

${}^{24}\text{Mg}({}^{58}\text{Ni}, 2n\gamma)$ 2001Fi13, 1987Li14

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

2001Fi13 (also 2001Fi05): E=200 MeV. Measured E_γ , I_γ , (fragment) γ coin using GAMMASPHERE array consisting of 101 HPGe detectors and Fragment Mass Analyzer.

1987Li14 (also 1988LiZP): E=190 MeV.

1987Lo10, 1987LeZT: E=177 MeV.

Recoil-separator used to identify ${}^{80}\text{Zr}$. Measured γ , $\gamma\gamma$, (${}^{80}\text{Zr}$)(prompt γ) coin.

Cross section data: 10 μb 5 (1988LiZP), 40 μb 24 (1987LeZT).

 ${}^{80}\text{Zr}$ Levels

E(level)	J^π [†]
0.0 [‡]	0 ⁺
288.9 [‡] 2	(2 ⁺)
825.8 [‡] 4	(4 ⁺)
1605.0 [‡] 7	(6 ⁺)
2610.0 [‡] 12	(8 ⁺)
3789.0 [‡] 16	(10 ⁺)

[†] From 2001Fi13 based on $\gamma(\theta)$ data and systematics of population of yrast sequence in even-even nuclei.

[‡] Band(A): g.s. band.

 $\gamma({}^{80}\text{Zr})$

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
288.9 [‡] 2	100	288.9	(2 ⁺)	0.0	0 ⁺	(Q)
536.9 [‡] 3	80 10	825.8	(4 ⁺)	288.9	(2 ⁺)	(Q)
779.2 5	60 10	1605.0	(6 ⁺)	825.8	(4 ⁺)	
^x 890 [#]						
1005 1	43 8	2610.0	(8 ⁺)	1605.0	(6 ⁺)	
1179 1	25 5	3789.0	(10 ⁺)	2610.0	(8 ⁺)	
^x 1300 [#]						

[†] From (fragment) γ coin (2001Fi13). The $\gamma\gamma$ coin data were not possible in 2001Fi13 due to weak population of ${}^{80}\text{Zr}$ channel. 1987Li14 report 289.9 γ and 538.0 γ ; 1987LeZT report only the 289 γ .

[‡] Measured $\gamma(\theta)$ consistent with stretched quadrupole transition; but no data are listed by 2001Fi13.

[#] Weak γ ray not related to the main yrast sequence; 2001Fi13 suggest that it may belong to γ band.




^x γ ray not placed in level scheme.

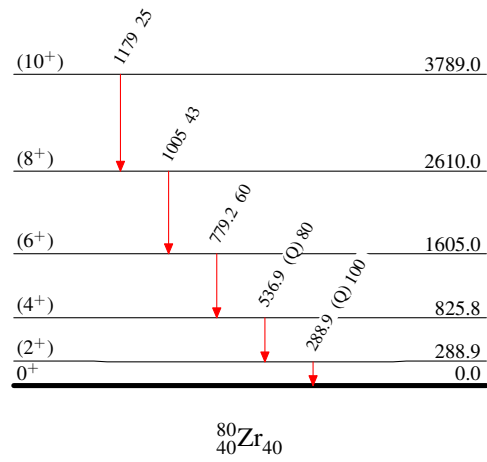
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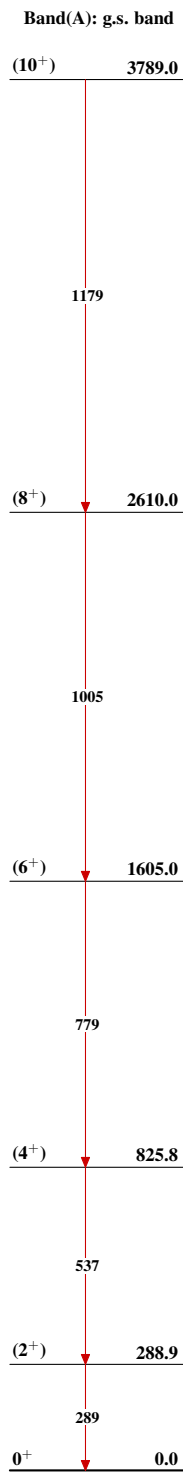
Level Scheme

Intensities: Relative I_γ

Legend

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



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