

Ti(n,n'),(n,n'γ) 1978Sm04,1974Di08,2017OI04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. Ota and E. A. Mccutchan		NDS 203,1 (2025)	1-Apr-2025

2017OI04: GELINA pulsed white neutron source and GAINS spectrometer. Target was a natural Ti disk. Measured γ production cross sections.

1974Di08: E=4.9, 5.4, and 5.9 MeV. Measured $\sigma_{\gamma}(\theta)$ at $\theta=55^{\circ}$ or 125° .

1978Sm04: E=1.5-4.5 MeV, $<\approx 200$ keV steps. Measured $\sigma(E(n'),\theta)$; using TOF for $\theta\approx 20^{\circ}-120^{\circ}$. Assignment based on comparison with Nuclear Data Sheets (reference not given by authors).

 ^{47}Ti Levels

E(level) [†]	J ^π [‡]	Comments
0.	5/2 ⁻	
159.4	7/2 ⁻	E(level): other: 158 26 (1978Sm04).
1252.1	9/2 ⁻	
1443.3	11/2 ⁻	
1549.7	3/2 ⁻	E(level): other: 1549 30 (1978Sm04).
1670 [#] 80		
1825.0	3/2 ⁺ , 5/2 ⁺	
2304 [#] 22		
2424 [#] 16		
2615 [#] 10		
≈ 2845 ? [#]		
≈ 3010 ? [#]		

[†] From E γ , except where noted.

[‡] As given in **2017OI04**, based on previous literature.

[#] From **1978Sm04**.

 $\gamma(^{47}\text{Ti})$

E γ [†]	I γ	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
1092.7		1252.1	9/2 ⁻	159.4	7/2 ⁻	E γ : other: 1093 3 (1974Di08). $\sigma_{\gamma}(\theta)$ (mb/sr) = 1.2 3 from 1974Di08 for E(n)=5.40 MeV 15 and $\theta=55^{\circ}$.
1284.9	1.4 2	1443.3	11/2 ⁻	159.4	7/2 ⁻	E γ : other: 1284 4 (1974Di08). $\sigma_{\gamma}(\theta)$ (mb/sr) = 1.4 2 from 1974Di08 for E(n)=5.40 MeV 15 and $\theta=55^{\circ}$.
1390.3		1549.7	3/2 ⁻	159.4	7/2 ⁻	
1825.0		1825.0	3/2 ⁺ , 5/2 ⁺	0.	5/2 ⁻	
^x 1863 [‡] 5	0.4 2					$\sigma_{\gamma}(\theta)$ (mb/sr) = 0.4 2 from 1974Di08 for E(n)=5.40 MeV 15 and $\theta=55^{\circ}$. E γ : from 1974Di08 .

[†] From **2017OI04**.

[‡] Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

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Level SchemeIntensities: Relative I_γ 