^{55}Mn(p,nγ) 1985Av04,1975Ro28,1971Ro01

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

1985Av04: E=3.5-5.0 MeV; measured lifetimes, DSA.
1975Ro28: E=2.8-3.6 MeV; thick target (500 μg/cm^2); measured Iγ using three Ge(Li).
1971Ro01: E=3.60-5.50 MeV; natural target; Ge(Li) for γ; measured σ(E; Eγ,E(n),θ) and DSA.
1970Pi04: E=2.75-4.25 MeV; natural target; Ge(Li); measured σ(Eγ,θ) (0°−90°).
1970Te02: E=2.4-3.3 MeV; natural targets; tof conventional plastic scintillator; Ge(Li); measured σ(E; E(n)), σ(E; Eγ,θ).
1972Ro16: E=3.6-5.5 MeV; natural target; Ge(Li); measured $T_{1/2}$, DSA and direct-timing techniques.
1984Kh04: E=4, 6 MeV; measured Eγ, Iγ.
1988St14: E=1.3-2 MeV; measured excitation functions, many resonances were observed.
Adopted Levels and decay scheme are from 1971Ro01.

^{55}Fe Levels

E(level)	Jπ†	$T_{1/2}$‡	Comments
0.0	3/2$^-$		
411.19 *22*	1/2$^-$		
931.38 *22*	5/2$^-$		
1316.4 *3*	7/2$^-$	0.63 ps *+63−21*	$T_{1/2}$: other: 0.63 ps *+211−28* (1972Ro16).
1408.4 *4*	7/2$^-$	34 ps *7*	Direct-timing method, from 1972Ro16. Other: 99 ps *5* (1984Kh04), >0.58 ps (1971Ro01).
1918.3 *6*	1/2$^-$	17 fs *6*	
2051.4 *5*	3/2$^-$	21 fs *6*	
2144.0 *4*	5/2$^-$	38 fs *+11−8*	
2211.4 *18*	9/2$^-$	0.33# ps *+16−21*	$T_{1/2}$: other: 0.24 ps *+24−11* (1972Ro16).
2301.0 *8*	9/2$^-$	0.6 ps *+5−2*	
2469.8 *14*	3/2$^-$	13 fs *7*	
2541.6 *8*	11/2$^-$,(9/2)	0.40# ps *+15−19*	$T_{1/2}$: other: >0.46 ps (1971Ro01).
2577.5 *4*	5/2$^-$	46 fs *6*	
2871.5 *16*	(5/2$^-$)	19 fs *6*	
2937.9 *13*	5/2$^-$,7/2$^-$	29 fs *+9−8*	
2984.4 *14*	9/2$^-$		
3027.2 *14*	3/2$^-$	10 fs *6*	
3076 *3*	(9/2),11/2	0.44# ps *+21−11*	

† From 1970Te02 and 1971Ro01 based on Hauser-Feshbach analyses of σ(E; θ).
‡ DSA, from 1971Ro01, except as noted.
# DSA, from 1985Av04.

γ(^{55}Fe)

Eγ†	Iγ#	Ei(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
91.9‡ *7*	2.5[a] *5*	1408.4	7/2$^-$	1316.4	7/2$^-$			
385.1 *6*	4@ *1*	1316.4	7/2$^-$	931.38	5/2$^-$			
411.6 *3*	100	411.19	1/2$^-$	0.0	3/2$^-$			
477.1 *6*	51.8[a] *20*	1408.4	7/2$^-$	931.38	5/2$^-$			
520.8 *4*	2& *1*	931.38	5/2$^-$	411.19	1/2$^-$			
803‡ *3*	98@ *1*	2211.4	9/2$^-$	1408.4	7/2$^-$	M1+E2	−0.16 *9*	δ: from 1985Av04. Others: −0.21 *+28−20* or −2.15 *+90−85* (1971Ro01); −0.19 or −2.75 (1970Pi04). Additional information 2.

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^{55}Mn(p,nγ) 1985Av04,1975Ro28,1971Ro01 (continued)

γ(^{55}Fe) (continued)

E_γ [†]	I_γ [#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ	Comments
827.8 *7*	36 *5*	2144.0	5/2⁻	1316.4	7/2⁻			
892.6[‡] *12*	<2[@]	2301.0	9/2⁻	1408.4	7/2⁻			
895[‡] *3*	2[@] *1*	2211.4	9/2⁻	1316.4	7/2⁻			
931.4 *3*	98[&] *1*	931.38	5/2⁻	0.0	3/2⁻			
984.5[‡] *12*	8[@] *2*	2301.0	9/2⁻	1316.4	7/2⁻			
1213.7 *6*	43 *4*	2144.0	5/2⁻	931.38	5/2⁻			
1225.2[‡] *7*	100	2541.6	11/2⁻,(9/2)	1316.4	7/2⁻	D+Q		δ: 0.00 *16* or δ<−11 (1971Ro01). Additional information 4.
1261.1[‡] *7*	3 *2*	2577.5	5/2⁻	1316.4	7/2⁻			
1280[‡] *3*	<2[@]	2211.4	9/2⁻	931.38	5/2⁻			
1316.4 *5*	96[@] *1*	1316.4	7/2⁻	0.0	3/2⁻			Additional information 1.
1369.7[‡] *12*	92[@] *2*	2301.0	9/2⁻	931.38	5/2⁻	(E2)		Additional information 3.
1408.3 *5*	45.7[a] *20*	1408.4	7/2⁻	0.0	3/2⁻			
1507.5 *8*	32[&] *3*	1918.3	1/2⁻	411.19	1/2⁻			
1576[‡] *3*	91[b]	2984.4	9/2⁻	1408.4	7/2⁻	M1+E2	−0.9 *−23+7*	Mult.,δ: from 1971Ro01.
1618.9[‡] *23*	<1	3027.2	3/2⁻	1408.4	7/2⁻			
1621.4[‡] *22*	45 *4*	2937.9	5/2⁻,7/2⁻	1316.4	7/2⁻			
1640.4 *7*	77[&] *2*	2051.4	3/2⁻	411.19	1/2⁻			
1646.3[‡] *6*	6 *2*	2577.5	5/2⁻	931.38	5/2⁻			
1668[‡] *3*	100	3076	(9/2),11/2	1408.4	7/2⁻	D+Q		δ: 0.00 *19* or δ<−3.7 if J=11/2; +5.65>δ>+0.36 if J=9/2 (1971Ro01). Additional information 5.
1732.9 *6*	3 *1*	2144.0	5/2⁻	411.19	1/2⁻			
1917.9 *7*	68[&] *3*	1918.3	1/2⁻	0.0	3/2⁻			
1940.2[‡] *22*	12 *3*	2871.5	(5/2⁻)	931.38	5/2⁻			
2051.2 *6*	23[&] *2*	2051.4	3/2⁻	0.0	3/2⁻			
2053[‡] *3*	9[b]	2984.4	9/2⁻	931.38	5/2⁻			
2143.0 *5*	18 *2*	2144.0	5/2⁻	0.0	3/2⁻			
2166.0[‡] *6*	7 *2*	2577.5	5/2⁻	411.19	1/2⁻			
2469.7[‡] *14*	100	2469.8	3/2⁻	0.0	3/2⁻			
2577.5[‡] *5*	84 *2*	2577.5	5/2⁻	0.0	3/2⁻			
2615.7[‡] *23*	35 *7*	3027.2	3/2⁻	411.19	1/2⁻			
2871.4[‡] *21*	88 *3*	2871.5	(5/2⁻)	0.0	3/2⁻			
2937.9[‡] *16*	55 *5*	2937.9	5/2⁻,7/2⁻	0.0	3/2⁻			
2984.3[‡] *18*		2984.4	9/2⁻	0.0	3/2⁻			
3027.2[‡] *23*	65 *6*	3027.2	3/2⁻	0.0	3/2⁻			

[†] From decay scheme in 1970Te02, but the authors did not give ΔE. Evaluator estimated ΔE according to relative level′s uncertainties, except as noted.

[‡] Calculated by evaluator; 1970Pi04, 1971Ro01, and 1972Ro16 gave Iγ of these γ rays only, but did not give Eγ.

[#] Percent branching ratio from 1971Ro01, except as noted.

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^{55}Mn(p,nγ) 1985Av04,1975Ro28,1971Ro01 (continued)

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

[@] From 1972Ro16.
[&] From 1970Pi04.
[a] From 1975Ro28.
[b] From 1985Av04.

^{55}Mn(p,nγ) 1985Av04,1975Ro28,1971Ro01

Level Scheme

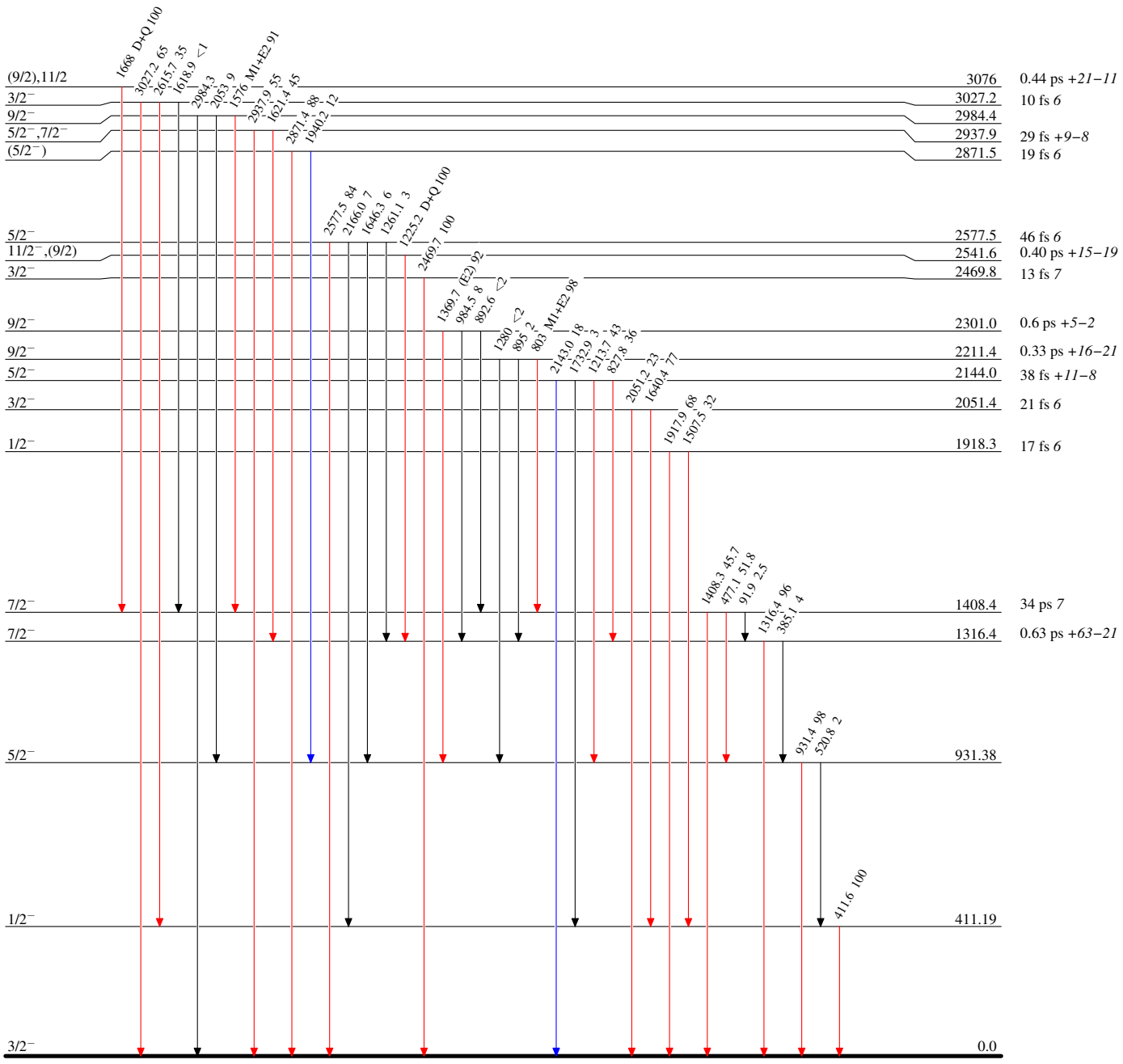
Intensities: Relative I_γ

Legend

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

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

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



$^{55}_{26}Fe_{29}$