^{93}Nb(α,3nγ) 1982Be01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 107, 2423 (2006)	1-Jan-2006

1982Be01: ^{93}Nb(α,3nγ) E=30 MeV to 50 MeV. Ge(Li) . Measured Eγ, Iγ, $\gamma\gamma$, excitation functions, $\gamma(\theta)$, γ(t).
1971Le20: ^{92}Mo(α,npγ) E=30 MeV. Superseded by 1982Be01.

^{94}Tc Levels

The authors report the 168.7-keV, 185.8-keV, and 90.5-keV γ's to have a flat background with 50 ns<$T_{1/2}$<10 μs. From this they propose an isomeric state above the 2420.7-keV level.
1982Be01: interchange the sequence of the 169-186 cascade with the intermediate level at 2234.9 keV. The evaluators adopted the sequence of (HI,xnγ) placing the (10$^-$) level at 2252.0.

E(level)	J$^\pi$[†]	$T_{1/2}$[‡]	E(level)	J$^\pi$[†]	E(level)	J$^\pi$[†]	$T_{1/2}$[‡]
0	7$^+$		1447.3 *7*	(8$^+$)	2346.7 *17*	(13$^+$)	≈3[@] ns
102.1 *8*	(6$^+$)	<5[#] ns	2064.0 *13*	(11$^+$)	2420.7 *17*	(11$^-$)	
211.1 *13*	(5)$^+$	<5[#] ns	2066.2 *10*	(9$^-$)	3454.1 *20*	(13$^-$)	
1373.5 *9*	(9$^+$)		2252.0 *14*	(10$^-$)	4059.3 *22*	(15$^-$)	

[†] From Adopted Levels.
[‡] From γ(t) with respect to beam pulse.
[#] From 1982Be01.
[@] From 1971Le20.

γ(^{94}Tc)

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]
[x]90.5	6 *1*					
102.1	29 *3*	102.1	(6$^+$)	0	7$^+$	
109.0	10 *1*	211.1	(5)$^+$	102.1	(6$^+$)	
168.7	43 *4*	2420.7	(11$^-$)	2252.0	(10$^-$)	(D)
185.8	41 *4*	2252.0	(10$^-$)	2066.2	(9$^-$)	(D)
282.7	44 *4*	2346.7	(13$^+$)	2064.0	(11$^+$)	(Q)
605.2	27 *3*	4059.3	(15$^-$)	3454.1	(13$^-$)	(Q)
618.8	21 *3*	2066.2	(9$^-$)	1447.3	(8$^+$)	(D)
690.5	57 *8*	2064.0	(11$^+$)	1373.5	(9$^+$)	(Q)
692.8	30 *6*	2066.2	(9$^-$)	1373.5	(9$^+$)	
1033.4	32 *3*	3454.1	(13$^-$)	2420.7	(11$^-$)	(Q)
1345.2	5 *1*	1447.3	(8$^+$)	102.1	(6$^+$)	
1373.5	100 *10*	1373.5	(9$^+$)	0	7$^+$	(Q)
1447.3	30 *3*	1447.3	(8$^+$)	0	7$^+$	(D)

[†] In-beam intensity measured at E=45 MeV.
[‡] Deduced from $\gamma(\theta)$ angular distribution coefficients.
[x] γ ray not placed in level scheme.

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Level Scheme

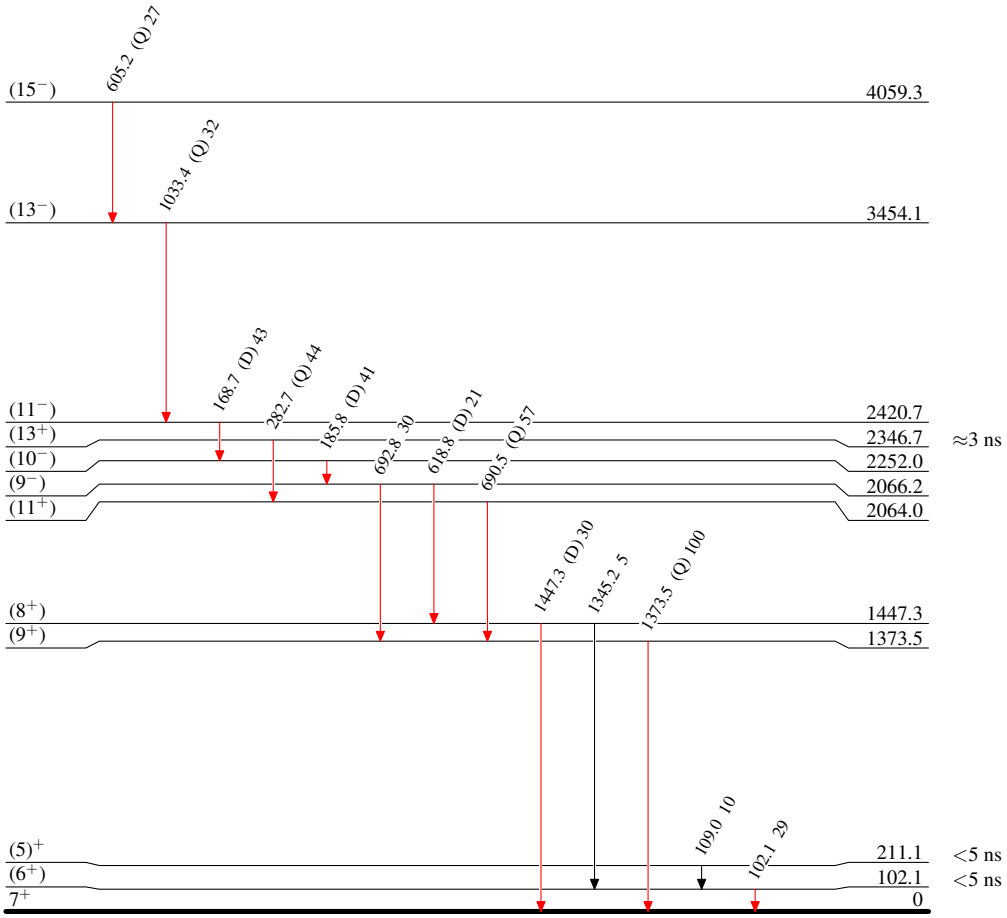
Intensities: Relative I_γ

Legend

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

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

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



$^{94}_{43}Tc_{51}$