^{92}Mo(p,γ) 1983Ay01,1973Cl03,1969Ej01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 112, 1163 (2011)	15-Dec-2010

1983Ay01: E=2.2 MeV to 2.7 MeV, FWHM=0.7 keV, 94.1% ^{92}Mo target, Ge(Li) and NaI detectors; measured Eγ, branching, $\gamma(\theta)$, excitation functions.

1973Cl03: E=2.4 MeV to 3.0 MeV,Ge(Li) detector in three-crystal pair spectrometer for average γ yield function;Ge(Li)-NaI p-γ coin; average resonance γ spectroscopy.

1969Ej01: E≈5.79-5.98 MeV and 6.50-6.65 MeV, 97.6% ^{92}Mo target,Ge(Li) detectors; measured Eγ, Iγ on and off resonance for E(p)=5.874 IAS and in vicinity of expected 6.54 MeV IAS.

^{93}Tc Levels

E(level)[†]	J$^\pi$[‡]	E(p)(lab)[&]	Comments
0	$9/2^+$[@]		
390 *1*	$1/2^-$[@]		
680 *1*	5/2,7/2[#]		J$^\pi$: calculated yield is too high for J$^\pi$=1/2$^-$ and J=3/2 and too low for J$^\pi$=9/2$^+$, but does not rule out J$^\pi$=1/2$^+$.
1193 *1*	$5/2^+$[#]		J$^\pi$: Note: this value is inconsistent with log *ft*=7.4 from $(9/2)^+$ in ^{93}Ru ε decay to this state. Yield also consistent with $3/2^+$ and possibly $1/2^+$, but 1193γ feeds $9/2^+$ g.s. possibly, this is an unresolved doublet In this study. ADOPTED J≥7/2.
1406 *1*	$1/2^-,3/2^-$[#]		J$^\pi$: note that adopted value is $(5/2^-)$. calculated yields for J$^\pi$=1/2$^-$ and 3/2$^-$ are much higher than experimental yield; those for all other J$^\pi$ are significantly lower. adopted J$^\pi$=$(5/2^-)$.
1499 *2*	$1/2^-,3/2^-$[@]		J$^\pi$: experimental and calculated yields are In poor agreement for J≤7/2 and for J$^\pi$=9/2$^+$.
1555 *2*	$1/2^-,3/2^-$[#]		J$^\pi$: experimental and calculated yields are In reasonable agreement for J$^\pi$=1/2$^-$ only.
1787 *2*	$1/2^-,3/2^-$[@]		J$^\pi$: experimental and calculated yields are In reasonable agreement for J$^\pi$=3/2$^+$ only.
2142 *2*			J$^\pi$: experimental and calculated yields are In reasonable agreement for J$^\pi$=1/2$^+$, 3/2$^+$, 5/2$^-$ and 7/2$^-$.
2429 *2*	≤5/2[#]		J$^\pi$: experimental and calculated yields are In reasonable agreement for J$^\pi$=1/2$^+$ and 3/2$^+$.
2563 *3*	$3/2^+,5/2^+$[@]		J$^\pi$: experimental and calculated yields are In reasonable agreement for J$^\pi$=1/2$^-$ and 3/2$^-$ only.
3213.5 *25*			E(level): from Adopted Levels.
6105	1/2,3/2	2040	
6365	1/2,3/2,5/2	2303	
6462	3/2	2401	
6469	5/2	2408	
6477	5/2,7/2	2416	
6530	3/2	2470	
6577	3/2	2517	
6597	3/2	2537	
6599	1/2,3/2,5/2	2540	
9898	$(1/2,3/2,5/2^-)$	5874	E(p)(lab): from 1969Ej01. J$^\pi$: primary γ to J$^\pi$=1/2$^-$. Analog of $3/2^+$ ^{93}Mo(1492 level).

[†] From 1973Cl03 if E<6000; from E(p) at resonance and S(p)=4086.5 *10* (2003Au03, 2009AuZZ) for E≥6000.

[‡] From $\gamma(\theta)$ (1983Ay01), except As noted.

[#] Proposed by 1973Cl03 based on comparison between experimental and calculated yields in average resonance γ spectroscopy, assuming J$^\pi$(390 level)=1/2$^-$. However, agreement between calculated and observed yield is unconvincing in many cases, and evaluator does not consider these values to be a reliable basis for assigning J$^\pi$.

[@] From Adopted Levels.

[&] E(p)(lab) for resonance (1983Ay01). ΔE not stated by authors.

^{92}Mo(p,γ) 1983Ay01,1973Cl03,1969Ej01 (continued)

$\gamma(^{93}Tc)$

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π
680	5/2,7/2	680		0	$9/2^+$
1193	$5/2^+$	1193		0	$9/2^+$
1406	$1/2^-$,$3/2^-$	1016		390	$1/2^-$
1499	$1/2^-$,$3/2^-$	1109		390	$1/2^-$
1787	$1/2^-$,$3/2^-$	1397		390	$1/2^-$
2429	≤5/2	930[@]		1499	$1/2^-$,$3/2^-$
		2039		390	$1/2^-$
6105	1/2,3/2	2891	11	3213.5	
		4550	5	1555	$1/2^-$,$3/2^-$
		4606	1	1499	$1/2^-$,$3/2^-$
		5715	82	390	$1/2^-$
6365	1/2,3/2,5/2	5975	100	390	$1/2^-$
6462	3/2	4675	6	1787	$1/2^-$,$3/2^-$
		4907	10	1555	$1/2^-$,$3/2^-$
		4963	3	1499	$1/2^-$,$3/2^-$
		6072	80	390	$1/2^-$
6469	5/2	4914	100	1555	$1/2^-$,$3/2^-$
6477	5/2,7/2	4922	11	1555	$1/2^-$,$3/2^-$
		4978	11	1499	$1/2^-$,$3/2^-$
		5797	78	680	5/2,7/2
6530	3/2	4975	10	1555	$1/2^-$,$3/2^-$
		5337	3	1193	$5/2^+$
		6140	87	390	$1/2^-$
6577	3/2	3363	2	3213.5	
		4435	9	2142	
		5022	8	1555	$1/2^-$,$3/2^-$
		5078	2	1499	$1/2^-$,$3/2^-$
		6187	80	390	$1/2^-$
6597	3/2	4810	13	1787	$1/2^-$,$3/2^-$
		5098	22	1499	$1/2^-$,$3/2^-$
		5404	25	1193	$5/2^+$
		6207	40	390	$1/2^-$
6599	1/2,3/2,5/2	5100	38	1499	$1/2^-$,$3/2^-$
		6209	62	390	$1/2^-$
9898	(1/2,3/2,5/2$^-$)	8110	15[#] *8*	1787	$1/2^-$,$3/2^-$
		8398	31[#] *8*	1499	$1/2^-$,$3/2^-$
		9507	54[#] *8*	390	$1/2^-$

[†] From level energy difference, except as noted; ΔE not stated by authors.
[‡] % photon branching for each level; from 1983Ay01, unless indicated otherwise.
[#] From 1969Ej01.
[@] Placement of transition in the level scheme is uncertain.

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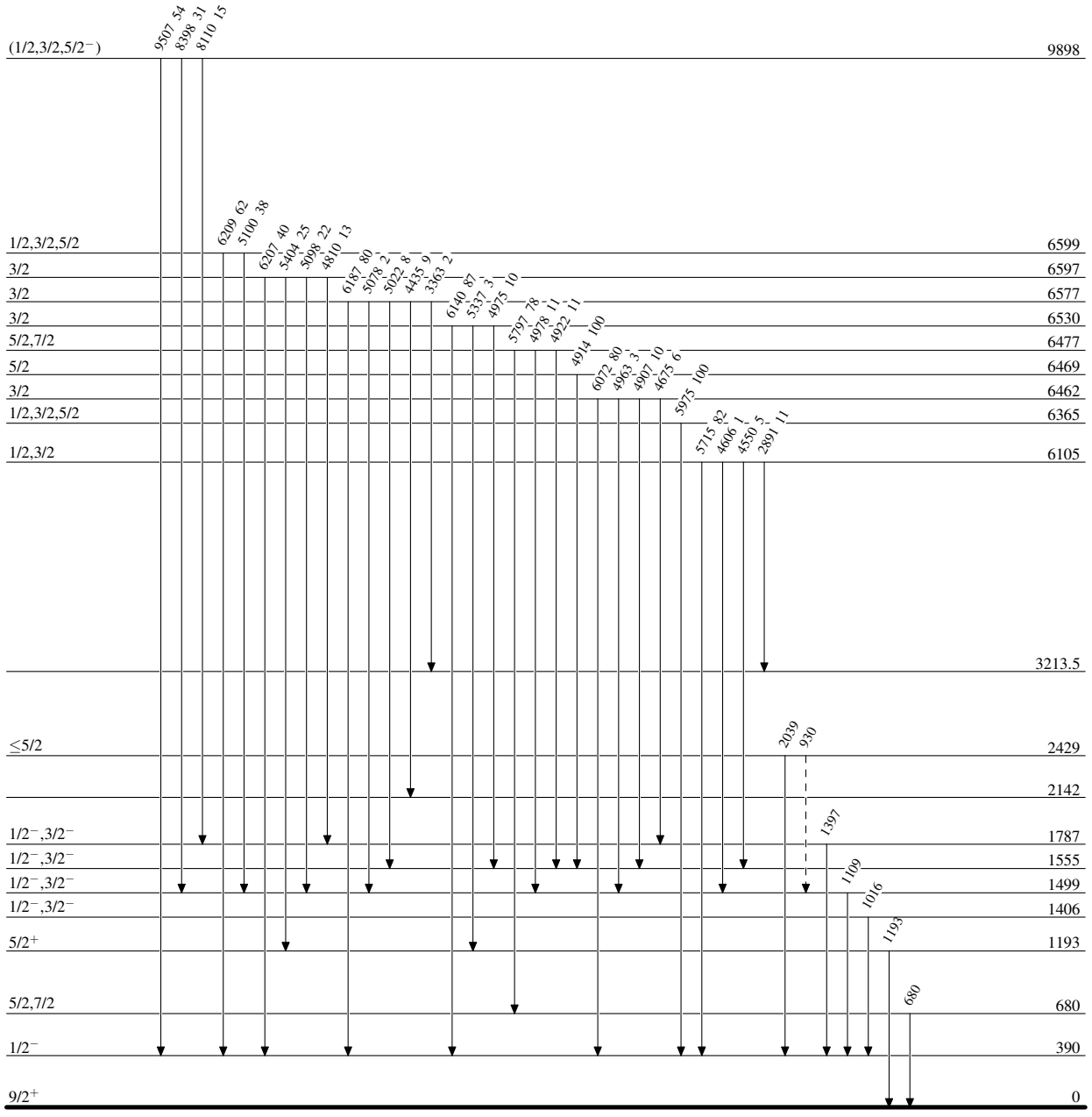
Legend

Level Scheme

Intensities: % photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{93}_{43}Tc_{50}$