

$^{130}\text{Te}(^{64}\text{Ni},\text{X}\gamma)$ 1998Zh09,1995Zh37

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

1998Zh09, 1995Zh37: E=275 MeV. Deep inelastic reaction. Measured $\gamma, \gamma\gamma$ using GASP array. Angular distribution of γ rays also determined. 19 γ transitions detected but level scheme is constructed for the yrast states only using 11 of the γ rays.

^{129}Te Levels

E(level)	J^π^\dagger	$T_{1/2}$	Comments
0.0	$3/2^+ \ddagger$		
106.0 <i>l</i>	$11/2^- \ddagger$	33.6 d <i>l</i>	$T_{1/2}$: from Adopted Levels.
866.0 <i>l</i>	$(15/2^-)$		
1524.0 <i>l</i>	$(19/2^-)$		
1655.0 <i>l</i>	$(17/2^-)$		J^π : three quasiparticle configuration= $\pi g_{7/2}^2 \otimes \nu h_{11/2}$.
1887.0 <i>l</i>	$(21/2^-)$		
1958.0 <i>l</i>	$(21/2^-)$		J^π : from Adopted Levels.
2138.0 <i>l</i>	$(23/2^+)$	33 ns <i>3</i>	Configuration= $\pi(g_{7/2}, d_{5/2}) \otimes \nu h_{11/2}$ (1998Zh09). $T_{1/2}$: from $\gamma(t)$. J^π : from level systematics with ^{128}Te and ^{130}Te by 1998Zh09.
2511.0 <i>l</i>	$(23/2^-)$		J^π : possible configuration= $\pi g_{7/2}^2 \otimes \nu h_{11/2}$.
3052.0 <i>l</i>			

† From 1998Zh09 for levels above $11/2^-$ based on $\gamma(\theta)$ and high-spin cascade, consistent with similar structures in neighboring nuclides.

‡ From Adopted Levels.

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

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α^\ddagger	Comments
106.0 <i>l</i>		106.0	$11/2^-$	0.0	$3/2^+$	M4	419 7	E_γ : from level-energy difference. Mult.: from Adopted Gammas.
131.1 <i>3</i>	2.52 25	1655.0	$(17/2^-)$	1524.0	$(19/2^-)$			
180.6 <i>3</i>	1.56 16	2138.0	$(23/2^+)$	1958.0	$(21/2^-)$			
232.3 <i>l</i>	3.6 4	1887.0	$(21/2^-)$	1655.0	$(17/2^-)$			
251.2 <i>l</i>	4.6 5	2138.0	$(23/2^+)$	1887.0	$(21/2^-)$			
363.4 <i>l</i>	18.2 18	1887.0	$(21/2^-)$	1524.0	$(19/2^-)$	(D)		Mult.: possible $\Delta J=1$, (M1) from $\gamma(\theta)$ in 1998Zh09.
433.7 <i>l</i>	5.2 5	1958.0	$(21/2^-)$	1524.0	$(19/2^-)$			
657.8 <i>l</i>	52 5	1524.0	$(19/2^-)$	866.0	$(15/2^-)$	(Q) †		
760.1 <i>l</i>	100 10	866.0	$(15/2^-)$	106.0	$11/2^-$	(Q) †		
788.9 <i>l</i>	3.0 3	1655.0	$(17/2^-)$	866.0	$(15/2^-)$			
913.8 <i>3</i>		3052.0		2138.0	$(23/2^+)$			
987.5 <i>l</i>	6.3 6	2511.0	$(23/2^-)$	1524.0	$(19/2^-)$			

† $\Delta J=2$, (E2) suggested from $\gamma(\theta)$ (1998Zh09), but no angular distribution coefficients are listed in the paper.

‡ 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.

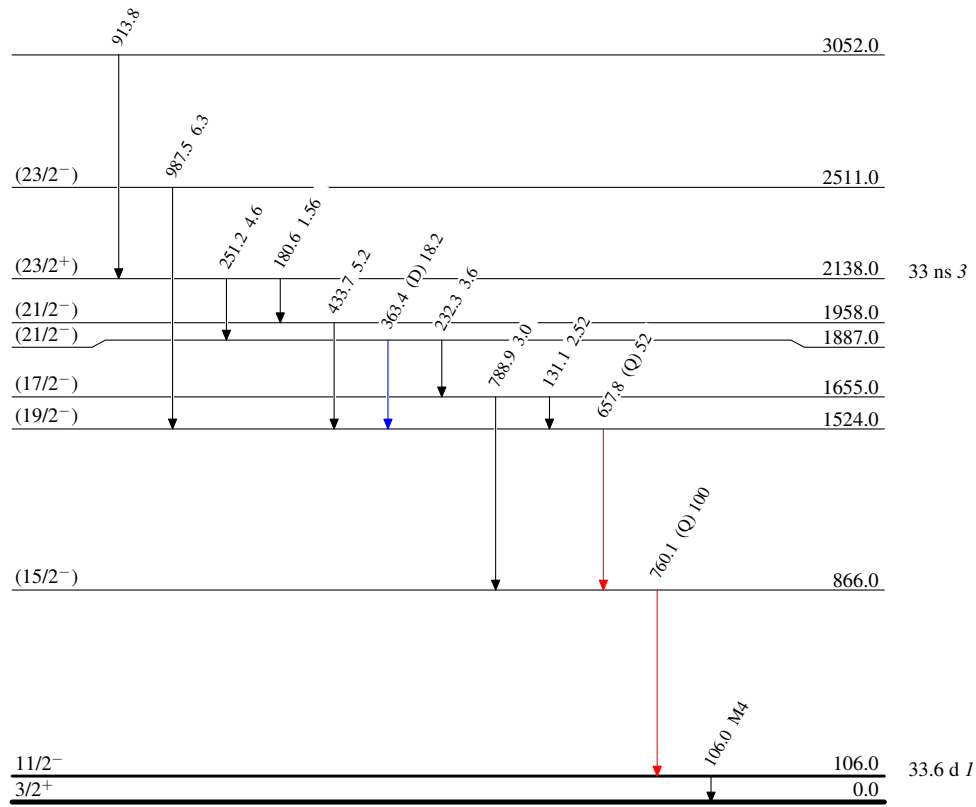
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Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{129}_{52}\text{Te}_{77}$