^{54}Fe(^{58}Ni,2αnγ) 2001Fa01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110,2081 (2009)	1-Mar-2009

2001Fa01 (also 2002Jo05,2001Pa12,2001Li12): E=240 MeV. Measured Eγ, Iγ, γγ, γγ(θ)(DCO) using EUROBALL detector array comprised of 26 'clover' and 15 'cluster' composite Compton-suppressed Ge detectors in conjunction with the 4π charged-particle detection device ISIS.

^{103}Sn Levels

E(level)[†]	Jπ[‡]
0.0	(5/2$^+$)
168.0 *1*	(7/2$^+$)
1197.2 *4*	
1486.2 *3*	(11/2$^+$)
1775.4? *4*	
1784.6 *4*	(13/2$^+$)

† From least-squares fit to Eγ's.
‡ As proposed by 2001Fa01 based on gamma-ray angular-distribution data, systematics of odd-A Sn nuclei and shell-model predictions.

γ(^{103}Sn)

$R_\theta = I_{\theta1}/I_{\theta2}$ where θ1=123° or 164° and θ2=72° or 107°. R_θ=0.60 for stretched dipole and R=0.97 for stretched quadrupole.

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	Comments
168.0 *1*	100 *7*	168.0	(7/2$^+$)	0.0	(5/2$^+$)	D	E_γ: deduced from level-energy differences. R_θ=0.62 *7*.
289.0[‡] *2*	35[‡] *7*	1486.2	(11/2$^+$)	1197.2			
289.0[‡] *2*	35[‡] *7*	1775.4?		1486.2	(11/2$^+$)		
298.4 *1*	54 *8*	1784.6	(13/2$^+$)	1486.2	(11/2$^+$)	D	R_θ=0.57 *12*.
578.2 *2*	41 *7*	1775.4?		1197.2			R_θ=1.0 *3*.
1029.0 *10*	40 *23*	1197.2		168.0	(7/2$^+$)		I_γ: from γγ coin spectra.
1318.2 *3*	50 *9*	1486.2	(11/2$^+$)	168.0	(7/2$^+$)	(Q)	R_θ=1.1 *3*.

† From angular distribution data.
‡ Multiply placed with undivided intensity.

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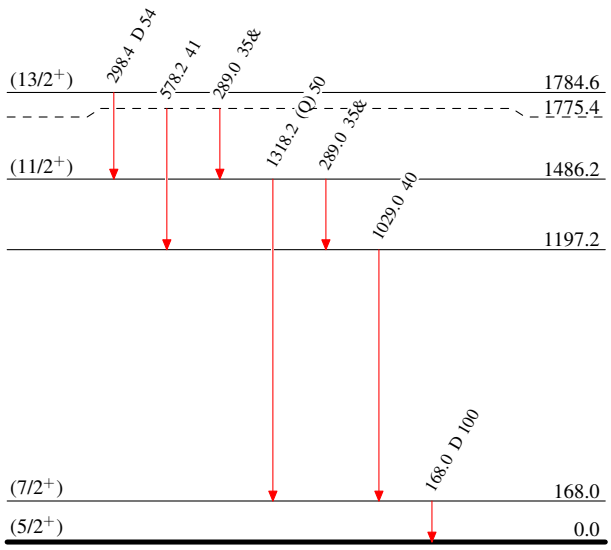
Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



$^{103}_{50}Sn_{53}$