

$^{130}\text{Te}(^{64}\text{Ni},\text{X})$ 1998Zh09

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar		NDS 129, 191 (2015)	28-Feb-2015

1998Zh09: $^{130}\text{Te}+^{64}\text{Ni}$ E=275 MeV; enriched target (88%), 1.2 mg/cm² thick; multidetector array γ , $\gamma\gamma$, $\gamma(\theta)$, $\gamma(t)$.
 Isotopic identification: γ 's gated with γ from ^{67}Ni excited state.
 The level scheme is that proposed by the authors.

 ^{128}Te Levels

E(level)	J ^{π}	T _{1/2}	Comments
0.0	0 ⁺		
743.20 10	2 ⁺		
1497.00 14	4 ⁺		
1519.80 14	2 ⁺		
1810.85 16	6 ⁺		
2028.3 3	4 ⁺		
2133.68 16	5 ⁻		
2337.55 19	(7) ⁻		
2396.48 19	4 ⁻		
2405.05 23	(4 ⁺ ,5,6 ⁺)		
2587.7 3			
2598.6 3			
2688.48 19	8 ⁺		
2790.4 4	10 ⁺	0.37 μs 3	T _{1/2} : from $\gamma(t)$ in 1998Zh09.
2857.8 3			
2900.9 4			
2923.7 3			
2951.7 3			
3150.95 22	(6) ⁺		
3182.7 4	(5) ⁻ ,(6) ⁺		
3507.8 5	(12 ⁺)		
4341.5 6	(14 ⁺)		
4430.9 6			
4668.2 6			

 $\gamma(^{128}\text{Te})$

E _{γ}	I _{γ} [†]	E _i (level)	J _i ^{π}	E _f	J _f ^{π}	Mult.	α^{\ddagger}	Comments
101.9 3	1.9 2	2790.4	10 ⁺	2688.48	8 ⁺	E2	1.60	$\alpha(\text{exp})=1.7$ 2 $\alpha(\text{K})=1.12$ 4; $\alpha(\text{L})=0.383$ 12; $\alpha(\text{M})=0.0792$ 24; $\alpha(\text{N+..})=0.0177$ 6 Mult.: from $\alpha(\text{exp})$.
262.8 1	4.8 5	2396.48	4 ⁻	2133.68	5 ⁻			
283.7 3	0.30 3	2688.48	8 ⁺	2405.05	(4 ⁺ ,5,6 ⁺)			
314.2 1	46 5	1810.85	6 ⁺	1497.00	4 ⁺			
323.2 1	6.7 8	2133.68	5 ⁻	1810.85	6 ⁺			
326.7 3	0.30 3	4668.2		4341.5	(14 ⁺)			
454.0 3	2.7 3	2587.7		2133.68	5 ⁻			
526.7 1	18 2	2337.55	(7) ⁻	1810.85	6 ⁺			
531.3 3	2.8 3	2028.3	4 ⁺	1497.00	4 ⁺			
563.3 3	2.0 2	2900.9		2337.55	(7) ⁻			
594.3 3	1.6 2	2405.05	(4 ⁺ ,5,6 ⁺)	1810.85	6 ⁺			
636.3 1	27 3	2133.68	5 ⁻	1497.00	4 ⁺			
717.4 3	2.5 3	3507.8	(12 ⁺)	2790.4	10 ⁺			
743.2 1	157 16	743.20	2 ⁺	0.0	0 ⁺			

Continued on next page (footnotes at end of table)

$^{130}\text{Te}(^{64}\text{Ni},\text{X})$ 1998Zh09 (continued) $\gamma(^{128}\text{Te})$ (continued)

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
753.8 1	100 10	1497.00	4 ⁺	743.20	2 ⁺
776.6 1	7.5 8	1519.80	2 ⁺	743.20	2 ⁺
787.7 3	1.8 2	2598.6		1810.85	6 ⁺
813.4 1	5.2 5	3150.95	(6) ⁺	2337.55	(7) ⁻
833.7 3	0.9 1	4341.5	(14 ⁺)	3507.8	(12 ⁺)
845.1 3	2.0 2	3182.7	(5) ⁻ ,(6) ⁺	2337.55	(7) ⁻
877.6 1	12 1	2688.48	8 ⁺	1810.85	6 ⁺
908.2 3	1.1 1	2405.05	(4 ⁺ ,5,6 ⁺)	1497.00	4 ⁺
923.1 3	0.40 4	4430.9		3507.8	(12 ⁺)
1046.9 3	1.3 1	2857.8		1810.85	6 ⁺
1112.8 3	0.9 1	2923.7		1810.85	6 ⁺
1140.8 3	1.2 1	2951.7		1810.85	6 ⁺

[†] From authors' statement that the estimated intensity error is less than 10%.

[‡] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

