

(HI,xn γ): 2.55 μs delayed 1984Ch11,1995Ni10

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, A. A. Sonzogni		NDS 114, 435 (2013)	1-Apr-2013

1984Ch11: Thin ^{93}Nb and $^{92,94,95}\text{Mo}$ targets at center of a large NaI sum spectrometer were bombarded with $^{58,60}\text{Ni}$ beams at 225-255 MeV to form ^{153}Tm , ^{152}Yb and ^{153}Yb compound nuclei producing ^{150}Er by two or three nucleon evaporation (charged particle plus neutron). The recoils were collected on a ^{208}Pb catcher foil (11 mg/cm 2), placed 21 cm downstream. Isotopic identification was based upon excitation function and cross bombardment results, x- γ coincidences and energy distributions of coincident sum-spectra.

1995Ni10: 250 MeV ^{58}Ni beams from ATLAS on two enriched ^{94}Mo targets. Evaporation residues were analysed by ANL Fragment Mass Analyser and collected on a Al-catcher foil. In-situ γ and conversion electron measurements were done using a large Ge detector and two Si p-i-n diodes.

Others: **1981NoZY**, **1982He08**, **1982No07**, **1982No08**.

 ^{150}Er Levels

E(level)	J^π ‡	$T_{1/2}$ ‡	Comments
0.0	0 $^+$	18.5 s 7	
1578.79 17	2 $^+$		
1786.36 21	3 $^-$		J^π : from level energy systematics, based on the 3 $^-$ level in ^{146}Gd , and compatibility of B(E3)(W.u.) assignments to the assumed E3 and determined E1 transitions with measured branching (1982No07 , 1984Ch11).
2260.9 3	5 $^-$		
2621.2 3	6 $^+$		
2633.3 3	7 $^-$		
2733.8 3	8 $^+$	≈ 20 ns	
2797.0 5	10 $^+$ †	2.55 μs 10	

† From assumption that 2797 keV level is an expected shell-model state of configuration= $(\pi h_{11/2})^4_{10+}$.

‡ From Adopted Levels.

 $\gamma(^{150}\text{Er})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
63.2 3	5.8 9	2797.0	10 $^+$	2733.8	8 $^+$	E2‡	$\alpha(\text{L})\text{exp}=15.9$ 5; $\alpha(\text{M})\text{exp}=3.5$ 5
100.5 1	75 5	2733.8	8 $^+$	2633.3	7 $^-$	E1‡	$\alpha(\text{K})\text{exp}=0.30$ 3
112.6 3	2.6 3	2733.8	8 $^+$	2621.2	6 $^+$		
207.6 2	101 7	1786.36	3 $^-$	1578.79	2 $^+$	E1‡	$\alpha(\text{K})\text{exp}=0.031$ 6
360.4 2	5.2 9	2621.2	6 $^+$	2260.9	5 $^-$		
372.4 2	101 7	2633.3	7 $^-$	2260.9	5 $^-$	E2†	$\alpha(\text{K})\text{exp}=0.026$ 7
474.5 2	107 7	2260.9	5 $^-$	1786.36	3 $^-$	E2†	$\alpha(\text{K})\text{exp}=0.014$ 5
1578.8 2	100	1578.79	2 $^+$	0.0	0 $^+$	(E2)†	
1786.3 3	6 2	1786.36	3 $^-$	0.0	0 $^+$	(E3)	

† Multipolarity of transition assumed from systematics and chosen to agree with $J^\pi=10^+$ for 2797 level.

‡ From $\alpha(\text{exp})$ based on intensity balance arguments.

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Legend

Level Scheme

Intensities: Type not specified

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- Coincidence

