^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huo Junde	NDS 109, 787 (2008)	30-Apr-2007

1989Di08: (p,γ),(p,p′γ), E(p)=2.1-2.9 MeV; FWHM=1.2 keV, measured yield curves, $\gamma(\theta)$.
1988Di04: (p,γ),(p,p′γ), E(p)=3.45-3.46 MeV; FWHM=1.2 keV, measured yield curves, $\gamma(\theta)$.
1987Di01: (p,γ),(p,p′γ), E(p)=3.85-4.28 MeV; measured yield curves, $\gamma(\theta)$.
1987Ko33: E(p)=1803, 1887 keV, measured Eγ.
1980Ha36: E(p)=800-2370 keV; NaI and Ge(Li) for γ (FWHM=3.1 keV at Eγ=2.6 MeV); measured yield curves, $\gamma(\theta)$.
1980Ha37: E(p)=1100-2300 keV. Measured $\gamma(\theta)$, DSA.
1980Ul01: E(p)=1100-1760 keV; NaI and coaxial Ge(Li), FWHM=2.4 keV for 1.33-MeV γ; measured σ(E(p); Eγ,θ).
1979Ar09: E(p)=3400-3480 keV; measured σ(E(p); Eγ,θ).
1977Er02: E(p)=1500-2900 keV; two NaI in worked in coincidence; measured σ(E(p)), $\gamma(\theta)$, DSA.
1976Ma08: E(p)=3468 keV; measured σ(E(p); Eγ,θ).
1972Ma26: E(p)=1800-1870 keV; polarized beam; measured $\gamma(\theta)$;
See also 1967Er04, 1968Ma43, 1972Ah01, 1975Br20, 1978Ul03, 1978Vo02.

^{55}Co Levels

E(level)†	J$^\pi$&	T$_{1/2}$&	Comments
0.0	7/2$^-$		
2165.80 *23*	3/2$^-$	98 fs *8*	
2565.65 *10*	3/2$^-$	0.39 ps *9*	
2659.43 *14*	5/2$^-$	21 fs *3*	
2918.48 *10*	7/2$^-$	47 fs *11*	
2922.4 *5*	(1/2$^+$)	≈49 fs	J$^\pi$: based on $\gamma(\theta)$ and lifetime measurements by 1977Er02. See also 1980Ha37. T$_{1/2}$: 49 fs *+180−31* from 1977Er02.
2939.25 *25*	1/2$^-$,(3/2)$^-$	120 fs *49*	
2960 *2*	≥5/2		E(level): observed only in 1980Ul01.
2976.2 *4*	9/2$^-$,(7/2)	49 fs *18*	
2992	(1/2,3/2)		E(level),J$^\pi$: from 1989Di08.
3302.98 *10*	5/2$^-$	52 fs *11*	
3323.37 *20*	(1/2,3/2)$^-$	44 fs *5*	
3553 *2*	3/2,5/2		E(level): observed by 1980Ul01 where the level is not fed from any of the resonance levels, but is populated only as cascade transition via 4548-keV (5/2$^-$) level at E(p)=1653 keV. J$^\pi$: from 1980Ul01.
3562.78 *26*	(3/2)[a]	30 fs *+42−14*	
3642.79 *25*	(1/2,3/2)$^-$	240 fs *+99−71*	
3682 *2*			E(level): observed by 1980Ul01 where the level was fed from the resonance level at E(p)=1286 keV *2*.
3724.81 *15*	5/2$^-$	40 fs *6*	
3859.1 *6*	(5/2$^+$)[a]	71 fs *+57−21*	
3942.14 *20*	(1/2)[a]	>120 fs	
4164.41 *25*	3/2$^-$	32 fs *4*	
4177.23 *25*	5/2$^-$	11 fs *3*	
4263.8 *12*	(3/2,5/2)[a]		
4339	9/2		E(level),J$^\pi$: from 1989Di08.
4473.7 *8*	(5/2$^+$)[a]		
4548.2 *4*	5/2$^-$	31 fs *7*	
4587.4 *10*	(5/2)[a]		
4628.16 *26*	(3/2)[a]	9 fs *4*	
4721.4 *6*	3/2$^-$	<21 fs	E(level): identified by 1989Di08 as analog state of g.s. in ^{55}Fe. ΔE(Coul.)=8958 keV in ^{55}Fe-^{55}Co pair (1989Di08). J$^\pi$: based on polarization measurement of 1972Ma26.

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)[†]	J$^\pi$[&]	T$_{1/2}$[&]	S[d]	Comments
4747.80 *19*	3/2$^-$	21 fs *7*		E(level): identified by 1989Di08 as analog state of g.s. in ^{55}Fe. ΔE(Coul.)=8985 keV in ^{55}Fe-^{55}Co pair (1989Di08). J$^\pi$: it is difficult to assign J$^\pi$ of this level because of the complexity of feeding and decay, so other arguments are used for it. Analogy analysis.
4851	(1/2,3/2,5/2)[a]			E(level): from 1989Di08.
4872.4 *8*				
4961.07 *17*		6 fs *2*		
4988.0 *7*		<4 fs		
5098.8 *5*		<11 fs		
5121.8 *4*				
5174.2 *10*	1/2$^-$	7 fs *+7–3*		E(level): identified by 1977Er02, 1980Ha36, and 1980Ha37 as analog state of 411-keV (1/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8994 keV *3* in ^{55}Fe-^{55}Co pair (1977Er02). J$^\pi$: from analogy analysis (1977Er02).
5189	(1/2)$^-$			E(level),J$^\pi$: from 1989Di08.
5258.8 *3*	(5/2)	11 fs *6*		
5292.9 *10*				
5350.6 *6*				
5460.5 *10*		<6 fs		
5559.6 *6*				
5642				E(level): from 1989Di08.
5716.6 *6*				E(level): value from 1977Er02. Authors assign it as analog state of 931-keV (5/2$^-$) state in ^{55}Fe.
S(p)+884.5 *10*			≈0.02	
S(p)+894.9 *10*			≈0.07	
S(p)+961.7 *10*			≈0.06	
6068 *2*	9/2$^+$	<17.5 fs		E(level),T$_{1/2}$,J$^\pi$: from 1976Ma08. J$^\pi$: based on $\gamma(\theta)$.
S(p)+1100.5 *10*			≈0.02	
S(p)+1105.8 *7*			0.2 *1*	
S(p)+1133.0 *10*			≈0.02	
S(p)+1162.39 *30*	5/2$^+$		0.4 *1*	
S(p)+1226.0 *6*	5/2$^-$		0.4 *1*	
S(p)+1287.8 *5*	3/2$^-$		0.3 *1*	
S(p)+1328.9 *5*	5/2$^+$		0.2 *1*	
S(p)+1476.2 *4*	3/2,(5/2)		0.2 *1*	
S(p)+1638.7 *10*			≈0.1	
S(p)+1654.7 *10*			≈0.1	
S(p)+1667.0 *7*	5/2		0.50 *8*	
S(p)+1679.9 *10*	1/2$^-$,(3/2)$^-$		0.76 *11*	E(level): identified as analog state of 1918-keV state in ^{55}Fe; ΔE(Coul.)=9026 keV *3* in ^{55}Fe-^{55}Co pair (1977Er02). J$^\pi$: J=1/2 is deduced from isotropics of all the $\gamma(\theta)$ in primary γ-ray transitions (1980Ha37), and possible analog of the (1/2$^-$) 1918-keV state in ^{55}Fe. J=3/2 is from 1980Ul01.
S(p)+1722.4 *7*	5/2		2.6 *4*	
S(p)+1747.5 *6*	3/2$^-$		0.8 *2*	
S(p)+1769.9 *10*			≈0.1	
S(p)+1794.0 *10*			≈0.2	
S(p)+1803.0 *5*	3/2$^-$		1.7 *3*	E(level): 1972Ma26. Probably doublet; this is assumed to be the lower one with no decay to ground state. It was identified as analog state of 2052 (3/2$^-$) state in ^{55}Fe by 1972Ma26, 1977Er02, 1980Ha36, and 1989Di08.
S(p)+1803.5 *5*	5/2$^{(-)}$		0.31 *1*	E(level): 1972Ma26. This level is one of doublet with an energy separation of 0.5 keV. It is the upper and is assumed to decay totally to ground state.

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)[†]	J$^{\pi}$[&]	S[d]	Comments
			J$^{\pi}$: parity assignment is based on L=(3) in (^{3}He,d).
S(p)+1845.7 *8*	7/2^{-},9/2	0.75 *14*	J$^{\pi}$: parity assignment is based on calculated primary and γ-ray transition strengths for J=7/2(1980Ha37).
S(p)+1855.5 *10*		≈0.1	
S(p)+1863.2 *10*		≈0.1	
S(p)+1887.4 *7*	5/2^{-}	1.2 *2*	E(level): possible analog state of 2144-keV (5/2^{-}) state in ^{55}Fe; ΔE(Coul.)=9005 keV *3* in ^{55}Fe-^{55}Co pair. See 1977Er02.
S(p)+1910.6 *10*		≈0.07	
S(p)+1914.5 *10*		0.22 *8*	
S(p)+1921.5 *10*		0.39 *6*	
S(p)+1980.3 *10*		0.44 *7*	
S(p)+1997.6 *10*		0.36 *6*	
S(p)+2010.1 *10*		0.19 *7*	
S(p)+2075.1 *5*	5/2	1.0 *3*	
S(p)+2127.3 *10*		0.3 *1*	
S(p)+2168.1 *5*	5/2	1.3 *2*	
S(p)+2196.0 *10*			
S(p)+2209.4 *10*		1.2 *2*	
S(p)+2215.4 *10*	(3/2^{-})	0.5 *2*	E(level): identified by 1989Di08 as analog state of 2470-keV (3/2^{-}) state in ^{55}Fe. ΔE(Coul.)=8993 keV *3* in ^{55}Fe-^{55}Co pair (1977Er02).
S(p)+2237.9 *10*		≈0.1	
S(p)+2245.5 *5*	3/2^{-}	1.3 *4*	E(level): identified by 1989Di08 as analog state of 2470-keV (3/2^{-}) state in ^{55}Fe. ΔE(Coul.)=9031 keV *3* in ^{55}Fe-^{55}Co pair (1977Er02).
S(p)+2260.8 *10*		0.4 *1*	
S(p)+2270.3 *6*	5/2^{-}	0.86 *20*	
S(p)+2297.1 *6*	5/2	0.66 *15*	
S(p)+2302.9 *10*		0.3 *1*	
S(p)+2304.5 *10*			E(level): E(p) from 1989Di08.
S(p)+2309.6 *10*		0.5 *2*	
S(p)+2312.9 *10*			
S(p)+2323.0 *10*			
S(p)+2338.7 *10*			
S(p)+2342.7[‡] *10*		≈0.4	
S(p)+2349.9 *10*			
S(p)+2353.4[‡] *10*		≈0.2	
S(p)+2359.3 *10*			
S(p)+2362.1[‡] *10*		≈0.5	
S(p)+2371.2 *10*			
S(p)+2380.3[‡] *10*	3/2^{-}		
S(p)+2436.7 *10*			
S(p)+2439.5 *10*			
S(p)+2476.7 *10*	5/2^{-}		
S(p)+2481[#] *2*			
S(p)+2499.3 *10*			
S(p)+2505.6 *10*			
S(p)+2545.4 *10*	5/2^{-}		
S(p)+2559.5 *10*	(5/2)		
S(p)+2576.8 *10*	(3/2)		
S(p)+2593.1 *10*	5/2^{-}		
S(p)+2603.7 *10*	7/2^{-}		
S(p)+2609.7 *10*	(5/2)		E(level): identified by 1989Di08 as analog state of 2578-keV (5/2^{-}) state in ^{55}Fe. ΔE(Coul.)=8991 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2613[#] *2*			
S(p)+2615.8 *10*	(7/2^{-})		E(level): identified by 1989Di08 as analog state of 2872-keV (5/2^{-},7/2^{-}) state in ^{55}Fe. ΔE(Coul.)=8997 keV in ^{55}Fe-^{55}Co pair (1989Di08).

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)†	Jπ&	Comments
S(p)+2625.0 *10*	(3/2)	
S(p)+2633.3 *10*	(7/2$^-$)	E(level): identified by 1989Di08 as analog state of 2872-keV and 2939-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=9014 keV and 8947 keV, respectively, in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2645.8 *10*	(3/2)	
S(p)+2663.3 *10*	(5/2)	E(level): identified by 1989Di08 as analog state of 2939-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8977 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2687.5 *10*	(5/2$^-$)	E(level): identified by 1989Di08 as analog state of 2939-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=9001 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2731.2 *10*	(5/2)	E(level): identified by 1989Di08 as analog state of 2939-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=9044 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2733.5 *10*		
S(p)+2752.1 *10*	(3/2$^-$)	E(level): identified by 1989Di08 as analog state of 3028-keV (3/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8975 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2763.4 *10*		
S(p)+2766.7 *10*		
S(p)+2776.9 *10*		
S(p)+2791.3 *10*	(3/2)	
S(p)+2801.9 *10*		
S(p)+2823.5 *10*		
S(p)+2855.5 *10*	(5/2)	E(level): identified by 1989Di08 as analog state of 3109-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8996 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2860# *2*		
S(p)+2863.4 *10*	(5/2$^-$)	E(level): identified by 1989Di08 as analog state of 3109-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=9003 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2867.6 *10*	(3/2$^-$)	
S(p)+2871.9 *10*	(7/2)	E(level): identified by 1989Di08 as analog state of 3109-keV (5/2$^-$,7/2$^-$) state in ^{55}Fe. ΔE(Coul.)=9012 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+2876.2 *10*		
S(p)+2883.0 *10*		
S(p)+2896.7 *10*		
S(p)+2918.7 *10*		
S(p)+2926.6 *10*	(3/2$^-$)	
S(p)+2929.2 *10*		
S(p)+2934.6 *10*		
S(p)+2940.0 *10*		
S(p)+2944.5 *10*		
S(p)+2953.3 *10*		
S(p)+2955.0 *10*	(5/2)	
S(p)+2964.9 *10*	(5/2$^+$)	
S(p)+2973.5 *10*		
S(p)+2996.6 *10*		
S(p)+3006.4 *10*		
S(p)+3009.8 *10*	7/2,9/2	
S(p)+3020.2 *10*		
S(p)+3023.3 *10*		
S(p)+3040.9 *10*		
S(p)+3046.6 *10*	(3/2)	
S(p)+3057.0 *10*	3/2$^-$	
S(p)+3061.6 *10*	(7/2)	
S(p)+3075.5 *10*		
S(p)+3082.8 *10*	3/2	
S(p)+3087.7 *10*		
S(p)+3096.7 *10*	(3/2)	
S(p)+3116.0 *10*		
S(p)+3121.8 *10*	5/2$^+$	

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)†	Jπ&	$T_{1/2}$&	Comments
S(p)+3125.3 *10*	1/2,5/2$^+$		
S(p)+3128.8 *10*	5/2$^-$		
S(p)+3132.3 *10*	3/2$^-$		
S(p)+3136.4 *10*	3/2$^+$		
S(p)+3147.6 *10*	7/2$^-$		
S(p)+3160.5 *10*	5/2$^+$		
S(p)+3164.3 *10*	5/2$^+$		
S(p)+3166.4 *10*	1/2		
S(p)+3172.8 *10*			
S(p)+3183.4 *10*	(1/2,3/2),5/2$^-$		
S(p)+3192.6 *10*	5/2$^-$		
S(p)+3197.3 *10*			
S(p)+3201.7 *10*			
S(p)+3205.9 *10*			
S(p)+3208.8 *10*	3/2$^-$		
S(p)+3214.7 *10*			
S(p)+3233.5 *10*	(5/2)		
S(p)+3230.5 *10*	5/2		
S(p)+3253.7 *10*	3/2$^-$		
S(p)+3267.1 *10*	(5/2)		
S(p)+3277.9 *10*	3/2$^-$,(5/2)		
S(p)+3281.5 *10*	(1/2)		E(level): identified by 1989Di08 as analog state of 3599-keV (1/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8924 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3285.1 *10*			
S(p)+3289.0 *10*	(1/2,3/2)		E(level): identified by 1989Di08 as analog state of 3552-keV (3/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8978 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3293.5 *10*	3/2$^-$		E(level): identified by 1989Di08 as analog state of 3552-keV (3/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8983 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3303.3 *10*			
S(p)+3332.0 *10*	5/2$^+$		
S(p)+3351.6 *10*	3/2$^-$		
S(p)+3355.2 *10*	7/2,9/2		
S(p)+3365.2 *10*	3/2$^-$		
S(p)+3369.5 *10*	(5/2)		
S(p)+3379.8 *10*	5/2		
S(p)+3386.5 *10*	3/2$^-$		
S(p)+3408.4 *10*	(3/2)		
S(p)+3414.2 *10*	5/2$^+$		
S(p)+3428.0 *10*	3/2$^-$		
S(p)+3432.3 *10*	(5/2)		
S(p)+3436.9 *10*			
S(p)+3453.9 *10*	(1/2,3/2)*b*		E(level): identified by 1989Di08 as analog state of 3801-keV (3/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8891 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3461.0 *10*	9/2$^+$*b*		E(level): identified by 1989Di08 as analog state of 3814-keV (9/2$^+$) state in ^{55}Fe. ΔE(Coul.)=8885 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3462.5 *10*	5/2$^-$,7/2$^-$*b*		
S(p)+3465.0@ *20*	9/2$^+$*b*	<6 fs	E(level): identified by 1989Di08 as analog state of 3814-keV (9/2$^+$) state in ^{55}Fe. ΔE(Coul.)=8889 keV in ^{55}Fe-^{55}Co pair (1989Di08). $T_{1/2}$: from DSA measurement of 1976Ma08.
S(p)+3466.2@ *20*	(7/2)*b*	<6 fs	$T_{1/2}$: from DSA measurement of 1976Ma08.
S(p)+3470.9 *10*	1/2*b*		E(level): identified by 1989Di08 as analog state of 3790-keV (1/2$^-$) state in ^{55}Fe. ΔE(Coul.)=8919 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3473.7@ *20*	9/2$^+$*b*		E(level): identified by 1989Di08 as analog state of 3814-keV (9/2$^+$) state in ^{55}Fe. ΔE(Coul.)=8898 keV in ^{55}Fe-^{55}Co pair (1989Di08).

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)†	Jπ&	$T_{1/2}$&	S[d]	Comments
S(p)+3476.1	(5/2)[b]			
S(p)+3495.7 *10*				
S(p)+3503.4 *10*	$3/2^+$			
S(p)+3506.8 *10*	$(5/2^+)$			
S(p)+3513.3 *10*	$5/2^-$			
S(p)+3531.3 *10*	$7/2^-$			
S(p)+3555.9 *10*	$7/2^-$			
S(p)+3558.1 *10*	7/2,9/2			
S(p)+3560.9				
S(p)+3566.5 *10*	$3/2^-$			E(level): identified by 1989Di08 as analog state of 3907-keV $(1/2^-,3/2^-)$ state in ^{55}Fe. ΔE(Coul.)=8896 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3569.0 *10*	(1/2)			
S(p)+3575.9 *10*	$3/2^+$			
S(p)+3582.8 *10*	5/2,7/2			
S(p)+3596.5 *10*	(1/2)			E(level): identified by 1989Di08 as analog state of 3907-keV $(1/2^-,3/2^-)$ state in ^{55}Fe. ΔE(Coul.)=8925 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3605.6 *10*	$3/2^-$			E(level): identified by 1989Di08 as analog state of 3907-keV $(1/2^-,3/2^-)$ state in ^{55}Fe. ΔE(Coul.)=8957 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3629.2 *10*	$3/2^-$			E(level): identified by 1989Di08 as analog state of 3907-keV $(1/2^-,3/2^-)$ state in ^{55}Fe. ΔE(Coul.)=8964 keV in ^{55}Fe-^{55}Co pair (1989Di08).
S(p)+3635.9 *10*	(1/2)			
S(p)+3644.7 *10*	$5/2^+$			
S(p)+3650.7 *10*	$5/2^-,7/2^-$			
S(p)+3653.2 *10*				
S(p)+3664.6 *10*	$3/2^+$			
S(p)+3668.4 *10*	$3/2^-$			
S(p)+3681.1 *10*				
S(p)+3684.3 *10*				
S(p)+3691.2 *10*	$1/2,5/2^+$			
S(p)+3693.8 *10*				

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^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

E(level)†
S(p)+3705.2 *10*
S(p)+3708.4 *10*
S(p)+3712.9 *10*
S(p)+3719.9 *10*
S(p)+3723.1 *10*
S(p)+3728.2 *10*
S(p)+3732.0 *10*
S(p)+3747.8 *10*
S(p)+3748.3 *10*
S(p)+3752.2 *10*
S(p)+3756.3 *10*
S(p)+3760.2 *10*
S(p)+3769.2 *10*
S(p)+3771.7 *10*
S(p)+3776.9 *10*
S(p)+3794.2 *10*
S(p)+3801.7 *10*
S(p)+3806.8 *10*
S(p)+3818.1 *10*
S(p)+3829.8 *10*
S(p)+3839.1 *10*
S(p)+3849.2 *10*
S(p)+3859.9 *10*
S(p)+3885.3 *10*
S(p)+3889.5 *10*
S(p)+3892
S(p)+3904
S(p)+3919
S(p)+3928
S(p)+3941
S(p)+3947
S(p)+3959
S(p)+3969
S(p)+3990
S(p)+3995
S(p)+4009
S(p)+4012
S(p)+4023
S(p)+4038
S(p)+4052
S(p)+4059
S(p)+4070
S(p)+4081
S(p)+4092
S(p)+4098
S(p)+4131
S(p)+4147
S(p)+4153
S(p)+4188
S(p)+4192
S(p)+4203
S(p)+4222
S(p)+4240
S(p)+4246
S(p)+4250
S(p)+4256
S(p)+4267
S(p)+4272

Continued on next page (footnotes at end of table)

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

^{55}Co Levels (continued)

† For bound states, from 1980Ha36, except as noted. For resonance states, E(level)=S(p)+E(p); S(p)=5064.07 *33* from 2003Au03. Adopted E(p) are taken from 1980Ha36 (E(p)<2311 keV), 1989Di08 (2311 keV<E(p)<3890 keV), and 1987Di01 (E(p)>3890 keV), except as noted.
‡ E(p) from 1980Ha36.
# E(p) from 1977Er02.
@ E(p) from 1979Ar09.
& From 1980Ha37, except as noted.
a From 1989Di08.
b From 1988Di04.
c From 1987Di01.
d Resonance strength values from 1980Ha36, except as noted. S=(2J+1)Γ(p)Γ(γ)/Γ eV.

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$

Adopted γ data are taken from 1980Ha36 (when E(p)<2311 keV) and 1989Di08 (when E(p)>2311 keV), except as noted. B(ML)(W.u.),B(EL)(W.u.) from resonance strengths and branching ratios, see 1980Ha36.

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
373	27 *6*	2939.25	$1/2^-$,$(3/2)^-$	2565.65	$3/2^-$	M1+E2	0.0 *4*	Additional information 5.
641	7 *2*	3562.78	(3/2)	2922.4	$(1/2^+)$			
704	10 *3*	3642.79	$(1/2,3/2)^-$	2939.25	$1/2^-$,$(3/2)^-$			
737	16 *3*	3302.98	$5/2^-$	2565.65	$3/2^-$			
756	100	2922.4	$(1/2^+)$	2165.80	$3/2^-$	E1		
757	28 *7*	3323.37	$(1/2,3/2)^-$	2565.65	$3/2^-$			
773	73 *6*	2939.25	$1/2^-$,$(3/2)^-$	2165.80	$3/2^-$	M1+E2	−0.19 *10*	Additional information 6.
794	62[‡]	2960	≥5/2	2165.80	$3/2^-$			
806	13 *8*	4747.80	$3/2^-$	3942.14	(1/2)			
807	20 *4*	3724.81	$5/2^-$	2918.48	$7/2^-$			
904	4 *3*	3562.78	(3/2)	2659.43	$5/2^-$			
984	12 *3*	3642.79	$(1/2,3/2)^-$	2659.43	$5/2^-$			
997	82 *3*	3562.78	(3/2)	2565.65	$3/2^-$			Additional information 9.
1003	7 *3*	3942.14	(1/2)	2939.25	$1/2^-$,$(3/2)^-$			
1010		5174.2	$1/2^-$	4164.41	$3/2^-$			
1023	13 *8*	4747.80	$3/2^-$	3724.81	$5/2^-$			
1077	13 *3*	3642.79	$(1/2,3/2)^-$	2565.65	$3/2^-$			
1157	72 *7*	3323.37	$(1/2,3/2)^-$	2165.80	$3/2^-$			
1159	26 *4*	3724.81	$5/2^-$	2565.65	$3/2^-$	M1+E2	−0.03 *3*	Additional information 10.
1174	26 *7*	5350.6		4177.23	$5/2^-$			
1189	8.0	S(p)+1105.8		4988.0				
1200	37 *5*	3859.1	$(5/2^+)$	2659.43	$5/2^-$			
1231		5174.2	$1/2^-$	3942.14	(1/2)			
1253	8.1	S(p)+1679.9	$1/2^-$,$(3/2)^-$					
1280	4.5	S(p)+1226.0	$5/2^-$					
1340	1.8	S(p)+1287.8	$3/2^-$					
1374	9.0	S(p)+1803.0	$3/2^-$					
1376	76 *4*	3942.14	(1/2)	2565.65	$3/2^-$			
1387	100	3553	3/2,5/2	2165.80	$3/2^-$			
1419	19 *6*	4721.4	$3/2^-$	3302.98	$5/2^-$			
1457	1.1	S(p)+1887.4	$5/2^-$					
1477	56 *5*	3642.79	$(1/2,3/2)^-$	2165.80	$3/2^-$			
1497	2.6	S(p)+1328.9	$5/2^+$					
1522	2.6	S(p)+1105.8						
1534	17 *5*	5258.8	(5/2)	3724.81	$5/2^-$			
1547	10.6	S(p)+1226.0	$5/2^-$	4747.80	$3/2^-$			
1566	3.4	S(p)+1887.4	$5/2^-$					
1580	6.7	S(p)+1287.8	$3/2^-$					

$^{55}_{27}Co_{28}$-9

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
1599	100	4164.41	3/2$^-$	2565.65	3/2$^-$	M1+E2	−0.27 *4*	Additional information 12.
1607	2.3	S(p)+1287.8	3/2$^-$	4747.80	3/2$^-$	M1+E2		Additional information 25. δ: δ=+0.25 *11* or +1.9 *4*.
1658	5.2	S(p)+1887.4	5/2$^-$	5292.9				
1685	8 *2*	4988.0		3302.98	5/2$^-$			
1693	7 *3*	3859.1	(5/2$^+$)	2165.80	3/2$^-$			
1709	1.2	S(p)+2245.5	3/2$^-$					
1712	1.4	S(p)+1803.0	3/2$^-$					
1720	2.9	S(p)+1226.0	5/2$^-$					
1733	1.6	S(p)+2270.3	5/2$^-$					
1745	5.1	S(p)+2010.1						
1752	5.9	S(p)+1679.9	1/2$^-$,(3/2)$^-$	4988.0				
1776	17 *3*	3942.14	(1/2)	2165.80	3/2$^-$			
1777	3.6	S(p)+1921.5		5189	(1/2)$^-$			
1783	26 *6*	4721.4	3/2$^-$	2939.25	1/2$^-$,(3/2)$^-$			
1792	10.6	S(p)+1476.2	3/2,(5/2)	4747.80	3/2$^-$			Additional information 33.
1795	0.5	S(p)+1887.4	5/2$^-$					
1796	42 *15*	5098.8		3302.98	5/2$^-$			
1809		4747.80	3/2$^-$	2939.25	1/2$^-$,(3/2)$^-$			
1818	4.8	S(p)+1887.4	5/2$^-$					
1826		4747.80	3/2$^-$	2922.4	(1/2$^+$)			
1834	3.6	S(p)+1980.3		5189	(1/2)$^-$			
1846	1.5	S(p)+1803.0	3/2$^-$					
1873	5.7	S(p)+1803.0	3/2$^-$	4988.0				
1885	2.1	S(p)+1476.2	3/2,(5/2)					
1886	2.2	S(p)+1980.3		5174.2	1/2$^-$			
1926	1.2	S(p)+1997.6						
1953	7	S(p)+2576.8	(3/2)					
1980	0.5	S(p)+2215.4	(3/2$^-$)	5292.9				
1982	15 *5*	4548.2	5/2$^-$	2565.65	3/2$^-$			
1985	3.7	S(p)+1105.8						
2010	5.8	S(p)+2245.5	3/2$^-$	5292.9				
2022	24 *6*	4961.07		2939.25	1/2$^-$,(3/2)$^-$			
2037	1.5	S(p)+1997.6						
2085	1.6	S(p)+1679.9	1/2$^-$,(3/2)$^-$					
2089	22 *10*	4747.80	3/2$^-$	2659.43	5/2$^-$			
2091	3.3	S(p)+1226.0	5/2$^-$			M1+E2	−0.65 *5*	Additional information 21.
2104	6	S(p)+1226.0	5/2$^-$			M1+E2	+0.09 *3*	Additional information 22.
2113	2.4	S(p)+1803.0	3/2$^-$	4747.80	3/2$^-$	M1+E2	−0.03 *4*	Additional information 47.
2120	3	S(p)+2663.3	(5/2)					
2141	12[‡]	S(p)+1654.7		4587.4	(5/2)			
2151	15.6	S(p)+1287.8	3/2$^-$			M1+E2	+0.03 *4*	Additional information 26.
2156	55 *8*	4721.4	3/2$^-$	2565.65	3/2$^-$			

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
2158	55 *10*	5460.5		3302.98	5/2$^-$			
2160	28 *15*	5098.8		2939.25	1/2$^-$,(3/2)$^-$			
2164	8.4	S(p)+1287.8	3/2$^-$					
2165.80 *23*	100	2165.80	3/2$^-$	0.0	7/2$^-$	E2		Additional information 1.
2169	8.2	S(p)+1887.4	5/2$^-$					
2182	24 *10*	4747.80	3/2$^-$	2565.65	3/2$^-$			
2194	2.6	S(p)+2270.3	5/2$^-$					
2196	10.6	S(p)+1887.4	5/2$^-$			M1+E2	−0.23 *4*	Additional information 56.
2203	6.0	S(p)+2302.9		5174.2	1/2$^-$			
2206	2.5	S(p)+1803.0	3/2$^-$					
2208	18.4	S(p)+1105.8						
2230	1.9	S(p)+1921.5		4747.80	3/2$^-$			
2232	1.6	S(p)+1747.5	3/2$^-$	4587.4	(5/2)			
2247	0.5	S(p)+1803.0	3/2$^-$					
2251	2.8	S(p)+2215.4	(3/2$^-$)					
2260	1.8	S(p)+1980.3						
2286	2.9	S(p)+1803.0	3/2$^-$	4587.4	(5/2)			
2287	5.3	S(p)+1980.3						
2298	4	S(p)+2633.3	(7/2$^-$)					
2304	1.7	S(p)+1997.6						
2305	9.1	S(p)+2270.3	5/2$^-$					
2305	2	S(p)+2545.4	5/2$^-$					
2308	6.0	S(p)+2245.5	3/2$^-$					
2317	3.8	S(p)+2010.1						
2337	1.0	S(p)+2302.9						
2344	1.0	S(p)+2309.6						
2352	9	S(p)+2593.1	5/2$^-$					
2380	6.1	S(p)+1980.3						
2382	25 *5*	4548.2	5/2$^-$	2165.80	3/2$^-$	M1+E2		Additional information 14. δ: δ=−0.09 *5* or −2.6 *5*.
2386	9.9	S(p)+1287.8	3/2$^-$					Additional information 27.
2391	1	S(p)+2633.3	(7/2$^-$)					
2395	8	S(p)+3461.0	9/2$^+$					
2395	76 *6*	4961.07		2565.65	3/2$^-$			
2398.5[#]	20[#] *1*	S(p)+3465.0	9/2$^+$			M1		Additional information 96.
2399.4[#]	20[#] *1*	S(p)+3466.2	(7/2)			M1		Additional information 98.
2407.4[#]	20[#] *1*	S(p)+3473.7	9/2$^+$			M1		
2410	6.3	S(p)+2010.1						
2412	43 *7*	5350.6		2939.25	1/2$^-$,(3/2)$^-$			
2422	5 *2*	4988.0		2565.65	3/2$^-$			
2438	1.0	S(p)+1997.6		4628.16	(3/2)			
2440	30 *15*	5098.8		2659.43	5/2$^-$			
2443	2.2	S(p)+1887.4	5/2$^-$					

$^{55}_{27}Co_{28}$-11

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
2460	1.8	S(p)+1980.3		4587.4	(5/2)			
2462	100	4628.16	(3/2)	2165.80	$3/2^-$			
2473	0.8	S(p)+2075.1	5/2					
2474	3	S(p)+2576.8	(3/2)	5174.2	$1/2^-$			
2490	20.1	S(p)+2010.1		4587.4	(5/2)			
2491	1.8	S(p)+2215.4	$(3/2^-)$					
2507	5.4	S(p)+1105.8						
2512	18[‡]	S(p)+1654.7						
2512	12	S(p)+2593.1	$5/2^-$					
2521	4.2	S(p)+2245.5	$3/2^-$					
2543	2.7	S(p)+1226.0	$5/2^-$					
2545	6.1	S(p)+2270.3	$5/2^-$			M1+E2	−0.34 *4*	Additional information 73.
2548	5.4	S(p)+2245.5	$3/2^-$			M1+E2	−0.35 *1*	Additional information 67.
2549	2.8	S(p)+1679.9	$1/2^-$,$(3/2)^-$					
2553	3.3	S(p)+2075.1	5/2	4587.4	(5/2)			
2556	70 *10*	5121.8		2565.65	$3/2^-$			
2565	0.7	S(p)+2168.1	5/2					
2565.789 *35*	100	2565.65	$3/2^-$	0.0	$7/2^-$	E2		E_γ: from 1987Ko33. Additional information 2.
2571	2.1	S(p)+1476.2	3/2,(5/2)					
2572	6.1	S(p)+2270.3	$5/2^-$			M1+E2	+0.78 *11*	Additional information 74.
2576	3	S(p)+2545.4	$5/2^-$					
2582	28 *10*	4747.80	$3/2^-$	2165.80	$3/2^-$			
2583	8	S(p)+2687.5	$(5/2^-)$	5174.2	$1/2^-$			
2603	1	S(p)+2545.4	$5/2^-$					
2604	2.6	S(p)+2302.9						
2607	60 *20*	5174.2	$1/2^-$	2565.65	$3/2^-$			
2611	3.6	S(p)+2215.4	$(3/2^-)$					
2635	5	S(p)+2625.0	(3/2)					
2641	4.3	S(p)+2245.5	$3/2^-$					
2642	8.1	S(p)+1162.39	$5/2^+$			D+Q	−0.035 *15*	δ: from 1980Ha37. Additional information 16.
2645	3	S(p)+2615.8	$(7/2^-)$					
2659.43 *14*	100	2659.43	$5/2^-$	0.0	$7/2^-$	M1+E2		Additional information 3. δ: δ=−0.33 *8* or −2.4 *4*.
2662	5	S(p)+2633.3	$(7/2^-)$					
2665	2.0	S(p)+2270.3	$5/2^-$					
2668	3	S(p)+2752.1	$(3/2^-)$					
2670	2.3	S(p)+1803.0	$3/2^-$			M1+E2	−1.3 *+12−6*	Additional information 48.
2693	54 *7*	5258.8	(5/2)	2565.65	$3/2^-$			
2697	1.5	S(p)+2302.9						
2705	2.3	S(p)+1226.0	$5/2^-$					
2706	1.5	S(p)+2270.3	$5/2^-$	4628.16	(3/2)			

$^{55}_{27}Co_{28}$-12

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
2713	4	S(p)+2545.4	5/2$^-$					
2721	3.1	S(p)+2245.5	3/2$^-$	4587.4	(5/2)			
2727	100	5292.9		2565.65	3/2$^-$			
2740	5.3	S(p)+1887.4	5/2$^-$			M1+E2	+0.27 *7*	Additional information 57. δ: δ=+0.27 *7* or +1.15 *9*.
2745	7.1	S(p)+2270.3	5/2$^-$	4587.4	(5/2)	M1+E2	+0.12 *6*	Additional information 75.
2771	15.1	S(p)+1679.9	1/2$^-$,(3/2)$^-$					
2784	5.9	S(p)+2309.6		4587.4	(5/2)			
2787	2.3	S(p)+1921.5						
2802	30 *10*	5460.5		2659.43	5/2$^-$			
2806	32.1	S(p)+1328.9	5/2$^+$			D+Q	+0.01 *2*	Additional information 31.
2806	4	S(p)+2752.1	(3/2$^-$)					
2816	5	S(p)+2545.4	5/2$^-$					
2819	2.1	S(p)+2270.3	5/2$^-$					
2830	3	S(p)+2559.5	(5/2)					
2838	2.8	S(p)+1747.5	3/2$^-$					
2843	1	S(p)+2545.4	5/2$^-$					
2844	4.3	S(p)+1980.3						
2857	1	S(p)+2559.5	(5/2)					
2861	2.5	S(p)+2010.1						
2892	0.8	S(p)+1803.0	3/2$^-$					
2894	2	S(p)+2625.0	(3/2)					
2902	2	S(p)+2633.3	(7/2$^-$)					
2918.48 *10*	100	2918.48	7/2$^-$	0.0	7/2$^-$	M1+E2	+2.9 *5*	Additional information 4.
2924	0.9	S(p)+2075.1	5/2					
2942	2	S(p)+2645.8	(3/2)					
2956	2	S(p)+2687.5	(5/2$^-$)					
2960	38[‡]	2960	≥5/2	0.0	7/2$^-$			
2967	2	S(p)+2576.8	(3/2)					
2968	2	S(p)+2625.0	(3/2)	4721.4	3/2$^-$			
2976.2 *4*	100	2976.2	9/2$^-$,(7/2)	0.0	7/2$^-$	M1+E2		δ: δ=+0.70 *6* or +2.1 *3* (J=9/2); δ=+0.4 *3* (J=7/2). Additional information 7.
2977	4	S(p)+2545.4	5/2$^-$	4628.16	(3/2)			
2983	5	S(p)+2593.1	5/2$^-$					
2983	2	S(p)+2687.5	(5/2$^-$)					
2999	2	S(p)+2731.2	(5/2)					
3005	10.5	S(p)+1287.8	3/2$^-$					Additional information 28.
3007	40 *20*	5174.2	1/2$^-$	2165.80	3/2$^-$			
3017	0.7	S(p)+1845.7	7/2$^-$,9/2					
3019	4	S(p)+2752.1	(3/2$^-$)					
3023	4	S(p)+2593.1	5/2$^-$	4628.16	(3/2)			
3025	13.0	S(p)+1287.8	3/2$^-$	3323.37	(1/2,3/2)$^-$	M1+E2	−0.19 *5*	Additional information 29.
3035	2	S(p)+2645.8	(3/2)					

$^{55}_{27}Co_{28}$-13

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
3036	1	S(p)+2545.4	5/2$^-$					
3046	2	S(p)+2752.1	(3/2$^-$)					
3055	5.4	S(p)+1747.5	3/2$^-$					
3055	1.1	S(p)+2297.1	5/2					
3057.3 *5*	100	5716.6		2659.43	5/2$^-$			E_γ,I_γ: from 1977Er02.
3058	7.9	S(p)+1887.4	5/2$^-$					
3062	4.1	S(p)+2215.4	(3/2$^-$)					
3063	4	S(p)+2633.3	(7/2$^-$)	4628.16	(3/2)			
3066	15.9	S(p)+1980.3						
3070	2.7	S(p)+1679.9	1/2$^-$,(3/2)$^-$	3682				
3075	2.8	S(p)+2215.4	(3/2$^-$)					
3092	9.7	S(p)+2245.5	3/2$^-$			M1+E2	+0.27 *3*	Additional information 68.
3093	16 *5*	5258.8	(5/2)	2165.80	3/2$^-$			
3104	3	S(p)+2559.5	(5/2)					
3105	4.0	S(p)+2245.5	3/2$^-$					
3109	8.5	S(p)+1803.0	3/2$^-$			M1+E2	−0.14 *4*	Additional information 49.
3128	4	S(p)+2863.4	(5/2$^-$)					
3137	3.1	S(p)+1747.5	3/2$^-$	3682				
3138	8.3	S(p)+1667.0	5/2			D+Q	+0.16 *3*	Additional information 36.
3139	3	S(p)+2752.1	(3/2$^-$)					
3148	1.5	S(p)+2302.9						
3155	1.0	S(p)+2309.6						
3155	4	S(p)+2863.4	(5/2$^-$)					
3156	9	S(p)+2687.5	(5/2$^-$)	4587.4	(5/2)			Additional information 92.
3161	1.4	S(p)+2302.9						
3166	1.0	S(p)+1997.6						
3179	16.6	S(p)+2010.1						
3190	9.3	S(p)+1476.2	3/2,(5/2)					Additional information 34.
3191	1.2	S(p)+1803.0	3/2$^-$	3682				
3192	0.4	S(p)+1722.4	5/2					
3192	8.8	S(p)+1887.4	5/2$^-$			M1+E2	+0.22 *8*	Additional information 58.
3210	39.5	S(p)+1105.8		2960	≥5/2			
3210	3.0	S(p)+1476.2	3/2,(5/2)					
3217	4	S(p)+2953.3						
3218	3	S(p)+2955.0	(5/2)					
3226	1.5	S(p)+1921.5						
3233	1.0	S(p)+1845.7	7/2$^-$,9/2	3682				
3242	2.8	S(p)+2075.1	5/2					
3245		S(p)+1162.39	5/2$^+$	2976.2	9/2$^-$,(7/2)			E_γ: observed only by 1980Ul01 (Iγ=0.06).
3271	0.9	S(p)+1803.0	3/2$^-$					
3274	1.3	S(p)+1887.4	5/2$^-$	3682				
3280	11	S(p)+2855.5	(5/2)					
3283	0.9	S(p)+1162.39	5/2$^+$					
3283	3.6	S(p)+1980.3						

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
3287	0.6	S(p)+1162.39	5/2$^+$	2939.25	1/2$^-$,(3/2)$^-$			
3289	3	S(p)+2863.4	(5/2$^-$)					
3294	2.1	S(p)+2127.3						
3295	15 *10*	5460.5		2165.80	3/2$^-$			
3297	4.4	S(p)+2215.4	(3/2$^-$)					
3302.98 *10*	84 *3*	3302.98	5/2$^-$	0.0	7/2$^-$	M1+E2	+0.30 *5*	Additional information 8.
3313	0.9	S(p)+1845.7	7/2$^-$,9/2					
3314	2	S(p)+2559.5	(5/2)	4339	9/2			
3329	2.5	S(p)+1226.0	5/2$^-$	2960	≥5/2			
3337	6	S(p)+2871.9	(7/2)					
3338	7	S(p)+2955.0	(5/2)					
3350	6.2	S(p)+1226.0	5/2$^-$	2939.25	1/2$^-$,(3/2)$^-$			
3354	2.2	S(p)+1887.4	5/2$^-$					
3365	8.2	S(p)+1980.3		3682				
3366	11[‡]	S(p)+1654.7						
3369	11	S(p)+3414.2	5/2$^+$					
3376	1.5	S(p)+2075.1	5/2					
3381	2.9	S(p)+1914.5						
3383	9.5	S(p)+2302.9						
3385	8	S(p)+3096.7	(3/2)					
3387	3	S(p)+2545.4	5/2$^-$					
3388	3.9	S(p)+1921.5						
3389	1.4	S(p)+1287.8	3/2$^-$	2960	≥5/2			
3389	5	S(p)+2964.9	(5/2$^+$)					
3390	12.2	S(p)+1679.9	1/2$^-$,(3/2)$^-$					
3390	1.7	S(p)+2309.6						
3400	2	S(p)+2545.4	5/2$^-$					
3402	2	S(p)+2863.4	(5/2$^-$)					
3409	11	S(p)+3121.8	5/2$^+$					
3410	3.4	S(p)+1287.8	3/2$^-$	2939.25	1/2$^-$,(3/2)$^-$			
3418	14	S(p)+2576.8	(3/2)					
3418	2	S(p)+2955.0	(5/2)					
3419	4	S(p)+2625.0	(3/2)	4263.8	(3/2,5/2)			
3433	4	S(p)+3009.8	7/2,9/2					
3434	2	S(p)+2593.1	5/2$^-$					
3445	2.2	S(p)+1980.3						
3447	2.7	S(p)+1328.9	5/2$^+$					
3451	21.3	S(p)+1328.9	5/2$^+$	2939.25	1/2$^-$,(3/2)$^-$			
3457	10.0	S(p)+1747.5	3/2$^-$					Additional information 41.
3458	2.3	S(p)+2075.1	5/2	3682				
3460	1.0	S(p)+2297.1	5/2					
3462	1.6	S(p)+1997.6						
3478	7	S(p)+3096.7	(3/2)					

$^{55}_{27}Co_{28}$-15

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
3480	4	S(p)+3057.0	3/2$^-$					
3486	5	S(p)+2645.8	(3/2)					
3499	5	S(p)+2645.8	(3/2)					
3502	17	S(p)+3121.8	5/2$^+$					
3510	2.1	S(p)+2127.3		3682				
3511	13.3	S(p)+1803.0	3/2$^-$			M1+E2	−0.08 *4*	Mult.: from 1972Ma26. Additional information 50.
3519	6	S(p)+3096.7	(3/2)					
3531	2.5	S(p)+1803.0	3/2$^-$					
3532	2	S(p)+2687.5	(5/2$^-$)					
3538	1.8	S(p)+2075.1	5/2					
3543	6	S(p)+3121.8	5/2$^+$					
3544	17.9	S(p)+2245.5	3/2$^-$			M1+E2	+0.21 *4*	Additional information 69.
3546	12.4	S(p)+1162.39	5/2$^+$			E1+M2	−0.05 *4*	Additional information 17.
3546	2	S(p)+3009.8	7/2,9/2					
3550	1.6	S(p)+2168.1	5/2	3682				
3562.78 *26*	7 *2*	3562.78	(3/2)	0.0	7/2$^-$			
3570	8	S(p)+3285.1						
3574	40.3	S(p)+1476.2	3/2,(5/2)	2960	≥5/2			
3582	10	S(p)+3046.6	(3/2)					
3584	20.1	S(p)+1105.8						
3596	8.9	S(p)+2215.4	(3/2$^-$)	3682				
3603	5	S(p)+2752.1	(3/2$^-$)					
3609	9.1	S(p)+1226.0	5/2$^-$			M1+E2	−0.03 *4*	Additional information 23.
3612	5	S(p)+2863.4	(5/2$^-$)	4339	9/2			
3621	23.0	S(p)+1914.5						
3628	9.3	S(p)+1921.5						
3630	3.2	S(p)+2168.1	5/2					Additional information 64.
3636	10	S(p)+3379.8	5/2					
3639	19.5	S(p)+1162.39	5/2$^+$			E1+M2	−0.05 *5*	Additional information 18.
3641	11.4	S(p)+2260.8		3682				
3642.79 *25*	9 *4*	3642.79	(1/2,3/2)$^-$	0.0	7/2$^-$			
3648	3.7	S(p)+1921.5						
3650	1.4	S(p)+2270.3	5/2$^-$	3682				
3652	2	S(p)+2801.9						
3663	3	S(p)+3285.1						
3663	10	S(p)+3379.8	5/2					
3669	17.4	S(p)+1287.8	3/2$^-$					
3670	1.2	S(p)+2209.4						
3676	2.9	S(p)+2215.4	(3/2$^-$)					
3682	1.0	S(p)+2302.9		3682				
3685	15.6	S(p)+1980.3						
3686	10	S(p)+3414.2	5/2$^+$					
3689	8.0	S(p)+2309.6		3682				

$^{55}_{27}Co_{28}$-16

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
3690	13	S(p)+2855.5	(5/2)					
3692	3	S(p)+3436.9						
3706	2.4	S(p)+2245.5	$3/2^-$					
3708	13	S(p)+2871.9	(7/2)					
3710	38.8	S(p)+1328.9	$5/2^+$			E1+M2	+0.03 *4*	Additional information 32.
3719	3	S(p)+3436.9						
3724.81 *15*	54 *4*	3724.81	$5/2^-$	0.0	$7/2^-$	M1+E2	+0.20 *8*	Additional information 11.
3735	4.1	S(p)+2010.1						
3750	11[‡]	S(p)+1654.7		2976.2	$9/2^-$,(7/2)			
3752	4	S(p)+2593.1	$5/2^-$					
3756	6	S(p)+3379.8	5/2					
3762	8.1	S(p)+1287.8	$3/2^-$			M1+E2		Additional information 30. δ: δ=+0.08 *3* or +5.7 *13*.
3762	2.2	S(p)+2302.9						
3770	12[‡]	S(p)+1654.7		2960	≥5/2			
3774	3.6	S(p)+1679.9	$1/2^-$,$(3/2)^-$	2976.2	$9/2^-$,(7/2)			
3774	4	S(p)+2615.8	$(7/2^-)$					
3779	2.5	S(p)+1667.0	5/2	2960	≥5/2			
3783	4.3	S(p)+1667.0	5/2	2939.25	$1/2^-$,$(3/2)^-$			
3791	5.6	S(p)+1679.9	$1/2^-$,$(3/2)^-$	2960	≥5/2			
3791	4	S(p)+2633.3	$(7/2^-)$					
3798	1.4	S(p)+2075.1	5/2					
3799	9	S(p)+3267.1	(5/2)					
3803	2.5	S(p)+1328.9	$5/2^+$					
3821	9	S(p)+2663.3	(5/2)					
3837	2.3	S(p)+1722.4	5/2	2960	≥5/2			
3839	3	S(p)+2545.4	$5/2^-$					
3841	3.4	S(p)+1747.5	$3/2^-$	2976.2	$9/2^-$,(7/2)			Additional information 42.
3842	5	S(p)+3096.7	(3/2)	4339	9/2			
3853	4	S(p)+2559.5	(5/2)					
3859.1 *6*	56 *5*	3859.1	$(5/2^+)$	0.0	$7/2^-$			
3861	1.7	S(p)+1747.5	$3/2^-$	2960	≥5/2			
3870	9	S(p)+2576.8	(3/2)					
3879	14	S(p)+3046.6	(3/2)					
3880		S(p)+3465.0	$9/2^+$					
3882		S(p)+3466.2	(7/2)					
3894	12	S(p)+3061.6	(7/2)					
3895	2.8	S(p)+1803.0	$3/2^-$	2976.2	$9/2^-$,(7/2)			
3896	6	S(p)+3644.7	$5/2^+$					
3908	1	S(p)+2615.8	$(7/2^-)$					
3910	1.3	S(p)+2209.4						
3916	3.1	S(p)+1803.0	$3/2^-$	2960	≥5/2			Additional information 51.
3916	2.1	S(p)+2215.4	$(3/2^-)$					

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
3921	6	S(p)+2545.4	$5/2^-$	3682				Additional information 83.
3922	6	S(p)+3644.7	$5/2^+$					
3925	2	S(p)+2633.3	$(7/2^-)$					
3932	3	S(p)+3681.1						
3935	15	S(p)+2559.5	(5/2)	3682				
3936	5.4	S(p)+2215.4	$(3/2^-)$					
3939	9	S(p)+2867.6	$(3/2^-)$					
3947	2.3	S(p)+1476.2	3/2,(5/2)					
3952	12	S(p)+2576.8	(3/2)	3682				
3955	6	S(p)+2663.3	(5/2)					
3957	1	S(p)+2801.9						
3957	3	S(p)+3503.4	$3/2^+$					
3961	16.2	S(p)+2260.8						
3966	4.1	S(p)+2245.5	$3/2^-$			M1+E2	+0.17 *10*	Additional information 70.
3968	13	S(p)+2593.1	$5/2^-$	3682				
3979	1	S(p)+2687.5	$(5/2^-)$					
3984	2.3	S(p)+1105.8						
3985	3	S(p)+3708.4	3/2,5/2					
3990	1	S(p)+2615.8	$(7/2^-)$	3682				
3999	6	S(p)+3136.4	$3/2^+$					
4001	7	S(p)+2545.4	$5/2^-$					Additional information 84.
4002	4.0	S(p)+2302.9						
4002		S(p)+3473.7	$9/2^+$	4548.2	$5/2^-$			
4005	2.9	S(p)+1914.5		2976.2	$9/2^-$,(7/2)			
4009	7	S(p)+3267.1	(5/2)	4339	9/2			
4009	10	S(p)+3555.9	$7/2^-$					
4012	21.8	S(p)+1921.5		2976.2	$9/2^-$,(7/2)			
4015	25	S(p)+2559.5	(5/2)					
4016	2.4	S(p)+2297.1	5/2					Additional information 78.
4022	4.2	S(p)+1914.5		2960	≥5/2			
4022	7.1	S(p)+2302.9						
4029	13[‡]	S(p)+1654.7						
4029	13.1	S(p)+2309.6						
4033	7.8	S(p)+1921.5		2960	≥5/2			
4033	3	S(p)+2625.0	(3/2)					
4037	29	S(p)+2663.3	(5/2)	3682				
4039	46.8	S(p)+1162.39	$5/2^+$			E1+M2	0.00 *3*	Additional information 19.
4042	2.0	S(p)+1667.0	5/2					
4042	4	S(p)+2752.1	$(3/2^-)$					
4045	11	S(p)+3183.4	$(1/2,3/2),5/2^-$					
4048	4	S(p)+2593.1	$5/2^-$					
4055	4	S(p)+3684.3						
4055	3	S(p)+3806.8	$(7/2^-)$					

$^{55}_{27}Co_{28}$-18

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
4061	2	S(p)+2687.5	(5/2$^-$)	3682				
4069	11.9	S(p)+1980.3		2976.2	9/2$^-$,(7/2)			
4078	2	S(p)+3009.8	7/2,9/2					
4081	22	S(p)+2791.3	(3/2)					
4082	3	S(p)+3806.8	(7/2$^-$)					
4090	2.0	S(p)+1980.3		2960	≥5/2			
4091	2	S(p)+2801.9						
4096	0.4	S(p)+1722.4	5/2					
4099	1.2	S(p)+2010.1		2976.2	9/2$^-$,(7/2)			
4100	7	S(p)+2645.8	(3/2)					
4102	46.4	S(p)+1226.0	5/2$^-$			M1+E2	+0.25 *25*	Additional information 24.
4104	6	S(p)+2731.2	(5/2)	3682				
4106	11	S(p)+2871.9	(7/2)					
4107	27	S(p)+3277.9	3/2$^-$,(5/2)					
4116	3	S(p)+3705.2	9/2$^+$					
4117	3	S(p)+2964.9	(5/2$^+$)					
4121	15.0	S(p)+1747.5	3/2$^-$			M1+E2	+0.21 *4*	Additional information 43.
4123	7[‡]	S(p)+1654.7						
4124	9	S(p)+2752.1	(3/2$^-$)	3682				
4125	0.7	S(p)+2075.1	5/2	2992	(1/2,3/2)			
4130		S(p)+3466.2	(7/2)					
4135	1.9	S(p)+1667.0	5/2					
4135	4	S(p)+3684.3						
4137		S(p)+3473.7	9/2$^+$					
4138	5	S(p)+3277.9	3/2$^-$,(5/2)					
4138		S(p)+3465.0	9/2$^+$					
4147	2.4	S(p)+1679.9	1/2$^-$,(3/2)$^-$					
4162	1.5	S(p)+1287.8	3/2$^-$					
4173	2	S(p)+2801.9		3682				
4175	31.6	S(p)+1803.0	3/2$^-$					
4177.23 *25*	100	4177.23	5/2$^-$	0.0	7/2$^-$	M1+E2	+0.28 *4*	Additional information 13.
4183	5.6	S(p)+2075.1	5/2	2960	≥5/2			
4189	1.0	S(p)+1722.4	5/2					
4205	16	S(p)+3756.3	3/2,5/2					
4209	5	S(p)+3684.3						
4212	14	S(p)+3061.6	(7/2)					
4214	22.7	S(p)+1747.5	3/2$^-$			M1+E2		Additional information 44. δ: δ=+0.43 *3* or +1.28 *9*.
4214	3	S(p)+2926.6	(3/2$^-$)					
4217	0.6	S(p)+1845.7	7/2$^-$,9/2					
4224	27	S(p)+2855.5	(5/2)	3682				
4233	3	S(p)+2863.4	(5/2$^-$)	3682				
4238	35	S(p)+2867.6	(3/2$^-$)	3682				

$^{55}_{27}Co_{28}$-19

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
4240	6	S(p)+2953.3						
4241	14	S(p)+2545.4	5/2$^-$					Additional information 85.
4247	7	S(p)+3096.7	(3/2)					
4248	18	S(p)+3408.4	(3/2)					
4249	14	S(p)+3183.4	(1/2,3/2),5/2$^-$					
4258	0.8	S(p)+1887.4	5/2$^-$					
4261	2	S(p)+2545.4	5/2$^-$					
4263.8 *12*	>80	4263.8	(3/2,5/2)	0.0	7/2$^-$			
4268	2.5	S(p)+1803.0	3/2$^-$			M1+E2	−0.45 *13*	Additional information 52.
4271	0.6	S(p)+2168.1	5/2	2960	≥5/2			
4273	8	S(p)+2625.0	(3/2)					
4275	4.1	S(p)+2168.1	5/2					
4276	18	S(p)+3436.9						
4292	6.0	S(p)+1921.5						
4292	7	S(p)+2576.8	(3/2)					
4296	6	S(p)+2926.6	(3/2$^-$)	3682				
4300	8.8	S(p)+2215.4	(3/2$^-$)	2976.2	9/2$^-$,(7/2)			
4307	3	S(p)+3859.9	(5/2)					
4311	6.6	S(p)+2209.4						
4313	4	S(p)+2863.4	(5/2$^-$)					
4315	0.8	S(p)+2209.4		2960	≥5/2			
4317	3.4	S(p)+2215.4	(3/2$^-$)	2960	≥5/2			
4318	7	S(p)+2867.6	(3/2$^-$)					
4322	16	S(p)+2953.3		3682				
4323	7	S(p)+2955.0	(5/2)	3682				
4330	2	S(p)+2615.8	(7/2$^-$)					
4340	6	S(p)+2645.8	(3/2)					
4341	6	S(p)+3503.4	3/2$^+$					
4343	3.6	S(p)+2297.1	5/2	2992	(1/2,3/2)			Additional information 79.
4345	15.3	S(p)+2260.8		2976.2	9/2$^-$,(7/2)			
4346	11	S(p)+3061.6	(7/2)					
4347	4.4	S(p)+1476.2	3/2,(5/2)					
4347	5	S(p)+2633.3	(7/2$^-$)					
4349	2.9	S(p)+1980.3						
4349	1.7	S(p)+2302.9		2992	(1/2,3/2)			
4351	19.7	S(p)+1887.4	5/2$^-$			M1+E2	+0.09 *2*	Additional information 59.
4351	1.7	S(p)+2245.5	3/2$^-$	2960	≥5/2			
4366	7.4	S(p)+1997.6						
4366	1.7	S(p)+2260.8		2960	≥5/2			
4375	30.5	S(p)+2270.3	5/2$^-$	2960	≥5/2	M1+E2	0.00 *2*	Additional information 76.
4378	4.0	S(p)+1914.5						
4381	9	S(p)+2687.5	(5/2$^-$)					
4385	4.8	S(p)+1921.5						
4386	3.1	S(p)+2302.9		2976.2	9/2$^-$,(7/2)			

$^{55}_{27}Co_{28}$-20

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
4393	25.9	S(p)+2309.6		2976.2	9/2$^-$,(7/2)			
4401	3.4	S(p)+2297.1	5/2	2960	≥5/2	M1+E2	+0.05 *2*	Additional information 80.
4401	6	S(p)+2687.5	(5/2$^-$)					
4402	6	S(p)+2953.3						
4403	3.9	S(p)+2302.9						
4407	3.0	S(p)+2302.9		2960	≥5/2			
4413	15	S(p)+3046.6	(3/2)					
4419	6	S(p)+3684.3		4339	9/2			
4420	9	S(p)+3136.4	3/2$^+$					
4424	21	S(p)+3057.0	3/2$^-$					
4442	4.9	S(p)+1980.3						
4442	31.1	S(p)+2075.1	5/2			M1+E2	−0.02 *3*	Additional information 61.
4444	16	S(p)+2752.1	(3/2$^-$)					
4459	6.2	S(p)+1997.6						
4463	14	S(p)+3096.7	(3/2)					
4472	6.4	S(p)+2010.1						
4473.7 *8*	>80	4473.7	(5/2$^+$)	0.0	7/2$^-$			
4491	31	S(p)+3125.3	1/2,5/2$^+$					
4493	2	S(p)+2801.9						
4493	6	S(p)+3046.6	(3/2)					
4494	4.1	S(p)+2127.3						
4498	7	S(p)+3436.9						
4502	12	S(p)+3136.4	3/2$^+$					
4523	16[‡]	S(p)+1654.7						
4534	0.3	S(p)+2168.1	5/2					
4535	62.3	S(p)+1667.0	5/2			D+Q	+0.02 *2*	Additional information 37.
4535	1.2	S(p)+2075.1	5/2					
4539	10	S(p)+3806.8	(7/2$^-$)	4339	9/2			
4543	6	S(p)+3096.7	(3/2)					
4547	40.0	S(p)+1679.9	1/2$^-$,(3/2)$^-$					
4548	10	S(p)+3183.4	(1/2,3/2),5/2$^-$					
4548	6	S(p)+3267.1	(5/2)					
4548.2 *4*	60 *6*	4548.2	5/2$^-$	0.0	7/2$^-$	M1+E2	+0.25 *15*	Additional information 15.
4567	5	S(p)+3121.8	5/2$^+$					
4574	13.8	S(p)+2209.4						
4580	4.0	S(p)+2215.4	(3/2$^-$)					
4582	13	S(p)+2871.9	(7/2)					
4587	2.0	S(p)+2127.3						
4587.4 *10*	100	4587.4	(5/2)	0.0	7/2$^-$			
4589	4.1	S(p)+1722.4	5/2			D+Q	+0.09 *2*	Additional information 39.
4591	3	S(p)+3859.9	(5/2)	4339	9/2			
4597	11	S(p)+3233.5	(5/2)					
4608		S(p)+3465.0	9/2$^+$					
4610	22.5	S(p)+2245.5	3/2$^-$			M1+E2	+0.06 *5*	Additional information 71.

$^{55}_{27}Co_{28}$-21

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
4614	22.0	S(p)+1747.5	3/2$^-$			M1+E2	−0.02 *1*	Additional information 45.
4616	16	S(p)+2926.6	(3/2$^-$)					
4619	50	S(p)+3476.1	(5/2)					
4625	15.8	S(p)+2260.8						
4625	7	S(p)+2545.4	5/2$^-$	2992	(1/2,3/2)			
4626	4	S(p)+3806.8	(7/2$^-$)					
4627	21.8	S(p)+2168.1	5/2			M1(+E2)	−0.00 *2*	Additional information 65.
4634	2.3	S(p)+2270.3	5/2$^-$					
4636	3	S(p)+2926.6	(3/2$^-$)					
4642	3	S(p)+2545.4	5/2$^-$	2960	≥5/2			
4642	10	S(p)+2953.3						
4651	32	S(p)+3289.0	(1/2,3/2)					
4652	8	S(p)+3801.7	3/2$^-$					
4657	2	S(p)+2615.8	(7/2$^-$)	2992	(1/2,3/2)			
4657	10	S(p)+2625.0	(3/2)					
4662	6	S(p)+2953.3						
4666	9.3	S(p)+2302.9						
4667	2.3	S(p)+2209.4						
4668	4.6	S(p)+1803.0	3/2$^-$			M1+E2	−0.21 *+8−4*	Additional information 53.
4672	37	S(p)+2625.0	(3/2)	2992	(1/2,3/2)			
4673	6.9	S(p)+2215.4	(3/2$^-$)					
4673	5.4	S(p)+2309.6						
4673	3	S(p)+2576.8	(3/2)	2960	≥5/2			
4673	4	S(p)+2964.9	(5/2$^+$)					
4674	3	S(p)+2633.3	(7/2$^-$)	2992	(1/2,3/2)			
4677	25	S(p)+3233.5	(5/2)					
4693	10	S(p)+2593.1	5/2$^-$	2960	≥5/2			
4698	29	S(p)+3555.9	7/2$^-$					
4710	2.7	S(p)+1845.7	7/2$^-$,9/2					
4710	8	S(p)+3267.1	(5/2)					
4715	2	S(p)+2615.8	(7/2$^-$)	2960	≥5/2			
4718	13.1	S(p)+2260.8						
4721	4	S(p)+3277.9	3/2$^-$,(5/2)					
4724	6	S(p)+2645.8	(3/2)	2992	(1/2,3/2)			
4728	11	S(p)+3285.1						
4732	25	S(p)+2633.3	(7/2$^-$)	2960	≥5/2			Additional information 90.
4733	19	S(p)+3046.6	(3/2)					
4744	6	S(p)+3057.0	3/2$^-$					
4744		S(p)+3466.2	(7/2)					
4750	9	S(p)+3693.8						
4751	0.5	S(p)+1887.4	5/2$^-$					
4753	6.5	S(p)+2297.1	5/2			M1+E2	+0.00 *5*	Additional information 81.
4759	10.6	S(p)+2302.9						
4761	4	S(p)+3705.2	9/2$^+$					

$^{55}_{27}Co_{28}$-22

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
4765	25	S(p)+2687.5	(5/2$^-$)	2992	(1/2,3/2)			Additional information 93.
4766	32.7	S(p)+2309.6						
4768	11	S(p)+3061.6	(7/2)					
4769	21	S(p)+3408.4	(3/2)					
4778	63.0	S(p)+1914.5						
4785	26.5	S(p)+1921.5						
4803	8	S(p)+3096.7	(3/2)					
4811	12	S(p)+3125.3	1/2,5/2$^+$					
4821	8	S(p)+3379.8	5/2					
4822	28	S(p)+3136.4	3/2$^+$					
4828	6	S(p)+2752.1	(3/2$^-$)	2992	(1/2,3/2)			
4842	7	S(p)+3136.4	3/2$^+$					
4845	6	S(p)+2752.1	(3/2$^-$)	2976.2	9/2$^-$,(7/2)			
4859	53.6	S(p)+1997.6						
4872	14.2	S(p)+2010.1						
4872.4 *8*	100	4872.4		0.0	7/2$^-$			
4877	20	S(p)+2801.9		2992	(1/2,3/2)			
4893	56	S(p)+3453.9	(1/2,3/2)					
4894	12	S(p)+3756.3	3/2,5/2					
4898	2	S(p)+2801.9		2960	≥5/2			
4900	4	S(p)+2863.4	(5/2$^-$)					
4905	16	S(p)+2545.4	5/2$^-$					Additional information 86.
4909	24	S(p)+2871.9	(7/2)					
4935	5.9	S(p)+2075.1	5/2			M1+E2	−0.09 *3*	Additional information 62.
4936	12	S(p)+2576.8	(3/2)					
4937	7	S(p)+2625.0	(3/2)					
4942	6	S(p)+2867.6	(3/2$^-$)	2992	(1/2,3/2)			
4952	8	S(p)+2593.1	5/2$^-$					
4958	8	S(p)+2863.4	(5/2$^-$)	2976.2	9/2$^-$,(7/2)			
4967	14	S(p)+2871.9	(7/2)	2976.2	9/2$^-$,(7/2)			
4967	11	S(p)+3693.8						
4970	11	S(p)+3267.1	(5/2)					
4971	2	S(p)+3289.0	(1/2,3/2)					
4987	18.5	S(p)+2127.3						
4988	87 *4*	4988.0		0.0	7/2$^-$			
4989	4	S(p)+2953.3						
4998	1	S(p)+2545.4	5/2$^-$					
5000	9	S(p)+2926.6	(3/2$^-$)	2992	(1/2,3/2)			
5004	5	S(p)+2645.8	(3/2)					
5012	15	S(p)+2559.5	(5/2)					
5017	7	S(p)+2926.6	(3/2$^-$)	2976.2	9/2$^-$,(7/2)			
5026	14	S(p)+2953.3		2992	(1/2,3/2)			
5027	2.5	S(p)+2168.1	5/2					
5028	8	S(p)+3756.3	3/2,5/2					

$^{55}_{27}Co_{28}$-23

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
5029	7	S(p)+2576.8	(3/2)					
5043	16	S(p)+2953.3		2976.2	9/2$^-$,(7/2)			
5044	4	S(p)+3009.8	7/2,9/2					
5045	7	S(p)+2687.5	(5/2$^-$)					
5054	6	S(p)+2964.9	(5/2$^+$)	2976.2	9/2$^-$,(7/2)			
5061	36	S(p)+2609.7	(5/2)					
5067	72.7	S(p)+2209.4						
5067	3	S(p)+2615.8	(7/2$^-$)					
5067	10	S(p)+3386.5	3/2$^-$					
5071	32	S(p)+3369.5	(5/2)					
5073	37.6	S(p)+2215.4	(3/2$^-$)					
5084	4	S(p)+2633.3	(7/2$^-$)					
5088	5	S(p)+2731.2	(5/2)					
5089	28	S(p)+3408.4	(3/2)					
5095	5	S(p)+3061.6	(7/2)					
5097	41	S(p)+2645.8	(3/2)					
5102	1	S(p)+3009.8	7/2,9/2	2976.2	9/2$^-$,(7/2)			
5103	6.5	S(p)+2245.5	3/2$^-$			M1+E2	−0.34 *4*	Additional information 72.
5108	31	S(p)+2752.1	(3/2$^-$)					
5108	10	S(p)+3428.0	3/2$^-$					
5109	6	S(p)+3408.4	(3/2)					
5114	43	S(p)+2663.3	(5/2)					
5117	13	S(p)+3046.6	(3/2)	2992	(1/2,3/2)			
5118	26.5	S(p)+2260.8						
5120	8	S(p)+3684.3						
5121.8 *4*	30 *10*	5121.8		0.0	7/2$^-$			
5127	20.0	S(p)+2270.3	5/2$^-$			M1+E2	+0.03 *2*	Additional information 77.
5128	16	S(p)+3428.0	3/2$^-$					
5130	5	S(p)+3859.9	(5/2)					
5132	11	S(p)+3432.3	(5/2)					
5138	14	S(p)+2687.5	(5/2$^-$)					Additional information 94.
5143	1	S(p)+3708.4	3/2,5/2					
5153	20	S(p)+3061.6	(7/2)	2976.2	9/2$^-$,(7/2)			
5155	23	S(p)+3801.7	3/2$^-$					
5157	16	S(p)+2801.9						
5159	8.9	S(p)+2302.9						
5160	20	S(p)+3806.8	(7/2$^-$)					
5166	5.3	S(p)+2309.6						
5166		S(p)+3466.2	(7/2)					
5167	6	S(p)+3096.7	(3/2)	2992	(1/2,3/2)			
5181	23	S(p)+2731.2	(5/2)					
5182	5	S(p)+3503.4	3/2$^+$					
5206	15	S(p)+3136.4	3/2$^+$	2992	(1/2,3/2)			
5212	2	S(p)+3859.9	(5/2)					

$^{55}_{27}Co_{28}$-24

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π
5215	11	S(p)+2867.6	(3/2$^-$)		
5216	17	S(p)+3125.3	1/2,5/2$^+$	2976.2	9/2$^-$,(7/2)
5217	3	S(p)+2863.4	(5/2$^-$)		
5222	13	S(p)+2867.6	(3/2$^-$)		
5226	10	S(p)+2871.9	(7/2)		
5252	46	S(p)+3183.4	(1/2,3/2),5/2$^-$	2992	(1/2,3/2)
5259	13 *5*	5258.8	(5/2)	0.0	7/2$^-$
5280	8	S(p)+2926.6	(3/2$^-$)		
5292	6	S(p)+3859.9	(5/2)		
5301	13	S(p)+2855.5	(5/2)		
5306	9	S(p)+2953.3			
5307	16	S(p)+2955.0	(5/2)		
5310	27	S(p)+2863.4	(5/2$^-$)		
5329	32	S(p)+3653.2			
5350.6 *6*	31 *7*	5350.6		0.0	7/2$^-$
5355	14	S(p)+3289.0	(1/2,3/2)	2992	(1/2,3/2)
5369	16	S(p)+3285.1		2976.2	9/2$^-$,(7/2)
5373	39	S(p)+2926.6	(3/2$^-$)		
5383	21	S(p)+3355.2	7/2,9/2		
5398	4	S(p)+2545.4	5/2$^-$		
5400	14	S(p)+2955.0	(5/2)		
5408	16	S(p)+3057.0	3/2$^-$		
5412	18	S(p)+2559.5	(5/2)		
5422	53	S(p)+3747.8			
5429	24	S(p)+2576.8	(3/2)		
5430	22	S(p)+2625.0	(3/2)		
5445	9	S(p)+2593.1	5/2$^-$		
5461	12	S(p)+2609.7	(5/2)		
5467	3	S(p)+2615.8	(7/2$^-$)		
5468	10	S(p)+3386.5	3/2$^-$	2976.2	9/2$^-$,(7/2)
5473	2	S(p)+3408.4	(3/2)	2992	(1/2,3/2)
5480	3	S(p)+3806.8	(7/2$^-$)		
5481	9	S(p)+3470.9	1/2		
5486	13	S(p)+3136.4	3/2$^+$		
5487	4	S(p)+3461.0	9/2$^+$		
5490	6	S(p)+3408.4	(3/2)	2976.2	9/2$^-$,(7/2)
5493		S(p)+3466.2	(7/2)		
5497	21	S(p)+2645.8	(3/2)		
5501	23	S(p)+3057.0	3/2$^-$		
5501	14	S(p)+3436.9		2992	(1/2,3/2)
5509	66	S(p)+3428.0	3/2$^-$	2976.2	9/2$^-$,(7/2)
5517	44	S(p)+3453.9	(1/2,3/2)	2992	(1/2,3/2)
5538	10	S(p)+2687.5	(5/2$^-$)		
5540	17	S(p)+3096.7	(3/2)		

$^{55}_{27}Co_{28}$-25

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult. @&	Comments
5545	4	S(p)+3461.0	9/2$^+$	2976.2	9/2$^-$,(7/2)		
5548.0#	26# *2*	S(p)+3465.0	9/2$^+$	2976.2	9/2$^-$,(7/2)	E1	Additional information 97.
5548.9#	25# *1*	S(p)+3466.2	(7/2)	2976.2	9/2$^-$,(7/2)	E1	Additional information 99.
5552	9	S(p)+3859.9	(5/2)				
5556.9#	27# *2*	S(p)+3473.7	9/2$^+$	2976.2	9/2$^-$,(7/2)	E1	
5559.6 *6*	100	5559.6		0.0	7/2$^-$		
5564	31	S(p)+3121.8	5/2$^+$				
5568	9	S(p)+3125.3	1/2,5/2$^+$				
5581	7	S(p)+3233.5	(5/2)				
5583	8	S(p)+3503.4	3/2$^+$	2992	(1/2,3/2)		
5583	37	S(p)+3558.1	7/2,9/2				
5601	4	S(p)+2752.1	(3/2$^-$)				
5625	19	S(p)+3183.4	(1/2,3/2),5/2$^-$				
5625	15	S(p)+3277.9	3/2$^-$,(5/2)				
5639	17	S(p)+3555.9	7/2$^-$	2976.2	9/2$^-$,(7/2)		
5640	78	S(p)+2791.3	(3/2)				
5641	22	S(p)+3558.1	7/2,9/2	2976.2	9/2$^-$,(7/2)		
5650	5	S(p)+2801.9					
5674	5	S(p)+3233.5	(5/2)				
5701	4	S(p)+2855.5	(5/2)				
5707	3	S(p)+3267.1	(5/2)				
5713	48	S(p)+3653.2		2992	(1/2,3/2)		
5715	8	S(p)+2867.6	(3/2$^-$)				
5715	43	S(p)+3369.5	(5/2)				
5716	11	S(p)+3693.8					
5718	21	S(p)+3277.9	3/2$^-$,(5/2)				
5725	33	S(p)+3285.1					
5727	10	S(p)+3705.2	9/2$^+$				
5728	25	S(p)+3289.0	(1/2,3/2)				
5731	7	S(p)+3386.5	3/2$^-$				
5753	19	S(p)+3408.4	(3/2)				
5758	45	S(p)+3681.1		2992	(1/2,3/2)		
5761	32	S(p)+3684.3		2992	(1/2,3/2)		
5773	4	S(p)+2926.6	(3/2$^-$)				
5774	9	S(p)+3693.8		2976.2	9/2$^-$,(7/2)		
5776	14	S(p)+3432.3	(5/2)				
5777	25	S(p)+3756.3	3/2,5/2				
5781	7	S(p)+3436.9					
5784	2	S(p)+3708.4	3/2,5/2	2992	(1/2,3/2)		
5788	1	S(p)+3708.4	3/2,5/2	2976.2	9/2$^-$,(7/2)		
5799	7	S(p)+2953.3					
5800	6	S(p)+2955.0	(5/2)				
5810		S(p)+3466.2	(7/2)				

$^{55}_{27}Co_{28}$-26

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@&]	δ[@a]	Comments
5818	36	S(p)+3379.8	5/2					
5819	20	S(p)+3476.1	(5/2)					
5824	21	S(p)+3386.5	$3/2^-$					
5846	14	S(p)+3503.4	$3/2^+$					
5851	28	S(p)+3414.2	$5/2^+$					
5865	8	S(p)+3428.0	$3/2^-$					
5874	16	S(p)+3436.9						
5890	29	S(p)+3046.6	(3/2)					
5901	30	S(p)+3057.0	$3/2^-$					
5907	16	S(p)+3470.9	1/2					
5924	8	S(p)+3582.8	5/2,7/2					
5937	2	S(p)+3859.9	(5/2)	2992	(1/2,3/2)			
5940	16	S(p)+3096.7	(3/2)					
5964	17	S(p)+3121.8	$5/2^+$					
5968	21	S(p)+3125.3	$1/2,5/2^+$					
5979	10	S(p)+3136.4	$3/2^+$					
5985	9	S(p)+3644.7	$5/2^+$					
6017	6	S(p)+3582.8	5/2,7/2					
6021	5	S(p)+3681.1						
6033	16	S(p)+3693.8						
6068 *2*		6068	$9/2^+$	0.0	$7/2^-$			E_γ: from 1976Ma08. A_2=−0.13 *7*; A_4≈0.
6074	13	S(p)+3233.5	(5/2)					
6086	25	S(p)+3747.8						
6114	15	S(p)+3681.1						
6117	10	S(p)+3684.3						
6126	9	S(p)+3693.8						
6128	27	S(p)+3289.0	(1/2,3/2)					
6140	5	S(p)+3708.4	3/2,5/2					
6144	6	S(p)+3806.8	$(7/2^-)$					
6205	11.7	S(p)+1162.39	$5/2^+$			E1+M2	−0.07 *4*	Additional information 20.
6218	22	S(p)+3379.8	5/2					
6224	46	S(p)+3386.5	$3/2^-$					
6237	5	S(p)+3806.8	$(7/2^-)$					
6251	31	S(p)+3414.2	$5/2^+$					
6267.7 *4*	3.5	S(p)+1226.0	$5/2^-$					
6289	3	S(p)+3859.9	(5/2)					
6307	75	S(p)+3470.9	1/2					
6339	29	S(p)+3503.4	$3/2^+$					
6513.09 *20*	25.9	S(p)+1476.2	3/2,(5/2)					Additional information 35.
6517	16	S(p)+3684.3						
6526	11	S(p)+3693.8						
6540	4	S(p)+3708.4	3/2,5/2					
6579	10	S(p)+3747.8						

$^{55}_{27}Co_{28}$-27

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

$\gamma(^{55}Co)$ (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	Mult.[@&]	δ[@a]	Comments
6584	14	S(p)+3756.3	3/2,5/2			
6632	69	S(p)+3801.7	$3/2^-$			
6637	6	S(p)+3806.8	$(7/2^-)$			
6689	13	S(p)+3859.9	(5/2)			
6700.7 *6*	18.7	S(p)+1667.0	5/2	D+Q	+0.12 *3*	Additional information 38.
6755.1 *6*	91.8	S(p)+1722.4	5/2	D+Q	+0.02 *2*	Additional information 40.
6779.7 *4*	12.3	S(p)+1747.5	$3/2^-$	E2(+M3)	−0.2 *2*	Additional information 46.
6835.2 *6*	100	S(p)+1803.5	$5/2^{(-)}$			I_γ: value from 1972Ma26. Additional information 54.
6876.0 *7*	94.1	S(p)+1845.7	$7/2^-$,9/2			Additional information 55. δ: −0.67 *3* or +0.03 *3*.
6916.9 *4*	17.5	S(p)+1887.4	$5/2^-$	M1+E2	+0.10 *3*	Additional information 60.
6950.6 *11*	6.9	S(p)+1921.5				
7008.3 *11*	7.7	S(p)+1980.3				
7025.3 *11*	24.8	S(p)+1997.6				
7037.6 *11*	19.7	S(p)+2010.1				
7101.3 *3*	40.7	S(p)+2075.1	5/2	M1+E2	−0.22 *3*	Additional information 63.
7152.6 *11*	71.2	S(p)+2127.3				
7192.60 *20*	65.2	S(p)+2168.1	5/2	M1+E2	−0.01 *3*	Additional information 66.
7233.2 *11*	1.3	S(p)+2209.4				
7268.55 *20*	1.2	S(p)+2245.5	$3/2^-$			
7292.9 *4*	7.6	S(p)+2270.3	$5/2^-$			
7319.2 *4*	82.0	S(p)+2297.1	5/2	M1+E2	−0.07 *2*	Additional information 82.
7325.0 *11*	21.7	S(p)+2302.9				
7564.1	11	S(p)+2545.4	$5/2^-$			Additional information 87.
7578.0	14	S(p)+2559.5	(5/2)			
7611.0	20	S(p)+2593.1	$5/2^-$			Additional information 88.
7627.0	52	S(p)+2609.7	(5/2)			
7633.3	79	S(p)+2615.8	$(7/2^-)$			Additional information 89.
7650.5	41	S(p)+2633.3	$(7/2^-)$			Additional information 91.
7679.9	10	S(p)+2663.3	(5/2)			
7703.7	2	S(p)+2687.5	$(5/2^-)$			
7746.7	64	S(p)+2731.2	(5/2)			
7767.2	3	S(p)+2752.1	$(3/2^-)$			
7815.6	48	S(p)+2801.9				
7846.8	19	S(p)+2855.5	(5/2)			
7876.5	33	S(p)+2863.4	$(5/2^-)$			
7880.6	9	S(p)+2867.6	$(3/2^-)$			
7884.8	9	S(p)+2871.9	(7/2)			
7938.5	5	S(p)+2926.6	$(3/2^-)$			
7964.8	2	S(p)+2953.3				
7966.4	45	S(p)+2955.0	(5/2)			
7976.25	82	S(p)+2964.9	$(5/2^+)$			
8020.2	87	S(p)+3009.8	7/2,9/2			Additional information 95.

$^{55}_{27}Co_{28}$-28

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37 (continued)

γ(^{55}Co) (continued)

E_γ	I_γ [†]	E_i(level)	J_i^π	Mult. [@&]	Comments
8071.1	27	S(p)+3061.6	(7/2)		
8130.2	13	S(p)+3121.8	$5/2^+$		
8133.7	10	S(p)+3125.3	$1/2,5/2^+$		
8240.0	40	S(p)+3233.5	(5/2)		
8273.0	45	S(p)+3267.1	(5/2)		
8283.6	34	S(p)+3277.9	$3/2^-$,(5/2)		
8290.6	25	S(p)+3285.1			
8359.5	79	S(p)+3355.2	7/2,9/2		
8373.5	25	S(p)+3369.5	(5/2)		
8383.6	8	S(p)+3379.8	5/2		
8390.4	6	S(p)+3386.5	$3/2^-$		
8417.4	20	S(p)+3414.2	$5/2^+$		
8435.2	75	S(p)+3432.3	(5/2)		
8439.7	32	S(p)+3436.9			
8463.4	84	S(p)+3461.0	$9/2^+$		
8464.9	100	S(p)+3462.5	$5/2^-,7/2^-$		
8466.5[#] *20*	54[#] *2*	S(p)+3465.0	$9/2^+$	E1	
8467.4[#] *20*	55[#] *1*	S(p)+3466.2	(7/2)	E1	
8475.4[#] *20*	53[#] *2*	S(p)+3473.7	$9/2^+$	E1	
8478.2	30	S(p)+3476.1	(5/2)		
8505.0	35	S(p)+3503.4	$3/2^+$		
8556.6	44	S(p)+3555.9	$7/2^-$		Additional information 100.
8558.8	41	S(p)+3558.1	7/2,9/2		Additional information 101.
8583.0	86	S(p)+3582.8	5/2,7/2		
8643.6	79	S(p)+3644.7	$5/2^+$		
8652.2	20	S(p)+3653.2			
8679.6	32	S(p)+3681.1			
8682.7	16	S(p)+3684.3			
8692.0	24	S(p)+3693.8			
8703.2	83	S(p)+3705.2	$9/2^+$		Additional information 102.
8706.4	84	S(p)+3708.4	3/2,5/2		
8745.1	12	S(p)+3747.8			
8749.46	100	S(p)+3752.2	$5/2^-,7/2^-$		
8753.4	25	S(p)+3756.3	3/2,5/2		
8802.0	40	S(p)+3806.8	$(7/2^-)$		
8855.2	54	S(p)+3859.9	(5/2)		

[†] Percent branching ratio, from 1980Ha36, except as noted.
[‡] From 1980Ul01.
[#] From 1979Ar09.

$^{55}_{27}Co_{28}$-29

$\gamma(^{55}Co)$ (continued)

[@] From 1980Ha37, except as noted.
[&] Based on $\gamma(\theta)$.
[a] Phase convention of 1970Kr03.

$^{55}_{27}Co_{28}$-30

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme

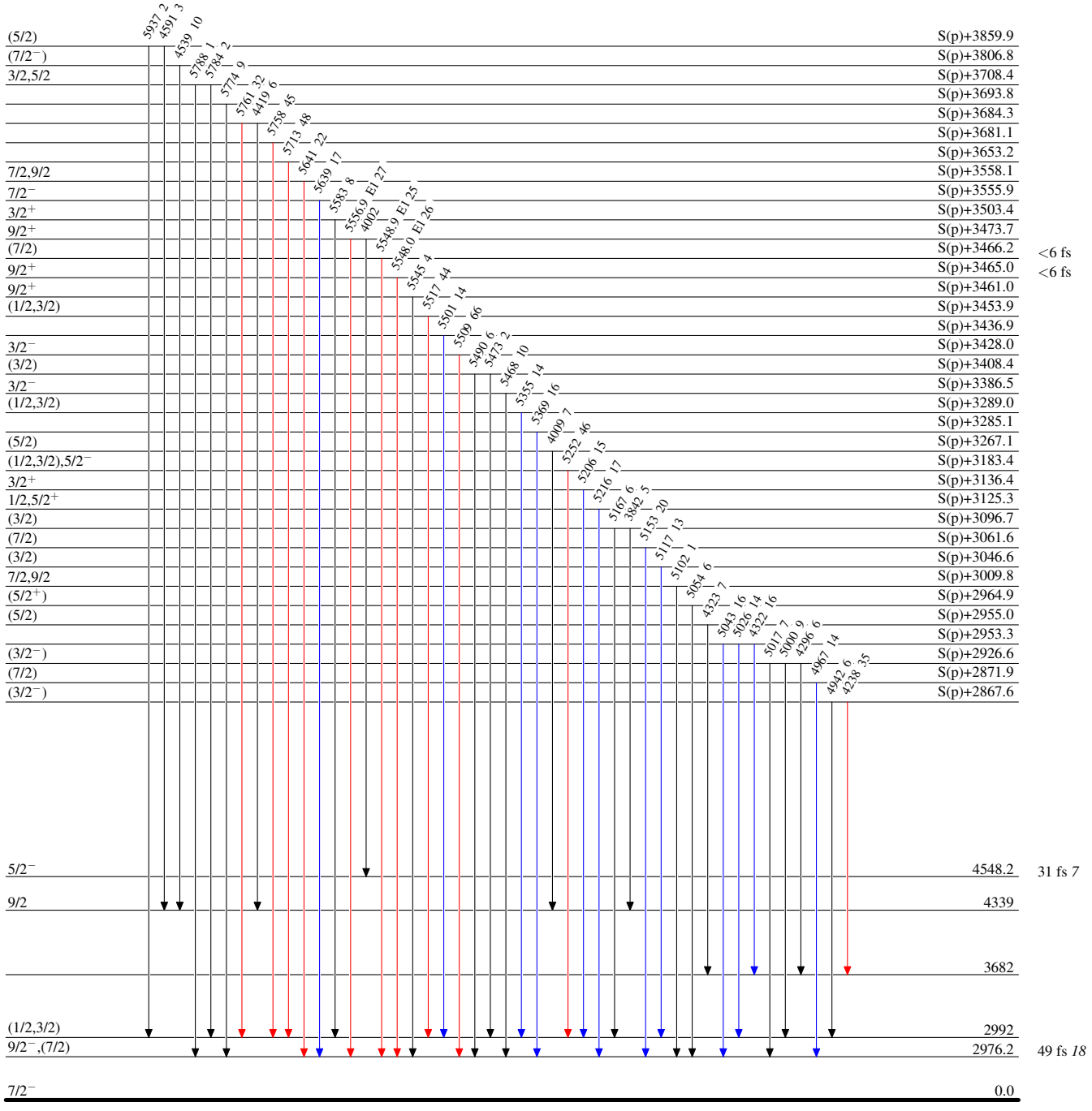
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

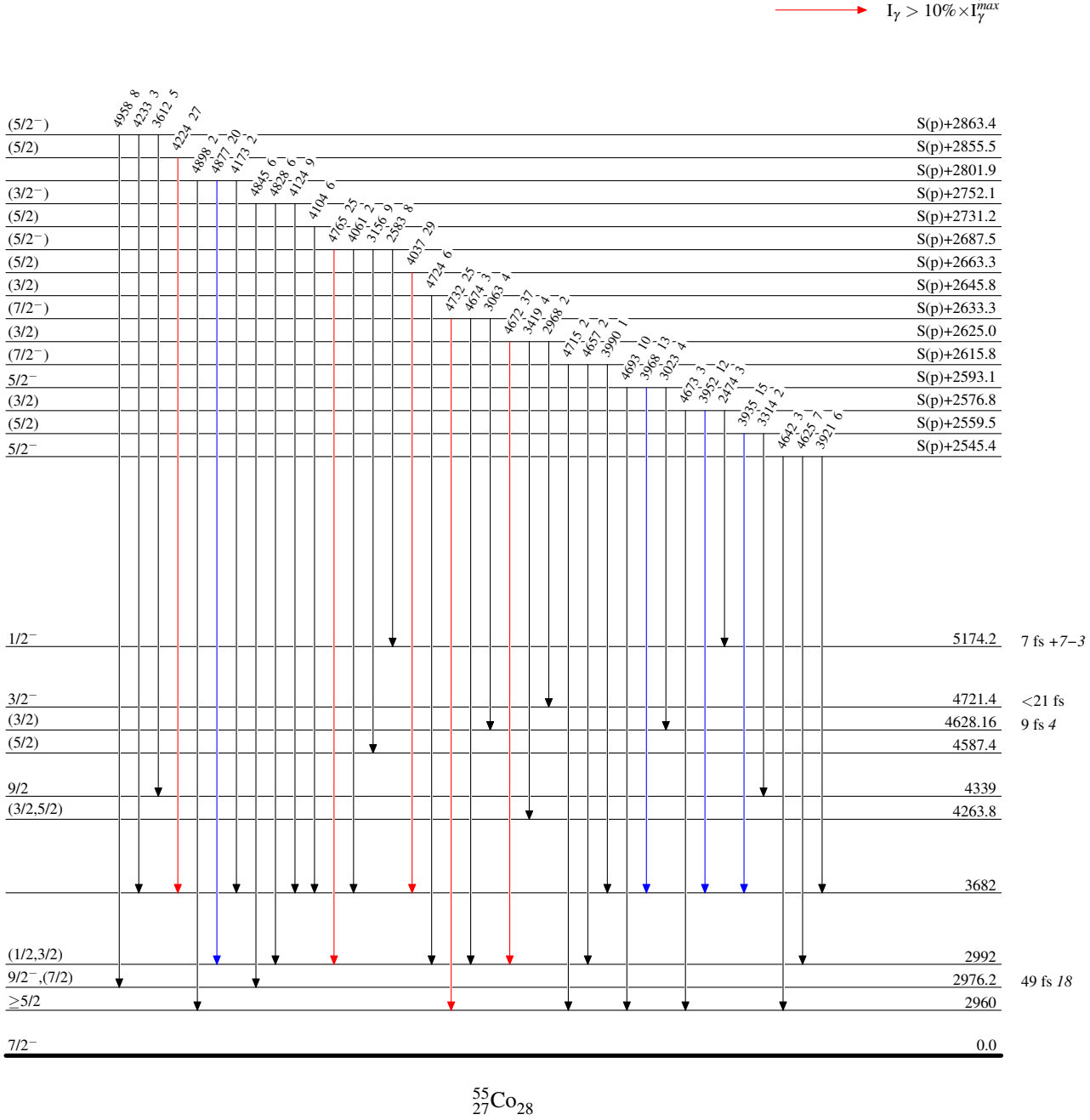


$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

Intensities: Relative I_γ



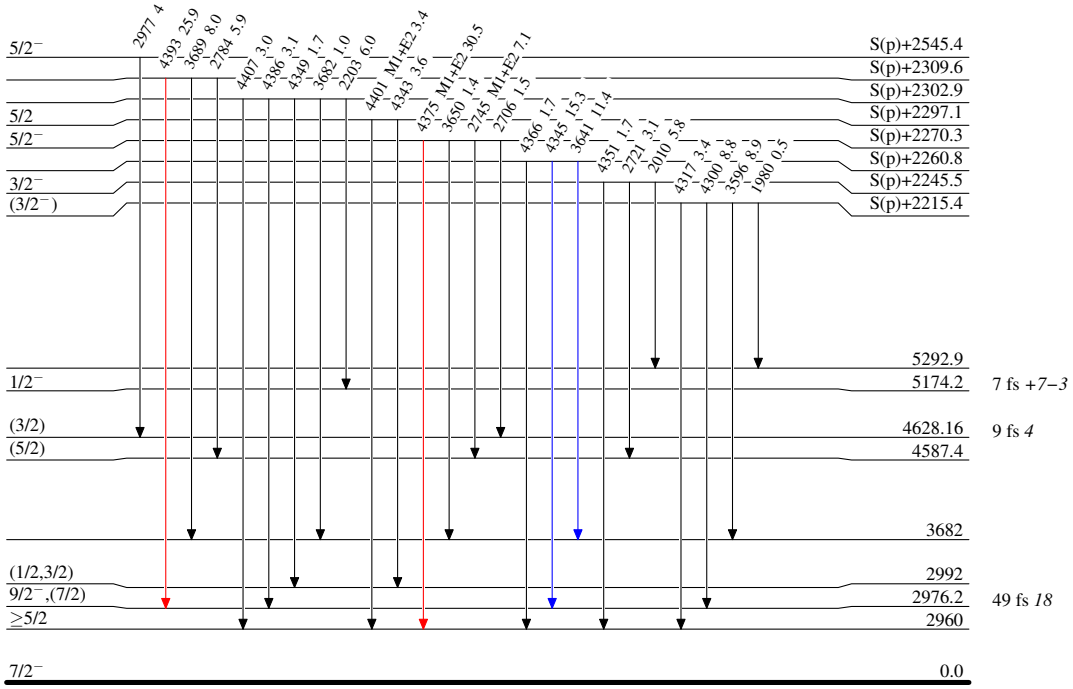
$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

Intensities: Relative I_γ

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



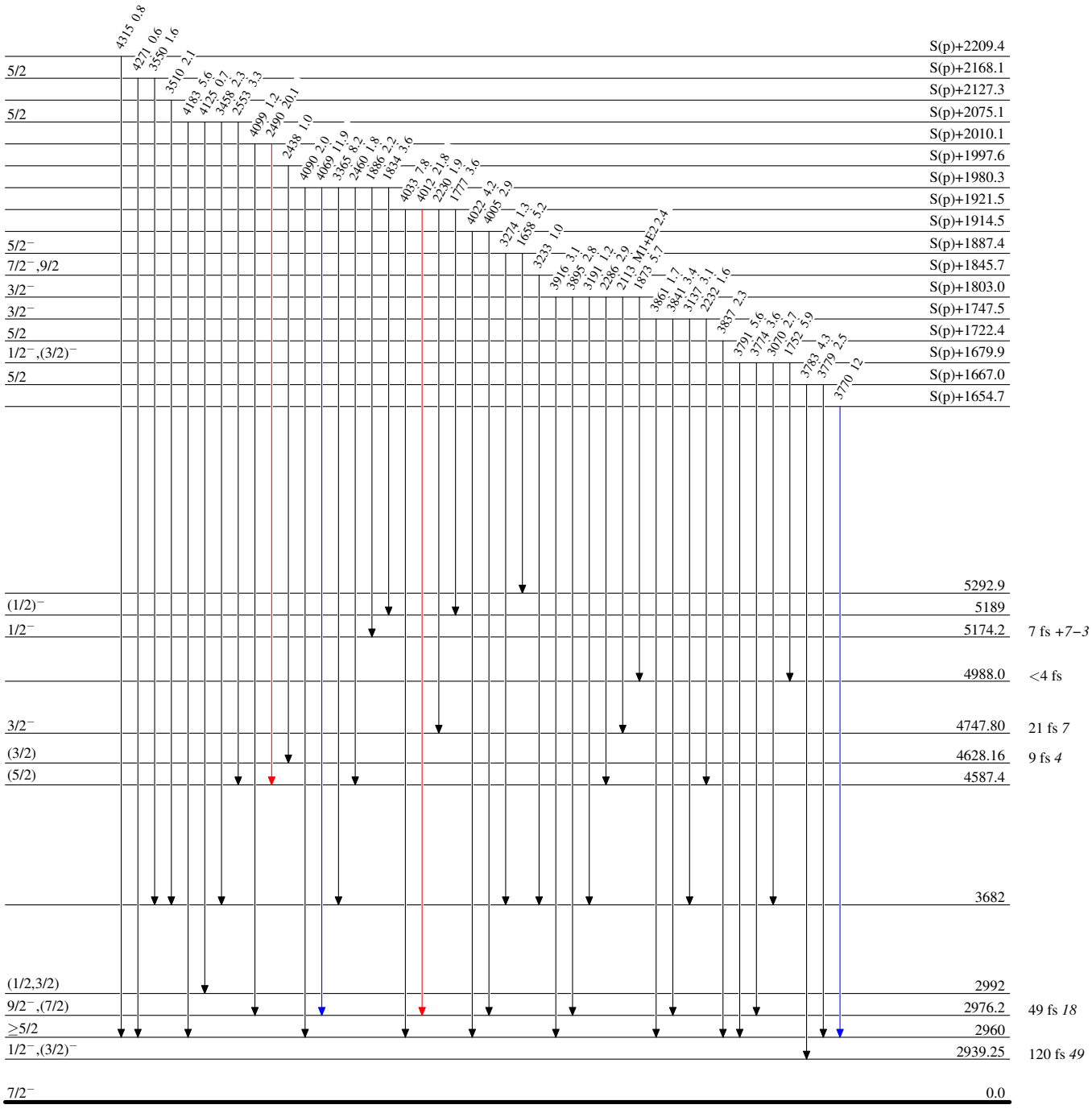
$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

Intensities: Relative I_γ

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



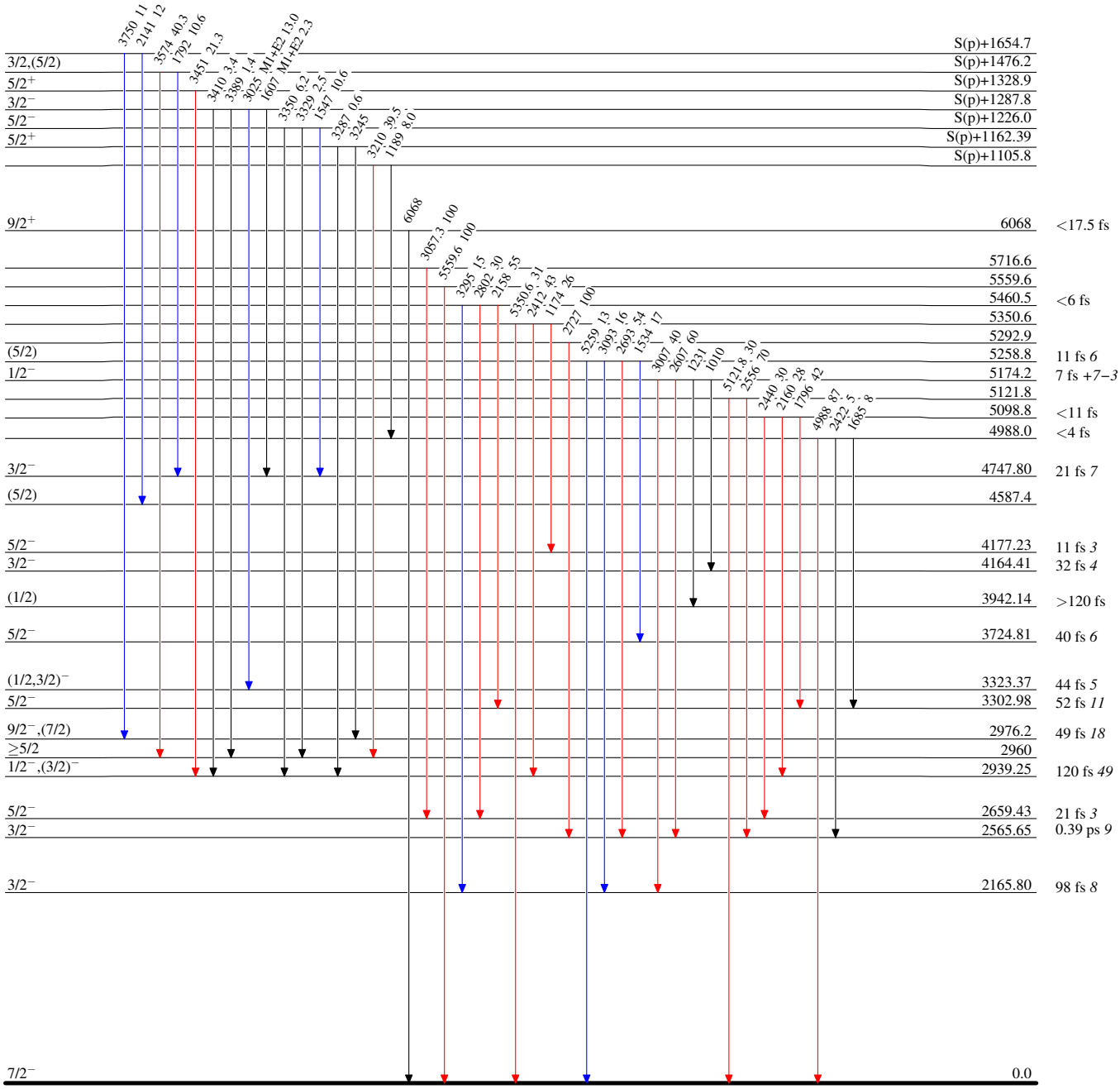
$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

Intensities: Relative I_γ

Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$



$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

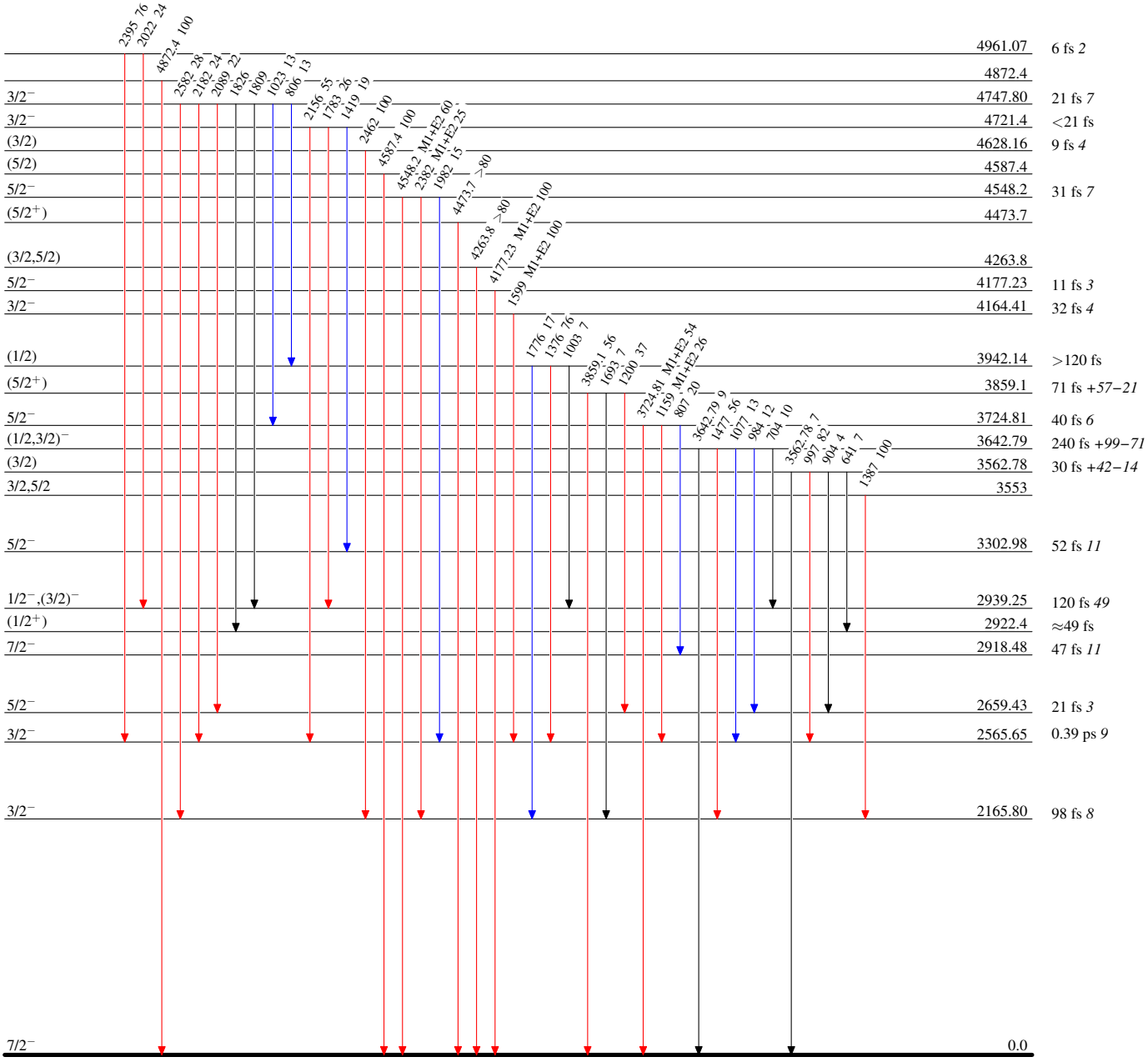
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

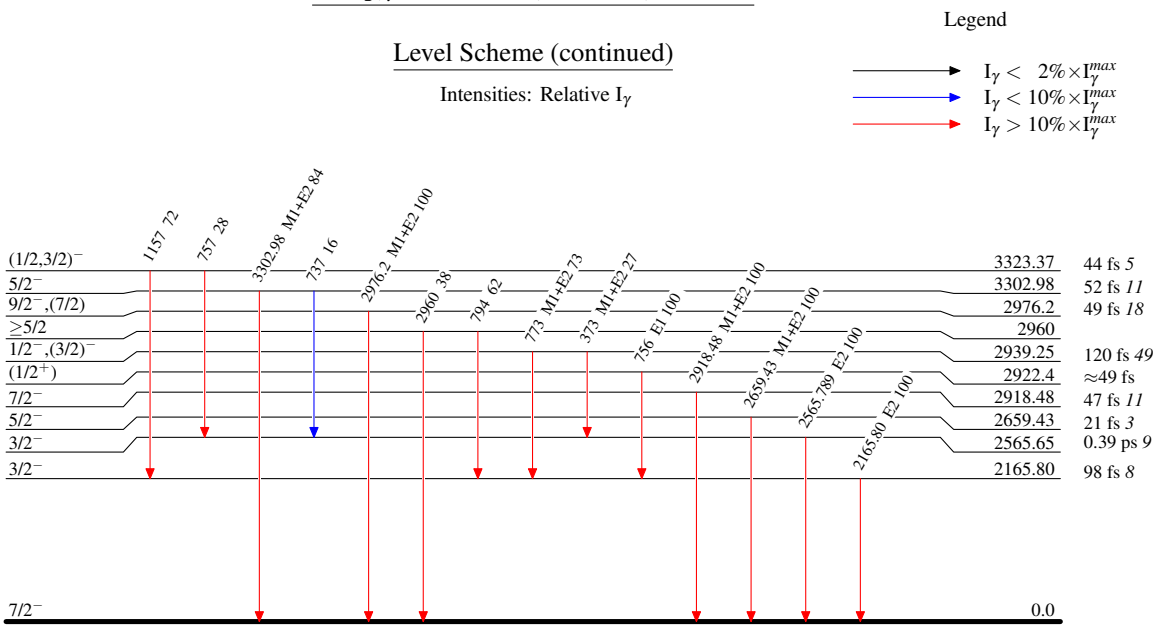


$^{55}_{27}Co_{28}$

^{54}Fe(p,γ) 1989Di08,1980Ha36,1980Ha37

Level Scheme (continued)

Intensities: Relative I_γ



$^{55}_{27}Co_{28}$