

$^{114}\text{Sn}(\alpha,2n\gamma)$ 1969Lu05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

E=33.5 MeV (1969Lu05), measured γ (semi); E=25-75 MeV (1970Wa13), measured γ (semi); E=27.5 MeV (1973Wy01), measured Ice(K) E=22-24 MeV (1982Ch01) enriched target measured γ , $\gamma\gamma$ $\gamma(\theta)$.

 ^{116}Te Levels

E(level) [†]	J ^π [‡]
0.0	0 ⁺
679.0 3	2 ⁺
1359.9 4	4 ⁺
2003.0	6 ⁺
2773.9 7	8 ⁺
3028.7 7	(7 ⁻)
3575.8	10 ⁺
4340.4	

[†] 1969Lu05 and 1970Wa13 determine level assignments by comparing γ -normalizations.

[‡] Based on γ multiplicities.

 $\gamma(^{116}\text{Te})$

ce(K)-643 γ :ce(K)-(679 γ +681 γ):ce(K)-771g=52 8:100 15:8.7 13 (1973Wy01).

E_γ [†]	I_γ [†]	E_i (level)	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
643.0 4	67 6	2003.0	6 ⁺	1359.9	4 ⁺	E2	$\alpha(\text{K})_{\text{exp}}=4.4\times 10^{-3}$ 9 (1973Wy01) Mult.: $A_2=0.43$ 8 (1969Lu05).
678.8 [#] 4	100 8	679.0	2 ⁺	0.0	0 ⁺	(E2)	$\alpha(\text{K})_{\text{exp}}=3.0\times 10^{-3}$ 6 (1973Wy01) Mult.: $A_2=0.42$ 8 (1969Lu05), $\alpha(\text{K})_{\text{exp}}$ is for 679 +681.
680.6 [#] 4	88 7	1359.9	4 ⁺	679.0	2 ⁺	(E2)	E_γ : unplaced by 1969Lu05, placed by evaluators on the basis of (HI,xn γ).
764.6	6	4340.4		3575.8	10 ⁺		
770.8 4	39 5	2773.9	8 ⁺	2003.0	6 ⁺	E2	$\alpha(\text{K})_{\text{exp}}=1.9\times 10^{-3}$ 4 (1973Wy01) Mult.: $A_2=0.41$ 10 (1969Lu05).
801.6 3	25	3575.8	10 ⁺	2773.9	8 ⁺		
1025.3 [@] 3	17	3028.7	(7 ⁻)	2003.0	6 ⁺		

[†] E_γ and I_γ are from 1969Lu05.

[‡] $\alpha(\text{K})_{\text{exp}}$ has been normalized by assuming E2 for the 679+681 doublet, corrected for angular anisotropy expected for aligned nuclei (1973Wy01). Both 1969Lu05 and 1970Wa13 find $\gamma(\theta)$ compatible with E2 assignments for the placed γ 's. $\gamma(\theta)$ was measured at either 4 or 5 angles. K/L ratios are consistent with multipolarity suggested from $\alpha(\text{K})$ (1973Wy01). Ice(L) given by 1971WyZX.

[#] 1970Wa13 report $I(681\gamma)/I(679\gamma)=1.0$ I, with an energy separation of 1.7 keV I.

[@] 1025.3 γ (t) indicates $T_{1/2}>200$ ns.

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Level Scheme

Intensities: Relative I_γ

Legend

- \blacktriangleright $I_\gamma < 2\% \times I_\gamma^{\max}$
- $\color{blue}\blacktriangleright$ $I_\gamma < 10\% \times I_\gamma^{\max}$
- $\color{red}\blacktriangleright$ $I_\gamma > 10\% \times I_\gamma^{\max}$

