^{52}Mn ε decay (5.591 d) 1978MeZK,1977Ya08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 128, 185 (2015)	10-Jul-2015

Parent: ^{52}Mn: E=0.0; $J^\pi=6^+$; $T_{1/2}$=5.591 d *3*; Q(ε)=4711.2 *19*; %ε+%$β^+$ decay=100.0

Others: 1996La20, 1990Me15, 1980Iw03, 1979ArZT, 1975BaXO, 1972GeZF, 1967Pa22, 1966Fr05, 1962Wi08.

1977Ya08: chemically separated sources from ^{51}V(α,3n), measured Eγ, Iγ, a Compton suppression spectrometer system, several large volume Ge(Li) detectors.

1978MeZK: from lll-M-100, Multigamma-ray calibration sources.

Decay scheme from 1977Ya08.

^{52}Cr Levels

E(level)	J^π †
0.0	0^+
1434.111 *17*	2^+
2369.654 *21*	4^+
2767.786 *23*	4^+
3113.883 *24*	6^+
3415.33 *3*	4^+
3615.946 *24*	5^+
4015.52 *4*	5^+
4627.13 *20*	4^+

† From Adopted Levels.

ε,$β^+$ radiations

E(decay)	E(level)	Iβ+ †	Iε†	Log *ft*	I(ε+β+)†	Comments
(84.1 *19*)	4627.13		0.0027 *6*	7.32 *10*	0.0027 *6*	εK=0.8778 *4*; εL=0.1039 *3*; εM+=0.01827 *6*
(695.7 *19*)	4015.52		1.04 *5*	6.625 *21*	1.04 *5*	εK=0.8899; εL=0.09380; εM+=0.01628
(1095.3 *19*)	3615.946	0.00118 *14*	7.69 *6*	6.153 *4*	7.69 *6*	av Eβ=33.91 *82*; εK=0.8903; εL=0.09332; εM+=0.01618
(1597.3 *19*)	3113.883	29.4 *4*	61.4 *6*	5.580 *5*	90.8 *8*	av Eβ=241.59 *80*; εK=0.6019 *23*; εL=0.06289 *24*; εM+=0.01090 *4*

† Absolute intensity per 100 decays.

γ(^{52}Cr)

Iγ normalization: from ΣIγ(g.s.)=100.

Experimental conversion information see 1966Fr05, 1962Wi08, 1960Ka20. γγ-coin: from 1967Pa22 and 1962Wi08.

E_γ †	I_γ †@	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	δ‡
200.58 *4*	0.076 *2*	3615.946	5^+	3415.33	4^+		
346.02 *4*	0.98 *1*	3113.883	6^+	2767.786	4^+	E2	
398.09 *9*	0.089 *7*	2767.786	4^+	2369.654	4^+		
399.57 *5*	0.183 *7*	4015.52	5^+	3615.946	5^+		
502.06 *5*	0.21 *2*	3615.946	5^+	3113.883	6^+		
600.16 *5*	0.39 *1*	4015.52	5^+	3415.33	4^+		
647.47 *6*	0.40 *2*	3415.33	4^+	2767.786	4^+	M1+E2	0.22 *8*

Continued on next page (footnotes at end of table)

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γ(^{52}Cr) (continued)

E_γ [†]	I_γ [†@]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]
744.233 *13*	90.0 *8*	3113.883	6^+	2369.654	4^+	E2
848.18 *5*	3.32 *3*	3615.946	5^+	2767.786	4^+	
901.89 *18*	0.044 *4*	4015.52	5^+	3113.883	6^+	
935.544 *12*	94.5 *9*	2369.654	4^+	1434.111	2^+	E2
1045.75 *8*	0.07 *2*	3415.33	4^+	2369.654	4^+	
1246.278 *15*	4.21 *6*	3615.946	5^+	2369.654	4^+	
1247.88 *9*	0.38 *4*	4015.52	5^+	2767.786	4^+	
1333.649 *17*	5.07 *5*	2767.786	4^+	1434.111	2^+	E2
1434.092 *17*	100 *1*	1434.111	2^+	0.0	0^+	E2
[x]1441[#] *1*	0.003[#] *2*					
1645.82 *4*	0.047 *3*	4015.52	5^+	2369.654	4^+	
[x]1839.14 *17*	0.005 *1*					
1981.12 *4*	0.034 *3*	3415.33	4^+	1434.111	2^+	
2257.42 *19*	0.0027 *6*	4627.13	4^+	2369.654	4^+	

[†] From 1978MeZK, except as noted.
[‡] From adopted gammas.
[#] From 1977Ya08.
[@] For absolute intensity per 100 decays, multiply by 1.00 *1*.
[x] γ ray not placed in level scheme.

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Decay Scheme

Intensities: I(γ+ce) per 100 parent decays