^{124}Sn(α,2nγ) 1971Ke20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180, 1 (2022)	1-Oct-2021

1971Ke20: excitation functions 16-30 MeV, enriched target, $\gamma(\theta)$.
1973Wy01: E=25 MeV, relative α(K) were measured. Iγ data from 1970Wa13. The beam energy was chosen to match the beam energy used in 1970Wa13 considering the thicknesses of the targets.
1970Wa13: E=25 MeV, Ge(Li), scintillator, enriched target, $\sigma(\theta)$.

^{126}Te Levels

E(level)‡	J$^\pi$†	$T_{1/2}$	Comments
0.0	0^+		
666.2	2^+		
1361.3	4^+		
1420.1	2^+		
1776.6	6^+		
2218.6	5^-		
2396.5	6^+		
2497.3	7^-		
2766.6	8^+		
2975.2	10^+	10.7 ns *9*	$T_{1/2}$: from Adopted Levels.
3194.0	9^-		

† Spin and parity values are those given under Adopted Levels.
‡ E(levels) are from a least-squares fit to Eγ data with the assumption that the uncertainties are the same for all the transitions.

γ(^{126}Te)

Evaluators gave α(K)exp based on the measured values using theoretical value of 0.00325 for pure E2 of 666 keV transition.

E$_\gamma$	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.‡	α#	Comments
208.6	14	2975.2	10^+	2766.6	8^+	Q		A_2=+0.36 *2*, A_4=−0.09 *4*.
278.8	1	2497.3	7^-	2218.6	5^-	Q		A_2=+0.30 *10*, A_4=−0.36 *12*.
x297.5	3							A_2=−0.51 *2*, A_4=+0.05 *5*.
415.3	66	1776.6	6^+	1361.3	4^+	E2	0.0140 *2*	α(K)=0.01183 *17*; α(L)=0.001732 *25*; α(M)=0.000349 *5* α(K)exp=0.0107 *16* (1973Wy01). A_2=+0.32 *3*, A_4=−0.06 *6*.
x572.3	4							A_2=+0.78 *7*, A_4=+0.30 *15*.
x593.3	4							A_2=+0.34 *6*.
620.1	2	2396.5	6^+	1776.6	6^+			
666.2	100	666.2	2^+	0.0	0^+	E2	0.00378 *6*	α(K)=0.00325 *5*; α(L)=0.000430 *6* α(K)exp=0.00325 *49* (1973Wy01). A_2=+0.28 *1*, A_4=−0.05 *3*.
695.1	88	1361.3	4^+	666.2	2^+	E2	0.00340 *5*	α(K)=0.00292 *4*; α(L)=0.000384 *6* α(K)exp=0.0036 *5* (1973Wy01). A_2=+0.32 *3*, A_4=−0.06 *6* for 695γ + 697γ.
696.7	13	3194.0	9^-	2497.3	7^-			A_2=+0.32 *3*, A_4=−0.06 *6* for 695γ + 697γ.
x713.5	5							A_2=+0.46 *12*.
720.7	16	2497.3	7^-	1776.6	6^+	(D)		A_2=−0.21 *2*, A_4=+0.04 *4*.
753.9	3	1420.1	2^+	666.2	2^+			A_2=+0.01 *5*, A_4=−0.04 *12*.
857.4	12	2218.6	5^-	1361.3	4^+	(D)		A_2=−0.18 *2*, A_4=+0.05 *4*.
990.0	26	2766.6	8^+	1776.6	6^+	E2	0.00149	α=0.00149; α(K)=0.00127 *4*; α(L)=0.00016 *1* α(K)exp=0.00097 *15* (1973Wy01). A_2=+0.34 *1*, A_4=−0.06 *3*.

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^{124}Sn(α,2nγ) 1971Ke20 (continued)

γ(^{126}Te) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
1035.1	3	2396.5	6^+	1361.3	4^+	Q	A_2=+0.30 *4*, A_4=−0.09 *10*.
[x]1064.1	5						A_2=+0.37 *6*, A_4=−0.05 *12*.

[†] At E(α)=20 MeV, values are relative to I(666.2γ)=100.
[‡] From A_2 and A_4 values and α(K)exp.
[#] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[x] γ ray not placed in level scheme.

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Level Scheme

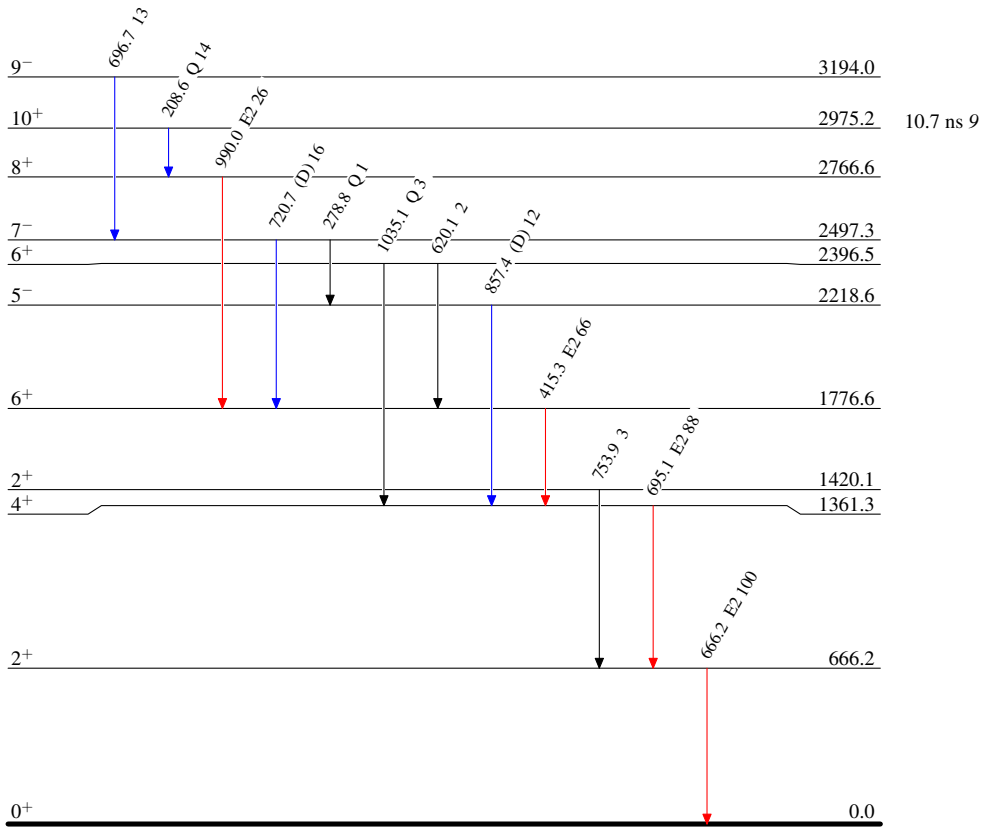
Intensities: Relative I_γ

Legend

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

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

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



$^{126}_{52}Te_{74}$