^{96}Mo(d,pγ) 1975Di15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 111, 525 (2010)	19-Nov-2009

^{97}Mo Levels

E(level)†	J$^{\pi}$‡	$T_{1/2}$	Comments
0.0	5/2^{+}		
481.0	3/2^{+}		
658.0	7/2^{+}		
679.5	1/2^{+}		
719.4	5/2^{+}		J$^{\pi}$: 1/2,3/2 from 238.4γ excit.
720.8	3/2^{+}		
888.4	1/2^{+}		J$^{\pi}$: 1/2,3/2 from 407.4γ excit.
1024.4	7/2^{+}		J$^{\pi}$: 5/2,7/2 from 1024.4γ excit.
1092.5	3/2^{+}		
1116.6	9/2^{+}		J$^{\pi}$: 7/2,9/2 from 1116.6γ excit.
1265.0	3/2^{+},5/2^{+}		
1268.5	7/2^{+}		
1284.5	3/2^{+},5/2^{+}		
1437.0	11/2^{-}	<30 ns	J$^{\pi}$: 11/2,13/2 from 320.4γ excit. $T_{1/2}$: from d(320.4γ)(t).
1516.0	9/2^{+}		
1547.7	1/2^{+}		
1558.4	5/2^{-},7/2^{-}		
1565.5	(7/2)		

† From 1975Di15, deduced from Eγ.
‡ From Adopted Levels.

γ(^{97}Mo)

ED=8 MeV;Ge(Li) detectors, FWHM=2.3-3 keV.
Measured Eγ, Iγ, Ice, γγ, pγ, γ(θ), dγ(t), excit.

E_i(level)	J^π_i	E_γ	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[@]	Comments
481.0	3/2+	481.0 *2*	236 *35*	0.0	5/2+	M1+E2	+0.47 *3*	0.00445	α(K)=0.00391; α(L)=0.00045 Mult.: α(K)exp=0.0042 *7* (theory α(K)=0.00391).
658.0	7/2+	658.0 *2*	100	0.0	5/2+	M1+E2	−0.05 *3*	0.00207	α(K)=0.00180; α(L)=0.000201 Mult.: α(K)(M1)=0.00182 assumed for normalization of ce- and γ- spectra. (theory α(K)=0.00180).
679.5	1/2+	199.0[a] *5*	≈2[#]	481.0	3/2+				
		679.5 *2*	185 *10*	0.0	5/2+	E2		0.00203	α(K)=0.00176; α(L)=0.00020 Mult.: α(K)exp=0.0019 *2* (theory: α(K)=0.00176).
719.4	5/2+	238.4 *2*	32 *2*	481.0	3/2+	M1+E2	−0.06 *6*	0.0245	α(K)=0.0215; α(L)=0.00248 Mult.: α(K)exp=0.044 *7* (theory: α(K)=0.0215).
		719.4 *6*	80 *30*	0.0	5/2+	M1+E2	−0.47 *10*	0.00170	α(K)=0.00148; α(L)=0.00017 Mult.: α(K)exp=0.0019 *9* (theory: α(K)=0.00148).
720.8	3/2+	720.8 *6*	80 *30*	0.0	5/2+	M1+E2	−0.19 *9*	0.00168	α(K)=0.00147; α(L)=0.00016 Mult.: α(K)exp=0.0019 *9* (theory: α(K)=0.00147).
888.4	1/2+	407.4 *2*	38 *5*	481.0	3/2+	M1(+E2)[&]		0.00642	Mult.: α(K)exp=0.0052 *9* (theory: α(K)(M1)=0.00559, α(K)(E2)=0.000776).
		888.0 *7*	4 *1*	0.0	5/2+	E2		0.00103	α(K)=0.000895; α(L)=0.000102
1024.4	7/2+	1024.4 *3*	57 *6*	0.0	5/2+	M1+E2	−0.54 *+14−24*		Mult.: α(K)exp=0.00066 *21* (theory α(K)=0.00067).
1092.5	3/2+	203.8[a] *9*	≈2[#]	888.4	1/2+				
		1092.5 *3*	40 *4*	0.0	5/2+	M1+E2	+0.51 *+24−15*		Mult.: α(K)exp=0.00083 *21* (theory: α(K)=0.00058).
1116.6	9/2+	1116.6 *3*	63 *6*	0.0	5/2+	E2			Mult.: α(K)exp=0.00044 *10* (theory: α(K)=0.000530).
1265.0	3/2+,5/2+	783.9[a] *6*	≈2[#]	481.0	3/2+				
		1265.1 *5*	50 *10*	0.0	5/2+				
1268.5	7/2+	549.8 *4*	12 *3*	719.4	5/2+	M1,E2[&]		0.0034 *2*	Mult.: α(K)exp=0.0037 *13* (theory: α(K)(M1)=0.00273, α(K)(E2)=0.00315).
		787.9 *6*	13 *3*	481.0	3/2+	M1,E2[&]		0.00138	Mult.: α(K)exp=0.00093 *33* (theory: α(K)(M1)=α(K)(E2)=0.00120).
		1268.2 *5*	28 *5*	0.0	5/2+				
1284.5	3/2+,5/2+	803.1 *3*	28 *4*	481.0	3/2+	M1,E2[&]		0.00132	Mult.: α(K)exp=0.00083 *23* (theory: α(K)(M1)=α(K)(E2)=0.00115).
		1284.8 *5*	10 *3*	0.0	5/2+	M1+E2	−0.8 *+3−4*		
1437.0	11/2−	320.4 *3*	34 *6*	1116.6	9/2+	E1[&]		0.00466	α(K)=0.00406; α(L)=0.000455 Mult.: α(K)exp=0.0042 *15* (theory: α(K)=0.00406).
1516.0	9/2+	1516.1 *10*	10 *3*	0.0	5/2+	E2			
1547.7	1/2+	1066.7 *5*	10 *2*	481.0	3/2+				
1558.4	5/2−,7/2−	838.6 *5*	15 *4*	719.4	5/2+	(E1)[&]		0.00047 *4*	α(K)=0.000413; α(L)=0.000454 Mult.: α(K)exp=0.00060 *27* (theory α(K)=0.000413).

^{96}Mo(d,pγ) 1975Di15 (continued)

γ(^{97}Mo) (continued)

E_i(level)	J^π_i	E_γ	I_γ[†]	E_f	J^π_f	Comments
1558.4	$5/2^-,7/2^-$	1077.4 *5*	10 *2*	481.0	$3/2^+$	E_γ: not included in adopted level scheme because of poor energy fit.
1565.5	(7/2)	1565.5 *6*	14 *3*	0.0	$5/2^+$	

[†] Relative Iγ measured at θ=55°.
[‡] From adopted gammas, unless otherwise noted.
[#] Derived from the p(320.4γ) coincidence measurements.
[@] For M1(+E2) transitions, the value quoted is α(M1); for M1,E2 transition the value given includes both α(M1) and α(E2).
[&] M determined in this data set.
[a] This γ not found deexciting this level in other data sets.
[x] γ ray not placed in level scheme.

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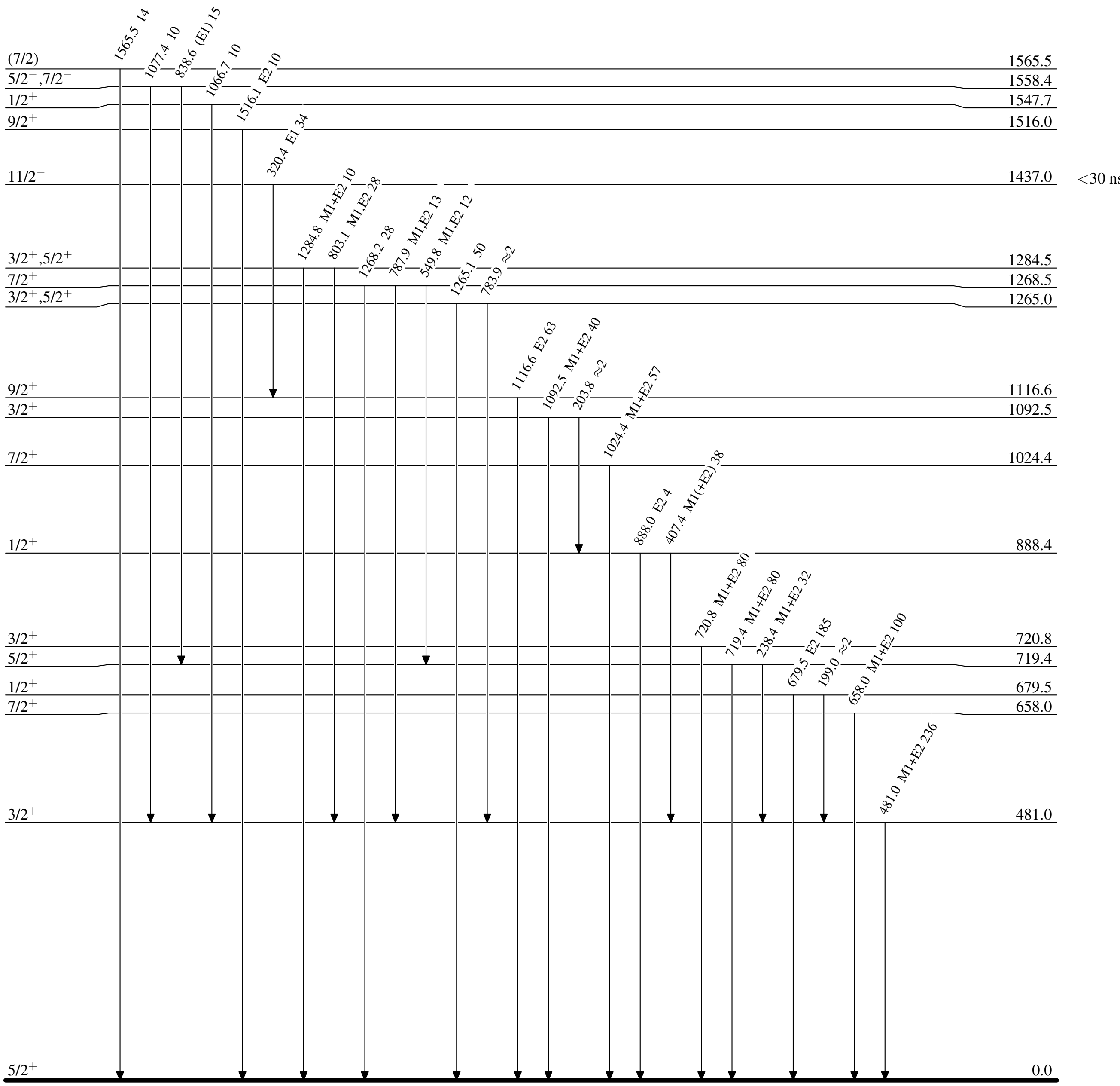
Level Scheme

Intensities: Relative photon branching from each level



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