

$^{238}\text{U}(\alpha, \text{F}\gamma)$  2004Hu02

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

E=30 MeV. Measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$  with Rochester  $4\pi$ , highly segmented heavy-ion detector array CHICO, in coincidence with the GAMMASPHERE detector array.

 $^{103}\text{Zr}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	E(level)	$J^\pi$ <sup>†</sup>	E(level)	$J^\pi$ <sup>†</sup>	E(level)	$J^\pi$ <sup>†</sup>
0.0 <sup>‡</sup>	5/2 <sup>-</sup>	429.1 <sup>#</sup>	11/2 <sup>-</sup>	1211.7 <sup>‡</sup>	17/2 <sup>-</sup>	2196.5 <sup>#</sup>	23/2 <sup>-</sup>
110.0 <sup>#</sup>	7/2 <sup>-</sup>	659.0 <sup>‡</sup>	13/2 <sup>-</sup>	1473.3 <sup>#</sup>	19/2 <sup>-</sup>	3048.5 <sup>#</sup>	27/2 <sup>-</sup>
257.1 <sup>‡</sup>	9/2 <sup>-</sup>	883.6 <sup>#</sup>	15/2 <sup>-</sup>	1914.0 <sup>‡</sup>	21/2 <sup>-</sup>	4028.0 <sup>#</sup>	31/2 <sup>-</sup>

<sup>†</sup> From observed band structure and systematics of other Zr nuclei  $J^\pi$  values are the same as the adopted values, they differ only in the use of parentheses for the Adopted values.

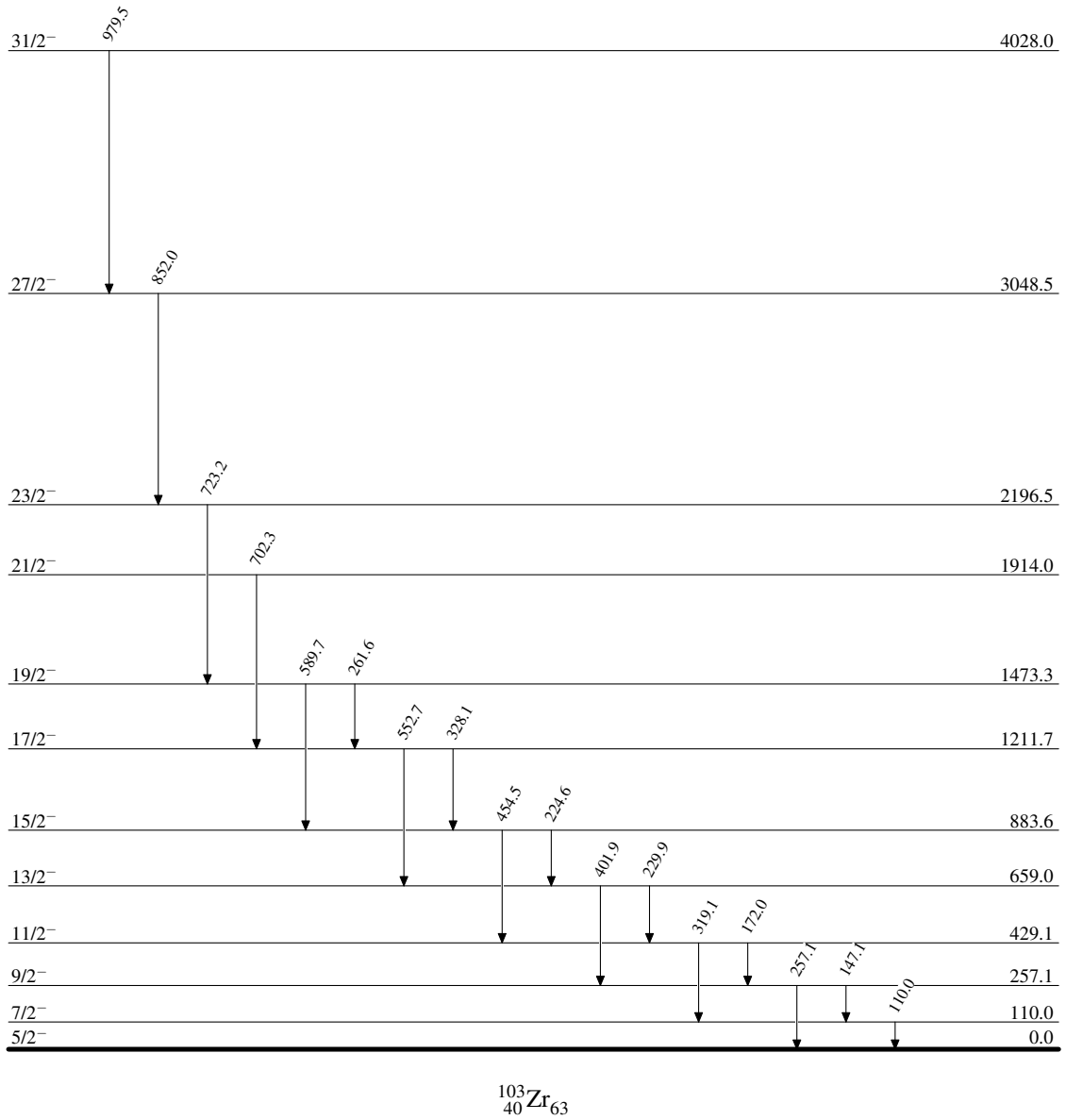
<sup>‡</sup> Band(A):  $\nu 5/2[532]$ ,  $\alpha=+1/2$ .

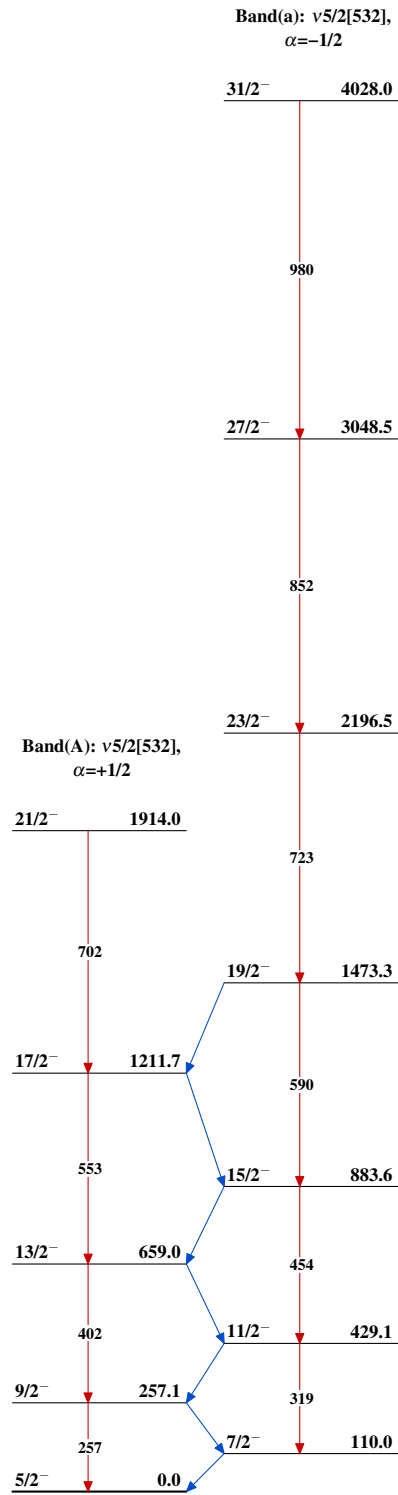
<sup>#</sup> Band(a):  $\nu 5/2[532]$ ,  $\alpha=-1/2$ .

 $\gamma(^{103}\text{Zr})$ 

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
110.0 <sup>†</sup>	110.0	7/2 <sup>-</sup>	0.0	5/2 <sup>-</sup>	401.9	659.0	13/2 <sup>-</sup>	257.1	9/2 <sup>-</sup>
147.1 <sup>†</sup>	257.1	9/2 <sup>-</sup>	110.0	7/2 <sup>-</sup>	454.5	883.6	15/2 <sup>-</sup>	429.1	11/2 <sup>-</sup>
172.0 <sup>†</sup>	429.1	11/2 <sup>-</sup>	257.1	9/2 <sup>-</sup>	552.7	1211.7	17/2 <sup>-</sup>	659.0	13/2 <sup>-</sup>
224.6 <sup>†</sup>	883.6	15/2 <sup>-</sup>	659.0	13/2 <sup>-</sup>	589.7	1473.3	19/2 <sup>-</sup>	883.6	15/2 <sup>-</sup>
229.9 <sup>†</sup>	659.0	13/2 <sup>-</sup>	429.1	11/2 <sup>-</sup>	702.3	1914.0	21/2 <sup>-</sup>	1211.7	17/2 <sup>-</sup>
257.1	257.1	9/2 <sup>-</sup>	0.0	5/2 <sup>-</sup>	723.2	2196.5	23/2 <sup>-</sup>	1473.3	19/2 <sup>-</sup>
261.6 <sup>†</sup>	1473.3	19/2 <sup>-</sup>	1211.7	17/2 <sup>-</sup>	852.0	3048.5	27/2 <sup>-</sup>	2196.5	23/2 <sup>-</sup>
319.1	429.1	11/2 <sup>-</sup>	110.0	7/2 <sup>-</sup>	979.5	4028.0	31/2 <sup>-</sup>	3048.5	27/2 <sup>-</sup>
328.1 <sup>†</sup>	1211.7	17/2 <sup>-</sup>	883.6	15/2 <sup>-</sup>					

<sup>†</sup> From level-energy difference; value not quoted by 2004Hu02.

$^{238}\text{U}(\alpha, \text{F}\gamma)$  2004Hu02Level Scheme

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