

<sup>132</sup>Sb β<sup>-</sup> decay (4.10 min) 1974Ke08

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh		NDS 104, 497 (2005)	10-Feb-2005

Parent: <sup>132</sup>Sb: E=0+x; J<sup>π</sup>=(8<sup>-</sup>); T<sub>1/2</sub>=4.10 min 5; Q(β<sup>-</sup>)=5509 14; %β<sup>-</sup> decay=100.0  
<sup>132</sup>Sb-E: X=150-250 keV (1989St06).  
 1974Ke08, 1973Mc09 (also 1973Ke25): measured E<sub>γ</sub>, I<sub>γ</sub>, γγ, ce, β, γγ(t), T<sub>1/2</sub>(<sup>132</sup>Sb isotope).  
 See also <sup>132</sup>Sb β<sup>-</sup> decay (2.79 min+4.10 min) dataset from 2004Hu08 and 2004HuZX.  
 Others:  
 1986Fo02: measured g factor by γγ(θ,H,t).  
 1979Si18: βγ(t).  
 Isotopic T<sub>1/2</sub>: 1975Ba36, 1974MeZP, 1970ErZZ, 1974Fo06, 1972Na10, 1966St25.  
 γ: 1970ErZZ, 1979MeZO.

<sup>132</sup>Te Levels

E(level)	J <sup>π</sup> ‡	T <sub>1/2</sub>	Comments
0.0	0 <sup>+</sup>		
973.97 10	2 <sup>+</sup>		
1671.03 10	4 <sup>+</sup>		
1774.56 11	6 <sup>+</sup>	145 ns 8	g=+0.79 9 g: from γγ(θ,H,t) (1986Fo02). T <sub>1/2</sub> : from βγ(t) and γγ(t) (1973Mc09).
1925.23 11	(7) <sup>-</sup>	28.1 μs 15	T <sub>1/2</sub> : from βγ(t) (1979Si18). T <sub>1/2</sub> =9 μs 2 measured by 1973Mc09.
2053.32 14	(5) <sup>-</sup>		
2421.84 18	(5 <sup>-</sup> ,6,7 <sup>-</sup> )		J <sup>π</sup> : (7 <sup>-</sup> ) (1974Ke08), 6 <sup>-</sup> (1979MeZO).
2700.9? 8			E(level): level not supported by 2004HuZX, but it has been seen In <sup>132</sup> Te IT decay.
2816.1?† 3			J <sup>π</sup> : (7,8) (1974Ke08).
3092.1? 3			J <sup>π</sup> : (7,8,9) (1974Ke08).
3303.8? 3			J <sup>π</sup> : (7,8,9) (1974Ke08).

† Level not supported by 2004Hu08 and 2004HuZX. All γ rays are placed elsewhere based on γγ coin data. This level is not listed in "ADOPTED LEVELS".  
 ‡ From Adopted Levels.

γ(<sup>132</sup>Te)

I<sub>γ</sub> normalization: From ΣI(γ+ce)=100 to g.s.

E <sub>γ</sub>	I <sub>γ</sub> <sup>†α</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.‡	α <sup>b</sup>	Comments
103.519 @ 4	35 4	1774.56	6 <sup>+</sup>	1671.03	4 <sup>+</sup>	E2	1.52	α(K)exp=1.08 15; α(L)exp=0.43 7 α(K)=1.07 4; α(L)=0.359 11; α(M)=0.0743 23; α(N+..)=0.0166 5
150.672 @ 10	66 7	1925.23	(7) <sup>-</sup>	1774.56	6 <sup>+</sup>	E1	0.0623	α(K)exp=0.057 10 α(K)=0.0539 17; α(L)=0.00678 21; α(M)=0.00134 4; α(N+..)=0.00031 1
276.0 & 2	4 1	3092.1?		2816.1?				
<sup>x</sup> 293.0 2	4 1							E <sub>γ</sub> : placed from a 3261 level In 2004HuZX.
368.6 2	7.0 14	2421.84	(5 <sup>-</sup> ,6,7 <sup>-</sup> )	2053.32	(5) <sup>-</sup>			
382.3 1	7	2053.32	(5) <sup>-</sup>	1671.03	4 <sup>+</sup>	E1	0.00508	α(K)exp<0.005 (1974Ke08) α=0.00508; α(K)=0.00441 14; α(L)=0.00054

Continued on next page (footnotes at end of table)

$^{132}\text{Sb}$   $\beta^-$  decay (4.10 min) 1974Ke08 (continued) $\gamma(^{132}\text{Te})$  (continued)

$E_\gamma$	$I_\gamma$ <sup>†a</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>‡</sup>	$\alpha^b$	Comments
496.5 2	13.0 13	2421.84	(5 <sup>-</sup> ,6,7 <sup>-</sup> )	1925.23 (7) <sup>-</sup>				2; $\alpha(\text{M})=0.00011$ $I_\gamma$ : from intensity balance.
697.052 @ 14	100 10	1671.03	4 <sup>+</sup>	973.97 2 <sup>+</sup>		E2	0.00341	$\alpha(\text{K})_{\text{exp}}=0.0030$ 8 $\alpha=0.00341$ ; $\alpha(\text{K})=0.00291$ 9; $\alpha(\text{L})=0.00038$ 1
(775.8 # &)	3.0 # 15	2700.9?		1925.23 (7) <sup>-</sup>				$E_\gamma$ : not reported by 2004HuZX; a weak 927.9 $\gamma$ is placed from a 3593 level In 2004HuZX.
881.9 & 3	6.0 12	3303.8?		2421.84 (5 <sup>-</sup> ,6,7 <sup>-</sup> )				
926.2 #	3.0 # 15	2700.9?		1774.56 6 <sup>+</sup>				
973.9 1	100 10	973.97	2 <sup>+</sup>	0.0 0 <sup>+</sup>		E2	0.00154	$\alpha(\text{K})_{\text{exp}}=0.0018$ 6 $\alpha=0.00154$ ; $\alpha(\text{K})=0.00132$ 4; $\alpha(\text{L})=0.00017$ 1
1041.5 & 3	18 2	2816.1?		1774.56 6 <sup>+</sup>				$E_\gamma$ : placed from a 4174 level In 2004HuZX.
1166.9 4	10 2	3092.1?		1925.23 (7) <sup>-</sup>				
1378.8 4	4 1	3303.8?		1925.23 (7) <sup>-</sup>				
<sup>x</sup> 1763.7 8	4 1							
<sup>x</sup> 1854.6 8	2 1							$E_\gamma$ : placed from a 3629 level In 2004HuZX.
<sup>x</sup> 2664 1	4 1							$E_\gamma$ : placed from a 4440 level In 2004HuZX.

<sup>†</sup>  $\Delta I_\gamma$ : based on the statement that uncertainties are 10% for  $I_\gamma > 10$  and 20% or 1 unit, whichever is the larger, for  $I_\gamma \leq 10$  (1974Ke08).

<sup>‡</sup> From ce data (1973Mc09); data normalized to 527, M4 transition in  $^{135}\text{Xe}$ .

# From 1979Si18.

@ Value from 1979Bo26 (curved-crystal spectrometer measurement).

& Placed elsewhere In the level scheme given In 2004HuZX (preprint from authors of 2004Hu08) and their  $\gamma\gamma$  coin data.

<sup>a</sup> Absolute intensity per 100 decays.

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

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

$^{132}\text{Sb}$   $\beta^-$  decay (4.10 min) 1974Ke08

## Decay Scheme

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

## Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - -→  $\gamma$  Decay (Uncertain)
- Coincidence

$(8^-)$   $0+x$  4.10 min 5  
 $Q_{\beta^-} = 5509.14$  % $\beta^- = 100$   
 $^{132}\text{Sb}_{81}$

