^{92}Mo(d,n) 1971Ri12,1971Bo33,1970Za09

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

Target isospin =4.

1971Ri12: E=12 MeV; FWHM=1.9 ns tof neutron detection (FWHM≈100 keV for g.s. and≈60 keV for E(level)≈5 MeV),≥99% ^{92}Mo target, θ(lab)=15°−70° (in 5° steps), NE213 liquid scintillators, pulse-shape discrimination; measured σ(θ); DWBA analysis (normalization factor=1.48).

1971Bo33: E=6.25 MeV and 7.0 MeV; FWHM=1.2 ns tof neutron detection (FWHM≈100 keV for g.s.), θ(c.m.)=0° to at least 30° (to 90° for strongest states); measured σ(θ); DWBA analysis (normalization factor=1.48).

1970Za09: E=12 MeV; neutron tof; θ(lab)=15.5°, 20°, 25°, also 30°, 35°, 40°, 45° for g.s. analog only; measured σ(θ) for IAS; DWBA analysis. See also 1971Za05 (for further analysis of data from 1970Za09).

^{93}Tc Levels

E(level)[†]	L[‡]	S[#]	Comments
0	4	0.72	
390 *20*	1	0.23	S: if J=1/2.
1200[@]			
1520 *20*	1	0.075,0.034	
1780 *20*	1	0.10,0.045	
2590[@]	2	0.011	
3210 *20*	2	0.023	E(level): 3170 from 1971Ri12.
3370 *20*	2	0.30	S: 0.62 if J=3/2 (1971Bo33).
3900[@]	0	0.024	
3950 *20*			E(level): 3980 in 1971Ri12. L,S: L=3, S=0.060 ($f_{5/2}$) or 0.031 ($f_{7/2}$) from 7 MeV data of 1971Bo33; L=(0), S undetermined (1971Ri12).
4110 *20*	0	0.096	
4690[@]			
4770 *20*	2	0.069,0.039	
4900[@]	2	0.029,0.020	
5060 *20*	2	0.032,0.019	E(level): 5010 in 1971Ri12.
5180 *20*			E(level),L,S: 1971Ri12 report E=5150+5180 doublet for which L=2 and S=0.064, 0.037, respectively, for $d_{3/2}$, $d_{5/2}$ transfer. 1971Bo33, however, obtain L=0 based on a more detailed angular distribution.
5350 *20*	2	0.091,0.052	E(level): 5300 in 1971Ri12. L: 1971Bo33 determine L=0 for this state, but this disagrees with L=2 in (^{3}He,d) for a 5305 *12* state.
5490 *20*	0	0.066	E(level): 5440 in 1971Ri12.
5500[@]			
5620[@]	0	0.036	
5680[@]	0	0.018	
5780[@]	2	0.064,0.037	
5930[@]	0	0.074	
8397[&]	2[a]	0.32[a]	J$^{\pi}$: 5/2^{+} if analog of ^{93}Mo(g.s.).
9332[&]	0[a]	0.031[a]	J$^{\pi}$: 1/2^{+} analog of ^{93}Mo(943 level).
9780[&]			Analog of 7/2^{+} ^{93}Mo(1363 level). S shown for this level in 1970Za09 actually belongs with the $d_{3/2}$ analog state.
9898[&]	2[a]	0.18[a]	S: if J=3/2. Analog of ^{93}Mo(1492 level).

Continued on next page (footnotes at end of table)

^{92}Mo(d,n) 1971Ri12,1971Bo33,1970Za09 (continued)

^{93}Tc Levels (continued)

† From 1971Bo33, if not indicated otherwise.

‡ Based on DWBA analysis of $\sigma(\theta)$; from 1971Ri12, except as noted.

From DWBA analysis (1971Ri12) assuming $g_{9/2}$ and $d_{5/2}$ orbitals for L=4 and 2 transfer, respectively. Data from 1971Ri12 and 1971Bo33 are in good agreement for strongly populated levels and agree within a factor of≤2 for weaker states.

@ From 1971Ri12; absent in 1971Bo33.

& Observed by 1970Za09; E from Adopted Levels (E not stated by authors).

a From DWBA analysis of $\sigma(\theta)$ (1970Za09) assuming the form factor of the transferred proton to be the same as that of the neutron in the parent analog state.