^{97}Mo(n,γ) E=res 1972Ga07,1976Mu09,1969Sh08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh	NDS 164, 1 (2020)	15-Feb-2020

J^π(^{97}Mo g.s.)=5/2$^+$.

1972Ga07: E=2, 25 keV. Measured primary and secondary γ.

1976Mu09: E=3-90 keV. The following 41 resonances with energy in eV (ΔE=3 eV and associated Γ parameters are reported: 3063, 3078, 3084 (3984 in 1976Mu09 seems a misprint), 3119, 3128, 3154, 3180, 3188, 3218, 3226, 3252, 3267, 3289, 3319, 3358, 3372, 3383, 3396, 3429, 3477, 3493, 3504, 3537, 3558, 3592, 3610, 3624, 3638, 3656, 3677, 3711, 3719, 3727, 3793, 3837, 3849, 3856, 3864 3882, 3922, 3990.

1969Sh08: E<1.5 keV. The following resonances with energies (in eV) and Γ parameters are reported:

L=1 resonances (J^π=1$^-$,2$^-$,3$^-$,4$^-$): 16.3 *1*, 55.4 *1*, 79.8 *2*, 109.6 *3*, 210.1 *7*, 227.7 *6*, 248.5 *6*.

L=0 resonances (J^π=2$^+$,3$^+$): 70.9 *1*, 267.8 *5*, 286.3 *7*, 311.5 *10*, 397.2 *10*, 505.4 *13*, 558.3 *15*, 676.2 *22*, 787.3 *26*, 865 *4*, 1254 *16*, 1535 *27*.

1968Co23: E=45-1300 eV. Following 10 resonances (in eV) reported: 70.8 (J=2), 209.8, 227.4 (J=3), 267.9 (J=3), 285.8, 311.8 (J=3), 396.9 (J=3), 557.9 (J=3), 786 (J=3), 1250 (J=3).

1963Pe23: E=7 eV to 15 keV. The following 14 resonances (energy in eV) are reported: 70.9 *15*, 210 *6*, 230 *6*, 267.3 *6*, 285.4 *7*, 311.7 *10*, 396.7 *12*, 505 *3*, 576 *2*, 695 *20*, 788 *3*, 1255 *6*, 1519 *9*, 2000 *20*.

Others: 1974RiYL (E=24 keV), 1974ChZG, 1973La06 (E=0.1-1.5 MeV), 1972BiZS (E=5-80 keV), 1971WeZS (E<12 keV), 1969Ju01 (E=4-2000 eV), 1968Wy01 (6 eV-250 keV), 1990Be55 (E=reactor neutrons, measured σ).

Additional information 1.

^{98}Mo Levels

E(level)	J^π[†]	Comments
0	0$^+$	
734	0$^+$	
788	2$^+$	
1432	2$^+$	
1510	4$^+$	
1758	2$^+$	
2017	3$^-$	
2104		
2226		
2333		
2627		
2959		
(8644)	2$^+$,3$^+$	E(level): S(n)+x where x=2 keV.

[†] From Adopted Levels.

γ(^{98}Mo)

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
[x]481						I$_\gamma$: 9.1.
645	<1	1432	2$^+$	788	2$^+$	I$_\gamma$: 4.2.
[x]661						I$_\gamma$: 11.8.
723	37	1510	4$^+$	788	2$^+$	I$_\gamma$: 24.
788	100	788	2$^+$	0	0$^+$	I$_\gamma$: 100.
970	2.6	1758	2$^+$	788	2$^+$	
1023	6.1	1758	2$^+$	734	0$^+$	I$_\gamma$: 8.7.
1230	6.0	2017	3$^-$	788	2$^+$	I$_\gamma$: 3.6.
1318		2104		788	2$^+$	

Continued on next page (footnotes at end of table)

^{97}Mo(n,γ) E=res 1972Ga07,1976Mu09,1969Sh08 (continued)

γ(^{98}Mo) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Comments
1431	<1	1432	2^+	0	0^+	I_γ: 4.
1544	4.8	2333		788	2^+	I_γ: 2.6.
5685	0.8	(8644)	$2^+,3^+$	2959		
6017	2.0	(8644)	$2^+,3^+$	2627		
6418	1.5	(8644)	$2^+,3^+$	2226		
6536	1.5	(8644)	$2^+,3^+$	2104		
6623	1.5	(8644)	$2^+,3^+$	2017	3^-	
6885	0.8	(8644)	$2^+,3^+$	1758	2^+	
7133	1.0	(8644)	$2^+,3^+$	1510	4^+	
7212	0.8	(8644)	$2^+,3^+$	1432	2^+	
[x]7277	0.8					
7855	1.1	(8644)	$2^+,3^+$	788	2^+	
7910	1.1	(8644)	$2^+,3^+$	734	0^+	

[†] From 1972Ga07.
[‡] From 1972Ga07 for E(n)=2 keV. Values for E(n)=25 keV (relative to 100 for 788γ) are given under comments. Authors also give values for E(n)=thermal.
[x] γ ray not placed in level scheme.

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Level Scheme

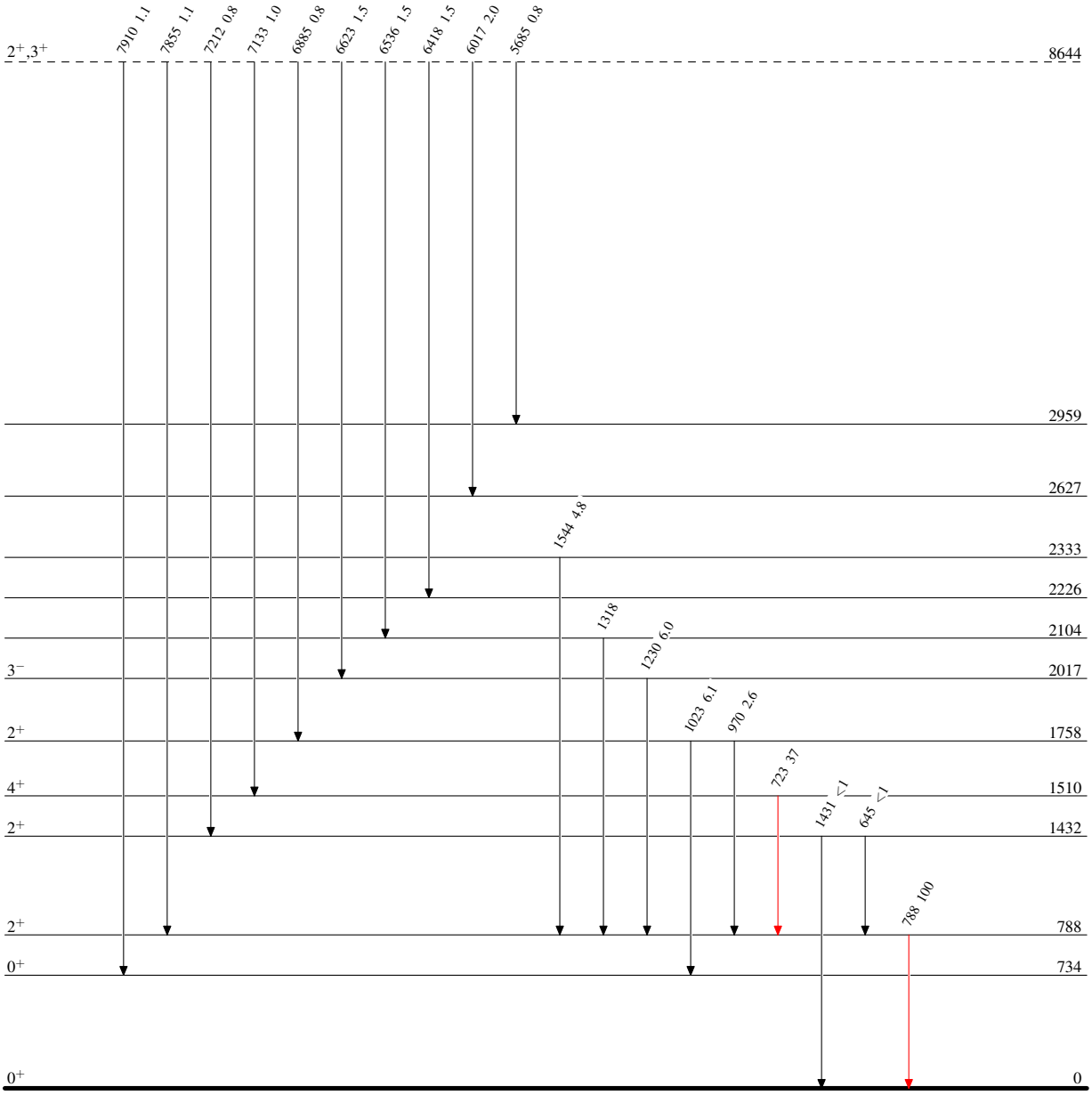
Intensities: Relative I_γ

Legend

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

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

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



$^{98}_{42}Mo_{56}$