

$^{129}\text{Te}$  IT decay (33.6 d) 1969Di01

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Janos Timar and Zoltan Elekes, Balraj Singh		NDS 121, 143 (2014)	31-May-2014

Parent:  $^{129}\text{Te}$ :  $E=105.50$  5;  $J^\pi=11/2^-$ ;  $T_{1/2}=33.6$  d 1; %IT decay=63 17

1969Di01: produced by  $^{130}\text{Te}(n,2n)$ ,  $^{128}\text{Te}(n,\gamma)$ ; Ge detector,  $\gamma\gamma$ -coin.

See also  $^{129}\text{Sb}$   $\beta^-$  decay.

 $^{129}\text{Te}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	$T_{1/2}$ <sup>†</sup>	Comments
0.0	3/2 <sup>+</sup>	69.6 min 3	
105.50 5	11/2 <sup>-</sup>	33.6 d 1	%IT=63 17; % $\beta^-$ =37 17 %IT,% $\beta^-$ : deduced by the evaluators from the measured ratio $I\beta(\text{to g.s.})/I\beta(\text{to 27 level in }^{129}\text{I})=0.576$ 18 (1965Be26), 0.34 (1968Go34) in equilibrium of 33.6-d and 69.6-min $^{129}\text{Te}$ activities, along with the $^{129}\text{I}$ level scheme. Uncertainty in the ratio from 1965Be26 is estimated in 1972Ho55 NDS evaluation.

<sup>†</sup> From Adopted Levels.

 $\gamma(^{129}\text{Te})$ 

$E_\gamma$	$I_\gamma$ <sup>†</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\alpha^\ddagger$	$I_{(\gamma+ce)}$ <sup>†</sup>	Comments
105.50 5	0.23 1	105.50	11/2 <sup>-</sup>	0.0	3/2 <sup>+</sup>	M4	429 7	100	ce(K)/( $\gamma+ce$ )=0.505 8; ce(L)/( $\gamma+ce$ )=0.384 6; ce(M)/( $\gamma+ce$ )=0.0895 18; ce(N+)/( $\gamma+ce$ )=0.0188 4 ce(N)/( $\gamma+ce$ )=0.0173 4; ce(O)/( $\gamma+ce$ )=0.00152 3 $\alpha(K)=217$ 3; $\alpha(L)=165.3$ 24; $\alpha(M)=38.5$ 6; $\alpha(N)=7.43$ 11; $\alpha(O)=0.656$ 10 Mult.: $\alpha(K)_{\text{exp}}=213$ 10 (1977So06). The ce data from 1972Ka61, 1969Ka32: ce(K)/( $\gamma+ce$ )=0.503 7, ce(L)/( $\gamma+ce$ )=0.383 7, ce(M+)/( $\gamma+ce$ )=0.112 3; K:L:M:N+=1.29 4:1:<0.26:0.053 4; L1:L2:L3=0.767 39:0.166 18:1 (1972Ka61), M1/M23=1/1.84 53, (N+O)/L=0.053 4. Other: K/LM=1.06 5 (1968Go34).

<sup>†</sup> For absolute intensity per 100 decays, multiply by 0.63 17.

<sup>‡</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

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Decay Scheme

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays

%IT=63 17

