^{52}Cr(α,pnγ) 1979To05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 121, 1 (2014)	20-Jun-2014

E=33 MeV, measured angular distributions at 90°, 70°, 55°, 45°, and 30°, $\gamma\gamma(\theta)$-coin, linear polarizations with 3-Ge(Li) Compton polarimeter.

^{54}Mn Levels

E(level)	J^π‡	$T_{1/2}$
0.0	3^+	
156.27† *11*	4^+	
368.27† *23*	5^+	
1073.20† *27*	6^+	
1783.46† *34*	7^+	
1925.19† *33*	7^+	0.84 ps *+94−31*
2856.5 *3*	8^+	<6.93 ps
3244.2 *5*	$(7^+,9^+)$	<6.93 ps
3938.9 *6*	$(6^+,7^+)$	<6.93 ps

† From 1977Na12 (^{48}Ca(^{11}B,5nγ)).
‡ From 1979To05.

$\gamma(^{54}Mn)$

E_γ†	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.#	δ@	Comments
156.27‡ *11*	100	156.27	4^+	0.0	3^+	M1+E2	−0.12 *5*	A_2=−0.357 *8*, A_4=0.00 *2*.
212.00‡ *20*	100	368.27	5^+	156.27	4^+	M1+E2	−0.00 *2*	A_2=−0.253 *8*, A_4=0.00 *4*. Linear polarization p=−0.33 *2*.
387.8 *6*		3244.2	$(7^+,9^+)$	2856.5	8^+	M1+E2	−0.00 *10*	A_2=−0.23 *4*, A_4=0.00 *6*. Linear polarization p=−0.51 *16*.
704.93‡ *14*	100	1073.20	6^+	368.27	5^+	M1+E2	−0.02 *2*	A_2=−0.269 *10*, A_4=0.01 *3*. Linear polarization p=−0.29 *3*.
851.98‡ *19*	100	1925.19	7^+	1073.20	6^+	M1+E2	−0.40 *15*	A_2=−0.64 *6*, A_4=−0.03 *5*. Linear polarization p=−0.03 *5*.
931.3 *5*	30 *5*	2856.5	8^+	1925.19	7^+			Linear polarization p=0.01 *8*.
1073.0 *5*	22 *6*	2856.5	8^+	1783.46	7^+			A_2=−0.56 *20*, A_4=0.00 *20*. Linear polarization p=−0.03 *18*.
1082.4 *7*		3938.9	$(6^+,7^+)$	2856.5	8^+			A_2=−0.6 *3*. Linear polarization p=−0.13 *18*.
1415.17‡ *25*	100	1783.46	7^+	368.27	5^+	E2		A_2=0.36 *4*, A_4=−0.10 *6*. Linear polarization p=0.55 *9*.
1460.8 *6*		3244.2	$(7^+,9^+)$	1783.46	7^+			
1783.3 *4*	48 *10*	2856.5	8^+	1073.20	6^+	E2		A_2=0.41 *6*, A_4=−0.24 *8*. Linear polarization p=0.63 *16*.
2013.7 *7*		3938.9	$(6^+,7^+)$	1925.19	7^+			

† From energy difference of levels connected by gamma-ray, except as noted.
‡ From 1977Na12 (^{48}Ca(^{11}B,5nγ),Ge(Li)).
# From simultaneous χ^2 fit of the $\gamma(\theta)$, the linear polarization, and DCO ratios.
@ From simultaneous χ^2 fit of the $\gamma(\theta)$, the linear polarization, and DCO ratios. $\Delta\delta$ obtained at a χ^2 value corresponding to one standard deviation from the normalized χ^2 (min).

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Level Scheme

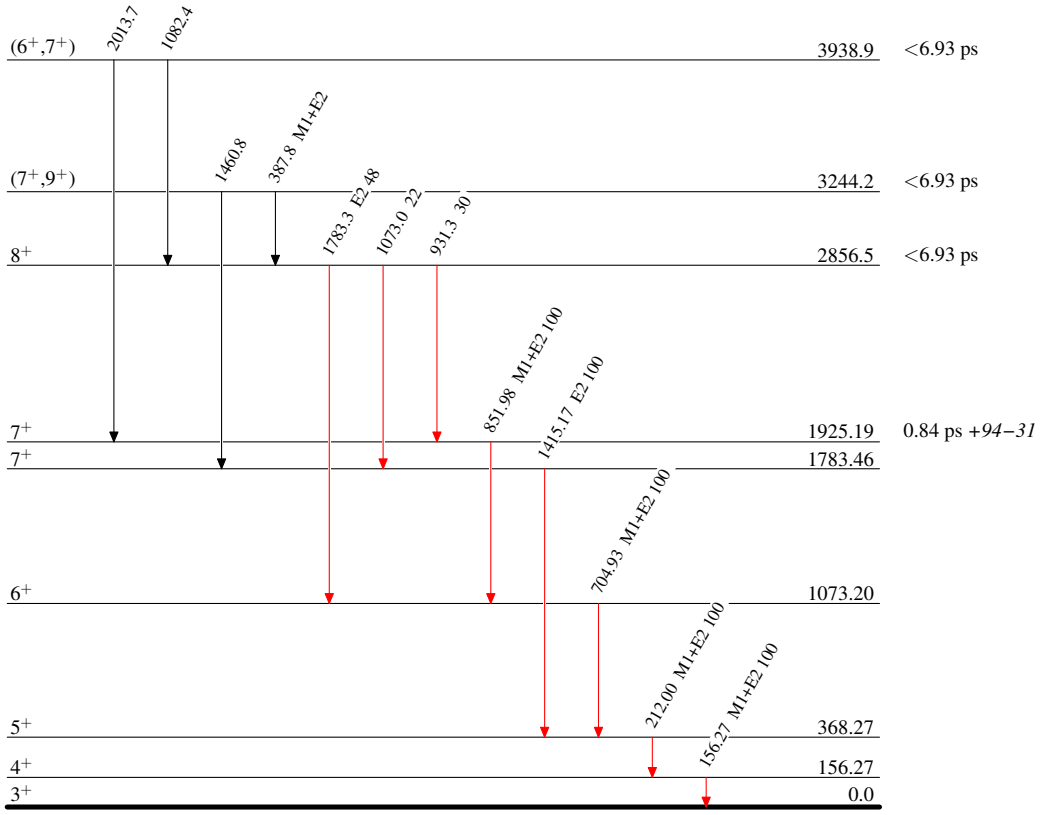
Intensities: Relative I_γ

Legend

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

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

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



$^{54}_{25}Mn_{29}$