^{59}Co(d,p) 1978Ro18,1975Jo08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1849 (2013)	31-Dec-2012

$J^{\pi}(^{59}Co)=7/2^{-}$.

1978Ro18: E(d)=14 MeV. Measured $\sigma(\theta)$, seven angles between 7° and 45°. Magnetic spectrograph, FWHM≈12 keV. L-values and spectroscopic factors are from comparison with DWBA. 1978Ro18 assumed p1/2 for L=1 (except for g.s., 59, 508, 1004 levels for which 2p3/2 is assumed), f5/2 for L=3, s1/2 for L=0, d5/2 for L=2 transitions.

1975Jo08: E(d)=5-8 MeV. Measured E(p). Magnetic spectrograph, FWHM≈6 keV, No strengths reported.

1978Ta02: E(d)=10 MeV. Measured $\sigma(\theta)$ for 10° to 80°. Magnetic spectrograph. FWHM≈6 keV. 1978Ta02 used no spin orbit interaction and a normalization factor of 1.53.

1975Ue01: E(d)=6.5 MeV. Measured $\sigma(\theta)$ for 25° to 140° in steps of 5°−10°. Si surface barrier detectors. FWHM=18 keV. 1975Ue01 assumed f5/2, g9/2, d5/2, s1/2 for L=3,4,2,0 stripping and an average of p3/2 and p1/2 for L=1 stripping (except g.s., 59 level assumed p3/2).

Others: 1960En05, 1964Bj01.

^{60}Co Levels

S(C),L(C) From 1975Ue01.

E(level)[†]	L[#]	C^2S'[#]	Comments
0.0	1	0.54	C^2S': 0.49 for p1/2 transition.
58.6 *3*	1	0.25	C^2S': 0.22 for p1/2 transition.
277.4 *3*	3+1	0.38+0.02	
289.1 *3*	3+1	0.32+0.18	
436.0 *4*	3	0.44	
506.4 *4*	1	0.15	C^2S': 0.14 for p1/2 transition.
542.9 *4*	3+1	0.19+0.03	
614.4 *4*	1	0.19	
738.4 *4*	3	0.11	
785.4 *4*	1	0.16	
1005.2 *4*	1	0.32	C^2S': possible doublet. C^2S'=0.28 for p1/2 transition.
1131.3 *6*	(3)	0.03	
1152.3? *18*			
1207.8 *5*	1	0.02	
1215.7 *4*	3+1	0.32+0.02	
1342.7 *5*	1	0.011	
1380.2 *5*	3+1	0.35+0.04	
1451.5 *5*	1	0.018	
1509.6 *6*	(3)	0.06	
1515.9 *5*	1	0.05	
1567.4 *11*			
1639.2 *5*	3+1	0.08+0.02	
1669?[‡]			
1707.2 *6*			
1748.7 *6*	1	0.007	
1787.5 *6*	(3+1)	0.01+0.004	
1799.4 *5*	4+2	1.19+0.08	
1808.2 *6*	4+2	0.94+0.10	
1830.6 *6*	1	0.016	
1851.9 *5*	1	0.038	
1888.7 *6*	1	0.024	
1923.6 *6*	1	0.011	
1980.8 *6*	3+1	0.33+0.02	
2032.4 *6*	1	0.018	

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^{59}Co(d,p) 1978Ro18,1975Jo08 (continued)

^{60}Co Levels (continued)

E(level)[†]	L[#]	C^2S'[#]	Comments
2045.5 *6*	(1)	0.004	
2121.8? *11*	(1)	0.005	
2132.5 *6*	4	1.27	
2151.2 *6*	3	0.061	
2200.7 *7*			
2221.6 *7*	(3)	0.04	
2233.1? *10*			
2275.1 *6*	1	0.04	C^2S': probably includes 2279 level.
2279.6 *7*			
2309.9 *6*	1	0.01	C^2S': probably includes 2318 level.
2318.4 *10*			
2342.0 *6*			
2350.7 *6*	2	0.08	C^2S': may include 2342 and 2362 levels.
2362.5 *9*			
2422.9 *7*			
2428.8 *9*	0	0.002	C^2S': may include 2422 level.
2450.9 *8*			
2471.2 *9*			
2487.2 *9*			
2527.9 *8*			
2560.1 *9*			
2569.5 *9*			
2585.6 *7*			
2597.0 *7*	1	0.03	
2606.1 *8*			
2654.5 *9*			
2684.5 *7*	0	0.006	
2709.8 *8*			
2735.0 *7*	1	0.007	
2758.0 *7*			
2766.1 *8*	3+1	0.10+0.03	C^2S': may include 2758 level.
2772.3 *8*			
2786.3 *11*			
2802.5 *8*			
2807.3 *8*			
2822.8 *7*	4	0.69	
2844.8 *7*	1	0.08	
2866.9 *9*			
2884.0 *8*	0	0.03	
2897.4 *8*			
2917.6 *8*	2	0.018	
2939.2 *9*			
2945.2? *12*	1	0.003	C^2S': may include 2939 level.
2964.9 *8*			
2996.3 *8*			
3009.1 *8*	2	0.12	
3020.4 *16*			
3046.4 *8*	1	0.010	
3063.9 *8*			
3077.6 *10*			
3084.4 *9*	1	0.025	
3096.1 *9*			
3114.7 *8*			
3120.2 *11*	(2,3)		C^2S': (0.01,0.05), may include 3115 level.
3130.4 *9*			
3153.8 *9*			

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^{59}Co(d,p) 1978Ro18,1975Jo08 (continued)

^{60}Co Levels (continued)

E(level)†	L#	C^{2}S′#	Comments
3184.6 *10*	0	0.07	
3199.3 *9*			
3215.4 *9*	3	0.20	
3236	2	0.06	
3265			
3282	1	0.06	
3314	2	0.02	
3340	2	0.07	
3367			
3393	0	0.0028	
3420			
3436			
3460	3	0.048	
3497			
3512			
3563	2	0.049	
3586	0	0.015	
3622	0	0.007	
3654	2	0.039	
3673			
3685	2	0.029	C^{2}S′: may include 3673 level.
3701			
3721			
3735			
3770	3	0.099	
3801	2	0.014	
3833	2	0.028	
3849			
3869	0	0.016	
3911	0+2	0.01+0.02	
3933			
3949	1	0.008	
3987			
4005	0	0.013	
4024			
4049	2	0.038	
4067	0	0.011	
4085			
4098	3	0.03	
4113	1	0.015	
4134			
4151	0	0.005	
4166			
4190	2	0.034	
4206	0+2	0.007+0.03	
4246			
4263	0+2	0.008+0.05	
4294			
4307			
4325			
4341			
4365	0	0.014	
4390	0+2	0.033+0.10	
4408			
4420			
4452	3+1	0.08+0.03	
4474	3+1	0.05+0.01	

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^{59}Co(d,p) 1978Ro18,1975Jo08 (continued)

^{60}Co Levels (continued)

E(level)†	L#	C^2S'#	Comments
4507	3+1	0.04+0.01	
4523			
4541	3+1	0.09+0.03	
4563	2	0.035	
4594	1	0.025	
4610	1	0.010	
4626			
4668			
4698	0	0.023	
4713			
4745	2	0.048	
4773	2	0.058	
4786	2	0.043	
4801	0+2	0.025+0.08	
4817	2	0.050	
4841			
4864	2	0.019	
4879			
4893	2	0.014	
4917	0	0.020	
4932	2	0.048	
4965	2	0.039	
4980	3+1	0.08+0.03	
4995			
5014			
5031			
5057			
5083			
5098			
5113	0	0.015	
5133			
5146			
5161			
5189			
5209	2	0.031	
5243	2	0.041	
5271	0	0.011	
5291			
5306			
5326			
5350			
5372	2	0.030	
5394			
5411			
5424	0	0.026	C^2S': may include 5411 level.
5440			
5456			
5471	2	0.093	
5488	0	0.016	
5529			
5545	0	0.023	
5560			
5573			
5591	2	0.048	
5610	2	0.055	
5638	2	0.024	
5655			

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^{59}Co(d,p) 1978Ro18,1975Jo08 (continued)

^{60}Co Levels (continued)

E(level)[†]	L[#]	C^2S'[#]	Comments
5670			
5684			
5705	2	0.039	
5731	2	0.059	
5750			
5773			
5809			
5822			
5838			
5852			
5871			
5889	2	0.071	
5928	0	0.018	
5943			
5955	2	0.050	C^2S': may include 5943 level.
5973	0	0.016	
5987			
5999	2	0.043	C^2S': may include 5987 level.
6013			
6027			
6047			
6066			
6088			
6104			
6129			
6146			
6165			
6180			
6198			

† From 1975Jo08 for E(level)<3220, from 1978Ro18 for higher-energy levels, except as noted otherwise.
‡ From 1978Ro18.
# From 1978Ta02.