20	79Ar09
3385.2(20)	1^-	1100(150)	5.73							3324	8388(3)	77Fl12		
3386.5(20)	5^+	260(30)	4.79							3325	8389(3)	77Fl12	75Br20	79Ar09
3392.0(20)	3^-	450(100)	2.31	105(20)	25.5	22(10)	5.34			3330	8395(3)	77Fl12	89Di08	
3408.3										3350	8410(3)	89Di08		
3414.1(20)	3^-	50(10)	0.25							3352	8416(3)	77Fl12	89Di08	
3418.6(20)	5^+	950(150)	16.5	5(2)	0.46	3(2)	3.36	3(2)	3.36	3356	8421(3)	77Fl12	75Br20	79Ar09
3433.5(20)	3^+	28(8)	0.47							3371	8435(3)	77Fl12	75Br20	79Ar09
3442.6(20)	3^-	110(15)	0.52							3380	8444(3)	77Fl12		
3455.4(20)	3^+	47(10)	0.76							3393	8457(3)	77Fl12	75Br20	79Ar09
3462.5	5^-,7^-									3400	8464(3)	89Di08		
3464.7(30)	9^+	43(4)	46.3	8.4	7.4					3402	8466(3)	79Ar09	89Di08	
3466.2	7									3403	8467(3)	89Di08		
3466.6(20)	9^+	78(6)	82.2	20(4)	18.1					3404	8468(3)	77Fl12	75Br20	79Ar09
3472.0(20)	1^-	11000(1100)	49.8							3409	8473(3)	77Fl12	89Di08	
3476.1	5									3413	8477(3)	89Di08		
3476.3(20)	9^+	6(2)	6.18	4(2)	3.47					3413	8477(3)	77Fl12	79Ar09	
3492.8(20)	1^-	4500(450)	19.7							3429	8494(3)	77Fl12	89Di08	
3502.6(20)	3^-	220(20)	0.95			12(3)	1.83			3439	8503(3)	77Fl12	89Di08	
3506.3(20)	5^+	18(5)	0.27			3(1)	0.19			3443	8507(3)	77Fl12	75Br20	79Ar09
3513.3(20)	5^-									3449	8514(3)	89Di08		
3531.3(20)	7^-									3467	8531(3)	89Di08		

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3555.9	7^-									3491	8556(3)	89Di08		
3558.1	7,9									3493	8558(3)	89Di08		
3565.3(20)	1^-	80(25)	0.31							3501	8565(3)	77Fl12		
3566.8(20)	3^-	475(50)	1.85							3502	8566(3)	77Fl12	89Di08	
3569.0(20)	1^+	60(13)	0.13	16(6)	9.17					3504	8568(3)	77Fl12	89Di08	
3575.4(20)	3^-	45(5)	0.18	11(3)	1.24	4(2)	0.45			3510	8575(3)	77Fl12	89Di08	
3582.6(20)	5^+	80(10)	1.02							3518	8582(3)	77Fl12	75Br20	79Ar09
3596.5	1									3531	8595(3)	89Di08		
3605.6	3^-									3540	8604(3)	89Di08		
3629.2(20)	3^-	70(15)	0.25	8(3)	0.74					3563	8628(3)	77Fl12	89Di08	
3635.9	1									3570	8634(3)	89Di08		
3644.3(20)	5^+	195(20)	2.25			18(4)	0.69			3578	8642(3)	77Fl12	75Br20	79Ar09
3650.7(20)	3^+	180(20)	2.05	5(2)	0.19					3584	8649(3)	77Fl12	75Br20	79Ar09
3650.7	5^-,7^-									3584	8649(3)	89Di08		
3653.2										3587	8651(3)	89Di08		
3660.8(20)	1^-	80(15)	0.27							3594	8659(3)	77Fl12		
3663.9	3^-	120(20)	0.41	2(1)	0.16	10(3)	0.82			3597	8662(3)	77Fl12	89Di08	
3669.4	3^-	30	0.10	5	0.39					3603	8667(3)	75Br20		
3670.7	$\langle 3^+ \rangle$	15	0.16	3	1.13					3604	8668(3)	75Br20	89Di08	
3680.6(20)	1^+	3400(200)	6.39							3614	8678(3)	77Fl12	89Di08	
3684.3										3617	8682(3)	89Di08		
3691.1	5^+	150(20)	1.60	8(3)	0.26					3624	8688(3)	77Fl12	75Br20	79Ar09
3693.8										3627	8691(3)	89Di08		
3705.2	9^+									3638	8702(3)	89Di08		
3708.4	3,5									3641	8705(3)	89Di08		
3712.9										3645	8710(3)	89Di08		
3719.9										3652	8717(3)	89Di08		
3723.2	1^+	310(30)	0.55							3656	8720(3)	77Fl12	89Di08	
3727.7	$\langle 5^+ \rangle$	6(4)	0.06	4(3)	0.12					3660	8724(3)	77Fl12	89Di08	
3732.0	3^+									3664	8728(3)	89Di08		
3748.4	3^-	700(70)	2.13							3680	8745(3)	77Fl12		
3748.7	5^+	365(40)	3.56	12(3)	0.33			1(1)	0.29	3681	8745(3)	77Fl12	75Br20	79Ar09
3752.3(20)	5^-	15(4)	0.86	14(4)	0.85	6(2)	0.36	20***	6.36	3684	8748(3)	85Mi0A	77Fl12	
3755.6	3^+	20(8)	0.19			28(8)	7.92			3687	8752(3)	77Fl12	75Br20	79Ar09
3756.7(20)	5^-	32(6)	1.78	95(20)	5.67			95***		3688	8753(3)	77Fl12		
3760.2										3692	8756(3)	89Di08		
3769.2										3701	8765(3)	89Di08		
3771.7										3703	8767(3)	89Di08		
3776.9	3^-									3708	8773(3)	89Di08		
3777.0	1^+	1000(120)	1.68	70(20)	18.3					3708	8773(3)	77Fl12		
3794.2	5^-,7^-									3725	8790(3)	89Di08		
3806.2	5^+	500(50)	4.45	24(5)	0.55	9(3)	2.13			3737	8801(3)	77Fl12	75Br20	79Ar09
3801.9	3^-	350(50)	0.99	58(10)	2.99					3733	8797(3)	77Fl12		
3807.4	3^-	700(70)	1.97	60(10)	3.04					3738	8802(3)	77Fl12		
3818.3	5^+	775(70)	6.77	24(5)	0.53	25(5)	5.69			3749	8813(3)	77Fl12	75Br20	79Ar09

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3829.5	5^-	40(8)	1.95	43(6)	2.03	10(3)	0.47	53***	6.36	3760	8824(3)	77Fl12		
3839.6	5^-	14(4)	0.67	27(4)	1.24	8(2)	0.37	35***	4.18	3770	8834(3)	77Fl12		
3849.7	1^-	850(80)	2.27							3780	8844(3)	77Fl12		
3859.7	5^-	16(4)	0.74	7(2)	0.30	1(1)	0.04	8***	2.25	3790	8854(3)	77Fl12		
3861.0	5^+	20(10)	0.16			5(2)	0.99			3791	8855(3)	77Fl12		
3885.1	3^-	500(70)	1.28	5(2)	0.20	17(4)	0.68			3815	8879(3)	77Fl12		
3889.2	5^+	23(10)	0.18	40(15)	0.72					3819	8883(3)	77Fl12	75Br20	79Ar09
3892.2	5^+	180(20)	1.41	43(10)	0.77	1(1)	0.18			3821	8886(3)	77Fl12	75Br20	79Ar09
3901.5	1^+	1400(150)	2.06							3831	8895(3)	77Fl12		
3904.1	1^-	500(150)	1.25	35(10)	1.33					3833	8897(3)	77Fl12		
3919.2	5^+	380(35)	2.87	20(10)	0.33	2(2)	0.33	35(10)	5.74	3848	8912(3)	77Fl12	75Br20	79Ar09
3924.4	$\langle 5^+ \rangle$	6(5)	0.04							3853	8917(3)	77Fl12	75Br20	
3927.8	$\langle 5^+ \rangle$	8(6)	0.06							3856	8921(3)	77Fl12		
3941.7	3^+	45(15)	0.33	20(10)	0.31	5(3)	0.76			3870	8934(3)	77Fl12	75Br20	79Ar09
3944.2	$\langle 1^- \rangle$	120(20)	0.29	10(5)	0.34					3873	8937(3)	77Fl12		
3947.9	3^-	98(15)	0.23	38(10)	1.27	19(8)	0.64			3876	8940(3)	77Fl12		
3960.3	5^+	320(30)	2.28	3(3)	0.04	32(10)	4.62			3888	8953(3)	77Fl12	75Br20	79Ar09
3969.2	3^-	170(50)	0.39							3897	8961(3)	77Fl12		
3970.8	$\langle 5^+ \rangle$	100	0.69	150	2.12					3899	8963(3)	75Br20	79Ar09	77Fl12
3989.0	1^+	17000(1700)	23.0							3916	8981(3)	77Fl12		
3997.4	3^+	400(40)	2.70	10(3)	0.14					3925	8989(3)	77Fl12		
4011.4	5^+	1200(120)	7.95	60(15)	0.78	40(15)	4.99	50(15)	6.19	3939	9003(3)	77Fl12	75Br20	79Ar09
4014.9	3^+	110(20)	0.73	50(15)	0.65	50(15)	6.13			3942	9006(3)	77Fl12		
4024.4										3951	9016(3)	75Br20		
4025.4										3952	9017(3)	75Br20		
4028.6	1^+	3500(350)	4.55							3955	9020(3)	77Fl12		
4039.3	$\langle 3^- \rangle$	25(10)	0.05	3(3)	0.08	4(3)	0.10			3966	9030(3)	77Fl12		
4053.0	3^-	180(20)	0.38	40(10)	1.00	4(4)	0.10			3979	9044(3)	77Fl12		
4055.1	$\langle 1^- \rangle$	160(20)	0.34	65(20)	1.62					3981	9046(3)	77Fl12		
4062.3	$\langle 3^+ \rangle$	450(45)	2.78	18(6)	0.21					3988	9053(3)	77Fl12		
4072.7	5^+	700(100)	4.27	40(10)	0.45	25(6)	2.59	20(5)	2.07	3999	9063(3)	77Fl12	75Br20	
4083.3	5^+	650(100)	3.91	120(30)	1.31	120(30)	12.1	120(30)	12.1	4009	9073(3)	77Fl12	75Br20	
4086.7	1^+	19000(2000)	23.4							4012	9077(3)	77Fl12		
4094.7	7^-	11(5)	0.36	14(5)	3.39					4020	9085(3)	77Fl12	85Mi0A	
4100.7	3^-	500(70)	1.01	26(6)	0.58	9(5)	0.20			4026	9090(3)	77Fl12		
4115.1	$\langle 9^+ \rangle$	10(5)	2.66							4040	9105(3)	77Fl12		
4120.7	1^+	29000(3000)	34.7							4046	9110(3)	77Fl12		
4135.0	5^+	5250(500)	29.5	170(25)	1.65	10(8)	0.87	35(10)	3.05	4060	9124(3)	77Fl12	75Br20	
4149.9	5^+	180(20)	0.99	12(5)	0.11	17(6)	1.42	18(6)	1.50	4074	9139(3)	77Fl12	75Br20	
4155.8	3^+	35(10)	0.19	5(2)	0.05	7(4)	0.58			4080	9145(3)	77Fl12		
4180.9	1^+	2800(280)	3.18							4105	9169(3)	77Fl12		
4190.0	5^+	15(8)	0.08	25(8)	0.21					4114	9178(3)	77Fl12	75Br20	
4194.6	$\langle 3^- \rangle$	70(20)	0.13	10(3)	0.18	20(5)	0.35			4118	9183(3)	77Fl12		
4201.9	1^+	2500(250)	2.78							4126	9190(3)	77Fl12		
4205.9	3^+	1100(110)	5.64	220(59)	1.82	60(10)	4.25			4129	9194(3)	77Fl12		

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

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.	
4217.7	3^-		150(15)	0.27			12(5)	0.20				4141	9205(3)	77Fl12	
4220.8	1^-		4000(400)	7.11								4144	9208(3)	77Fl12	
4225.6	$\langle 5^+\rangle$		30(10)	0.15	30(15)	0.24						4149	9213(3)	77Fl12	
4229.5	1^+		800(100)	0.87								4153	9217(3)	77Fl12	
4237.5	$\langle 9^+\rangle$		8(7)	1.70	10(3)	0.66						4161	9225(3)	77Fl12	
4243.2												4166	9230(3)	75Br20	
4250.0	3^-		1000(150)	1.73			260(40)	4.03				4173	9237(3)	77Fl12	
4254.4	3^+		275(30)	1.33	70(15)	0.52						4177	9241(3)	77Fl12	
4256.5	5^-		18(5)	0.44	4(2)	0.06	22(7)	0.34	26***	2.01		4179	9243(3)	77Fl12	
4259.7	5^+		275(50)	1.32	45(15)	0.33						4182	9247(3)	77Fl12	75Br20
4264.2	1^-		4000(700)	6.81								4187	9251(3)	77Fl12	
4270.9	$\langle 3^+\rangle$		120(60)	0.57	300(100)	2.15						4193	9258(3)	77Fl12	75Br20
4276.7	1^-		1900(500)	3.20	2300(600)	33.6						4199	9263(3)	77Fl12	
4286.8	1^+		70(10)	0.07	12(4)	0.70						4209	9273(3)	77Fl12	
4292.0	$\langle 5^+\rangle$		60(6)	0.28	22(5)	0.15	4(2)	0.23	26(5)	1.50		4214	9278(3)	77Fl12	
4303.9	3^-		1800(200)	2.95	600(150)	8.23	400(100)	5.49				4226	9290(3)	77Fl12	
4304.3	5^+		170(50)	0.77	55(20)	0.37						4226	9290(3)	77Fl12	
4306.8	3^+		2600(300)	11.8	350(70)	2.33						4229	9293(3)	77Fl12	
4315.4	5^+		300(50)	1.35	110(30)	0.72	25(8)	1.36	125(30)	6.80		4237	9301(3)	77Fl12	
4316.4	1^-		2000(300)	3.24								4238	9302(3)	77Fl12	
4326.0	3^-		75(20)	0.12	55(10)	0.72	550(55)	0.86				4247	9312(3)	77Fl12	
4343.0	5^-		70(7)	1.50			7(3)	0.09	7***	0.40		4264	9328(3)	77Fl12	
4352.0	3^-		550(55)	0.86								4273	9337(3)	77Fl12	
4359.3	5^+		150(20)	0.64	9(3)	0.05						4280	9344(3)	77Fl12	
4373.3	3^-		90(9)	0.14								4294	9358(3)	77Fl12	
4377.3	3^+		180(18)	0.75								4298	9362(3)	77Fl12	
4387.2	1^-		900(90)	1.36	30(10)	0.34						4307	9372(3)	77Fl12	
4393.8	1^+		165(17)	0.16	15(4)	0.67						4314	9378(3)	77Fl12	
4397.7	$\langle 5^+\rangle$		30(10)	0.12	18(5)	0.10			5(3)	0.22		4318	9382(3)	77Fl12	
4405.1	3^-		95(15)	0.14	85(20)	0.94	30(10)	0.33				4325	9389(3)	77Fl12	
4413.0	$\langle 5^+\rangle$		130(50)	0.52	75(15)	0.41	20(10)	0.86	20(10)	0.86		4333	9397(3)	77Fl12	
4415.6	1^+		3550(500)	3.33	80(20)	3.42						4335	9400(3)	77Fl12	
4433.7	3^+		400(50)	1.56	120(30)	0.62	80(20)	3.28				4353	9417(3)	77Fl12	
4440.3	5^+		400(100)	1.55	180(20)	0.93	60(30)	2.42	170(60)	6.85		4360	9424(3)	77Fl12	
4444.9	5^+		110(12)	0.42			15(5)	0.60	15(5)	0.60		4364	9428(3)	77Fl12	
4461	1^+		2000	1.79								4380	9444(3)	75Br20	
4463.7	3^-		1500(300)	2.12	10(5)	0.10	160(50)	1.57				4383	9447(3)	77Fl12	
4464.3	$\langle 3^+\rangle$		200(60)	0.75	185(50)	0.91						4383	9447(3)	77Fl12	
4469.3	$\langle 3^+\rangle$		900(150)	3.38	200(50)	0.97	200(50)	7.55				4388	9452(3)	77Fl12	
4470.6	$\langle 5^-\rangle$		60(30)	1.07	130(50)	1.25			130***	2.21		4389	9454(3)	77Fl12	
4474.1	$\langle 5^+\rangle$		20(10)	0.07			15(7)	0.56	15(7)	0.56		4393	9457(3)	77Fl12	
4502.3	3^-		400(50)	0.55	60(20)	0.54	185(50)	1.68				4420	9485(3)	77Fl12	
4503.1	5^+		100(10)	0.36	90(20)	0.41	45(15)	1.57				4421	9486(3)	77Fl12	
4509.8	3^-		100(15)	0.14	80(20)	0.71	100(25)	0.89				4428	9492(3)	77Fl12	
4513.8	5^-		25(10)	0.42	20(10)	0.18	45(15)	0.40	65***	7.45		4432	9496(3)	77Fl12	

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ_{p_1} [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	Γ_{p_2} [eV]	$\gamma^2_{\mathrm{p}_2}$ [keV]	Γ_{p_3} [eV]	$\gamma^2_{\mathrm{p}_3}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.
4522.3	$\langle 1^- \rangle$		1000(300)	1.35	70(20)	0.61						4440	9504(3)	77Fl12
4527.3	1^+		5000(700)	4.32								4445	9509(3)	75Br20
4576	1^+		1500	1.25								4493	9557(3)	75Br20
4671	1^+		20000	15.5								4586	9650(3)	75Br20
4748	1^+		1500	1.12								4662	9726(3)	75Br20
4830	1^+		50000	34.3								4742	9806(3)	75Br20

Additional data on this isotope can be found in [93Ca12, 88Di04, 87Di01, 85Zh06, 80Ha37, 80Wa04, 79Ar09, 77Er02, 77Fo06, 76FlZY, 76Bi0A, 76Fl0A, 76Ma08, 74Ma08, 74Go31, 73Bi0B, 72Ah01, 72Ma26, 71Le25, 68Ma43].

* Position of this resonance should be shifted by the value about several keV to fit the energy scale of [89Di08, 71Li14] to that of others.

** $E_\circ$ is from [80Ha36].

*** Total proton inelastic scattering widths of resonances with J^π=5/2$^-$.

In the separate tables below the components of inelastic scattering widths are given.

Partial reduced widths and products of the reduced widths amplitudes were reported in [85Mi0A]; an example of these data for resonances with J^π=5/2$^-$ is given below in a separate table.

Resonance at 1963 keV from [67Er04] is shifted downwards by 6 keV.

The resonance strength (in center-of-mass scale) for three resonances $S_{\mathrm{p}\gamma}$(1721)=2.4(2) eV, $S_{\mathrm{p}\gamma}$(1803)=0.66(7) eV, $S_{\mathrm{p}\gamma}$(1886)=0.73(7) eV are given in [77Ri14].

Parameters of proton scattering for resonances with J^π=5/2$^-$. Part 1. $^{55}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$\Gamma_{\mathrm{p}'}$ [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	$\gamma^2_{\mathrm{s}13}$ [keV]	$\gamma^2_{\mathrm{s}15}$ [keV]	$\gamma^2_{\mathrm{s}33}$ [keV]	$\gamma^2_{\mathrm{s}35}$ [keV]	$\gamma_{\mathrm{s}13}\gamma_{\mathrm{s}15}$ [keV]	$\gamma_{\mathrm{s}13}\gamma_{\mathrm{s}33}$ [keV]	$\gamma_{\mathrm{s}13}\gamma_{\mathrm{s}35}$ [keV]	E^* [keV]	Ref.
3752.3	5^-	20	6.36	0.81	0.28	0.07	5.20	0.48	0.24	–2.05	8748.3(3)	85Mi0A
3756.7	5^-	95		5.15	0.09	14.9	3.86	0.67	–8.75	4.46	8752.7(3)	85Mi0A
3829.5	5^-	53	6.36	1.77	0.65	3.85	0.09	–1.07	–2.61	–0.41	8824.1(3)	85Mi0A
3839.6	5^-	35	4.18	1.30	0.24	2.51	0.12	0.56	–1.81	0.40	8834.1(3)	85Mi0A
3859.7	5^-	8	2.25	0.25	0.05	0.28	1.67	–0.11	–0.26	–0.65	8853.8(3)	85Mi0A
4256.5	5^-	26	2.01	0.08	0.26	1.52	0.15	–0.15	0.36	0.11	9243.4(3)	85Mi0A
4343.0	5^-	7	0.40	0.00	0.07	0.31	0.01	0.01	–0.03	0.01	9328.3(3)	85Mi0A
4470.6	5^-	30	2.21	1.21	0.01	0.99	0.00	–0.11	1.10	–0.05	9453.6(3)	85Mi0A
4513.8	5^-	65	7.45	0.04	0.28	2.29	4.85	–0.10	–0.30	0.44	9496.0(3)	85Mi0A
Average				1.18	0.21	2.97	1.77	0.02	–1.34	0.25		85Mi0A
4094.7	7^-	14	3.39		0.21	1.31	1.86		0.53*	–0.63*	9084.5(3)	85Mi0A

* γ_{s15} instead of γ_{s13} inside these two products.

For notation see Table 3 in Introduction.

Parameters of proton scattering for resonances with J^π=5/2$^-$. Part 2. $^{55}_{27}$Co(p)

$E_\circ$	$2J^\pi$	Γ_p	γ^2_p	$\Gamma_{p'}$	γ^2_{s13}	$\Gamma_{p'}$	γ^2_{s15}	$\Gamma_{p'}$	E^*	Ref.
[keV]		[eV]	[keV]	[eV]	[keV]	[eV]	[keV]	[eV]	[keV]	
3752.3	$\langle 5^-\rangle$	15(4)	0.86	14(4)*	0.85	6(2)**	0.36	20***	8748.2(3)	77Fl12
3756.7	$\langle 5^-\rangle$	32(6)	1.78	95(20)	5.67			95***	8752.7(3)	77Fl12
3829.5	$\langle 5^-\rangle$	40(8)	1.95	43(6)	2.03	10(3)	0.47	53***	8824.1(3)	77Fl12
3839.6	$\langle 5^-\rangle$	14(4)	0.67	27(4)	1.24	8(2)	0.37	35***	8834.1(3)	77Fl12
3859.7	$\langle 5^-\rangle$	16(4)	0.74	7(2)	0.30	1(1)	0.04	8***	8853.8(3)	77Fl12
4094.7	$\langle 5^-\rangle$	15								
4256.5	5^-	18(5)	0.44	4(2)	0.06	22(7)	0.34	26***	9243.4(3)	77Fl12
4343.0	5^-	70(7)	1.50			7(3)	0.09	7***	9328.3(3)	77Fl12
4470.6	$\langle 5^-\rangle$	60(30)	1.07	130(50)	1.25			130***	9453.6(3)	77Fl12
4513.8	5^-	25(10)	0.42	20(10)	0.18	45(15)	0.40	65***	9496.0(3)	77Fl12

In this table a small part of resonance parameters presented in the main isotope-table are given to show the part of information contained in Supplement.
* Partial widths for inelastic scattering with outgoing ℓ=1 protons and channel spin 3/2.
** Partial widths for inelastic scattering with outgoing ℓ=1 protons and channel spin 5/2.
*** Total inelastic scattering widths, see the main isotope-table.

Branching ratios of γ-transitions [89Di08, 80Ha36, 77Er02]. Part 1. $^{55}_{27}$Co(p)

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									
[keV]			[keV]	Percentage									
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J^\pi_f$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
2165.88(5)	3^-			100									
2565.85(3)	3^-			100									
2659.47(6)	5^-			100									
2918.57(6)	7^-			100									
2922.23(13)	1^+				100								
2939.09(8)	1^-				60(5)	40(5)							
2960.0(5)													
2973.48(20)	11^-												
2976.34(19)	9^-												
2992***													
3303.10(7)	5^-			84(3)		16(3)							
3323.22(10)	1^-				66(15)	34(15)							
3335(20)	$\langle 5\rangle^-$												
3552.9(10)	$\langle 3,5\rangle$												
3562.98(6)	$\langle 3^+\rangle$						100						
3643.00(8)	3^-				100								
3682(2)													
3704(10)	1^-,3^-												

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									
[keV]			[keV]	Percentage									
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
3725.01(7)	5^-			50(5)		30(5)		20(5)					
3736.56(22)	13^-												
3774.63(22)	15^-												
3859.28(14)				58(10)			42(10)						
3866(20)													
3870.9(7)	$1^-,3^-$												
3933	$\langle 3^-\rangle$												
3942.08(11)	$1^-,3^-$					100							
4164.23(12)	1^-					100							
4177.33(9)	5^-			100									
4548.27(11)	5^-			60(20)	40(20)								
4587.50(23)													
4628.22(12)	$1^-,3^-$				100								
4686.3(4)	15^-												
4712.6(7)	$1^-,3^-$												
4721.43(10)	3^-					56(10)				23(10)		21(10)	
4748.13(10)	3^-				30(10)	22(10)	19(10)						
4851.3(8)													
4872.5(6)													
4882.5(15)													
4903.5(15)													
4920.8(5)	$\langle 15^-\rangle$												
4961.10(20)	$\langle 1\rangle$					100							
4988.21(15)				100									
5064													
5081													
5099.26(21)										50(10)		50(10)	
5122.11(17)													
5172.55(15)	1^-												
5188.8(15)	$\langle 1\rangle^-$												
5242(10)													
5258.98(16)						100							
5716.6(10)							100						
6144.6(11)													
6149.89(17)	$\langle 5\rangle^+$		1106		2.3	20.1				39.5			
6167.1(18)													
6176.5(11)													
6205.29(16)	$\langle 5\rangle^+$		1162	11.7	46.8	19.5	12.4	0.6	0.9				
6217.7(21)													
6250.1(19)													
6268.21(10)	3^-		1226	3.5	46.4		9.1	6.2		2.5			
6328.29(11)	$\langle 3\rangle^-$		1288		1.5	8.1	17.4	3.4		1.4		13.0	10.5

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios								
[keV]			[keV]	Percentage								
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
6332.7(5)	$\langle 17^- \rangle$												
6340.9(20)	$5^-,7^-$												
6361.3(20)													
6369.35(23)	$\langle 5 \rangle^+$		1329			2.5	38.8	21.3	2.7				
6376.7(24)													
6405(3)													
6426.3(36)													
6446.6(19)	$\langle 5 \rangle^-$												
6464.8(11)	$\langle 21^- \rangle$												
6486													
6508.2(19)													
6513.45(9)	3		1476	25.9	4.4	2.3				40.3		3.0	9.3
6531													
6541.1(21)													
6576.3(20)													
6596.6(3)	19^-												
6603.4(19)	$7^+,9^+$												
6627													
6641.5(4)	19^-												
6652.2(19)													
6673.0(11)	$\langle 5 \rangle^-$												
6689.1(2)**			1649	14.3	14.3		28.6						25.0
6701.25(16)	5		1667	18.7	62.3	1.9	2.0	4.3	2.5				
6713.25(14)	$\langle 1 \rangle^-$		1680		40.0	2.4			5.6	3.6			12.2
6755.40(17)	5		1722	91.8	4.1	1.0	0.4	2.3					
6780.16(11)	5^-		1747	12.3	22.0	22.7	15.0	1.7		3.4			10.0
6801.8(11)	$\langle X^+ \rangle$												
6825.4(11)													
6834.28(9)	3^-		1803	20.4	3.7	2.0	25.1	2.4		2.2		2.0	10.5
6835.7(6)	$5^{\langle - \rangle}$												
6876.33(19)	$7^-,9$		1846	94.1	2.7		0.6						
6885.8(11)													
6893.3(11)	$\langle 5 \rangle^-$												
6917.35(9)	5^-		1887	17.5	0.5	19.7	0.8						
6939.9(11)													
6944.19(21)	$\langle 1^- \rangle$		1914		63.0	4.0			4.2	2.9			23.0
6951.14(10)			1921	6.9	26.5	4.8	6.0	7.8		21.8		3.7	9.3
7008.19(9)			1980	7.7		4.9	2.9	2.0		11.9			15.6
7025.34(15)			1998	24.8	53.6	6.2	7.4						
7038.23(20)	$1^-,3^-$		2010	19.7	14.2	6.4				1.2		4.1	
7101.54(8)	5		2075	40.7	5.9	1.2	31.1	5.6			0.7	1.4	
7110(10)	$\langle 9 \rangle^+$												

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios								
[keV]			[keV]	Percentage								
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
7153.2(3)			2127	71.2	18.5	2.0	4.1						
7193.15(9)	5		2168	65.2	2.5	21.8	0.3	4.1	0.6				
7233.48(25)	$\langle 3\rangle$		2209	1.3	72.7	2.3	13.8	0.8	6.6				1.3
7237(7)	$\langle 1^-\rangle$												
7239(3)	$7^+,9^+$		2215		37.6	6.9	4.0		3.4	8.8		5.4	2.1
7239.26(10)	$\langle 3^-\rangle$												
7261.2(11)	$\langle 1^-\rangle$												
7269.16(7)	3^-		2245	1.2	6.5		22.5	1.7				4.1	
7284.4(3)			2261		26.5	13.1	15.8	1.7		15.3			16.2
7293.35(10)	5^-		2270	7.6	20.0		2.3	30.5					
7319.56(14)	5		2297	82.0		6.5		3.4			3.6	2.4	
7325.37(13)			2303	21.7	8.9	10.6	9.3	3.0	3.9	3.1	1.7	7.1	4.0
7328(7)	$\langle 1^-\rangle$												
7332.27(23)			2310		5.3	32.7	5.4			25.9		13.1	
7564.41(17)			2545	11	4	1	16		3	7		2	14
7578.37(25)	$\langle 3\rangle^+$		2560	14	18	15							
7595.28(25)	$\langle 3^-\rangle$		2577		24	7	12		3			7	
7611.38(23)			2593	20	9		8	10					
7622.3(20)	$3^+,5^+$												
7627.7(5)	$\langle 5\rangle$		2610	52	12	36							
7633.65(23)	$\langle 5^-\rangle$		2616	79	3	3		2			2	2	
7642.55(23)	$\langle 1^-\rangle$		2625		22		7		37	10			8
7650.84(22)	$\langle 5\rangle^-$		2633	41		4		25			3	5	
7662.96(22)	$\langle 1^-\rangle$		2646		21	41	5			6			6
7680.3(3)	$\langle 5\rangle$		2663	10		43							
7703.97(20)	$\langle 5^-\rangle$		2688	2	10	14	7			25		6	9
7747.1(3)	$\langle 5\rangle$		2731	64		23	5						
7748.9(10)	$\langle 5^-\rangle$												
7764.7(70)	3^-		2752	3	4		31		6	6			16
7765.6(70)	1^-		incl										
7779.1(70)	1^+												
7791.5(10)													
7806.1(5)			2791		78								
7815.85(23)	1^-		2802	48	5		16	2		20			2
7833.2(3)	21^-												
7837(7)	1^-												
7855.4(21)													
7867.6(3)	$\langle 5\rangle$		2856	19	17	13							
7876.86(23)	$\langle 5^-\rangle$		2863	33		27	3	8			4		
7881.0(3)	$\langle 3^-\rangle$		2868	9	8	11	13			8			
7885.1(3)	$\langle 7\rangle$		2872	9			10	15			24	13	
7889.0(10)	5^+												

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$ $2T$	$E_\circ$	Branching ratios									
[keV]		[keV]	Percentage									
E^*			0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$			7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
7895.7(10)												
7909.0(10)												
7921.2(6)	19^-											
7930.8(10)												
7938.83(23)	$\langle 3^- \rangle$	2927	3	4	39	8		7	9		3	18
7941.1(10)												
7946.4(10)												
7951.9(10)												
7956(7)	1^+											
7965.10(21)	1^-	2953	2	7		9		16	14	4	6	10
7966.8(3)	$\langle 5 \rangle^+$	2955	45	6	14	16						
7976.85(10)	$\langle 5^+ \rangle$	2965	82					6			4	
7984.6(10)												
8007.3(10)												
8016.9(10)												
8020.6(4)	$\langle 5^- \rangle$	3010	87				2			4		
8030(7)	1^-											
8030(7)	1^-											
8050.8(10)												
8056.7(3)	1^-	3047		29					13			19
8066(7)	3^-											
8067.0(3)	3^-	3057		30	23	16						6
8071.5(3)	$\langle 7^- \rangle$	3062	27				20			5	11	
8075.5(10)												
8089(7)	$\langle 3^+ \rangle$											
8090.1(14)												
8096.8(10)												
8105.93(23)	$\langle 5^- \rangle$	3097		16	17				6		8	
8124(7)	$\langle 1^- \rangle$											
8130.6(3)	5^+	3122	13	17	31							
8134.1(3)	1^-	3125	10	21	9		17					12
8137.1(10)	5^-											
8140.6(10)	3^-											
8144.90(25)	1^-	3136		10		13			15		7	28
8155.6(10)	7^-											
8158.7(5)	21^-											
8168.3(10)	5^+											
8172.0(10)	5^+											
8174(7)	$\langle 1^- \rangle$											
8180.3(10)												
8190.9(4)	1^-	3183			19				46			
8200.0(10)	5^-											

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									
[keV]			[keV]	Percentage									
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
8204.6(10)													
8208.7(10)													
8212(7)	1^+												
8215(7)	$\langle 3^+\rangle$												
8221.5(10)													
8235(7)	$\langle 5\rangle^+$		3234	40	13	5	7						
8240.4(3)													
8261.8(10)	3^-												
8273.4(3)	$\langle 5\rangle$		3267	45		3						11	
8283.9(3)	3^-		3278	34		21	13						
8287(7)	3^-												
8288.3(20)	3^-												
8291.0(3)	$\langle 5^-\rangle$		3285	25		33			16				
8294.8(3)	3^-		3289		27	25				14			2
8299.8(20)	1^-,3^-												
8308.5(10)													
8336.7(10)	5^+												
8348.8(4)	23^-												
8356.0(10)													
8360.0(7)	7,9		3355	79							21		
8369.3(10)	3^-												
8374.0(5)	1^-,3^-		3370	25			43					32	
8384.1(3)	5^+		3380	8	22	36							
8388.5(20)	3^-		3387	6	46	21	7		10				10
8390.8(3)	5^+												
8395.1(20)	3^-												
8400.7(10)													
8412.0(3)	$\langle 3\rangle$		3408				19		6	2		6	28
8417.9(3)	5^+		3414	20	31	28							
8421.3(20)	$\langle 5\rangle^+$												
8431.2(4)	3^-		3428			8			66			16	10
8435.7(5)	3^+		3432	75			14					11	
8440.0(3)			3437	32		16	7			14			
8444.8(20)	1^-,3^-												
8456.7(5)	$\langle 1,3\rangle$		3454							44			
8457.4(20)	3^+												
8463.9(5)	9^+		3461	84				4			4		
8465.6(10)			3463	100									
8467.3(7)	9^+		3465	65				12					
8468.7(4)	7^+		3466	43			9	10			9	7	
8472*	$[1^-]$		3471		75	16							
8476.5(7)	9^+		3474	62				11					

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$2T$	$E_\circ$ [keV]	Branching ratios Percentage									
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
8476.7(20)	1^-												
8477*	[5]		3476	30			20						
8478.7(5)	5												
8494.1(20)	1^-												
8503.8(20)*	3^-		3503	35	29		14		8				5
8505.3(3)	7^-												
8507.4(20)	5^+												
8514.8(10)	5^-												
8532.4(10)	5^-												
8557.0(4)	7^-		3556	44				17					
8559.3(5)	7,9		3558	41				22			37		
8561.5(10)													
8565.3(20)	1^-,3^-												
8566.8(20)	3^-												
8569.0(20)	1^+												
8575.2(20)	3^+												
8583.6(5)*	5^+		3583	86		6	8						
8596.5(10)													
8605.4(10)	3^-												
8628.1(20)	3^-												
8635.2(10)	$\langle 3 \rangle$												
8644.2(4)	5^+		3645	79			9						
8649.2(20)	3^+												
8652.4(5)			3653	20						45			32
8659.1(20)	1^-												
8662.1(20)	3^+												
8663(10)	$\langle 9^+ \rangle$												
8667.6(20)	3^-												
8679.6(10)*	1^+		3681	32		15	5		45				
8682.7(10)*			3684	16	16	10			31				
8686.9(5)	2												
8688.9(20)	3^+,5^+												
8689.5(3)	23^-												
8692.0(10)*			3694	24	11	9	16	9			11		
8697(10)	$\langle 9 \rangle^+$		3705	83							10		
8703.2(10)	9^+												
8706.4(10)*	3,5		3708	84	4	5		1	2				
8710.8(10)													
8717.7(10)													
8720.4(20)	1^+												
8724.8(20)	$\langle 5^+ \rangle$												
8729.6(10)	3^+												

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

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									
[keV]			[keV]	Percentage									
E^*				0.0	2166	2566	2659	2918	2922	2939	2976	3303	3323
$2J_f^\pi$				7^-	3^-	3^-	5^-	7^-	1^+	1^-	9^-	5^-	1^-
8745.1(10)	3^-		3748	12	10		25						53
8745.4(20)	$\langle 5\rangle^+$												
8749.4(10)	5^-		3752	100									
8752.2(20)	3^+		3756	25	14						25		
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^-		3802		69								
8799.7(20)	5^-												
8801.9(20)*	5^+		3807	40	6	5	6						3
8803.0(10)	7^-												
8813.8(20)	5^+												
8825.6(10)	7^-												
8834.7(10)	$\langle 5^-\rangle$												
8844.6(20)	1^-												
8854.4(20)	5^-		3860	54	13	3		2				9	
8855.2(10)	5^+		incl										

* Doublet of states or a new level introduced in [89Di08].
** Corresponding energies E^*=6697,6711,6884 keV in [77Er02] are shifted by 2–5 keV downwards.
*** This state was introduced in [89Di08] from observation of a single transition in the γ-spectra from the resonance at $E_\circ$=3471 keV (E^*=8472 keV, branching ratio 9%).

Branching ratios of γ-transitions. Part 2. $^{55}_{27}$Co(p)

E^*	$2J^\pi$	$E_\circ$	Branching ratios												
[keV]		[keV]	Percentage												
E^*			3563	3643	3725	3859	3942	4164	4177	4264	4339	4474	4548	4587	4628	4721
$2J_f^\pi$			3	X	5^-		X^-	3^-	5^-							
4748.13	3^-				17(10)											
6149.89	$\langle 5\rangle^+$	1106		5.4			18.4								2.6	
6205.29	$\langle 5\rangle^+$	1162	8.1													
6268.21	3^-	1226	2.3		2.7			6.0	3.3				2.9			10.6
6328.29	$\langle 3\rangle^-$	1288					9.9	8.4	15.6							2.3

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

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage													
E^*			3563	3643	3725	3859	3942	4164	4177	4264	4339	4474	4548	4587	4628	4721
$2J_f^\pi$			3	X	5^-		X^-	3^-	5^-							
6369.35	$\langle 5\rangle^+$	1329	32.1													
6513.45	3	1476					2.1								2.1	10.6
6689.1		1649														
6701.25	5	1667	8.3													
6713.25	$\langle 1\rangle^-$	1680		2.7			15.1	2.8							1.6	
6755.40	5	1722	0.4													
6780.16	5^-	1747		3.1	5.4		2.8						1.6			
6834.28	3^-	1803	0.7	0.9	6.8		0.6	1.8					2.3	0.4	2.0	1.9
6876.33	7^-,9	1846	0.9	1.0		0.7										
6917.35	5^-	1887	2.2	1.3	8.8	7.9			5.3			2.2				10.6
6944.19	$\langle 1^-\rangle$	1914	2.9													
6951.14		1921	3.9		1.5			2.3								1.9
7008.19		1980	2.2	8.2	3.6		15.9	4.3					1.8		6.1	5.3
7025.34		1998	1.6			1.0								1.0		1.7
7038.23	1^-,3^-	2010				16.6			2.5				20.1		6.3	3.8
7101.54	5	2075	1.8	2.3	1.5	2.8			0.9				3.3		0.8	
7153.2		2127		2.1		2.1										
7193.15	5	2168	3.2	1.6											0.7	
7233.48	$\langle 3\rangle$	2209	1.2													
7239	7^+,9^+	2215	2.9	8.9			4.4	2.8	4.1						3.6	
7269.16	3^-	2245	2.4		17.9			4.0	9.7				3.1		4.3	5.4
7284.4		2261			11.4											
7293.35	5^-	2270		1.4								2.1	7.1	1.5	2.0	6.1
7319.56	5	2297				1.0				1.1						
7325.37		2303	2.2	1.0			9.5	1.4	1.5						1.5	2.6
7332.27		2310		8.0			1.7		1.0				5.9			
7564.41		2545	7	6	3			2	3				1	4		1
7578.37	$\langle 3\rangle^+$	2560	25	15	4					2		3				1
7595.28	$\langle 3^-\rangle$	2577		12	9				14						2	
7611.38		2593	4	13		4			2					4	5	
7627.7	$\langle 5\rangle$	2610														
7633.65	$\langle 5^-\rangle$	2616		1	1	4										
7642.55	$\langle 1^-\rangle$	2625	3						4						2	
7650.84	$\langle 5\rangle^-$	2633			2	4								4		
7662.96	$\langle 1^-\rangle$	2646	7					5	5						2	2
7680.3	$\langle 5\rangle$	2663		29	6	9										
7703.97	$\langle 5^-\rangle$	2688		2	1			3					9			2
7747.1	$\langle 5\rangle$	2731		6												
7764.7	3^-	2752		9	4			5							3	2
7806.1		2791			22											
7815.85	1^-	2802		2	2	1		2								
7867.6	$\langle 5\rangle$	2856		27					13					11		

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage													
E^*			3563	3643	3725	3859	3942	4164	4177	4264	4339	4474	4548	4587	4628	4721
$2J_f^\pi$			3	X	5^-		X^-	3^-	5^-							
7876.86	$\langle 5^- \rangle$	2863	4	3						5		2		3		4
7881.0	$\langle 3^- \rangle$	2868	7	35			9									
7885.1	$\langle 7 \rangle$	2872			11				13				6			
7938.83	$\langle 3^- \rangle$	2927		6	3											
7965.10	1^-	2953	6	16	6											
7966.8	$\langle 5 \rangle^+$	2955		7									2		7	
7976.85	$\langle 5^+ \rangle$	2965				3								5		
8020.6	$\langle 5^- \rangle$	3010					3					2		4		
8056.7	1^-	3047		15					14			10				
8067.0	3^-	3057		21										4		
8071.5	$\langle 7^- \rangle$	3062			11	14			12							
8105.93	$\langle 5^- \rangle$	3097	6	14		7				5				6	6	8
8130.6	5^+	3122	5												6	17
8134.1	1^-	3125		31												
8144.90	1^-	3136		12	9			6								
8190.9	1^-	3183		10			24	11								
8235	$\langle 5 \rangle^+$	3234	25	11												
8273.4	$\langle 5 \rangle$	3267	8		6					7		9				
8283.9	3^-	8282		4					5	27						
8291.0	$\langle 5^- \rangle$	3285	11												3	8
8294.8	3^-	3289		32												
8360.0	7,9	3355														
8374.0	1^-,3^-	3370														
8384.1	5^+	3380	8												6	10
8388.5	3^-	3387														
8412.0	$\langle 3 \rangle$	3408		21				18								
8417.9	5^+	3414														10
8431.2	3^-	3428														
8435.7	3^+	3432														
8440.0		3437					7	18								3
8456.7	$\langle 1,3 \rangle$	3454	56													
8463.9	9^+	3461														
8465.6		3463														
8467.3	9^+	3465				2					3			1		
8468.7	7^+	3466		8							7			7		
8472	$[1^-]$	3471														
8476.5	9^+	3474									4	4				
8477	[5]	3476				50										
8503.8	3^-	3503						6					3			
8557.0	7^-	3556				29							10			
8559.3	7,9	3558														
8583.6	5^+	3583														

(continued) $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$E_\circ$	Branching ratios													
[keV]		[keV]	Percentage													
E^*			3563	3643	3725	3859	3942	4164	4177	4264	4339	4474	4548	4587	4628	4721
$2J_f^\pi$			3	X	5^-		X^-	3^-	5^-							
8644.2	5^+	3645														6
8652.4		3653														
8679.6	1^+	3681														
8682.7		3684	8							6		5	4		4	
8692.0		3694			11		9									
8697	$\langle 9\rangle^+$	3705					4							3		
8706.4	3,5	3708	1													3
8745.1	3^-	3748														
8749.4	5^-	3752														
8752.2	3^+	3756			8	12							16			
8798.0	3^-	3802		23				8								
8801.9	5^+	3807		20					10	4						3
8854.4	5^-	3860	6	2	5					3			3			

Branching ratios of γ-transitions. Part 3. $^{55}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$E_\circ$	Branching ratios															
[keV]		[keV]	Percentage															
E^*			4748	4851	4872	4961	4988	5099	5122	5174	5259	5293	5351	5460	5560	5642	5716	6068
$2J_f^\pi$																		
6149.89	$\langle 5\rangle^+$	1106				8.0												
6268.21	3^-	1226					4.5											
6328.29	$\langle 3\rangle^-$	1288	6.7				1.8											
6369.35	$\langle 5\rangle^+$	1329			2.6													
6713.25	$\langle 1\rangle^-$	1680				5.9								8.1				
6834.28	3^-	1803				4.5	1.2		1.1					7.5				
6876.33	7^-,9	1846																
6917.35	5^-	1887	8.2					4.8	0.5		5.2		3.4	1.1				
6951.14		1921								3.6								
7008.19		1980	1.8						2.2	3.6								
7025.34		1998					1.5	1.2										
7038.23	1^-,3^-	2010										5.1						
7239	7^+,9^+	2215	1.8				2.8				0.5							
7269.16	3^-	2245	4.2			6.0					5.8				1.2			
7293.35	5^-	2270	6.1				9.1	2.6							1.6			
7325.37		2303					1.0		6.0									
7332.27		2310					1.0											

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

E^*	$2J^\pi$	$E_\circ$	Branching ratios														
[keV]		[keV]	Percentage														
E^*			4748	4851	4872	4961	4988	5099	5122	5174	5259	5293	5351	5460	5560	5642	5716	6068
$2J_f^\pi$																		
7564.41		2545	5	4		1	3				2							
7578			3															
7595.28	$\langle 3^- \rangle$	2577							3							7		
7611.38		2593						12			9							
7633.65	$\langle 5^- \rangle$	2616					3											
7642.55	$\langle 1^- \rangle$	2625	2			5												
7650.84	$\langle 5 \rangle^-$	2633	2				5				1	4						
7680.3	$\langle 5 \rangle$	2663													3			
7703.97	$\langle 5^- \rangle$	2688	2						8									
7747.1			2															
7764.7	3^-	2752	4			4		3										
7876.86			4															
7965.10			4															
7966.10			3															
8130.6			11															
8384.1			10															
8417.9			11															
8440.0			3															
8463.9	9^+	3461																8
8467.3	9^+	3465																17
8476.5	9^+	3474																
8583			6															
8652			3															
8801			3															19

Target isotope: $^{56}_{26}$Fe $I^{\pi}_{\circ} = 0^+$ *Abundance:* 91.754(36) % $S_{\mathrm{p}} = 6027.63(41)$ keV

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

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_{p} [eV]	γ^2_{p} [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	Rel.int. γ_i	$S_{\mathrm{p}\gamma}$ [eV]	E_{cm} [keV]	E^* [keV]	Ref.			
1094(1)										1075	7102(3)	64Ar20			
1097(1)										1078	7105(3)	64Ar20			
1143(1)										1123	7151(3)	64Ar20			
1151(1)										1131	7158(3)	64Ar20			
1171(1)										1150	7178(3)	64Ar20			
1192(1)										1171	7199(3)	64Ar20			
1201(1)										1180	7208(3)	64Ar20			
1223(1)										1202	7229(3)	64Ar20			
1247.1(4)	3^-								1.26(6)	1225	7252(3)	75El01	77Ri14	64Ar20	71Le21
1261.7(4)	3^-									1239	7267(3)	75El01	64Ar20	71Le21	
1266.8(4)	3^-								0.5	1244	7272(3)	75El01	67Pe06	64Ar20	71Le21
1276(1)										1254	7281(3)	64Ar20			
1282(1)										1260	7287(3)	64Ar20			
1301(1)								240		1278	7306(3)	64Ar20	66Au01		
1310(1)								82		1287	7315(3)	64Ar20	66Au01		
1327(1)								99		1304	7331(3)	64Ar20	66Au01		
1340(1)								47		1316	7344(3)	64Ar20	66Au01		
1349(3)								62		1325	7353(3)	67Pe06	64Ar20	66Au01	
1353(3)**								540		1329	7357(3)	66Au01			
1374(3)								76		1350	7378(3)	66Au01			
1379(3)								51		1355	7382(3)	66Au01			
1404(3)								180		1379	7407(3)	66Au01			
1409(3)								190		1384	7412(3)	66Au01			
1418(3)								220		1393	7421(3)	66Au01			
1421(3)								70		1396	7424(3)	66Au01			
1424(3)								43		1399	7427(3)	66Au01			
1440(3)								9		1415	7442(3)	66Au01			
1453(3)								250		1428	7455(3)	66Au01			
1460(3)								230		1434	7462(3)	66Au01			
1467(3)**								240		1441	7469(3)	66Au01			
1477(3)								170		1451	7479(3)	66Au01			
1480(3)								62		1454	7482(3)	66Au01			
1484(3)								160		1458	7486(3)	66Au01			
1489(3)								54		1463	7491(3)	66Au01			
1494(3)								140		1468	7495(3)	66Au01			
1503(3)								130		1477	7504(3)	66Au01			
1517(3)								13		1490	7518(3)	66Au01			
1523.4(30)	3^-							390		1497	7524(3)	70Ob02	66Au01		
1530(3)								120		1503	7531(3)	66Au01			
1539(3)								14		1512	7540(3)	66Au01			
1554(3)								150		1527	7554(3)	66Au01			
1556(3)								130		1529	7556(3)	66Au01			
1571(3)								41		1543	7571(3)	66Au01			
1576(3)								54		1548	7576(3)	66Au01			
1578(3)								140		1550	7578(3)	66Au01			

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	Rel.int. γ_i	Γ_γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.		
1598(3)	3^-							580			1570	7598(3)	66Au01		
1614(3)**								250			1586	7613(3)	66Au01		
1622.7(10)	3^-							1070			1594	7621(3)	70Ob02	71Le21	66Au01
1629(3)								160			1600	7628(3)	66Au01		
1637.4(4)	5^+							430	0.2	0.8	1609	7636(3)	70Ob02	71Le21	66Au01
1645.8(4)	3^-							800	0.2	0.9	1617	7644(3)	71Le21	66Au01	
1651.9(4)**								1920	0.5	2.2(3)	1623	7650(3)	70Ob02	77Ri14	71Le21
1666(3)								140			1637	7664(3)	66Au01		
1678(3)								20			1649	7676(3)	66Au01		
1684(3)**								530			1654	7682(3)	66Au01		
1687(3)								990			1657	7685(3)	66Au01		
1702(3)								340			1672	7700(3)	66Au01		
1715(3)								370			1685	7713(3)	66Au01		
1717(3)								85			1687	7715(3)	66Au01		
1721(3)								320			1691	7718(3)	66Au01		
1725(3)								550			1695	7722(3)	66Au01		
1734(3)								650			1704	7731(3)	66Au01		
1744(3)								67			1713	7741(3)	66Au01		
1746(3)								53			1715	7743(3)	66Au01		
1754(3)								320			1723	7751(3)	66Au01		
1758(3)								87			1727	7755(3)	66Au01		
1765(3)								860			1734	7762(3)	66Au01		
1768(3)								170			1737	7765(3)	66Au01		
1776(3)**								430			1745	7772(3)	66Au01		
1782(3)								130			1751	7778(3)	70Ob02		
1792(3)								180			1761	7788(3)	66Au01		
1800(3)	5^+							470			1768	7796(3)	66Au01		
1806(3)**								330			1774	7802(3)	66Au01		
1932(3)	5								0.8(2)	4.9(12)	1898	7926(3)	70Ob02	91El01	
1958										2.6(6)	1924	7951(3)	91El01		
1970										3.4(7)	1935	7963(3)	91El01		
1989										3.6(8)	1954	7982(3)	91El01		
2049.4*	1^+		30(10)	1.96							2013	8041(3)	71Li14		
2051.5*	1^+		30(10)	1.94							2015	8043(3)	71Li14		
2060(3)	5^-								1.3(3)	5.2(12)	2024	8051(3)	91El01		
2077.6*	$\langle 1^- \rangle$		20(10)	2.78							2041	8068(3)	71Li14		
2116										2.7(6)	2079	8107(3)	91El01		
2189.7*	1^+		180(20)	7.17							2151	8178(3)	71Li14		
2204.2	5^+								1.0(2)	5.9(14)	2166	8193(3)	70Ob02	91El01	
2270										2.9(8)	2230	8258(3)	70Ob02	91El01	
2311											2270	8298(3)	70Ob02		
2322.7*	1^+		160(20)	4.12						3.2(8)	2282	8309(3)	71Li14		
2351.0*	3^+		20(10)	4.87							2310	8337(3)	71Li14		
2356.2*	3^+		30(10)	7.18							2315	8342(3)	71Li14		
2371.2*	1^+		35(10)	0.78						2.5(6)	2330	8357(3)	71Li14		

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	Rel.int. γ_i	Γ_γ [eV]	$S_\mathrm{p\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.
2411.1*	1^-		50(15)	2.18										2369	8396(3)	71Li14
2435.7*	$\langle 1^-\rangle$		12(5)	0.48										2393	8420(3)	71Li14
2437.5*	1^+		20(10)	0.36										2395	8422(3)	71Li14
2458.6*	3^+		17(10)	2.89										2416	8443(3)	71Li14
2466(3)	$\langle 3^-\rangle$											0.6(2)	2.2(7)	2423	8450(3)	91El01
2475.9*	1^+		30(10)	0.49										2433	8460(3)	71Li14
2492.0*	$\langle 1^-\rangle$		20(10)	0.68										2448	8476(3)	71Li14
2498.7*	1^+		140(20)	2.17										2455	8482(3)	71Li14
2511.5*	3^+		30(10)	4.29										2467	8495(3)	71Li14
2513.1*	3^-		20	0.63	1	1.11								2469	8496(3)	85Mi0A
2534.0*	1^-		1350(120)	41.0										2490	8517(3)	71Li14
2551.9*	1^+		50(10)	0.66										2507	8534(3)	71Li14
2557.3*	3^+		15(8)	1.86										2512	8540(3)	71Li14
2557.8*	5^+		20(10)	2.48										2513	8540(3)	71Li14
2559.7*	3^-		25	0.69	5	3.51								2515	8542(3)	85Mi0A
2571.3*	1^+		85(15)	1.07										2526	8553(3)	71Li14
2576.0*	1^-		40(10)	1.07										2531	8558(3)	71Li14
2584.9*	3^+		20(10)	2.30										2540	8567(3)	71Li14
2597.6*	$\langle 1^-\rangle$		20(10)	0.51										2552	8579(3)	71Li14
2617.2*	5^+		40(10)	4.16										2571	8598(3)	71Li14
2620.2*	1^+		125(20)	1.40										2574	8601(3)	71Li14
2674.7*	1^+		160(25)	1.57										2628	8655(3)	71Li14
2676.5*	$\langle 1^-\rangle$		20(10)	0.41										2630	8657(3)	71Li14
2681.4*	3^+		12(5)	1.04										2634	8662(3)	71Li14
2688.3*	$\langle 1^-\rangle$		30(10)	0.60										2641	8668(3)	71Li14
2710.7*	1^+		500(40)	4.52										2663	8690(3)	71Li14
2714.6*	3^-		30	0.56	3	0.88								2667	8694(3)	85Mi0A
2716.9*	5^+		8(5)	0.63										2669	8696(3)	71Li14
2722.4*	$\langle 1^-\rangle$		15(10)	0.28										2675	8702(3)	71Li14
2729.9*	1^+		600(50)	5.19										2682	8709(3)	71Li14
2744.6*	1^+		120(20)	1.00										2696	8724(3)	71Li14
2761.4*	5^+		10(5)	0.70										2713	8740(3)	71Li14
2773.8*	1^+		140(25)	1.10										2725	8752(3)	71Li14
2774.6*	3^+		15(8)	1.01										2726	8753(3)	71Li14
2776.9*	5^+		35(10)	2.34										2728	8755(3)	71Li14
2778.3*	3^+		10(5)	0.67										2730	8757(3)	71Li14
2784.4*	3^-		15	0.24	9	2.21								2736	8763(3)	85Mi0A
2796.5*	3^-		15	0.23	9	2.07								2747	8775(3)	85Mi0A
2805.9*	1^+		140(20)	1.02										2757	8784(3)	71Li14
2807.1*	3^+		15(10)	0.93										2758	8785(3)	71Li14
2810.5*	3^+		15(10)	0.92										2761	8788(3)	71Li14
2821.0*	5^+		10(5)	0.60										2772	8799(3)	71Li14
2824.4*	3^-		15	0.21	2	0.34								2775	8802(3)	85Mi0A
2827.9*	3^+		60(20)	3.52										2778	8805(3)	71Li14
2829.9*	3^-		13	0.18	1	0.25								2780	8807(3)	85Mi0A

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	Rel.int. γ_i	Γ_γ [eV]	E_cm [keV]	E^* [keV]	Ref.	
2836.5*	3^-		10	0.14	3	0.57							2787	8814(3)	85Mi0A	
2848.6*	3^+		40(10)	2.22									2799	8826(3)	71Li14	
2850.8*	5^+		15(5)	0.83									2801	8828(3)	71Li14	
2855.3*	3^+		10(5)	0.84									2805	8832(3)	71Li14	
2857.2*	3^-		10	0.13	3	0.52							2807	8834(3)	85Mi0A	
2859.1*	3^-		10	0.13	2	0.39							2809	8836(3)	85Mi0A	
2860.0*	3^-		40	0.53	0.9	0.17							2810	8837(3)	85Mi0A	
2863.0*	1^+		60(15)	0.39									2813	8840(3)	71Li14	
2866.5*	5^+		8(5)	0.42									2816	8843(3)	71Li14	
2872.5*	5^+		15(5)	0.78									2822	8849(3)	71Li14	
2876.0*	5^+		20(10)	1.03									2826	8853(3)	71Li14	
2876.3*	1^-		50(15)	0.64									2826	8853(3)	71Li14	
2884.5*	3^+		60(15)	3.01									2834	8861(3)	71Li14	
2887.8*	3^-		13	0.16	4	0.73							2837	8864(3)	85Mi0A	
2896.1*	1^+		200(25)	1.20									2845	8872(3)	71Li14	
2897.0*	1^+		50(10)	0.30									2846	8874(3)	71Li14	
2903.2*	1^+		400(40)	2.37									2852	8879(3)	71Li14	
2905.4*	3^-		75	0.90	70	10.8							2854	8882(3)	85Mi0A	
2920.9*	1^+		1200(100)	6.87									2870	8897(3)	71Li14	
2928.3*	5^+		15(5)	0.68									2877	8904(3)	71Li14	82Ar04
2929.7*	$\langle 1^- \rangle$		15(5)	0.17									2878	8905(3)	71Li14	
2938.8*	3^-		45	0.50	7	0.94							2887	8914(3)	85Mi0A	
2947.0*	5^+		5(5)	0.22									2895	8923(3)	71Li14	82Ar04
2967.4*	1^+		450(60)	2.35									2915	8943(3)	71Li14	
2972.4*	3^+		40(10)	1.63									2920	8947(3)	71Li14	82Ar04
2973.9*	1^+		850(80)	4.39									2922	8949(3)	71Li14	
2979.1*	3^-		15	0.15	10	1.12							2927	8954(3)	85Mi0A	
2984.6*	1^+		35(10)	0.18									2932	8959(3)	71Li14	
2987.6*	3^-		15	0.15	3	0.30							2935	8962(3)	85Mi0A	
2993.3*	$\langle 1^+ \rangle$		40(20)	0.20									2941	8968(3)	71Li14	
2993.9*	1^+		60(20)	0.36									2941	8969(3)	71Li14	82Ar04
2999.7*	3^-		50	0.49	13	1.36							2947	8974(3)	85Mi0A	
3009.8*	3^-		250	2.40									2957	8984(3)	85Mi0A	82Ar04
3012.0*	3^-		20	0.19	13	1.30							2959	8987(3)	85Mi0A	
3017.3*	1^+		1500(130)	8.6									2964	8992(3)	71Li14	82Ar04
3040.3*	3^+		15(8)	0.53									2987	9014(3)	71Li14	82Ar04
3042.6*	1^+		300(60)	1.6									2989	9016(3)	71Li14	82Ar04
3047.2*	$\langle 1^- \rangle$		20(10)	0.18									2994	9021(3)	71Li14	82Ar04
3065.6*	3^-		30	0.26	2	0.18							3012	9039(3)	85Mi0A	
3067.3	$\langle 1^- \rangle$		70(15)	0.60									3014	9041(3)	71Li14	82Ar04
3069.7*	1^+		40(10)	0.21									3016	9043(3)	71Li14	82Ar04
3075.0*	3^+		10(5)	0.32									3021	9049(3)	71Li14	82Ar04
3078.1*	1^+		50(10)	0.26									3024	9051(3)	71Li14	82Ar04
3104.2*	3^+		15(5)	0.46									3050	9077(3)	76Bi0A	82Ar04
3105.5	3^-		9	0.10	2	0.17	2	0.17					3051	9078(3)	81WaZU	81Wa27

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3108.4	1^-		40	0.45	4	0.44					3054	9081(3)	81WaZU	81Wa27	
3111.7	$\langle 5^+\rangle$		34	1.63	10	0.46			1	0.28	3057	9084(3)	81WaZU	81Wa27	
3121.2	1^+		48	0.26	2	1.8					3066	9094(3)	81WaZU	81Wa17	
3122.1	3^+		50	2.27	10	0.44	1	0.54			3067	9095(3)	81WaZU	81Wa27	
3125.6	5^+		48	2.16	12	0.52	4	2.12	2	1.06	3071	9098(3)	81WaZU	84Ra20	
3131.4	5^+		6	0.27	3	0.13	1	0.26			3077	9104(3)	81WaZU	84Ra20	
3134.1	$\langle 3^+,5^+\rangle$		70	3.09	1	0.04					3079	9106(3)	81WaZU	81Wa27	
3139.0	$\langle 3^-\rangle$		12	0.13	5	0.49	1	0.10			3084	9112(3)	81WaZU	81Wa27	
3143.8	$\langle 5^+,3^+\rangle$		4	0.15	34	1.44			1	0.50	3089	9116(3)	81WaZU	81Wa27	
3148.4	1^+		400(40)	2.06	12(5)	5.84					3093	9120(3)	81Wa17	81WaZU	82Ar04
3155.4	5^+		55	2.41	24	0.95					3100	9127(3)	71Li14	84Ra20	
3157.2	3^+		18	0.76	12	0.47	1	0.24			3102	9129(3)	86Ra11	76Bi0A	
3161.4	$\langle 3^-\rangle$		7	0.07	6	0.55	4	0.37			3106	9133(3)	81Wa27	81WaZU	
3161.7	3^+		28	1.17	4	0.16					3106	9133(3)	81WaZU	86Ra11	
3163.8	5^+		28	1.16	46	1.78					3108	9135(3)	81WaZU	84Ra20	
3166.9	5^+		22	0.95	90	3.44	10	4.55	3	1.37	3111	9139(3)	81WaZU	84Ra20	
3176.9	$\langle 3^-\rangle$		14	0.15							3121	9148(3)	81WaZU	81Wa27	
3183.9	5^+		22	0.87	16	0.58	5	2.14			3128	9155(3)	81WaZU	81Wa27	
3184.8	1^+		350(35)	1.70	5(5)	2.13					3129	9156(3)	81Wa17	81WaZU	82Ar04
3186.9	$\langle 5^+\rangle$		24	0.99							3131	9158(3)	81WaZU	81Wa27	
3188.7	$\langle 3^-\rangle$		18	0.18	8	0.67					3133	9160(3)	81WaZU	81Wa27	
3189.4	$\langle 5^+,3^+\rangle$		10	0.39	12	0.43					3133	9161(3)	81WaZU	81Wa27	
3190.8	$\langle 1^-\rangle$		80	0.78							3135	9162(3)	81WaZU	81Wa27	
3195.1	5^+		180	7.13	120	4.20	12	4.94	6	2.47	3139	9166(3)	81WaZU	81Wa27	
3196.2	1^+		165(16)	0.80	5(5)	2.05					3140	9167(3)	82Ar04	81Wa17	81WaZU
3200.7	3^+		30	1.15	120	4.13	1	0.40			3145	9172(3)	81WaZU	86Ra11	
3207.6	3^-		40	0.38	4	0.31	3	0.24			3151	9179(3)	81WaZU	81Wa27	
3208.0	3^-		75	0.71	5	0.39	10	0.78			3152	9179(3)	81WaZU	81Wa27	
3208.6	1^+		960(95)	4.47							3152	9179(3)	82Ar04	81Wa17	81WaZU
3210.9	$\langle 5^+\rangle$		28	1.05	6	0.20	2	0.78	4	1.56	3155	9182(3)	81WaZU	86Ra11	
3215.9	$\langle 1^-\rangle$		36	0.33							3160	9187(3)	81WaZU	81Wa27	
3219.1	5^+		12	0.48	20	0.65					3163	9190(3)	81WaZU	81Wa27	
3221.4	$\langle 5^+,3^+\rangle$		5	0.18	20	0.68					3165	9192(3)	82Ar04	84Ra20	
3226.8	3^+		115	4.17	34	1.08	10	4.05			3170	9197(3)	81WaZU	81Wa27	
3228.6	1^+		210(20)	0.95	24(5)	9.15					3172	9199(3)	82Ar04	81Wa17	81WaZU
3234.6	$\langle 5^+\rangle$		16	0.61							3178	9205(3)	81WaZU	82Ar04	
3238.6	3^+		44	1.56	2	0.06					3182	9209(3)	82Ar04	84Ra20	
3244.2	5^+		85	3.08	65	1.99	14	4.86	18	6.24	3187	9214(3)	81WaZU	81Wa27	
3246.8	3^-		46	0.41							3190	9217(3)	81WaZU	81Wa27	
3246.8	5^+		55	2.02	6	0.18	2	0.86	2	0.52	3190	9217(3)	81WaZU	81Wa27	
3251.4	$\langle 3^-\rangle$		14	0.12	3	0.20	3	0.20			3194	9222(3)	81WaZU	81Wa27	
3253.6	1^+		115(12)	0.50							3197	9224(3)	82Ar04	81WaZU	
3253.6	$\langle 3^-,1^-\rangle$		30	0.26	2	0.14					3197	9224(3)	81WaZU	81Wa27	
3255.2	5^+		60	2.05	8	0.23	5	1.67	1	0.33	3198	9225(3)	81WaZU	81Wa27	
3266.3	$\langle 5^+\rangle$		16	0.53	8	0.23	2	0.58			3209	9236(3)	81WaZU	84Ra20	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3271.2	1^+		36(5)	0.15							3214	9241(3)	82Ar04	81Wa17	81WaZU
3273.9	5^+		36	1.18	12	0.33	3	0.94	3	0.94	3217	9244(3)	81WaZU	82Ar04	
3275.1	3^-		28	0.24							3218	9245(3)	81WaZU	82Ar04	
3278.8	$\langle 3^+ \rangle$		20	0.65	1	0.03					3221	9248(3)	81WaZU	81Wa27	
3283.5	5^+		22	0.71	24	0.67					3226	9253(3)	81WaZU	81Wa27	
3284.4	1^+		290(30)	1.21	14(5)	4.54					3227	9254(3)	82Ar04	81Wa17	81WaZU
3286.7	5^+		38	1.22	4	0.11			8	2.41	3229	9256(3)	81WaZU	84Ra20	
3295.7	$\langle 3^- \rangle$		9	0.07	4	0.24	8	0.48			3238	9265(3)	81WaZU	81Wa27	
3300.5	5^+		110	3.43	160	4.08			4	1.15	3243	9270(3)	81WaZU	81Wa27	
3304.0	$\langle 3^- \rangle$		16	0.13	2	0.12					3246	9274(3)	81WaZU	81Wa27	
3305.7	$\langle 5^+ \rangle$		10	0.34	7	0.18	5	1.41	2	0.42	3248	9275(3)	81WaZU	84Ra20	
3307.0	3^+		34	1.05	60	1.50	2	0.51			3249	9277(3)	81WaZU	81Wa27	
3309.9	1^+		22(5)	0.09							3252	9279(3)	81Wa17	81WaZU	
3310.4	$\langle 5^+ \rangle$		12	0.40	14	0.37			1	0.28	3252	9280(3)	81WaZU	84Ra20	
3316.3	$\langle 5^+,3^+ \rangle$		16	0.48	8	0.20			1	0.27	3258	9285(3)	81WaZU	81Wa27	
3316.8	5^+		24	0.75	50	1.32			2	0.54	3259	9286(3)	81WaZU	84Ra20	
3319.3	3^-		60	0.46							3261	9288(3)	81WaZU	81Wa27	
3320.5	1^+		50(5)	0.19							3262	9289(3)	82Ar04	81Wa17	81WaZU
3326.2	1^+		780(80)	3.04							3268	9295(3)	82Ar04	81Wa17	81WaZU
3328.2	1^-		330	2.50							3270	9297(3)	81WaZU	81Wa27	
3329.3	$\langle 5^+ \rangle$		8	0.24	10	0.24			1	0.26	3271	9298(3)	81WaZU	84Ra20	
3333.5	5^+		46	1.34	34	0.81	3	0.77	1	0.26	3275	9302(3)	81WaZU	81Wa27	
3336.9	3^-		8	0.06	5	0.26	6	0.31			3278	9306(3)	81WaZU	81Wa27	
3339.2	1^-		150	1.12	24	1.25					3281	9308(3)	81WaZU	81Wa27	
3340.3	$\langle 5^+ \rangle$		9	0.26	10	0.23	5	1.26	1	0.25	3282	9309(3)	81WaZU	84Ra20	
3307.0	3^+		34	1.05	60	1.50	2	0.51			3249	9277(3)	81WaZU	81Wa27	
3309.9	1^+		22	0.09							3252	9279(3)	81Wa17	81WaZU	
3310.4	$\langle 5^+ \rangle$		12	0.40	14	0.37			1	0.28	3252	9280(3)	81WaZU	81Wa27	
3316.3	$\langle 5^+,3^+ \rangle$		16	0.48	8	0.20			1	0.27	3258	9285(3)	81WaZU	81Wa27	
3316.8	5^+		24	0.75	50	1.32			2	0.54	3259	9286(3)	81WaZU	81Wa27	
3319.3	3^-		60	0.46							3261	9288(3)	81WaZU	81Wa27	
3320.5	1^+		50	0.19							3262	9289(3)	81Wa17	81WaZU	
3326.2	1^+		780	3.04							3268	9295(3)	81Wa17	81WaZU	
3328.2	1^-		330	2.50							3270	9297(3)	81WaZU	81Wa27	
3329.3	$\langle 5^+ \rangle$		8	0.24	10	0.24			1	0.26	3271	9298(3)	81WaZU	81Wa27	
3333.5	5^+		46	1.34	34	0.81	3	0.77	1	0.26	3275	9302(3)	81WaZU	81Wa27	
3336.9	3^-		8	0.06	5	0.26			6	0.31	3278	9306(3)	81WaZU	81Wa27	
3339.2	1^-		150	1.12	24	1.24					3281	9308(3)	81WaZU	81Wa27	
3340.3	$\langle 5^+ \rangle$		9	0.26	10	0.23	5	1.26	1	0.25	3282	9309(3)	81WaZU	81Wa27	
3347.1	1^+		20(5)	0.07							3288	9316(3)	81Wa17	81WaZU	
3347.6	5^+		100	2.84	400	9.27	30	7.39	14	3.70	3289	9316(3)	81WaZU	84Ra20	
3354.5	$\langle 5^+ \rangle$		50	1.40	20	0.46	3	0.72	6	1.45	3296	9323(3)	81WaZU	81Wa27	
3360.2	$\langle 5^+,3^+ \rangle$		12	0.33	4	0.09					3301	9328(3)	81WaZU	84Ra20	
3360.4	1^+		16(5)	0.06	10(5)	2.37					3301	9329(3)	81Wa17	81WaZU	
3365.6	$\langle 3^+ \rangle$		26	0.74	4	0.09	1	0.19			3307	9334(3)	81WaZU	81Wa27	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3369.0	1^+		55(6)	0.20	16(5)	3.69					3310	9338(3)	82Ar04	81Wa17	81WaZU
3373.3	$\langle 5^+ \rangle$		30	0.81	10	0.21					3314	9341(3)	81WaZU	84Ra20	
3376.7	1^+		70	0.26							3318	9345(3)	81Wa17	82Ar04	84Ra20
3381.1	5^+		34	0.93	16	0.33					3322	9349(3)	81WaZU	81Wa27	
3391.7	$\langle 1^- \rangle$		500	3.40	150	6.71					3332	9359(3)	81WaZU	81Wa27	
3392.0	$\langle 3^+ \rangle$		210	5.60	16	0.32			2	0.43	3332	9360(3)	81WaZU	81Wa27	
3397.8	$\langle 5^+,3^+ \rangle$		10	0.26							3338	9365(3)	81WaZU	81Wa27	
3398.2	5^+		34	0.87	65	1.26					3339	9366(3)	81WaZU	84Ra20	
3398.3	1^+		800	2.76							3339	9366(3)	81Wa17	81WaZU	
3398.7	$\langle 5^+,3^+ \rangle$		16	0.44	2	0.04					3339	9366(3)	81WaZU	81Wa27	
3403.3	$\langle 3^- \rangle$		24	0.16							3344	9371(3)	81WaZU	81Wa27	
3406.8	$\langle 5^+ \rangle$		12	0.30	18	0.34			4	0.82	3347	9374(3)	81WaZU	81Wa27	
3410.4	$\langle 5^+,3^+ \rangle$		8	0.20	14	0.26					3351	9378(3)	81WaZU	84Ra20	
3414.1	5^-		5	0.97							3354	9381(3)	81WaZU	81Wa27	
3415.2	$\langle 5^+ \rangle$		40	1.00	34	0.65			1	0.20	3355	9382(3)	82Ar04	86Ra11	
3417.6	1^-		48	0.31	8	0.33					3358	9385(3)	81WaZU	81Wa27	
3418.8	3^-		10	0.07	12	0.50					3359	9386(3)	81WaZU	81Wa27	
3419.7	$\langle 5^+,3^+ \rangle$		12	0.30	12	0.24					3360	9387(3)	81WaZU	81Wa27	
3420.3	1^-		210	1.36	14	0.62					3360	9387(3)	81WaZU	81Wa27	
3420.5	5^+		55	1.36	8	0.15			1	0.10	3361	9388(3)	81WaZU	84Ra20	
3421.3	3^-		38	0.25	4	0.16					3361	9388(3)	81WaZU	81Wa27	
3427.4	1^+		680(70)	2.25							3367	9394(3)	82Ar04	81Wa17	81WaZU
3428.0	5^-		14	2.47	7	0.28	9	0.36			3368	9395(3)	81WaZU	81Wa27	
3432.5	$\langle 5^+,3^+ \rangle$		5	0.12	20	0.36			4	0.76	3372	9399(3)	81WaZU	82Ar04	
3442.4	$\langle 5^+,3^+ \rangle$		10	0.24	3	0.05					3382	9409(3)	81WaZU	81Wa27	
3442.9	1^+		140(15)	0.45			10	1.83			3383	9410(3)	82Ar04	81Wa17	81WaZU
3443.9	3^+		105	2.48	8	0.14	3	0.55	6	1.10	3384	9411(3)	81WaZU	81Wa27	
3446.2	$\langle 5^+ \rangle$		18	0.45	20	0.36			4	0.23	3386	9413(3)	81WaZU	84Ra20	
3451.1	$\langle 5^+,3^+ \rangle$		5	0.12	14	0.25	3	0.54	2	0.27	3391	9418(3)	81WaZU	84Ra20	
3457.9	1^+		460(50)	1.50							3397	9424(3)	82Ar04	81Wa17	81WaZU
3462.3	$\langle 5^+,3^+ \rangle$		8	0.18	10	0.16					3402	9429(3)	81WaZU	81Wa27	
3470.4	1^-		370	2.22	10	0.36					3410	9437(3)	81WaZU	81Wa27	
3470.7	$\langle 5^+,3^+ \rangle$		18	0.43	18	0.29			1	0.17	3410	9437(3)	81WaZU	81Wa27	
3474.3	5^+		34	0.78	18	0.29					3413	9441(3)	81WaZU	84Ra20	
3479.4	1^+		155(16)	0.48	10(5)	1.64					3418	9446(3)	82Ar04	81Wa17	81WaZU
3482.9	3^-		34	0.20	2	0.07	2	0.07			3422	9449(3)	81WaZU	81Wa27	
3487.9	1^-		420	2.45							3427	9454(3)	81WaZU	81Wa27	
3494.5	1^+		34(5)	0.11							3433	9460(3)	82Ar04	81Wa17	81WaZU
3494.8	3^+		65	1.40	300	4.55	10	1.57			3434	9461(3)	81WaZU	81Wa27	
3498.7	5^+		12	0.26	14	0.21	4	0.62			3437	9464(3)	81WaZU	84Ra20	
3499.0	$\langle 5^+,3^+ \rangle$		12	0.26			3	0.47			3438	9465(3)	81WaZU	81Wa27	
3503.4	5^+		16	0.34	22	0.33	2	0.31			3442	9469(3)	81WaZU	81Wa27	
3505.6	1^+		195(20)	0.58							3444	9471(3)	82Ar04	81Wa17	81WaZU
3505.8	5^-		3	0.43							3444	9471(3)	81WaZU	81Wa27	
3509.6	$\langle 3^-,1^- \rangle$		5	0.03	4	0.13					3448	9475(3)	81WaZU	81Wa27	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3510.4	$\langle 5^+,3^+\rangle$		5	0.10	20	0.29					3449	9476(3)	82Ar04	86Ra11	
3514.1	5^+		105	2.18	55	0.84			1	0.15	3452	9480(3)	81WaZU	81Wa27	
3515.5	$\langle 3^-,1^-\rangle$		5	0.03	20	0.64					3454	9481(3)	81Wa27	82Ar04	84Ra20
3519.5	3^+		175	3.60	30	0.43	6	0.88	12	1.76	3458	9485(3)	81Wa27	81WaZU	82Ar04
3521.9	$\langle 5^+\rangle$		24	0.49	4	0.06			1	0.07	3460	9487(3)	81Wa27	81WaZU	84Ra20
3524.5	$\langle 5^+\rangle$		4	0.08	16	0.23			6	0.87	3463	9490(3)	81Wa27	81WaZU	
3527.6	1^+		370(40)	1.06	30(5)	4.29					3466	9493(3)	82Ar04	81Wa17	81WaZU
3534.8	3^-		44	0.24	7	0.21	10	0.30			3473	9500(3)	81Wa27	81WaZU	82Ar04
3536.6	3^+		65	1.30	42	0.57					3475	9502(3)	81Wa27	82Ar04	86Ra11
3538.7	$\langle 5^+,3^+\rangle$		5	0.10	50	0.68	10	1.39			3477	9504(3)	81Wa27	81WaZU	
3539.5	1^+		460(50)	1.30							3477	9505(3)	82Ar04	81Wa17	81WaZU
3541.7	$\langle 5^+,3^+\rangle$		8	0.16	20	0.27	4	0.55	4	0.55	3480	9507(3)	81Wa27	81WaZU	86Ra11
3542.1	1^-		240	1.29							3480	9507(3)	81Wa27	81WaZU	
3543.8	$\langle 5^+,3^+\rangle$		4	0.08	8	0.11	1	0.14	1	0.14	3481	9509(3)	81Wa27	81WaZU	84Ra20
3547.7	1^+		1200(120)	3.36	60(6)	8.11					3486	9513(3)	82Ar04	81Wa17	81WaZU
3550.4	$\langle 3^-\rangle$		48	0.25			8	0.23			3488	9515(3)	81Wa27	81WaZU	82Ar04
3552.5	$\langle 5^+\rangle$		22	0.43	16	0.21	4	0.53			3490	9517(3)	81Wa27	81WaZU	84Ra20
3554.6	$\langle 5^+\rangle$		9	0.17	9	0.12					3492	9519(3)	81Wa27	81WaZU	
3560.5	5^+		40	0.76	50	0.65			4	0.52	3498	9525(3)	81Wa27	81WaZU	84Ra20
3561.2	$\langle 5^+,3^+\rangle$		14	0.29	22	0.28			1	0.13	3499	9526(3)	81Wa27	81WaZU	
3562.9	$\langle 3^-,1^-\rangle$		16	0.09			220	6.21			3500	9528(3)	81Wa27	81WaZU	
3565.9	$\langle 3^-\rangle$		24	0.13	7	0.20	3	0.08			3503	9531(3)	81Wa27	81WaZU	
3566.4	$\langle 5^+,3^+\rangle$		4	0.08	80	1.02					3504	9531(3)	81Wa27	81WaZU	
3567.8	$\langle 5^+,3^+\rangle$		10	0.21	5	0.06					3505	9532(3)	81Wa27	81WaZU	84Ra20
3571.6	1^+		420(45)	1.15	10(5)	1.26					3509	9536(3)	82Ar04	81Wa17	81WaZU
3574.3	$\langle 3^-\rangle$		9	0.05	7	0.19	5	0.14			3512	9539(3)	81Wa27	81WaZU	82Ar04
3577.4	$\langle 5^+\rangle$		42	0.80	10	0.14					3515	9542(3)	81Wa27	82Ar04	84Ra20
3579.0	5^+		80	1.48	40	0.49	4	0.49	4	0.49	3516	9544(3)	81Wa27	81WaZU	
3580.4	$\langle 3^-\rangle$		75	0.38			36	0.97			3518	9545(3)	81Wa27	81WaZU	
3581.2	$\langle 5^+,3^+\rangle$		14	0.28	50	0.62	10	1.23	14	1.85	3518	9546(3)	81Wa27	81WaZU	
3582.8	$\langle 5^+,3^+\rangle$		10	0.18	36	0.44			4	0.49	3520	9547(3)	81Wa27	81WaZU	
3586.2	5^+		105	1.92	2	0.03			1	0.12	3523	9550(3)	81Wa27	81WaZU	84Ra20
3587.4	3^+		50	0.95	50	0.61					3525	9552(3)	81Wa27	81WaZU	
3593.0	1^-		60	0.32							3530	9558(3)	81Wa27	81WaZU	
3593.8	$\langle 5^+,3^+\rangle$		5	0.09	14	0.18					3531	9558(3)	81Wa27	81WaZU	
3596.3	3^-		50	0.26	2	0.05	3	0.08			3533	9560(3)	81Wa27	81WaZU	
3598.9	1^+		1400(140)	3.66							3536	9563(3)	82Ar04	81Wa17	81WaZU
3600.8	1^+		210(20)	0.55							3538	9565(3)	82Ar04	81Wa17	81WaZU
3601.1	$\langle 5^+,3^+\rangle$		20	0.36	6	0.07	2	0.23	4	0.47	3538	9565(3)	81Wa27	81WaZU	86Ra11
3606.4	5^+		50	0.88	100	1.16	5	0.57	5	0.57	3543	9570(3)	81Wa27	81WaZU	84Ra20
3610.5	5^+		90	1.61	135	1.59	5	0.57	4	0.45	3547	9574(3)	81Wa27	82Ar04	84Ra20
3613.0	$\langle 5^+\rangle$		95	1.66	5	0.06			10	1.13	3550	9577(3)	81Wa27	81WaZU	84Ra20
3618.3	5^+		14	0.25	120	1.35			14	1.67	3555	9582(3)	81Wa27	81WaZU	
3620.7	1^+		1150(120)	2.92	60(6)	6.62					3557	9584(3)	82Ar04	81Wa17	81WaZU
3624.1	$\langle 3^-\rangle$		38	0.18	5	0.12					3561	9588(3)	81Wa27	82Ar04	84Ra20

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

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{p'_i}$ [eV]	$\gamma^2_{p'_i}$ [keV]	$\Gamma_{p'_j}$ [eV]	$\gamma^2_{p'_j}$ [keV]	$\Gamma_{p'_k}$ [eV]	$\gamma^2_{p'_k}$ [keV]	E_{cm} [keV]	E^* [keV]	Ref.		
3629.5	5^+		580	10.0	170	1.87	14	1.62			3566	9593(3)	81Wa27	81WaZU	82Ar04
3630.7	$\langle 1^- \rangle$		30	0.14							3567	9594(3)	81Wa27	81WaZU	
3631.6	3^-		32	0.16	20	0.50	7	0.17			3568	9595(3)	81Wa27	81WaZU	
3633.6	3^-		16	0.07							3570	9597(3)	81Wa27	81WaZU	
3634.8	5^+		14	0.24							3571	9598(3)	81Wa27	81WaZU	
3635.1	$\langle 3^+ \rangle$		34	0.59	200	2.17	200	21.2			3571	9599(3)	81Wa27	81WaZU	
3635.2	1^+		480(50)	1.20							3571	9599(3)	82Ar04	81Wa17	81WaZU
3640.6	$\langle 5^+ \rangle$		9	0.15	14	0.15			1	0.10	3577	9604(3)	81Wa27	81WaZU	84Ra20
3641.6	1^-		175	0.81							3578	9605(3)	81Wa27	81WaZU	82Ar04
3645.5	5^+		40	0.66	38	0.40			1	0.10	3582	9609(3)	81Wa27	81WaZU	84Ra20
3649.5	5^+		26	0.43	14	0.16			1	0.10	3586	9613(3)	81Wa27	81WaZU	84Ra20
3650.8	$\langle 3^- \rangle$		9	0.04							3587	9614(3)	81Wa27	81WaZU	
36515	$\langle 5^+ \rangle$		22	0.36	70	0.73	10	1.02	20	2.03	3587	4190(3)	81Wa27	81WaZU	
3652.2	5^+		80	1.37	280	2.93	10	1.01			3588	9615(3)	81Wa27	81WaZU	84Ra20
3653.1	$\langle 3^- \rangle$		22	0.10			10	0.23			3589	9616(3)	81Wa27	81WaZU	
3659.1	$\langle 3^+ \rangle$		12	0.21	24	0.26	3	0.30	6	0.60	3595	9622(3)	81Wa27	81WaZU	
3661.3	$\langle 5^+,3^+ \rangle$		12	0.21	4	0.04					3597	9624(3)	81Wa27	81WaZU	
3667.3	$\langle 5^+,3^+ \rangle$		8	0.13	5	0.05	1	0.10	2	0.19	3603	9630(3)	81Wa27	81WaZU	
3668.0	1^+		250(25)	0.60	14(5)	1.46					3604	9631(3)	82Ar04	81Wa17	81WaZU
3669.6	$\langle 3^- \rangle$		44	0.20	4	0.09					3605	9632(3)	81Wa27	81WaZU	
3670.8	5^+		60	0.95	145	1.46	5	0.48	5	0.48	3606	9634(3)	84Ra20		
3678.4	3^-		55	0.25	20	0.45	14	0.32			3614	9641(3)	81Wa27	81WaZU	
3680.3	$\langle 5^+,3^+ \rangle$		9	0.14	100	0.98			5	0.47	3616	9643(3)	81Wa27	81WaZU	
3681.5	$\langle 5^+,3^+ \rangle$		8	0.12	300	2.94			10	0.94	3617	9644(3)	84Ra20		
3687.2	$\langle 5^+,3^+ \rangle$		20	0.31	2	0.02					3623	9650(3)	81Wa27	81WaZU	
3687.8	$\langle 5^+,3^+ \rangle$		100	1.54	5	0.05			1	0.09	3623	9650(3)	81Wa27	81WaZU	
3688.2	1^+		1750(180)	4.11	75(8)	6.92					3624	9651(3)	82Ar04	81Wa17	81WaZU
3690.8	$\langle 3^-,1^- \rangle$		24	0.11							3626	9653(3)	81Wa27	81WaZU	
3694.0	3^-		48	0.21	36	0.74	65	1.35			3629	9657(3)	81Wa27	81WaZU	
3698.4	9^+		8	9.09	38	3.42					3634	9661(3)	81Wa27	81WaZU	
3701.6	$\langle 5^+,3^+ \rangle$		8	0.12							3637	9664(3)	81Wa27	81WaZU	
3702.3	1^+		720(70)	1.65	150(15)	13.4					3637	9665(3)	82Ar04	81Wa17	81WaZU
3702.4	5^+		70	1.08	48	0.45	48	4.27	14	1.25	3637	9665(3)	81Wa27	81WaZU	84Ra20
3703.5	9^+		10	11.6					1	0.09	3639	9666(3)	81Wa27	81WaZU	
3712.5	$\langle 5^+ \rangle$		300	4.42	60	0.55			14	1.30	3647	9675(3)	81Wa27	81WaZU	
3713.0	5^+		60	0.94	8	0.07			2	0.17	3648	9675(3)	81Wa27	81WaZU	
3714.0	1^+		3100(300)	7.02	150(15)	13.0					3649	9676(3)	70Br20	81Wa17	82Ar04
3715.4	3^+		44	0.66	400	3.64	80	6.88			3650	9677(3)	81Wa27	81WaZU	
3718.3	9^+		32	33.8	55	4.78					3653	9680(3)	81Wa27	81WaZU	85El09
3720.4	5^+		60	0.87	9	0.08	26	2.29	3	0.25	3655	9682(3)	81Wa27	81WaZU	
3720.7	3^-		34	0.15							3655	9683(3)	81Wa27	81WaZU	
3722.7	$\langle 3^-,1^- \rangle$		14	0.06							3657	9685(3)	81Wa27	81WaZU	
3723.3	3^+		145	2.14	65	0.59	8	0.67			3658	9685(3)	81Wa27	82Ar04	86Ra11
3727.1	$\langle 3^-,1^- \rangle$		8	0.03							3661	9689(3)	81Wa27	81WaZU	
3727.6	5^+		140	2.01	220	2.00	14	1.25	14	1.25	3662	9689(3)	81Wa27	81WaZU	

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

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{p'_i}$ [eV]	$\gamma^2_{p'_i}$ [keV]	$\Gamma_{p'_j}$ [eV]	$\gamma^2_{p'_j}$ [keV]	$\Gamma_{p'_k}$ [eV]	$\gamma^2_{p'_k}$ [keV]	E_{cm} [keV]	E^* [keV]	Ref.		
3731.2	9^+		5	4.98					20	1.65	3665	9693(3)	81Wa27	81WaZU	85El09
3733.1	1^+		65(7)	0.14							3667	9695(3)	81Wa17	81WaZU	
3733.3	$\langle 5^+ \rangle$		48	0.68	32	0.28	8	0.66	32	2.63	3667	9695(3)	81Wa27	81WaZU	82Ar04
3734.1	3^-		30	0.13	6	0.11					3668	9696(3)	78Fo20	82Ar04	84Ra20
3737.9	$\langle 5^+ \rangle$		18	0.27	20	0.18	6	0.49	3	0.24	3672	9700(3)	81Wa27	82Ar04	84Ra20
3742.2	5^+		340	4.78	220	1.94	14	1.21	7	0.56	3676	9704(3)	81Wa27	81WaZU	
3743.8	1^+		110(12)	0.24							3678	9705(3)	82Ar04	81Wa17	81WaZU
3749.1	5^+		640	9.03	34	0.30	14	1.18			3683	9711(3)	81Wa27	81WaZU	
3751.3	$\langle 9^+ \rangle$		7	6.68							3685	9713(3)	81Wa27	81WaZU	
3752.1	1^+		230(25)	0.50							3686	9713(3)	82Ar04	81Wa17	81WaZU
3754.7	5^+		24	0.34	38	0.32			2	0.16	3688	9716(3)	81Wa27	82Ar04	86Ra11
3757.8	5^+		280	3.84	220	1.83	44	3.48	14	1.16	3691	9719(3)	81Wa27	81WaZU	84Ra20
3759.7	$\langle 5^+,3^+ \rangle$		16	0.22	32	0.27	4	0.31	1	0.08	3693	9721(3)	81Wa27	81WaZU	84Ra20
3766.2	5^+		1200	16.6	160	1.31	40	3.03	70	5.30	3700	9727(3)	82Ar04	84Ra20	70Br20
3769.0	$\langle 5^+,3^+ \rangle$		28	0.38	20	0.16					3703	9731(3)	81Wa27	81WaZU	84Ra20
3770.4	$\langle 5^+,3^+ \rangle$		10	0.13							3704	9731(3)	81Wa27	81WaZU	82Ar04
3771.6	1^+		1200	2.54							3705	9733(3)	81Wa17	81WaZU	
3772.5	$\langle 5^+,3^+ \rangle$		14	0.19							3706	9733(3)	81Wa27	81WaZU	
3773.0	$\langle 3^-,1^- \rangle$		10	0.04			10	0.17			3707	9734(3)	81Wa27	81WaZU	82Ar04
3774.1	1^-		800	3.08	40	0.68					3707	9735(3)	81Wa27	81WaZU	
3776.9	3^-		160	0.62	12	0.20	10	0.17			3710	9738(3)	81Wa27	81WaZU	
3783.8	$\langle 5^+,3^+ \rangle$		12	0.16							3717	9745(3)	81Wa27	81WaZU	
3784.2	3^-		110	0.42	22	0.37	8	0.13			3717	9745(3)	81Wa27	81WaZU	
3784.6	1^+		1300(130)	2.76	50(5)	3.62					3718	9745(3)	82Ar04	81Wa17	81WaZU
3785.5	5^+		240	3.15	14	0.12			5	0.36	3719	9746(3)	81Wa27	81WaZU	
3786.3	$\langle 5^+,3^+ \rangle$		26	0.35	200	1.57	100	7.2	60	4.32	3719	9747(3)	81Wa27	81WaZU	84Ra20
3790.4	3^+		40	0.52	34	0.27	6	0.43			3723	9751(3)	81Wa27	81WaZU	
3793.8	5^+		85	1.10	60	0.46	24	1.70	12	0.85	3727	9754(3)	81Wa27	81WaZU	
3794.5	$\langle 1^- \rangle$		40	0.15							3727	9755(3)	81Wa27	81WaZU	
3795.2	$\langle 1^- \rangle$		65	0.24							3728	9756(3)	81Wa27	81WaZU	
3796.0	3^+		200	2.64	42	0.32	4	0.28			3729	9757(3)	81Wa27	81WaZU	
3798.3	3^-		46	0.17	16	0.28					3731	9759(3)	81Wa27	81WaZU	
3799.2	5^+		70	0.92	170	1.32	28	1.95	24	1.67	3732	9760(3)	81Wa27	81WaZU	
3802.6	$\langle 5^+,3^+ \rangle$		10	0.13	100	0.76	5	0.35			3735	9763(3)	81Wa27	81WaZU	
3805.2	1^+		4700(500)	9.56	175(18)	12.0					3738	9766(3)	82Ar04	81Wa17	81WaZU
3807.7	5^+		80	1.01	65	0.49			5	0.34	3740	9768(3)	81Wa27	81WaZU	84Ra20
3807.8	1^+		390(40)	0.79							3741	9768(3)	82Ar04	81Wa17	70Br20
3810.2	$\langle 5^+,3^+ \rangle$		16	0.20	220	1.65			22	1.49	3743	9771(3)	81Wa27	81WaZU	
3812.7	$\langle 3^-,1^- \rangle$		12	0.04	2	0.03	8	0.13			3745	9773(3)	81Wa27	81WaZU	
3818.2	5^+		30	0.37	2	0.02					3751	9778(3)	81Wa27	81WaZU	
3820.3	$\langle 1^- \rangle$		110	0.40	220	3.48					3753	9780(3)	81Wa27	82Ar04	86Ra11
3823.0	$\langle 5^+,3^+ \rangle$		8	0.10	8	0.06					3756	9784(3)	81Wa27	81WaZU	82Ar04
3823.9	$\langle 5^+,3^+ \rangle$		10	0.12	8	0.06			2	0.13	3756	9784(3)	81Wa27	81WaZU	
3824.5	3^-		75	0.27	6	0.09	26	0.40			3757	9785(3)	81Wa27	81WaZU	
3825.5	$\langle 5^+,3^+ \rangle$		12	0.15							3758	9786(3)	81Wa27	81WaZU	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3826.1	1^+		1250(100)	0.89							3759	9786(3)	82Ar04	81Wa17	81WaZU
3826.2	$\langle 3^-,1^-\rangle$		18	0.06	7	0.11					3759	9786(3)	81Wa27	81WaZU	
3828.7	3^+		185	2.27	38	0.27	6	0.39			3761	9789(3)	81Wa27	81WaZU	
3831.1	1^-		200	0.72	10	0.15					3763	9791(3)	81Wa27	81WaZU	
3834.1	3^-		60	0.23	5	0.08					3766	9794(3)	81Wa27	81WaZU	
3836.2	1^+		720(70)	1.42							3768	9796(3)	82Ar04	81Wa17	81WaZU
3838.7	$\langle 5^+,3^+\rangle$		7	0.08	4	0.03			1	0.06	3771	9799(3)	81Wa27	81WaZU	
3839.9	$\langle 1^-\rangle$		60	0.21	50	0.74					3772	9800(3)	81Wa27	81WaZU	
3840.6	3^-		44	0.16							3773	9800(3)	81Wa27	81WaZU	
3841.4	5^+		48	0.58	130	0.93	6	0.38	14	0.88	3774	9801(3)	81Wa27	81WaZU	84Ra20
3844.7	3^+		65	0.81	20	0.14	3	0.19			3777	9804(3)	81Wa27	81WaZU	
3845.7	$\langle 5^-\rangle$		14	1.04	42	0.61					3778	9805(3)	81Wa27	81WaZU	
3847.3	1^+		4500(450)	8.73	100(10)	6.21					3779	9807(3)	82Ar04	81Wa17	70Br20
3852.9	1^-		600	2.09	20	0.29					3785	9812(3)	81Wa27	81WaZU	82Ar04
3853.7	5^+		70	0.85	100	0.69	65	3.98	10	0.61	3786	9813(3)	81Wa27	81WaZU	84Ra20
3855.9	1^-		300	1.04	30	0.43					3788	9815(3)	81Wa27	81WaZU	
3856.5	3^-		30	0.10	120	1.72	60	0.86			3788	9816(3)	81Wa27	81WaZU	
3863.7	1^-		1400	4.80							3795	9823(3)	81Wa27	82Ar04	84Ra20
3864.2	$\langle 3^+\rangle$		100	1.16	14	0.10	3	0.18			3796	9824(3)	81Wa27	81WaZU	
3866.2	5^+		115	1.33	36	0.24	8	0.48	14	0.83	3798	9826(3)	81Wa27	81WaZU	
3868.3	5^-		4	0.29							3800	9828(3)	81Wa27	81WaZU	
3871.0	1^-		420	1.45							3803	9831(3)	81Wa27	81WaZU	
3873.9	3^+		75	0.89	34	0.23	5	0.29			3805	9833(3)	81Wa27	81WaZU	
3876.8	$\langle 5^+\rangle$		14	0.17	30	0.20					3808	9836(3)	81Wa27	81WaZU	
3877.8	1^+		100(10)	0.19	120(12)	6.94					3809	9837(3)	82Ar04	81Wa17	81WaZU
3878.0	3^+		100	1.14	14	0.09					3810	9838(3)	81Wa27	81WaZU	
3879.5	3^-		270	0.91	220	3.00					3811	9839(3)	81Wa27	81WaZU	
3883.1	$\langle 5^+,3^+\rangle$		10	0.11							3815	9842(3)	81Wa27	81WaZU	
3883.4	1^+		480(50)	0.91							3815	9842(3)	81Wa17	81WaZU	82Ar04
3883.6	3^-		200	0.67	60	0.81					3815	9843(3)	81Wa27	81WaZU	
3883.8	$\langle 5^+\rangle$		30	0.34							3815	9843(3)	81Wa27	81WaZU	
3884.5	3^+		220	2.53	90	0.58					3816	9844(3)	81Wa27	81WaZU	
3886.9	$\langle 5^+,3^+\rangle$		8	0.09	2	0.01					3818	9846(3)	81Wa27	81WaZU	
3888.1	1^-		75	0.25	30	0.40					3819	9847(3)	82Ar04	81Wa27	81WaZU
3889.9	3^-		520	1.73	230	3.07	110	1.47			3821	9849(3)	81Wa27	81WaZU	84Ra20
3893.6	1^+		30	0.06							3825	9852(3)	81Wa17	81WaZU	82Ar04
3895.3	3^-		100	0.33	65	0.90	24	0.33			3827	9854(3)	81Wa27	81WaZU	82Ar04
3896.2	1^-		620	2.08	20	0.26					3827	9855(3)	81Wa27	81WaZU	
3897.0	3^-		22	0.07							3829	9856(3)	81Wa27	81WaZU	82Ar04
3898.5	3^-		50	0.16	20	0.26					3830	9857(3)	81Wa27	81WaZU	
3903.0	1^+		660(70)	1.23							3835	9862(3)	82Ar04	81Wa17	81WaZU
3906.6	1^-		400	1.30							3838	9865(3)	81Wa27	81WaZU	82Ar04
3906.8	5^+		70	0.76	12	0.07			1	0.05	3838	9865(3)	81Wa27	81WaZU	84Ra20
3908.3	3^-		44	0.14	10	0.13	10	0.13			3839	9867(3)	81Wa27	81WaZU	
3910.8	$\langle 5^+,3^+\rangle$		10	0.11	10	0.06					3842	9869(3)	81Wa27	81WaZU	84Ra20

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	E_cm [keV]	E^* [keV]	Ref.		
3915.1	1^+		960(100)	1.76	34(5)	1.86					3846	9874(3)	82Ar04	81Wa17	81WaZU
3915.8	3^+		160	1.72	60	0.37	1	0.05			3847	9874(3)	81Wa27	81WaZU	
3919.8	1^-		1250	4.08							3851	9878(3)	81Wa27	81WaZU	
3923.4	5^+		240	2.60	190	1.15	20	1.04	5	0.26	3854	9882(3)	81Wa27	81WaZU	84Ra20
3926.8	5^+		270	2.85	6	0.04			1	0.05	3857	9885(3)	81Wa27	81WaZU	84Ra20
3930.6	$\langle 5^+,3^+\rangle$		9	0.09	20	0.12					3861	9889(3)	81Wa27	81WaZU	
3933.0	3^+		210(40)	2.20	8	0.05					3864	9892(3)	81Wa27	81WaZU	82Ar04
3938.2	1^+		125(13)	0.22	20(5)	1.01					3869	9896(3)	82Ar04	81Wa17	81WaZU
3938.5	$\langle 5^+,3^+\rangle$		8	0.08							3869	9897(3)	81Wa27	81WaZU	
3940.2	$\langle 5^+\rangle$		20	0.22	8	0.05			1	0.05	3871	9898(3)	81Wa27	81WaZU	
3941.4	3^+		85(14)	0.88	44	0.26	1	0.05	1	0.05	3872	9899(3)	81Wa27	82Ar04	86Ra11
3944.5	1^-		500	1.55	100	1.20					3875	9902(3)	81Wa27	81WaZU	
3945.1	1^+		90(9)	0.16							3875	9903(3)	81Wa17	81WaZU	
3945.4	3^+		115(30)	1.18	50	0.31					3876	9903(3)	81Wa27	81WaZU	82Ar04
3951.4	1^-		10000	30.8	260	3.06					3882	9909(3)	81Wa27	81WaZU	
3951.6	5^+		38	0.39	8	0.05			2	0.07	3882	9909(3)	81Wa27	81WaZU	
3952.4	3^-		65	0.20							3883	9910(3)	81Wa27	81WaZU	
3955.9	3^+		370	3.74	115	0.65					3886	9914(3)	81Wa27	81WaZU	
3956.7	1^+		640(70)	1.12	85(9)	4.10					3887	9914(3)	82Ar04	81Wa17	81WaZU
3957.3	$\langle 3^+\rangle$		28	0.28	3	0.02	1	0.05	2	0.10	3887	9915(3)	81Wa27	81WaZU	
3957.9	1^-		2900	8.86	180	2.09					3888	9916(3)	81Wa27	81WaZU	70Br20
3959.8	3^-		32	0.10							3890	9918(3)	81Wa27	81WaZU	82Ar04
3959.8	1^+		1100(110)	1.89	24(5)	1.20					3890	9918(3)	82Ar04	81Wa17	81WaZU
3960.8	$\langle 5^+,3^+\rangle$		14	0.14							3891	9918(3)	81Wa27	81WaZU	82Ar04
3961.4	3^+		120(30)	1.20	44	0.25					3891	9919(3)	81Wa27	82Ar04	86Ra11
3963.6	5^+		50(12)	0.54	44	0.25			2	0.10	3894	9921(3)	81Wa27	81WaZU	82Ar04
3965.3	$\langle 3^-\rangle$		8	0.02			30	0.34			3895	9923(3)	81Wa27	81WaZU	
3967.9	1^-		105(30)	0.32	10	0.11					3898	9925(3)	81Wa27	81WaZU	82Ar04
3969.0	5^+		30	0.30	48	0.27			24	1.13	3899	9927(3)	81Wa27	81WaZU	82Ar04
3969.6	3^-		105	0.32	40	0.45					3900	9927(3)	81Wa27	81WaZU	
3973.7	5^+		14	0.14	18	0.10					3904	9931(3)	81Wa27	81WaZU	
3976.4	5^+		16(5)	0.16	20	0.11			5	0.23	3906	9934(3)	81Wa27	81WaZU	82Ar04
3979.2	3^-		30	0.09	50	0.56	30	0.33			3909	9937(3)	81Wa27	81WaZU	82Ar04
3979.9	5^+		65	0.65	110	0.60	8	0.37	4	0.18	3910	9937(3)	81Wa27	81WaZU	84Ra20
3987.6	1^-		44	0.13	18	0.20					3917	9945(3)	81Wa27	81WaZU	
3989.5	1^+		32(5)	0.05							3919	9947(3)	82Ar04	81Wa17	81WaZU
3993.7	3^-		28	0.08							3923	9951(3)	81Wa27	81WaZU	82Ar04
3996.5	1^-		135	0.39	44	0.49					3926	9954(3)	81Wa27	81WaZU	82Ar04
3996.8	$\langle 5^+,3^+\rangle$		20	0.19	22	0.12			4	0.18	3926	9954(3)	81Wa27	81WaZU	84Ra20
3999.3	$\langle 3^-\rangle$		38	0.11			50	0.54			3929	9956(3)	81Wa27	81WaZU	
4000.5	1^+		50(5)	0.08							3930	9957(3)	82Ar04	81Wa17	70Br20
4001.6	5^+		90	0.85	150	0.79	10	0.44	40	1.75	3931	9959(3)	81Wa27	81WaZU	84Ra20
4002.0	3^+		60(12)	0.49							3932	9959(3)	82Ar04		
4006.7	3^+		50(10)	0.41							3936	9964(3)	82Ar04		
4007.6	3^+		50(10)	0.40							3937	9964(3)	82Ar04		

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	Rel.int. γ_i	Γ_γ [eV]	E_cm [keV]	E^* [keV]	Ref.	
4014.1	1^+		30(6)	0.04									3943	9971(3)	82Ar04	
4019.3	1^+		800(160)	1.2									3948	9976(3)	82Ar04	
4023.0	1^+		50(10)	0.07									3952	9980(3)	82Ar04	
4027.6	3^+		30(6)	0.24									3956	9984(3)	82Ar04	
4030.7	1^+		20(5)	0.03									3960	9987(3)	82Ar04	
4031.3	3^+		60(12)	0.47									3960	9988(3)	82Ar04	
4034.0	1^+		20(5)	0.03									3963	9991(3)	82Ar04	
4038.5	1^+		170(35)	0.25									3967	9995(3)	82Ar04	
4042.2	3^+		110(22)	0.85									3971	9998(3)	82Ar04	
4044.8	1^+		40(8)	0.06									3973	10001(3)	82Ar04	
4046.4	1^+		800(160)	1.1									3975	10003(3)	82Ar04	
4048.7	1^+		500(100)	0.71									3977	10005(3)	82Ar04	
4049.5	3^+		120(24)	0.92									3978	10006(3)	82Ar04	
4050.6	1^+		50(10)	0.07									3979	10007(3)	82Ar04	
4053.0	3^+		80(16)	0.61									3982	10010(3)	82Ar04	
4056.6	1^+		1500(300)	2.1									3985	10013(3)	82Ar04	70Br20
4060.5	3^+		60(12)	0.45									3989	10016(3)	82Ar04	
4062.1	3^+		15(5)	0.1									3990	10018(3)	82Ar04	
4067.6	3^+		150(30)	1.1									3996	10023(3)	82Ar04	70Br20
4068.6	1^-		200(40)	0.48									3997	10024(3)	82Ar04	
4069.9	1^+		200(40)	0.28									3998	10026(3)	82Ar04	
4072.0	3^+		50(10)	0.37									4001	10028(3)	82Ar04	
4080.3	1^+		50(10)	0.07									4008	10036(3)	82Ar04	
4082.5	3^+		400(80)	2.9									4010	10038(3)	82Ar04	
4087.1	3^+		200(40)	1.5									4015	10043(3)	82Ar04	
4090.3	1^+		200(40)	0.27									4018	10046(3)	82Ar04	
4091.2	1^+		200(40)	0.27									4019	10047(3)	82Ar04	
4092.2	3^+		50(10)	0.36									4020	10048(3)	82Ar04	
4098.7	3^+		200(40)	1.4									4026	10054(3)	82Ar04	
4105.9	3^+		80(16)	0.57									4033	10061(3)	82Ar04	
4106.4	1^+		150(30)	0.20									4034	10062(3)	82Ar04	
4117.5	3^+		40(8)	0.28									4045	10072(3)	82Ar04	
4123.7	1^+		50(10)	0.07									4051	10079(3)	82Ar04	
4126.5	1^+		2500(500)	3.4									4054	10081(3)	82Ar04	70Br20
4135.9	1^+		1400(280)	1.9									4063	10091(3)	82Ar04	70Br20
4139.7	3^+		150(30)	1.0									4067	10094(3)	82Ar04	
4144.3	1^+		100(20)	0.13									4071	10099(3)	82Ar04	
4145.1	1^-		110(22)	0.24									4072	10100(3)	82Ar04	
4149.3	3^+		30(6)	0.20									4076	10104(3)	82Ar04	
4154.7	1^-		80(16)	0.17									4081	10109(3)	82Ar04	
4156.0	1^-		100(20)	0.22									4083	10111(3)	82Ar04	
4157.7	3^+		35(7)	0.23									4084	10112(3)	82Ar04	
4166.1	1^+		330(66)	0.42									4093	10120(3)	82Ar04	
4167.1	3^+		50(10)	0.33									4094	10121(3)	82Ar04	
4168.5	3^+		30(6)	0.20									4095	10123(3)	82Ar04	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	$\Gamma_{\mathrm{p}'_i}$ [eV]	$\gamma^2_{\mathrm{p}'_i}$ [keV]	$\Gamma_{\mathrm{p}'_j}$ [eV]	$\gamma^2_{\mathrm{p}'_j}$ [keV]	$\Gamma_{\mathrm{p}'_k}$ [eV]	$\gamma^2_{\mathrm{p}'_k}$ [keV]	Rel.int. γ_i	Γ_γ [eV]	$S_\mathrm{p\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.
4191	1^+													4117	10145(3)	70Br20
4273	1^+													4198	10226(3)	70Br20

Additional data on this isotope can be found in [00Ra27, 98Bh11, 87Br03, 86Bu01, 86El06, 86Ra19, 85El09, 81El05, 81Wa27, 80An34, 79PiZO, 79Ra13, 78Fo0B, 76WeZO, 74Es01, 74Ma08, 70Ar10, 69Ky01, 69Er04, 69Ni10, 66Er0A].

* These $E_\circ$ should be shifted to fit the common energy scale of the other measurements.

** This resonance was investigated for a structure in [66Au01] and was found to be complex.

For the resonances at $E_\circ$=1.3–1.8 MeV the yield of γ-rays (in quanta per μC) is taken from [66Au01].

Ericson fluctuations in (p,p$_o$)-reaction data for the energies $E_\circ$=9.27-9.57 MeV (with resolution 2 keV) and $E_\circ$=11.5–11.9 MeV, (with resolution 5 keV) were studied in [66Er0A].

Absolute uncertainties in $E_\circ$ are about 3 keV.

Strengths and partial radiative widths for split analogue resonances at E_p=3774 – 3793 keV ($2J^\pi$=5^+) and 3720 – 3727 keV ($2J^\pi$=9^+, Γ_γ=0.31(5), 0.27(5) eV) are given in [85El09].

Parameters of inelastic proton scattering for resonances with J^π=$3/2^-$ [85Mi0A]. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$\Gamma_{\mathrm{p}'}$ [eV]	$\gamma^2_{\mathrm{p}_1}$ [keV]	$\gamma^2_{\mathrm{s}13}$ [keV]	$\gamma^2_{\mathrm{s}15}$ [keV]	$\gamma_{\mathrm{s}13}\gamma_{\mathrm{s}15}$ [keV]	E^* [keV]	Ref.
2513.1	3^-	1	1.11	0.01	1.11	–0.09	8496.6(4)	85Mi0A
2559.7	3^-	5	3.51	1.32	2.18	1.70	8542.4(4)	85Mi0A
2714.6	3^-	3	0.88	0.62	0.26	–0.40	8694.6(4)	85Mi0A
2784.4	3^-	9	2.21	0.54	1.67	–0.95	8763.2(4)	85Mi0A
2796.5	3^-	9	2.07	0.00	2.07	–0.04	8775.1(4)	85Mi0A
2824.4	3^-	2	0.34	0.16	0.18	–0.17	8802.5(4)	85Mi0A
2829.9	3^-	1	0.25	0.06	0.19	0.11	8807.9(4)	85Mi0A
2836.5	3^-	3	0.57	0.13	0.44	0.24	8814.4(4)	85Mi0A
2857.2	3^-	3	0.52	0.13	0.40	0.22	8834.7(4)	85Mi0A
2859.1	3^-	2	0.39	0.04	0.35	–0.11	8836.6(4)	85Mi0A
2860.0	3^-	0.9	0.17	0.05	0.12	0.08	8837.5(4)	85Mi0A
2887.8	3^-	4	0.73	0.55	0.17	–0.31	8864.8(4)	85Mi0A
2905.4	3^-	70	10.8	7.82	2.94	–4.79	8882.1(4)	85Mi0A
2938.8	3^-	7	0.94	0.90	0.04	–0.20	8914.9(4)	85Mi0A
2979.1	3^-	10	1.12	0.80	0.31	–0.50	8954.5(4)	85Mi0A
2987.6	3^-	3	0.30	0.00	0.30	–0.02	8962.8(4)	85Mi0A
2999.7	3^-	13	1.36	0.00	1.36	0.07	8974.7(4)	85Mi0A
3009.8	3^-	140	14.4	2.10	12.3	5.07	8984.6(4)	85Mi0A
3012.0	3^-	13	1.30	0.01	1.29	0.14	8986.8(4)	85Mi0A
3065.6	3^-	2	0.18	0.04	0.15	0.07	9039.4(4)	85Mi0A
Average				0.76	1.39	–0.01		

Parameters of inelastic proton scattering for resonances with $J^\pi=3/2^+$ [86Ra11]. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	$\gamma^2_{\mathrm{s}03}$ [keV]	$\gamma^2_{\mathrm{s}23}$ [keV]	$\gamma^2_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}03}\gamma_{\mathrm{s}23}$ [keV]	$\gamma_{\mathrm{s}03}\gamma_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}23}\gamma_{\mathrm{s}25}$ [keV]	E^* [keV]	Ref.
3111.7	3^+	34	1.63	0.26	0.87	2.65	0.47	–0.83	–1.52	9087.0(4)	86Ra11
3122.1	3^+	50	2.27	0.18	1.35	0.41	0.50	0.28	0.75	9098.9(4)	86Ra11
3143.8	3^+	4	0.15	1.27	0.29	4.59	0.60	–2.41	–1.15	9121.4(4)	86Ra11
3157.2	3^+	18	0.76	0.39	0.13	0.29	0.23	0.33	0.20	9129.8(4)	86Ra11
3161.7	3^+	28	1.17	0.09	0.00	0.75	–0.02	–0.25	0.05	9133.9(4)	86Ra11
3183.9	3^+	22	0.87	0.56	1.21	0.85	0.83	–0.69	–1.02	9155.7(4)	86Ra11
3189.4	3^+	10	0.39	0.31	0.10	1.20	0.18	–0.61	–0.35	9161.9(4)	86Ra11
3200.7	3^+	30	1.15	2.24	0.47	5.55	1.02	–3.53	–1.61	9172.2(4)	86Ra11
3210.9	3^+	28	1.05	0.17	0.13	3.00	–0.15	–0.71	0.63	9182.2(4)	86Ra11
3226.8	3^+	115	4.17	0.77	1.47	0.34	1.07	0.51	0.71	9200.6(4)	86Ra11
3307.0	3^+	34	1.05	0.76	0.47	0.93	0.60	–0.84	–0.66	9272.8(4)	86Ra11
3333.5	3^+	46	1.34	0.39	1.70	3.27	0.82	1.14	2.36	9298.6(4)	86Ra11
3354.5	3^+	50	1.40	0.52	0.97	0.08	0.71	0.20	0.28	9319.7(4)	86Ra11
3406.8	3^+	12	0.30	0.35	1.38	0.03	0.69	0.10	0.20	9378.6(4)	86Ra11
3415.2	3^+	40	1.00	0.69	0.12	0.23	0.29	0.40	0.17	9382.9(4)	86Ra11
3443.9	3^+	105	2.48	0.05	0.05	1.31	–0.05	–0.25	0.25	9406.8(4)	86Ra11
3470.7	3^+	18	0.43	0.22	0.37	3.06	0.29	–0.82	–1.07	9437.0(4)	86Ra11
3593.8	3^+	5	0.09	3.24	1.77	1.02	2.39	1.82	1.34	9476.3(4)	86Ra11
3536.6	3^+	65	1.30	0.29	0.18	0.80	0.23	–0.48	–0.38	9499.2(4)	86Ra11
3541.7	3^+	8	0.16	0.26	0.08	0.83	–0.14	–0.46	0.26	9507.2(4)	86Ra11
3554.6	3^+	9	0.17	0.03	0.22	0.55	0.08	–0.13	–0.35	9523.1(4)	86Ra11
3581.2	3^+	14	0.28	0.39	3.45	1.05	1.17	0.64	1.90	9543.7(4)	86Ra11
3587.4	3^+	50	0.95	0.36	0.01	0.25	0.07	0.30	0.05	9549.0(4)	86Ra11
3593.8	3^+	5	0.09	0.11	0.13	0.04	–0.12	0.07	–0.07	9558.4(4)	86Ra11
3601.1	3^+	20	0.36	0.08	0.00	0.39	–0.02	–0.18	0.05	9565.6(4)	86Ra11
3659.1	3^+	12	0.21	0.04	0.39	1.36	0.13	0.24	0.73	9621.3(4)	86Ra11
3680.3	3^+	9	0.14	0.47	0.87	1.02	0.64	–0.69	–0.94	9631.2(4)	86Ra11
3715.4	3^+	44	0.66	2.05	6.97	2.23	3.78	–2.14	–3.94	9678.9(4)	86Ra11
3723.3	3^+	145	2.14	0.11	2.62	0.32	0.55	–0.19	–0.91	9685.9(4)	86Ra11
3754.7	3^+	24	0.34	0.20	0.21	0.31	0.20	0.24	0.25	9715.9(4)	86Ra11
3790.4	3^+	40	0.52	0.14	0.40	0.42	0.23	–0.24	–0.41	9751.6(4)	86Ra11
3793.8	3^+	85	1.10	0.41	1.04	0.02	0.65	0.09	0.14	9753.8(4)	86Ra11
3796.0	3^+	200	2.64	0.17	0.09	0.32	0.13	0.24	0.17	9757.0(4)	86Ra11
3810.2	3^+	16	0.20	0.85	1.89	1.63	1.27	–1.18	–1.76	9775.9(4)	86Ra11
3828.7	3^+	185	2.27	0.07	1.13	0.00	0.29	0.01	0.05	9798.8(4)	86Ra11
3864.2	3^+	100	1.16	0.04	0.55	0.28	0.14	–0.10	–0.39	9830.5(4)	86Ra11
3873.9	3^+	75	0.89	0.10	0.40	0.40	0.21	–0.20	–0.40	9832.5(4)	86Ra11
3915.8	3^+	160	1.72	0.25	0.72	1.27	0.42	–0.56	–0.95	9874.7(4)	86Ra11
3941.4	3^+	85	0.88	0.10	0.22	0.80	0.15	–0.28	–0.42	9900.3(4)	86Ra11
3945.4	3^+	115	1.18	0.16	0.02	0.22	0.06	0.19	0.07	9904.2(4)	86Ra11
3955.9	3^+	370	3.74	0.19	0.37	0.98	0.26	–0.43	–0.60	9914.0(4)	86Ra11
3961.4	3^+	120	1.20	0.06	1.10	0.12	0.25	0.08	0.36	9920.1(4)	86Ra11

$E_\circ$ are from [86Ra11, 81WaZU, 81Wa27], Γ_p and γ^2_p are from [81WaZU].

Parameters of inelastic proton scattering for resonances with $J^\pi=5/2^+$ [84Ra20]. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	$\gamma^2_{\mathrm{s}05}$ [keV]	$\gamma^2_{\mathrm{s}23}$ [keV]	$\gamma^2_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}23}$ [keV]	$\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}23}\gamma_{\mathrm{s}25}$ [keV]	E^* [keV]	Ref.
3125.6	5^+	48	2.16	0.57	0.48	0.22	–0.52	–0.35	0.32	9098.4(4)	84Ra20
3131.4	5^+	6	0.27	0.05	0.19	0.32	0.10	0.13	0.25	9104.1(4)	84Ra20
3155.4	5^+	55	2.41	0.61	0.24	0.15	0.38	0.30	0.19	9127.9(4)	84Ra20
3163.8	5^+	28	1.16	1.09	1.14	0.04	1.11	0.20	0.21	9135.9(4)	84Ra20
3166.9	5^+	22	0.95	2.64	2.71	0.24	2.68	0.80	0.81	9139.0(4)	84Ra20
3219.1	5^+	12	0.48	0.32	0.37	0.01	–0.34	–0.06	0.06	9192.8(4)	84Ra20
3244.2	5^+	85	3.08	1.58	0.48	3.87	0.87	2.47	1.36	9210.1(4)	84Ra20
3255.2	5^+	60	2.05	0.14	0.71	0.04	–0.32	–0.08	0.18	9221.4(4)	84Ra20
3266.3	5^+	16	0.53	0.15	0.45	0.01	–0.26	–0.04	0.07	9236.6(4)	84Ra20
3273.9	5^+	36	1.18	0.22	0.25	1.31	0.23	0.54	0.57	9244.1(4)	84Ra20
3283.5	5^+	22	0.71	0.42	0.26	0.01	0.33	0.05	0.04	9253.5(4)	84Ra20
3286.7	5^+	38	1.22	0.15	0.06	0.32	0.09	0.22	0.14	9256.7(4)	84Ra20
3200.5	5^+	110	3.43	2.13	0.77	0.96	1.28	1.43	0.86	9266.6(4)	84Ra20
3305.7	5^+	10	0.34	0.28	0.20	0.00	0.24	0.02	0.02	9275.3(4)	84Ra20
3310.4	5^+	12	0.40	0.23	0.39	0.00	–0.30	0.03	–0.04	9280.0(4)	84Ra20
3316.8	5^+	24	0.75	0.81	1.06	0.15	0.93	–0.35	–0.40	9286.2(4)	84Ra20
3329.3	5^+	8	0.24	0.12	0.03	0.59	0.06	0.27	0.14	9298.5(4)	84Ra20
3340.3	5^+	9	0.26	0.14	1.19	0.18	–0.40	0.16	–0.46	9309.3(4)	84Ra20
3347.6	5^+	100	2.84	5.91	6.43	4.76	6.16	5.30	5.53	9316.5(4)	84Ra20
3360.2	5^+	12	0.33	0.06	0.04	0.47	0.05	0.17	0.13	9328.9(4)	84Ra20
3373.3	5^+	30	0.81	0.09	0.08	0.00	0.08	0.02	0.01	9341.7(4)	84Ra20
3381.1	5^+	34	0.93	0.25	0.34	0.02	–0.29	–0.06	0.08	9344.8(4)	84Ra20
3398.2	5^+	34	0.87	0.76	0.98	0.08	–0.87	–0.24	0.28	9366.2(4)	84Ra20
3410.4	5^+	8	0.20	0.12	0.28	0.20	0.18	0.15	0.24	9378.2(4)	84Ra20
3420.5	5^+	55	1.36	0.06	0.08	0.71	0.07	0.21	0.23	9388.1(4)	84Ra20
3432.5	5^+	5	0.12	0.22	0.63	0.06	–0.37	–0.12	0.20	9399.9(4)	84Ra20
3446.2	5^+	18	0.45	0.25	0.07	0.46	0.14	0.34	0.18	9413.4(4)	84Ra20
3451.1	5^+	5	0.12	0.20	0.30	0.00	0.24	0.02	0.02	9418.2(4)	84Ra20
3474.3	5^+	34	0.78	0.20	0.28	0.11	0.24	–0.15	–0.18	9441.0(4)	84Ra20
3498.7	5^+	12	0.26	0.17	0.56	0.17	0.31	–0.17	–0.31	9464.9(4)	84Ra20
3503.4	5^+	16	0.34	0.23	0.18	0.02	–0.20	–0.07	0.06	9469.6(4)	84Ra20
3514.1	5^+	105	2.18	0.48	0.38	0.00	0.43	–0.02	–0.01	9481.6(4)	84Ra20
3521.9	5^+	24	0.49	0.02	0.00	0.13	0.00	0.05	–0.01	9487.7(4)	84Ra20
3538.7	5^+	5	0.10	0.33	1.63	0.49	–0.74	–0.40	0.89	9504.2(4)	84Ra20
3543.8	5^+	4	0.08	0.04	0.01	0.16	0.01	0.08	0.03	9509.3(4)	84Ra20
3552.5	5^+	22	0.43	0.08	0.84	0.04	–0.26	–0.06	0.19	9517.8(4)	84Ra20
3560.5	5^+	40	0.76	0.36	0.75	0.02	–0.52	0.08	–0.12	9525.7(4)	84Ra20
3567.8	5^+	10	0.21	0.02	0.01	0.14	–0.01	0.05	–0.03	9532.8(4)	84Ra20
3579.0	5^+	80	1.48	0.28	0.54	0.11	0.39	0.18	0.25	9541.3(4)	84Ra20
3582.8	5^+	10	0.18	0.21	0.04	1.12	0.09	0.48	0.22	9548.1(4)	84Ra20
3586.2	5^+	105	1.92	0.03	0.02	0.06	–0.02	–0.04	0.04	9550.9(4)	84Ra20
3606.4	5^+	50	0.88	0.77	1.66	0.02	1.13	0.14	0.20	9570.8(4)	84Ra20
3610.5	5^+	90	1.61	1.05	0.49	1.48	0.72	1.25	0.85	9574.0(4)	84Ra20
3613.0	5^+	95	1.66	0.01	0.03	0.40	–0.02	–0.07	0.11	9577.2(4)	84Ra20
3618.3	5^+	14	0.25	0.90	0.32	0.48	–0.54	–0.66	0.39	9582.5(4)	84Ra20

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	$\gamma^2_{\mathrm{s}05}$ [keV]	$\gamma^2_{\mathrm{s}23}$ [keV]	$\gamma^2_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}23}$ [keV]	$\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}25}$ [keV]	$\gamma_{\mathrm{s}23}\gamma_{\mathrm{s}25}$ [keV]	E^* [keV]	Ref.
3629.5	5^+	580	10.0	0.88	2.33	0.32	–1.43	–0.54	0.87	9589.6(4)	84Ra20
3640.6	5^+	9	0.15	0.07	0.14	0.02	0.10	0.03	0.05	9604.4(4)	84Ra20
3645.5	5^+	40	0.66	0.20	0.23	0.10	–0.22	–0.14	0.15	9609.2(4)	84Ra20
3649.5	5^+	26	0.43	0.07	0.08	0.00	–0.08	–0.01	0.01	9613.1(4)	84Ra20
3652.2	5^+	80	1.37	0.42	1.30	6.21	–0.74	1.62	–2.84	9615.8(4)	84Ra20
3670.8	5^+	60	0.95	0.83	0.14	1.24	0.35	1.01	0.42	9634.0(4)	84Ra20
3681.5	5^+	8	0.12	1.31	0.01	7.08	–0.09	3.04	–0.21	9644.5(4)	84Ra20
3687.8	5^+	100	1.54	0.03	0.04	0.31	0.04	0.10	0.11	9650.7(4)	84Ra20
3702.4	5^+	70	1.08	0.65	1.34	0.34	–0.94	0.47	–0.68	9665.1(4)	84Ra20
3737.9	5^+	18	0.27	0.10	0.30	0.40	0.17	0.20	0.34	9699.8(4)	84Ra20
3742.2	5^+	340	4.78	1.23	1.14	0.02	1.19	0.14	0.14		84Ra20
3749.1	5^+	640	9.03	0.04	1.25	0.89	0.22	0.18	1.06	9711.0(4)	84Ra20
3757.8	5^+	280	3.84	1.12	2.63	0.29	1.72	0.57	0.87	9719.5(4)	84Ra20
3759.7	5^+	16	0.22	0.15	0.38	0.36	0.24	–0.23	–0.37	9721.4(4)	84Ra20
3766.2	5^+	1200	16.6	1.13	1.01	2.21	1.07	1.58	1.49	9724.3(4)	84Ra20
3769.0	5^+	28	0.38	0.11	0.11	0.06	0.12	0.08	0.09	9730.5(4)	84Ra20
3786.3	5^+	26	0.35	1.52	0.46	3.56	0.84	2.33	1.28	9747.5(4)	84Ra20
3799.2	5^+	70	0.92	1.01	0.14	1.12	0.38	1.07	0.40	9756.6(4)	84Ra20
3807.7	5^+	80	1.01	0.30	0.13	0.80	0.20	0.49	0.33	9768.5(4)	84Ra20
3838.7	5^+	7	0.08	0.01	0.01	0.17	0.01	0.04	0.04	9786.1(4)	84Ra20
3841.4	5^+	48	0.58	0.70	0.35	0.19	0.49	0.37	0.26	9801.6(4)	84Ra20
3853.7	5^+	70	0.85	0.55	2.16	0.27	–1.09	0.39	–0.77	9813.7(4)	84Ra20
3866.2	5^+	115	1.33	0.13	0.61	0.11	0.28	0.12	0.25	9823.0(4)	84Ra20
3886.9	5^+	8	0.09	0.01	0.02	0.05	0.02	0.02	0.03	9846.3(4)	84Ra20
3906.8	5^+	70	0.76	0.02	0.11	0.34	–0.04	0.07	–0.20	9865.9(4)	84Ra20
3910.8	5^+	10	0.11	0.03	0.07	0.05	–0.05	–0.04	0.06	9869.8(4)	84Ra20
3923.4	5^+	240	2.60	0.71	0.17	0.84	0.35	0.77	0.38	9882.2(4)	84Ra20
3926.8	5^+	270	2.85	0.03	0.34	0.02	0.10	0.02	0.08	9885.5(4)	84Ra20
3930.6	5^+	9	0.09	0.06	0.13	0.05	–0.09	–0.05	0.08	9886.2(4)	84Ra20
3979.9	5^+	65	0.65	0.30	0.07	0.65	0.15	0.44	0.22	9937.7(4)	84Ra20
3996.8	5^+	20	0.19	0.04	0.01	0.16	0.02	0.08	0.03	9954.3(4)	84Ra20
4001.6	5^+	90	0.85	0.57	0.02	1.35	0.11	0.88	0.17	9959.0(4)	84Ra20

Parameters of the inelastic scattering reaction with exit channels labelled by i,j,k in the Co^{57} isotope-table ($\Gamma_{\mathrm{p}'_i}$, $\gamma^2_{\mathrm{p}'_i}$ etc.) correspond to the same resonances which were independently analyzed later with the selection of data for a specific total spin J^π.

For different total spin J^π, exit channel spin s' and exit channel orbital momentum l' it gives:

i) J^π=3/2$^-$ l'=1 s'=3/2 $\gamma^2_{\mathrm{s}13}$
j) l'=1 s'=5/2 $\gamma^2_{\mathrm{s}15}$ $\gamma_{\mathrm{s}13}\gamma_{\mathrm{s}15}$
i) J^π=3/2$^+$ l'=0 s'=3/2 $\gamma^2_{\mathrm{s}03}$ $\gamma_{\mathrm{s}03}\gamma_{\mathrm{s}23}$
j) l'=2 s'=3/2 $\gamma^2_{\mathrm{s}23}$ $\gamma_{\mathrm{s}03}\gamma_{\mathrm{s}25}$
k) l'=2 s'=5/2 $\gamma^2_{\mathrm{s}25}$ $\gamma_{\mathrm{s}23}\gamma_{\mathrm{s}25}$
i) J^π=5/2$^+$ l'=0 s'=5/2 $\gamma^2_{\mathrm{s}05}$ $\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}23}$
j) l'=2 s'=3/2 $\gamma^2_{\mathrm{s}23}$ $\gamma_{\mathrm{s}05}\gamma_{\mathrm{s}25}$
k) l'=2 s'=5/2 $\gamma^2_{\mathrm{s}25}$ $\gamma_{\mathrm{s}23}\gamma_{\mathrm{s}25}$.

Branching ratios of γ-transitions [91El01, 94Mi01]. Part 1. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									Com.	Ref.
[keV]			[keV]	Percentage										
				0.0	1224	1378	1505	1690	1758	1897	1920	2133	E^*, keV	
				7^-	9^-	3^-	1^-	11^-	3^-	7^-	5^-	X^+	$2J^\pi_f$	
1223.98(4)	9^-			100										
1377.66(2)	3^-			100										
1504.82(2)	1^-					100								
1689.6(5)	11^-													
1757.60(2)	3^-			100										
1897.40(3)	7^-													
1919.50(3)	5^-			100										
2133(5)	$3^+,5^+$			83		14	3							
2133.06(5)	5^-													
2311.4(5)	7^-			20	70	10								
2730.98(4)	$3^-,5$			100										
2743.5(12)	$\langle 9–13\rangle$													
2804.29(2)	$3^-,5$			100										
2879.2(6)	3^-			$\langle 100\rangle$										
2980.9(7)	1^+													
2982.05										$\langle 100\rangle$				
3108.16(4)	$\langle 3\rangle^-$					100								
3121.4(9)														
3164.9(11)														
3177.39(4)	$5^-,7^-$			$\langle 100\rangle$										
3184.2(10)	$3^+,5^+$													
3246.3(10)														
3262.7(7)	$3^-,7^-$			100										
3272.2(11)	$5^-,7^-$													
3296														
3343(10)														
3356.7(7)	3^-					100								
3854.2(6)	$3^+,5^+$					100								
4195.2(10)	$1^-,3^-$			100										
4426.0(16)**														
4472.0(17)**														
4486.0(20)**														
4586.3(8)	$9^{\langle +\rangle}$	T<		35										
4638.0(16)**														
4685	$1^-,3^-$													
4945.0(18)**														
5114.0(17)**														
5124.0(14)**														
5136.0(15)**														
5186.0(14)**														
5245.0(12)**														
5260.0(18)**														

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	$E_\circ$	Branching ratios									Com.	Ref.
[keV]			[keV]	Percentage										
				0.0 7^-	1224 9^-	1378 3^-	1505 1^-	1690 11^-	1758 3^-	1897 7^-	1920 5^-	2133 X^+	E^*, keV $2J_f^\pi$	
5324.0(17)**														
5338.0(18)**														
5499.0(19)**														
5543.0(14)**														
5613.0(16)**														
5631.0(15)**														
5644.0(16)**	1^-,3^-													
7229			1223	1		12	35		19		7			74Es01
7254(2)	3^-		1248	3		47	13		3					75El01
7267(2)	3^-		1262			45	25		28					75El01
7272(2)	3^-		1267			56	32		6					75El01
7281			1275			35	20		24					74Es01
7287	$\langle 3^- \rangle$		1280			22	36					5		74Es01
7296(20)														
7306			1301	58		20								74Es01
7315			1311						62		38			74Es01
7324(20)														
7331			1328						87		13			74Es01
7344			1345	33		67								
7353			1351			49	13		10					74Es01
7357			sum											
7367(20)														
7378			1372			62					38			74Es01
7407			1403	3			27				39			74Es01
7411(3)	$5^{\langle - \rangle}$		1408	3		2			4	4	4	8		74Es01
7419(3)	$5^{\langle - \rangle}$		1416	5		2	2		5	4		30		74Es01
7423(3)	$5^{\langle - \rangle}$		1420	3					19		5	26		74Es01
7455			1452				42		20		21			74Es01
7462			1458	19		5			14	12				74Es01
7469			1465			15	9		11					74Es01
7512.2(7)														
7527.5(10)														
7598(2)	3^-		1599	56		4			18			18		81El05
7622(2)	3^-		1623			49.2(16)	1.9(10)				9.2(10)			87Br03
7638*			1637			15	12		6			11		71Le21
7642(2)	3^-		1643			9	55		3		21			81El05
7648(2)	3^-		1649			49	17				5	5		81El05
7925(3)*	[5]		1932	59		11			5		9			91El01
8051(3)*	[5^-]		2060	18		28	2		2	30	12			91El01
8192(3)*	[5]		2204	60		5			5	14	14			91El01
8450(3)*	[3^-]		2466	7		60	10				3			91El01
9682(1)	9^+	T>	3720	79	8									85El09

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$2T$	$E_\circ$ [keV]	Branching ratios Percentage									Com.	Ref.
				0.0 7^-	1224 9^-	1378 3^-	1505 1^-	1690 11^-	1758 3^-	1897 7^-	1920 5^-	2133 X^+	E^*, keV $2J^\pi_f$	
9689(1)	9^+	T>	3727	60										85El09
9735(1)	5^+		3774	33		12			8					86El06
9755(1)	5^+		3793	67					10	10	5			86El06

Additional data on this isotope can be found in [79Ra13, 67Pe06, 70Ob02].
* Introduced in [91El01] and in [71Le21] (at E^*=7637 keV, $E_\circ$=1637 keV, was seen in [81El05]).
** New levels introduced in [94Mi01] or measured there with the improved precision.

Branching ratios of γ-transitions. Part 2. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage													
E^* $2J^\pi_f$			2305	2311 7^-	2611	2731	2744	2804	2879 3^-	2982	3108 $\langle 3^- \rangle$	3177 X^-	3184	3268	3357 3^-	3469
4586.3(8)	$9^{\langle + \rangle}$			65												
7229		1223				4						11				
7254(2)	3^-	1248							6					5		
7267(2)	3^-	1262														
7272(2)	3^-	1267														
7281		1275								2				19		
7287	$\langle 3^- \rangle$	1280				18						16			3	
7306		1301		9	13											
7315		1311														
7331		1328														
7344		1345														
7353		1351							16							
7378		1372														
7407		1403				8		12								
7411(3)	$5^{\langle - \rangle}$	1408			10			8	4			13				
7419(3)	$5^{\langle - \rangle}$	1416		20					8			5			7	9
7423(3)	$5^{\langle - \rangle}$	1420		16		9			6	8		6			3	
7455		1452						5								
7462		1458		6	6							9				
7469		1465				6		20			8					13
7598(2)	3^-	1599				8						10				
7622(2)	3^-	1623				8		8		9		9			9	
7638*		1637						3	3		4					
7642(2)	3^-	1643							4		4	2			2	

(continued) $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage													
E^*			2305	2311	2611	2731	2744	2804	2879	2982	3108	3177	3184	3268	3357	3469
$2J^\pi_f$				7^-					3^-		$\langle 3^- \rangle$	X^-			3^-	
7648(2)	3^-	1649									7			7	3	
7925(3)*	[5]	1932				6			3					2		
8051(3)*	[5^-]	2060							2					2		
8192(3)*	[5]	2204									2					
8450(3)*	[3^-]	2466	10													
9682(1)	9^+	3720			7											
9689(1)	9^+	3727			13		7									
9735(1)	5^+	3774				7							8			
9755(1)	5^+	3793														

* Introduced in [91El01] and in [71Le21] (at E^*=7637 keV, $E_\circ$=1637 keV, was seen in [81El05]).
Good agreement exists between branching ratios from [74Es01] and [75El01].
Low-lying level with $J^\pi_f=7/2^-$ at E^*=2305 keV is close to level at E^*=2311 keV in [02Nu0A].
Level at E^*=4685 keV with $2J^\pi=1^-,3^-$ (ℓ_p=1 stripping pattern) was considered in [74Es01].
The branching ratio 100 of ground state transition from level at E^*=3357 keV disagrees with its branching ratio 100 for transition to 1378 keV state [71Le21].

Branching ratios of γ-transitions. Part 3. $^{57}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage															Com.
			3672	3701	3723	3770	3856	3901	3921	3993	4046	4064	4195 $1^-,3^-$	4586 9^+	4605	4675 5^+	4685 $1^-,3^-$	E^*, keV $2J^\pi_f$
7229		1223			7					4								
7254(2)	3^-	1248			18		13											
7267(2)	3^-	1262		1						1								
7272(2)	3^-	1267		6														
7281		1275																
7287	$\langle 3^- \rangle$	1280																
7306		1301																
7315		1311																
7331		1328																
7344		1345																
7353		1351					12											
7378		1372																
7407		1403										11						
7411(3)	$5^{\langle - \rangle}$	1408			5					35								
7419(3)	$5^{\langle - \rangle}$	1416										3						

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

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Branching ratios Percentage															Com.
			3672	3701	3723	3770	3856	3901	3921	3993	4046	4064	4195 1^-,3^-	4586 9^+	4605	4675 5^+	4685 1^-,3^-	E^*, keV $2J^\pi_f$
7423(3)	$5^{(-)}$	1420																
7455		1452			12													
7462		1458															29	
7469		1465		7													11	
7598(2)	3^-	1599																
7622(2)	3^-	1623																
7638		1637		5						40								
7642(2)	3^-	1643																
7648(2)	3^-	1649								7								
7925(3)	[5]	1932				5												
8051(3)	[5^-]	2060	2						2									
8192(3)	[5]	2204																
8450(3)	[3^-]	2466											10					
9682(1)	9^+	3720												6				
9689(1)	9^+	3727												20				
9735(1)	5^+	3774									6				9	17		
9755(1)	5^+	3793														8		

Partial radiative widths [75El01, 81El05, 91El01, 86El06]. Part 1. $^{57}_{27}$Co(p)

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Partial radiative widths [meV]												Ref.
E^* $2J^\pi_f$			0.0 7^-	1378 3^-	1505 1^-	1758 3^-	1897 7^-	1920 5^-	2133 5^-	2311 7^-	2731	2804	2879 3^-	2982	
7254	3^-	1248	8	118	33	8							15		75El01
7267	3^-	1262		83	46	52									75El01
7272	3^-	1267		126	72	14									75El01
7598	3^-	1599	122	9		39			9		17				81El05
7622	3^-	1623		176				17			27	27		31	81El05
7642	3^-	1643		24	150	8		57					11		81El05
7648	3^-	1649		279	97			29	29						81El05
7925*	[5]	1932	477(118)	89(22)		40(10)		73(18)			49(12)		24(6)		91El01
8051*	[5^-]	2060	232(54)	361(83)	26(6)	26(6)	387(89)	155(36)					26(6)		91El01
8192*	[5]	2204	588(141)	49(12)		49(12)	137(33)	137(33)							91El01
8450*	[3^-]	2466	39(12)	333(100)	56(17)			16(5)		56(17)					91El01

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

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Partial radiative widths [meV]												Ref.
E^*			0.0	1378	1505	1758	1897	1920	2133	2311	2731	2804	2879	2982	
$2J_f^\pi$			7^-	3^-	1^-	3^-	7^-	5^-	5^-	7^-			3^-		
9734	5^+	3774	88(10)	32(4)		21(3)					19(2)				86El06
9754	5^+	3794	366(47)			55(7)	55(7)	27(4)							86El06

* Introduced in [91El01] and in [71Le21] (at E^*=7637 keV, $E_\circ$=1637 keV, was seen in [81El05]).

Partial radiative widths. Part 2. $^{57}_{27}$Co(p)

E^* [keV]	$2J^\pi$	$E_\circ$ [keV]	Partial radiative widths [meV]														
E^*			3108	3177	3184	3268	3357	3674	3701	3770	3854	3901	3918	4046	4195	4586	4605	4675
$2J_f^\pi$			$\langle 3^- \rangle$	X^-			3^-				X^+				X^-	$\langle 9^+ \rangle$		5^+
7254	3^-	1248				13				25	33							
7267	3^-	1262							4									
7272	3^-	1267							14									
7598	3^-	1599		22														
7622	3^-	1623		31			31											
7642	3^-	1643	11	5			5											
7648	3^-	1649	40			40	17					40						
7925	[5]	1932				16(4)												
8051	$[5^-]$	2060				26(6)		26(6)					26(6)					
8192	[5]	2204	20(5)															
8450	$[3^-]$	2466													56(17)			
9682	9^+	3720														62(10)		
9689	9^+	3727														16(3)		
9734	5^+	3774			21(3)									16(2)			24(3)	46(6)
9754	5^+	3794																44(6)

Target isotope: $^{57}_{26}$Fe $I^{\pi}_{\circ} = 1/2^-$ *Abundance:* 2.119(10) % $S_{\mathrm{p}} = 6954.7(11)$ keV

$^{58}_{27}\mathbf{Co}(\mathrm{p})$

$E_{\circ}$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	Rel.int. γ_i	E_{cm} [keV]	E^* [keV]	Ref.	
1151(5)			1131	8086		69Se01
1171(2)		17	1151	8106	70Er03	
1173(2)			1153	8107	70Er03	
1184(2)			1164	8118	70Er03	69Se01
1190(2)			1169	8124	70Er03	
1215(2)			1194	8149	70Er03	69Se01
1226(2)			1205	8160	70Er03	
1229(2)			1208	8163	70Er03	69Se01
1232(2)			1211	8165	70Er03	
1236(2)			1215	8169	70Er03	
1240(2)			1219	8173	70Er03	
1243(2)			1222	8176	70Er03	69Se01
1250(2)			1228	8183	70Er03	
1258(2)			1236	8191	70Er03	
1264(2)			1242	8197	70Er03	
1267(2)			1245	8200	70Er03	69Se01
1271(2)			1249	8204	70Er03	
1276(2)			1254	8209	70Er03	
1278(2)			1256	8211	70Er03	69Se01
1282(2)			1260	8215	70Er03	
1285(2)			1263	8218	70Er03	
1287(2)		29	1265	8220	70Er03	
1296(2)			1274	8228	70Er03	69Se01
1298(2)			1276	8230	70Er03	
1301(2)			1279	8233	70Er03	69Se01
1310(2)			1287	8242	70Er03	
1313(2)			1290	8245	70Er03	
1317(2)		30	1294	8249	70Er03	
1322(2)			1299	8254	70Er03	
1325(2)			1302	8257	70Er03	69Se01
1332(2)			1309	8264	70Er03	
1334(2)			1311	8266	70Er03	
1341(2)			1318	8273	70Er03	69Se01
1344(2)			1321	8276	70Er03	
1348(2)			1325	8279	70Er03	
1353(2)		35	1330	8284	70Er03	69Se01
1359(2)		41	1336	8290	70Er03	69Se01
1365(2)			1341	8296	70Er03	69Se01
1369(2)			1345	8300	70Er03	
1379(2)			1355	8310	70Er03	
1382(2)		28	1358	8313	70Er03	
1385(2)			1361	8316	70Er03	
1389(2)			1365	8320	70Er03	69Se01
1397(2)			1373	8328	70Er03	69Se01
1406(2)			1382	8336	70Er03	

(continued) $^{58}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	Rel.int. γ_i	E_{cm} [keV]	E^* [keV]	Ref.	
1407(2)			1383	8337	70Er03	69Se01
1414(2)			1390	8344	70Er03	
1419(2)			1395	8349	70Er03	
1423(2)			1398	8353	70Er03	
1425(2)			1400	8355	70Er03	69Se01
1433(2)			1408	8363	70Er03	
1437(2)		54	1412	8367	70Er03	69Se01
1442(2)			1417	8372	70Er03	
1447(2)		47	1422	8377	70Er03	69Se01
1449(2)			1424	8379	70Er03	
1459(2)			1434	8389	70Er03	
1461(2)		41	1436	8391	70Er03	
1467(2)		57	1442	8396	70Er03	69Se01
1469(2)			1444	8398	70Er03	
1477(2)			1452	8406	70Er03	
1481(2)			1455	8410	70Er03	
1485(2)			1459	8414	70Er03	
1487(2)			1461	8416	70Er03	
1490(2)			1464	8419	70Er03	
1492(2)			1466	8421	70Er03	
1494(2)			1468	8423	70Er03	
1499(2)			1473	8428	70Er03	
1501(2)			1475	8430	70Er03	
1503(2)			1477	8432	70Er03	69Se01
1506(2)			1480	8435	70Er03	
1509(2)			1483	8438	70Er03	
1512(2)			1486	8441	70Er03	
1518(2)			1492	8447	70Er03	
1522(2)			1496	8450	70Er03	
1524(2)			1498	8452	70Er03	69Se01
1529(2)			1503	8457	70Er03	69Se01
1532(2)			1506	8460	70Er03	
1537(2)			1510	8465	70Er03	
1542(2)			1515	8470	70Er03	
1546(2)			1519	8474	70Er03	
1549(2)			1522	8477	70Er03	
1551(2)			1524	8479	70Er03	
1556(2)		57	1529	8484	70Er03	
1557(2)		52	1530	8485	70Er03	69Se01
1559(2)			1532	8487	70Er03	
1560(2)			1533	8488	70Er03	
1563(2)			1536	8491	70Er03	
1568(2)			1541	8496	70Er03	
1573(2)			1546	8501	70Er03	
1575(2)			1548	8503	70Er03	

(continued) $^{58}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	Rel.int. γ_i	E_{cm} [keV]	E^* [keV]	Ref.	
1580(2)			1553	8507	70Er03	
1583(2)	3.7(4)	102	1556	8510	75Er07	77Ri14
1589(2)			1562	8516	70Er03	75Er07
1590(2)			1563	8517	70Er03	
1594(2)			1567	8521	70Er03	75Er07
1597(2)			1569	8524	70Er03	
1602(2)		62	1574	8529	70Er03	75Er07
1606(2)			1578	8533	70Er03	
1611(2)			1583	8538	70Er03	75Er07
1615(2)			1587	8542	70Er03	75Er07
1619(2)			1591	8546	70Er03	
1623(2)		60	1595	8550	70Er03	75Er07
1626(2)			1598	8553	75Er07	
1633(2)			1605	8560	70Er03	75Er07
1638(2)			1610	8564	70Er03	
1640(2)			1612	8566	70Er03	75Er07
1648(2)			1620	8574	70Er03	75Er07
1650(2)			1622	8576	70Er03	
1653(2)		73	1624	8579	70Er03	
1657(2)			1628	8583	70Er03	75Er07
1659(2)			1630	8585	70Er03	
1663(2)			1634	8589	70Er03	75Er07
1666(2)			1637	8592	70Er03	
1669(2)			1640	8595	70Er03	
1674(2)		64	1645	8600	70Er03	75Er07
1680(2)			1651	8606	75Er07	
1685(2)			1656	8611	75Er07	
1692(2)			1663	8618	75Er07	
1700(2)			1671	8625	75Er07	
1703(2)			1674	8628	75Er07	
1711(2)			1682	8636	75Er07	
1719(2)			1689	8644	75Er07	
1726(2)			1696	8651	75Er07	
1729(2)			1699	8654	75Er07	
1744(2)			1714	8669	75Er07	
1749(2)			1719	8674	75Er07	
1754(2)			1724	8678	75Er07	
1764(2)			1734	8688	75Er07	
1771(2)			1740	8695	75Er07	
1776(2)			1745	8700	75Er07	
1783(2)			1752	8707	75Er07	
1786(2)			1755	8710	75Er07	
1792(2)			1761	8716	75Er07	

(continued) $^{58}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$S_{\mathrm{p}\gamma}$ [eV]	Rel.int. γ_i	E_{cm} [keV]	E^* [keV]	Ref.
1798(2)			1767	8722	75Er07
1802(2)			1771	8726	75Er07

Relative intensities are given as a number of counts in picks of γ-ray yield curve of the ^{57}Fe(p,γ)^{58}Co reaction (Fig. 1, Table 1 from [70Er03]).

Values $E_\circ$=1171(2) and 1151(5) keV of the first resonances in [70Er03, 69Se01] could correspond to the same E^*.

For the resonance at $E_\circ$=1583 keV the parameter $S_{\mathrm{p}\gamma}$=3.7(4) eV was obtained in [77Ri14].

Branching ratios of γ-transitions [75Er07, 70Er03, 02Nu0A]. Part 1. $^{58}_{27}\mathbf{Co}(\mathrm{p})$

E^* [keV]	J^π	T	$E_\circ$ [keV]	Branching ratios Percentage											
E^*				0.0	25	53	112	366	374	458	1040	1044	1050	1236	1353
J^π_{f}				2^+	5^+	4^+	3^+	3^+	5^+	4^+	3^+	X^+	1^+	2^+	$\langle 2\rangle^+$
24.95(6)	5^+			100											
53.15(7)	4^+			71	29										
111.76(7)	3^+			57		43									
365.66(7)	3^+			98.2		1.2	0.6								
373.93(10)	5^+														
457.50(8)	4^+				100										
885.63(10)	3^+,4^+														
1040.12(12)	3^+			<100				x		x					
1044.26(10)	3^+,4^+			81(2)			19(2)								
1050.19(10)	1^+			51(2)			49(2)								
1075.5(3)	6^+														
1133(15)															
1184.63(12)	5^+														
1236.55(13)	2^+			53(5)			47(5)								
1351.51(16)															
1353.47(13)	$\langle 2\rangle^+$			15(3)			39(3)	46(3)							
1369(4)															
1376.88(11)				x									x		
1418.12(17)	$\langle 5\rangle^+$														
1424(8)	3^+														
1424.60(17)	$\langle 6\rangle$														
1434.9(3)	1^+			100											
1513.32(13)	$\langle 3$–$5\rangle$														
1522.57(22)															
1524.4(4)							55(5)	45(5)							
1548.81(21)	5^+														

(continued) $^{58}_{27}\mathbf{Co}(\mathrm{p})$

E^*	J^π	T	$E_\circ$	Branching ratios											
[keV]			[keV]	Percentage											
E^*				0.0	25	53	112	366	374	458	1040	1044	1050	1236	1353
J^π_f				2^+	5^+	4^+	3^+	3^+	5^+	4^+	3^+	X^+	1^+	2^+	$\langle 2\rangle^+$
1554.74(14)	$\langle 1$–$3\rangle$														
1605.62(15)	3^+						100								
1669.9(10)	3^+												100		
1729.24(18)	1^+			57(5)		43(5)									
8391*			1467	1.0(3)									14(1)	28(1)	3(1)
8481*			1557	34(1)									23(1)	5(1)	3(1)
8510**			1583	2	3	4	5	3			11	sum	sum	6	45
8527**			1602	24		5	5				21	sum	sum	6	29
8533**			1611	25			7				13	sum	sum	2	
8552(3)**			1626	6			2	4			<5	sum	sum	9	
8597**			1674	32							31	sum	sum	<2	15
8608**			1685	15							18	sum	sum	<2	9
8623(3)**			1700	21							22	sum	sum	<2	<2

Additional data on this isotope can be found in [02Nu0A, 75Er07, 78Ik02].
* Energy levels and their branching ratios introduced in [70Er03].
** Energy levels introduced in [75Er07] and their I_γ are normalized, so the sum is 100.
No levels with E^*=2614 and 3107 keV mentioned in [70Er03] are given in [02Nu0A].

Branching ratios of γ-transitions [75Er07, 70Er03, 02Nu0A]. Part 2. $^{58}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$E_\circ$	Branching ratios																	
[keV]	[keV]	Percentage																	
E^*		1377	1435	1523	1606	1670	1730	1749	1868	1979	2105	2249	2335	2477	2625	2641	3010	3427	3512
J^π_f			1^+		3^+	3^+	1^+	X^+	1^+	3^+		1^+	X^+	2^+	X^+	1^+	2^+	3^+	X^+
8391	1467	12(1)	6(1)	8(1)			10(1)						2(1)	5(1)			6(1)	6(1)	5(1)
8481	1557	13(1)		3.0(5)											3(1)	2(1)			
8510	1583	<2	6	16						<2	<2								
8527	1602							11											
8533	1611	7	16		9	9	13												
8552	1626		7				31					9							
8597	1674	14	<2	<2					8										
8608	1685	22	12	<2			<2	<2	11	4	9	4	9						
8623	1700		<2			23	<2	38	16										

Target isotope: $^{58}_{26}$Fe $I^{\pi}_{\circ} = 0^+$ *Abundance:* 0.282(4) % $S_{\rm p} = 7363.73(59)$ keV

$^{59}_{27}$Co(p)

$E_\circ$ [keV]	$2J^\pi$	$\Gamma_{\rm p}$ [eV]	$\gamma^2_{\rm p}$ [keV]	Γ_γ [eV]	Γ_γ [eV]	$\Gamma_{\rm p'}$ [eV]	$\Gamma_{\rm p'}$ [eV]	$\Gamma_{\gamma_\circ}$ [meV]	$\Gamma_{\gamma_{\rm i}}$ [meV]	$\Gamma_{\gamma_{\rm i}}$ [meV]	$\Gamma_{\gamma_{\rm i}}$ [meV]	$E_{\rm cm}$ [keV]	E^* [keV]	Ref.		
1345												1322	8686	68De29		
1997												1963	9327	68De29		
2052												2017	9381	68De29		
2098												2062	9426	68De29		
2142.8*	$\langle 3^-\rangle$	10(5)	1.02									2106	9470(5)	71Li14		
2169.3*	1^+	30(10)	1.23									2132	9496(5)	71Li14		
2192.1*	$\langle 3^-\rangle$	30(10)	2.57									2154	9518(5)	71Li14		
2201.6*	1^+	15(8)	0.54									2164	9528(5)	71Li14	74Ke14	75Br29
2204.0*	1^+	15(8)	0.53									2167	9530(5)	71Li14	74Ke14	
2210.3												2172	9536(5)	74Ke14		
2213.6*	$\langle 3^-\rangle$	30(10)	2.34	0.20	0.56	0.30	0.40	<5	<5	75	60	2176	9539(5)	75Br29	71Li14	74Ke14
2217.1*	$\langle 3^-\rangle$	25(10)	1.93	0.81	1.00	0.31	0.50	150	75	25	110	2179	9543(5)	75Br29	71Li14	74Ke14
2217.6*	1^+	25(10)	0.85									2180	9543(5)	74Ke14	71Li14	
2220.3*	$\langle 3^-\rangle$	10(5)	0.76	0.25	0.36	0.06	0.04	60	<5	160	10	2182	9546(5)	75Br29	71Li14	74Ke14
2222.8*	$\langle 3^-\rangle$	15(8)	1.13	0.31	0.56	0.31	0.30	<5	55	20	50	2185	9548(5)	75Br29	71Li14	
2223.9*	3^-	95(20)	7.16	0.62	0.92	1.50	1.44	<5	<5	150	120	2186	9549(5)	75Br29	71Li14	74Ke14
2227.8*	3^-	80(20)	5.94	1.06	1.40	0.94	1.36	<5	75	100	190	2190	9553(5)	75Br29	71Li14	74Ke14
2229.4*	$\langle 3^-\rangle$	10(5)	0.74	0.18	0.70	0.30	0.60	10	<5	20	10	2191	9555(5)	75Br29	71Li14	74Ke14
2233.5*	$\langle 3^-\rangle$	15(8)	1.09	0.27	0.50	0.11	0.30	25	<5	25	25	2195	9559(5)	75Br29	71Li14	74Ke14
2235.5*	$\langle 3^-\rangle$	10(5)	0.72									2197	9561(5)	71Li14	74Ke14	
2242.8												2204	9568(5)	74Ke14		
2244.9												2206	9570(5)	74Ke14		
2267.2	$\langle 3^-\rangle$	20(10)	1.28									2228	9592(5)	71Li14		
2268.8	$\langle 3^-\rangle$	10(5)	0.63									2230	9594(5)	71Li14		
2276.4	1^+	25(10)	0.69									2237	9601(5)	71Li14		
2293.1	$\langle 3^-\rangle$	10(5)	0.59									2254	9618(5)	71Li14		
2295.6	1^+	15(8)	0.39									2256	9620(5)	71Li14		
2315.8	1^+	25(10)	0.62									2276	9640(5)	71Li14		
2357.9	1^+	40(10)	0.88									2317	9681(5)	71Li14		
2371.6	1^+	20(10)	0.42									2331	9695(5)	71Li14		
2392.5	1^+	35(10)	0.69									2351	9715(5)	71Li14		
2421.5	1^+	80(20)	1.43									2380	9744(5)	71Li14		
2425.7	1^+	35(10)	0.62									2384	9748(5)	71Li14		
2429.1	1^+	40(10)	0.70									2387	9751(5)	71Li14		
2429.3	$\langle 1^-\rangle$	10(5)	0.38									2388	9751(5)	71Li14		
2441.7	1^+	50(15)	0.85									2400	9764(5)	71Li14		
2460.2	1^+	25(10)	0.41									2418	9782(5)	71Li14		
2470.2	1^+	30(10)	0.47									2428	9792(5)	71Li14		
2479.9	$\langle 1^-\rangle$	25(10)	0.82									2437	9801(5)	71Li14		
2483.7	$\langle 1^-\rangle$	20(10)	0.65									2441	9805(5)	71Li14		
2485.0	$\langle 1^-\rangle$	15(8)	0.49									2443	9807(5)	71Li14		
2490.1	1^+	30(10)	0.44									2447	9811(5)	71Li14		
2497.5	1^+	20(10)	0.29									2455	9818(5)	71Li14		
2504.1	1^+	25(10)	0.36									2461	9825(5)	71Li14		
2508.3	$\langle 1^-\rangle$	15(10)	0.45									2465	9829(5)	71Li14		

(continued) $^{59}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_γ [eV]	Γ_γ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\gamma_\circ}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	E_cm [keV]	E^* [keV]	Ref.
2516.1	1^+	50(10)	0.69									2473	9837(5)	71Li14
2516.4	1^-	50(20)	1.48									2473	9837(5)	71Li14
2521.2	$\langle 1^-\rangle$	25(10)	0.73									2478	9842(5)	71Li14
2522.4	1^+	35(10)	0.47									2479	9843(5)	71Li14
2525.4	$\langle 1^-\rangle$	15(8)	0.43									2482	9846(5)	71Li14
2534.3	$\langle 1^-\rangle$	25(10)	0.70									2491	9855(5)	71Li14
2535.9	1^+	35(10)	0.46									2492	9856(5)	71Li14
2540.4	$\langle 3^-\rangle$	15(8)	0.42									2497	9861(5)	71Li14
2543.5	1^+	25(10)	0.32									2500	9864(5)	71Li14
2570.7	$\langle 1^-\rangle$	25(10)	0.64									2527	9890(5)	71Li14
2588.8	1^+	40(10)	0.46									2544	9908(5)	71Li14
2591.3	1^+	25(10)	0.28									2547	9911(5)	71Li14
2597.9	1^+	30(10)	0.34									2553	9917(5)	71Li14
2619.3	1^+	20(10)	0.21									2574	9938(5)	71Li14
2628.6	$\langle 3^+\rangle$	15(8)	1.40									2584	9947(5)	71Li14
2630.5	1^+	10(5)	0.10									2585	9949(5)	71Li14
2631.5	1^+	20(10)	0.21									2586	9950(5)	71Li14
2637.6	1^+	70(20)	0.71									2592	9956(5)	71Li14
2640.4	$\langle 1^-\rangle$	10(5)	0.21									2595	9959(5)	71Li14
2644.6	1^+	40(10)	0.40									2599	9963(5)	71Li14
2648.1	$\langle 3^-\rangle$	10(5)	0.21									2603	9966(5)	71Li14
2651.1	1^+	45(10)	0.44									2606	9969(5)	71Li14
2662.2	1^+	10(5)	0.09									2617	9980(5)	72Li19
2668.8	1^+	30(10)	0.28									2623	9987(5)	72Li19
2673.0	1^+	20(10)	0.19									2628	9991(5)	72Li19
2677.6	1^+	30(10)	0.27									2632	9995(5)	72Li19
2679.6	$\langle 1^-\rangle$	10(5)	0.19									2634	9997(5)	72Li19
2685.8	1^+	30(10)	0.27									2640	10004(5)	72Li19
2707.6	1^+	50(10)	0.43									2661	10025(5)	72Li19
2708.5	1^+	15(5)	0.13									2662	10026(5)	72Li19
2709.6	1^+	20(10)	0.17									2663	10027(5)	72Li19
2710.0	1^+	30(10)	0.26									2664	10028(5)	72Li19
2713.8	$\langle 1^-\rangle$	15(10)	0.26									2667	10031(5)	72Li19
2714.6	$\langle 1^-\rangle$	15(10)	0.26									2668	10032(5)	72Li19
2717.9	1^+	15(5)	0.13									2671	10035(5)	72Li19
2722.2	1^+	40(10)	0.33									2676	10039(5)	72Li19
2728.4	$\langle 1^-\rangle$	15(10)	0.25									2682	10045(5)	72Li19
2729.3	1^+	35(10)	0.28									2683	10046(5)	72Li19
2734.6	$\langle 1^-\rangle$	20(10)	0.33									2688	10052(5)	72Li19
2741.8	$\langle 1^-\rangle$	20(10)	0.33									2695	10059(5)	72Li19
2744.2	1^+	20(10)	0.16									2697	10061(5)	72Li19
2746.3	1^+	10(5)	0.08									2699	10063(5)	72Li19
2750.3	1^+	175(25)	1.36									2703	10067(5)	72Li19
2762.9	$\langle 1^-\rangle$	20(10)	0.31									2716	10079(5)	72Li19
2765.0	1^+	50(10)	0.38									2718	10082(5)	72Li19

(continued) $^{59}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_γ [eV]	Γ_γ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\gamma_\circ}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	E_cm [keV]	E^* [keV]	Ref.
2773.5	1^+	25(10)	0.18									2726	10090(5)	72Li19
2776.6	$\langle 3^+\rangle$	10(5)	0.62									2729	10093(5)	72Li19
2779.4	1^+	25(10)	0.18									2732	10096(5)	72Li19
2782.7	1^+	10(5)	0.07									2735	10099(5)	72Li19
2783.7	1^+	20(10)	0.14									2736	10100(5)	72Li19
2784.2	1^+	30(10)	0.22									2737	10100(5)	72Li19
2786.7	1^+	120(20)	0.86									2739	10103(5)	72Li19
2795.5	1^+	20(10)	0.14									2748	10111(5)	72Li19
2803.9	$\langle 3^+\rangle$	20(10)	1.15									2756	10120(5)	72Li19
2804.9	1^+	30(10)	0.21									2757	10121(5)	72Li19
2805.7	$\langle 1^-\rangle$	30(10)	0.42									2758	10121(5)	72Li19
2806.8	$\langle 1^-\rangle$	30(10)	0.42									2759	10123(5)	72Li19
2811.4	1^+	25(10)	0.17									2763	10127(5)	72Li19
2819.2	1^+	15(5)	0.10									2771	10135(5)	72Li19
2821.2	1^+	60(10)	0.40									2773	10137(5)	72Li19
2823.6	1^+	70(10)	0.46									2775	10139(5)	72Li19
2824.5	$\langle 1^-\rangle$	20(10)	0.27									2776	10140(5)	72Li19
2826.4	1^+	100(20)	0.66									2778	10142(5)	72Li19
2835.6	1^+	100(15)	0.65									2787	10151(5)	72Li19
2843.1	1^+	50(10)	0.32									2794	10158(5)	72Li19
2843.6	1^+	75(10)	0.48									2795	10159(5)	72Li19
2847.6	$\langle 3^+\rangle$	25(10)	1.28									2799	10163(5)	72Li19
2863.6	$\langle 3^+\rangle$	25(10)	1.23									2815	10178(5)	72Li19
2864.5	1^+	40(10)	0.24									2815	10179(5)	72Li19
2866.0	1^+	30(10)	0.18									2817	10181(5)	72Li19
2869.8	$\langle 1^-\rangle$	15(10)	0.18									2821	10184(5)	72Li19
2870.7	$\langle 1^-\rangle$	20(10)	0.24									2822	10185(5)	72Li19
2882.8	1^+	140(20)	0.82									2833	10197(5)	72Li19
2883.8	3^+	25(10)	1.17									2834	10198(5)	72Li19
2884.6	3^+	30(10)	1.40									2835	10199(5)	72Li19
2885.7	$\langle 3^+\rangle$	15(10)	0.70									2836	10200(5)	72Li19
2886.8	1^+	200(40)	1.17									2837	10201(5)	72Li19
2895.7	1^+	30(10)	0.17									2846	10210(5)	72Li19
2896.4	1^+	40(10)	0.23									2847	10211(5)	72Li19
2900.8	$\langle 1^-\rangle$	20(10)	0.23									2851	10215(5)	72Li19
2903.5	1^+	70(15)	0.40									2854	10218(5)	72Li19
2906.1	$\langle 3^-\rangle$	15(10)	0.17									2856	10220(5)	72Li19
2908.5	1^+	80(15)	0.45									2859	10222(5)	72Li19
2910.4	$\langle 1^-\rangle$	25(10)	0.28									2861	10224(5)	72Li19
2912.4	$\langle 3^+\rangle$	15(10)	0.66									2863	10226(5)	72Li19
2912.9	1^+	20(10)	0.11									2863	10227(5)	72Li19
2914.0	1^+	15(5)	0.08									2865	10228(5)	72Li19
2935.3	$\langle 1^-\rangle$	30(10)	0.32									2885	10249(5)	72Li19
2936.5	1^+	330(40)	1.75									2886	10250(5)	72Li19
2947.4	3^+	25(10)	1.01									2897	10261(5)	72Li19

(continued) $^{59}_{27}\mathbf{Co}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ^2_p [keV]	Γ_γ [eV]	Γ_γ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\mathrm{p}'}$ [eV]	$\Gamma_{\gamma_\circ}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	$\Gamma_{\gamma_\mathrm{i}}$ [meV]	E_cm [keV]	E^* [keV]	Ref.
2947.9	1^-	35(10)	0.36									2897	10261(5)	72Li19
2955.8	1^+	80(15)	0.41									2905	10269(5)	72Li19
2960.3	1^+	95(15)	0.48									2910	10273(5)	72Li19
2964.3	3^-	30(10)	0.30									2914	10277(5)	72Li19
2965.1	1^+	50(10)	0.25									2914	10278(5)	72Li19
2967.8	1^+	15(5)	0.07									2917	10281(5)	72Li19
2968.9	1^+	90(15)	0.45									2918	10282(5)	72Li19
2970.8	1^+	20(5)	0.10									2920	10284(5)	72Li19
2973.7	3^-	150(30)	1.46									2923	10287(5)	72Li19
2974.1	1^+	20(10)	0.10									2923	10287(5)	72Li19
2975.5	1^+	10(5)	0.05									2925	10288(5)	72Li19
2977.5	3^-	40(10)	0.39									2927	10290(5)	72Li19
2979.6	1^+	280(40)	1.37									2929	10292(5)	72Li19
2980.2	3^-	500(50)	4.82									2929	10293(5)	72Li19
2981.7	3^-	40(10)	0.38									2931	10294(5)	72Li19
2985.5	$\langle 3^- \rangle$	40(10)	0.38									2934	10298(5)	72Li19
2990.1	1^+	100(20)	0.48									2939	10303(5)	72Li19
2990.4	$\langle 3^- \rangle$	115(20)	1.09									2939	10303(5)	72Li19
2994.3	1^+	130(25)	0.62									2943	10307(5)	72Li19
2996.4	1^+	150(20)	0.71									2945	10309(5)	72Li19
3005.7	$\langle 1^- \rangle$	15(10)	0.14									2954	10318(5)	72Li19
3006.4	$\langle 3^- \rangle$	15(10)	0.14									2955	10319(5)	72Li19
3008.5	3^-	50(15)	0.45									2957	10321(5)	72Li19
3009.6	$\langle 3^- \rangle$	10(5)	0.09									2958	10322(5)	72Li19
3010.5	$\langle 1^- \rangle$	25(10)	0.23									2959	10323(5)	72Li19
3015.5	$\langle 3^- \rangle$	15(5)	0.13									2964	10328(5)	72Li19
3017.2	1^+	75(20)	0.34									2966	10329(5)	72Li19
3017.4	1^+	75(20)	0.34									2966	10330(5)	72Li19
3017.7	$\langle 1^- \rangle$	160(50)	1.43									2966	10330(5)	72Li19
3019.8	$\langle 3^+ \rangle$	25(10)	0.85									2968	10332(5)	72Li19
3020.9	1^+	30(10)	0.14									2969	10333(5)	72Li19
3022.2	$\langle 1^- \rangle$	15(10)	0.13									2971	10334(5)	72Li19
3027.3	1^+	80(15)	0.36									2976	10339(5)	72Li19
3029.8	3^+	40(15)	1.33									2978	10342(5)	72Li19
3030.3	1^+	110(20)	0.49									2978	10342(5)	72Li19
3036.8	$\langle 5^+ \rangle$	10(5)	0.33									2985	10349(5)	72Li19
3040.2	1^+	85(15)	0.37									2988	10352(5)	72Li19
3044.1	1^+	80(15)	0.35									2992	10356(5)	72Li19
3047.7	1^+	30(10)	0.13									2996	10359(5)	72Li19
3050.5	$\langle 3^+ \rangle$	15(10)	0.48									2998	10362(5)	72Li19
3052.4	1^+	20(10)	0.09									3000	10364(5)	72Li19
3056.9	$\langle 5^+ \rangle$	20(5)	0.63									3005	10368(5)	72Li19
3058.5	1^+	40(10)	0.17									3006	10370(5)	72Li19
3061.2	1^+	80(15)	0.34									3009	10373(5)	72Li19
3063.1	$\langle 5^+ \rangle$	20(10)	0.62									3011	10374(5)	72Li19

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

$E_\circ$ [keV]	$2J^\pi$	Γ_p [eV]	γ_p^2 [keV]	Γ_γ [eV]	Γ_γ [eV]	$\Gamma_{p'}$ [eV]	$\Gamma_{p'}$ [eV]	$\Gamma_{\gamma_\circ}$ [meV]	Γ_{γ_i} [meV]	Γ_{γ_i} [meV]	Γ_{γ_i} [meV]	E_{cm} [keV]	E^* [keV]	Ref.
3064.7	$\langle 1^- \rangle$	30(10)	0.24									3012	10376(5)	72Li19
3067.7	$\langle 3^+ \rangle$	10(5)	0.31									3015	10379(5)	72Li19
3071.5	$\langle 3^- \rangle$	15(5)	0.12									3019	10383(5)	72Li19
3072.7	1^+	20(5)	0.08									3020	10384(5)	72Li19
3077.2	$\langle 3^+ \rangle$	30(10)	0.90									3025	10388(5)	72Li19
3079.9	1^+	40(10)	0.16									3027	10391(5)	72Li19
3083.6	1^+	100(15)	0.40									3031	10395(5)	72Li19
3084.8	1^-	80(15)	0.63									3032	10396(5)	72Li19
3086.3	1^+	120(15)	0.48									3034	10397(5)	72Li19
3089.4	1^+	100(15)	0.40									3037	10400(5)	72Li19
3096.9	$\langle 3^+ \rangle$	15(5)	0.43									3044	10408(5)	72Li19
3099.1	1^+	140(20)	0.55									3046	10410(5)	72Li19
3101.3	$\langle 5^+ \rangle$	10(5)	0.28									3048	10412(5)	72Li19
3104.2	1^+	130(20)	0.51									3051	10415(5)	72Li19

Additional data on this isotope can be found in [85Mi0A, 82Ni05, 77Ri14, 76Bi0A, 72Pe23, 68De29, 73PeYY].

* These $E_\circ$ from [71Li14] were shifted upwards by 5.0 keV to fit the common energy scale.

Γ_γ and $\Gamma_{p'}$ were measured in two works [72Pe23, 75Br29] and the data from [72Pe23] were given in the second paper; both results are given in Supplement for comparison, systematic difference in these parameters is seen.

$S_{p\gamma}$(2227 keV)=5.0(8) eV are from [77Ri14], inelastic parameters are from [72Pe23, 75Br29].

More than 100 resonances were observed in the γ-ray yield for the proton energy region 1200-2100 keV measured in [68De29].

Branching ratios of γ-transitions [74Ke14, 68De29, 02Nu0A]. **$^{59}_{27}$Co(p)**

E^* [keV]	N	$E_\circ$ [keV]	$2J^\pi$	$E_\circ$ [keV]	Γ_p [eV]	γ_p^2 [keV]	Branching ratios Percentage										
E^*							0.0	1099	1190	1291	1434	1460	1482	1745	2062	2205	2583	2822
$2J_f^\pi$							7^-	3^-	9^-	3^-	1^-	11^-	5^-	7^-	$5\langle^-\rangle$	$5\langle^-\rangle$		
1099.26(1)			3^-				100											
1190.45(15)			9^-				100											
1291.61(1)			3^-															
9262				1938			16	17	3.5	2.9	6		10	7	38			
9321			$\langle 3^- \rangle$	1997			21	34		30	$\langle 1 \rangle$			$\langle 1 \rangle$				
9526	4	2204		2201.6	15	0.54	21	14		47				5		13		
9532	1	2210		2204.0	15	0.53	53	23		10							14	
9537	2	2215		2210.3			6	20		25	12		11				26	
9541.1	1	2217	$\langle 3^- \rangle$	2213.6	30	2.34	10	2		44							44	
9543	2	2221		2217.1	25	1.93	35	21		16			10				18	

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

E^*	N	$E_\circ$	$2J^\pi$	$E_\circ$	Γ_p	γ_p^2	Branching ratios										
[keV]		[keV]		[keV]	[eV]	[keV]	Percentage										
E^*							0.0	1099	1190	1291	1434	1460	1482	1745	2062	2205	2583	2822
$2J_f^\pi$							7^-	3^-	9^-	3^-	1^-	11^-	5^-	7^-	$5\langle^-\rangle$	$5\langle^-\rangle$		
9545	1	2223		2217.6	25	0.85	20	25		11	13			17			14	
9547	2	2225		2220.3	10	0.76	28	8		49	15							
9550	3	2229		2223.9	95	7.16	5	7		42	16						30	
9553.1	1	2233	$\langle 3^-\rangle$	2227.8	80	5.94	<2	6		24	30		9				31	
9556	1	2234		2229.4	10	0.74	8	5		44							43	
9560	1	2239		2233.5	15	1.09		16		22	62	<2						
9563	1	2241		2235.5	10	0.72	15				47						38	
9564	2	2243		2242.8			1	6		27	27		11				28	
9566	4	2245		2244.9			10	15		15	6		20	4		4	12	14
9835(5)			$\langle 1^-\rangle$															

Doublet of states at E^*=2581.7(1) keV ($2J_f^\pi$=3-7) and 2585.8(1) keV ($2J_f^\pi=7^-$) [02Nu0A].
Triplet of states at E^*=2824.2(9) keV, 2826.2(3) keV ($2J_f^\pi=(7^-)$) and 2829.1(13) keV [02Nu0A].
Values N given in the second column correspond to the estimated numbers of proton resonances forming maxima at $E_\circ$ in the measured γ-yield [74Ke14].
Values $E_\circ$ in the first column are from [74Ke14].
Branching ratios for resonances at $E_\circ$=1938 and 1997 keV are calculated from γ-ray intensities given in [68De29]; it was noticed there that the resonance at 1997 keV is 5 times stronger than the other resonances studied in the region E_p=1200-2250 keV; strong decays to the two low lying $J^\pi=3/2^-$ states permitted assumption that 1997 keV resonance is the first T=7/2 state.
For levels at E^*=9541.14, 9549.70 and 9553.13 keV Γ=15.5, 102, 93 eV are given [02Nu0A].
A presence of strong transitions to the states with E^*=1291 and 2583 keV was noticed in [74Ke14] and was discussed in [00Su0A].

Decay widths of proton analog resonances [75Br29, 72Pe23]. $^{59}_{27}$Co(p)

E^*	$E_\circ$	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_γ	$\Gamma_{p'}$	$\Gamma_{p'}$	Γ_γ	Γ_p	Com.
[keV]	[keV]	[meV]	[meV]	[meV]	[meV]	[meV]	[eV]	[eV]	[meV]	[eV]	
		0.0	1099	1291	2583						E^*, keV
		7^-	3^-	3^-							$2J_f^\pi$
9526	2213	<5	<5	75	60	200	0.30	0.40	560	20	
9532	2216	150	75	25	110	810	0.31	0.50	1000	14	
9537	2220	60	<5	160	10	250	0.06	0.04	360	10	
9541	2223	<5	55	20	50	310	0.31	0.30	560	10	
9543	2224	<5	<5	150	120	620	1.50	1.44	920	100	
9545	2227	<5	75	100	190	1060	0.94	1.36	1400	54	

(continued) $^{59}_{27}\mathbf{Co}(\mathrm{p})$

E^*	$E_\circ$	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_{γ_i}	Γ_γ	$\Gamma_{p'}$	$\Gamma_{p'}$	Γ_γ	Γ_p	Com.
[keV]	[keV]	[meV]	[meV]	[meV]	[meV]	[meV]	[eV]	[eV]	[meV]	[eV]	
		0.0	1099	1291	2583						E^*, keV
		7^-	3^-	3^-							$2J^\pi_f$
9547	2231	10	<5	20	10	180	0.30	0.60	700	12	
9550	2234	25	<5	25	25	270	0.11	0.30	500	15	

Values Γ_{γ_i} for transitions to the states at E^*=0, 1099, 1291 and 2583 keV measured in [75Br29] (which could be labelled as i=0,1,3,16) are given together with total radiative widths Γ_γ and inelastic scattering widths $\Gamma_{p'}$ from this work in the left part of the Table. For comparison Γ_γ and $\Gamma_{p'}$ from [72Pe23] are given in the right part of the Table.