^{130}Te(^{6}Li,4nγ) 2003Ko23

History

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

E=38 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma\gamma(\theta)$(DCO), excitation functions using six Compton-suppressed HPGe detectors in conjunction with a 14-element BGO multiplicity filter.

^{132}Cs Levels

E(level)†	J$^{\pi}$#	Comments
0‡	2^{+}	
86.2‡ 4	(3^{+})	
108.3‡ 4	(4^{+})	
183.6‡ 6	(4^{+})	
185.9‡ 6	(5)	
240.1‡ 5	(5^{-})	
311.7‡ 8	(7^{-})	
379.3‡ 9	(8^{-})	
537.5‡ 9	(8^{-})	
787.8‡ 9	(9^{-})	
1131.3‡ 9	(9^{+})	
1282.0@ 10	(10^{+})	
1683.7& 10	(11^{+})	
1728.3b 11	(10^{+})	
1835.3a 10	(11^{+})	
1891.8b 10	(11^{+})	
1982.2@ 10	(12^{+})	
1987.9a 10	(12^{+})	
2202.1b 10	(12^{+})	
2370.1b 11	(13^{+})	
2395.6a 11	(13^{+})	
2409.9& 11	(13^{+})	
2515.5 12	(13^{+})	
2865.9@ 11	(14^{+})	
2910.6b 12	(15^{+})	J$^{\pi}$: 14^{+} proposed In (^{13}C,4npγ) (2003Ra48).
3390.0a 12	(15^{+})	
4386.8a 13	(17^{+})	

† From least-squares fit to Eγ's, assuming 0.5 keV uncertainty when not stated.
‡ From 1997Ha29.
# As proposed by 2003Ko23 based on $\gamma\gamma(\theta)$ data for selected transitions and band assignments.
@ Band(A): Yrast band, α=0.
& Band(a): Yrast band, α=1.
a Band(B): Side-band. This band appears to be a chiral doublet partner of $\pi h_{11/2}\nu h_{11/2}$ band, but it is probably not the case since this band decays to main band through strong ΔJ=2, E2 transitions, whereas in other Cs nuclides, the decay is through ΔJ=1, M1+E2 transitions.
b Band(C): Side-band.

^{130}Te(^{6}Li,4nγ) 2003Ko23 (continued)

γ(^{132}Cs)

DCO ratios are based on gates of ΔJ=1, dipole (594) transition, unless otherwise stated.

E_γ	I_γ‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.	δ	Comments
22.1†		108.3	(4+)	86.2	(3+)			
54.1†		240.1	(5−)	185.9	(5)			
56.4†		240.1	(5−)	183.6	(4+)			
67.6†		379.3	(8−)	311.7	(7−)			
71.6†		311.7	(7−)	240.1	(5−)			
77.6†		185.9	(5)	108.3	(4+)			
86.2†		86.2	(3+)	0	2+			
97.3†		183.6	(4+)	86.2	(3+)			
108.3†		108.3	(4+)	0	2+			
131.9†		240.1	(5−)	108.3	(4+)			
147.0 5	10.8 5	1982.2	(12+)	1835.3	(11+)			
150.7 5	100 5	1282.0	(10+)	1131.3	(9+)	D(+Q)	+0.03 6	DCO=1.10 10 DCO=0.54 6 (gated on ΔJ=0, dipole transition). DCO=0.51 6 (gated on ΔJ=2, Q transition).
152.7 5	15.7 8	1987.9	(12+)	1835.3	(11+)			
163.5 5	3.3 10	1891.8	(11+)	1728.3	(10+)			
168.0 5	5.8 17	2370.1	(13+)	2202.1	(12+)			
225.8†		537.5	(8−)	311.7	(7−)			
298.4 5	6.7 20	1982.2	(12+)	1683.7	(11+)			
304.1 5	4.9 15	1987.9	(12+)	1683.7	(11+)			
310.2 5	10.8 5	2202.1	(12+)	1891.8	(11+)			
313.4 5	3.7 11	2515.5	(13+)	2202.1	(12+)			
343.5†		1131.3	(9+)	787.8	(9−)			
387.8 5	4.7 14	2370.1	(13+)	1982.2	(12+)			
401.5 5	41.7 21	1683.7	(11+)	1282.0	(10+)	D(+Q)	−0.08 +7−8	DCO=0.76 9; DCO=0.87 11 δ: −0.12 +7−10 from DCO=0.40 7 (gated on ΔJ=0, dipole transition).
407.8 5	26.0 13	2395.6	(13+)	1987.9	(12+)	D+Q		DCO=2.5 4
408.5†		787.8	(9−)	379.3	(8−)			
413.2 5	10 3	2395.6	(13+)	1982.2	(12+)			
422.0 5	2.8 8	2409.9	(13+)	1987.9	(12+)			
427.7 5	11.2 6	2409.9	(13+)	1982.2	(12+)			
446.2 5	5.9 18	1728.3	(10+)	1282.0	(10+)			
518.6 5	5.5 17	2202.1	(12+)	1683.7	(11+)	D+Q		DCO=0.86 12 DCO from gate on ΔJ=1 transition.
540.5 5	3.6 11	2910.6	(15+)	2370.1	(13+)			
553.3 5	16.7 8	1835.3	(11+)	1282.0	(10+)	D+Q		DCO=0.84 11 DCO from gate on ΔJ=1 transition.
593.8†		1131.3	(9+)	537.5	(8−)			
609.9 5	18.7 9	1891.8	(11+)	1282.0	(10+)	D+Q		DCO=0.61 9 DCO from gate on ΔJ=1 transition.
700.2 5	23.0 12	1982.2	(12+)	1282.0	(10+)	Q		DCO=1.9 3
704.1 5	28.0 14	1835.3	(11+)	1131.3	(9+)	Q		DCO=2.1 4
706.0 5	21.1 11	1987.9	(12+)	1282.0	(10+)	Q		DCO=1.8 3
760.5 5	2.6 8	1891.8	(11+)	1131.3	(9+)			
883.7 5	5.9 18	2865.9	(14+)	1982.2	(12+)			
994.4 5	12.2 6	3390.0	(15+)	2395.6	(13+)			
996.8 5	3.6 11	4386.8	(17+)	3390.0	(15+)			

Continued on next page (footnotes at end of table)

^{130}Te(^{6}Li,4nγ) 2003Ko23 (continued)

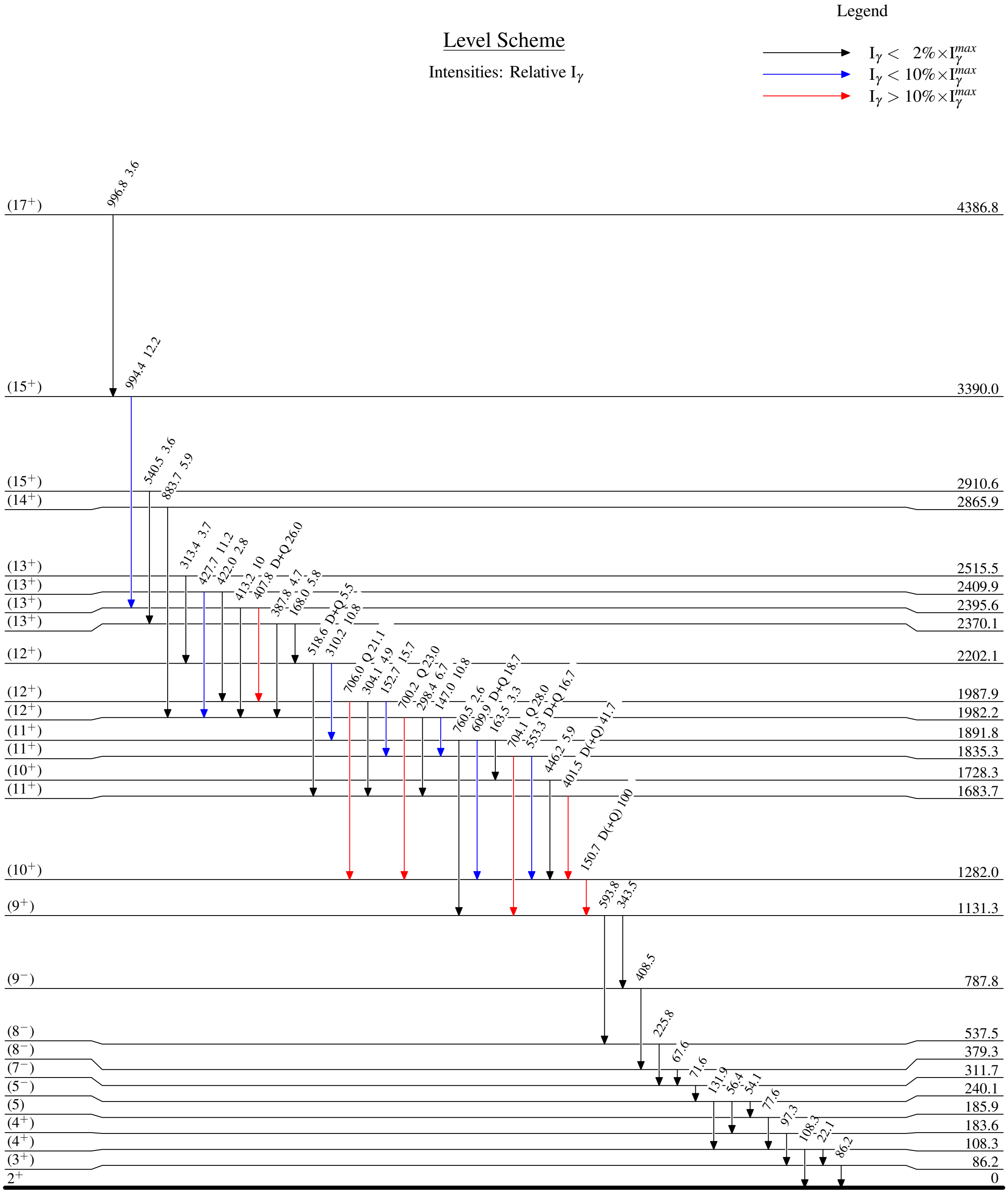
γ(^{132}Cs) (continued)

† From 1997Ha29.
‡ Uncertainties are 5% for Iγ>10 and 30% for Iγ<10, based on a general statement by 2003Ko23.

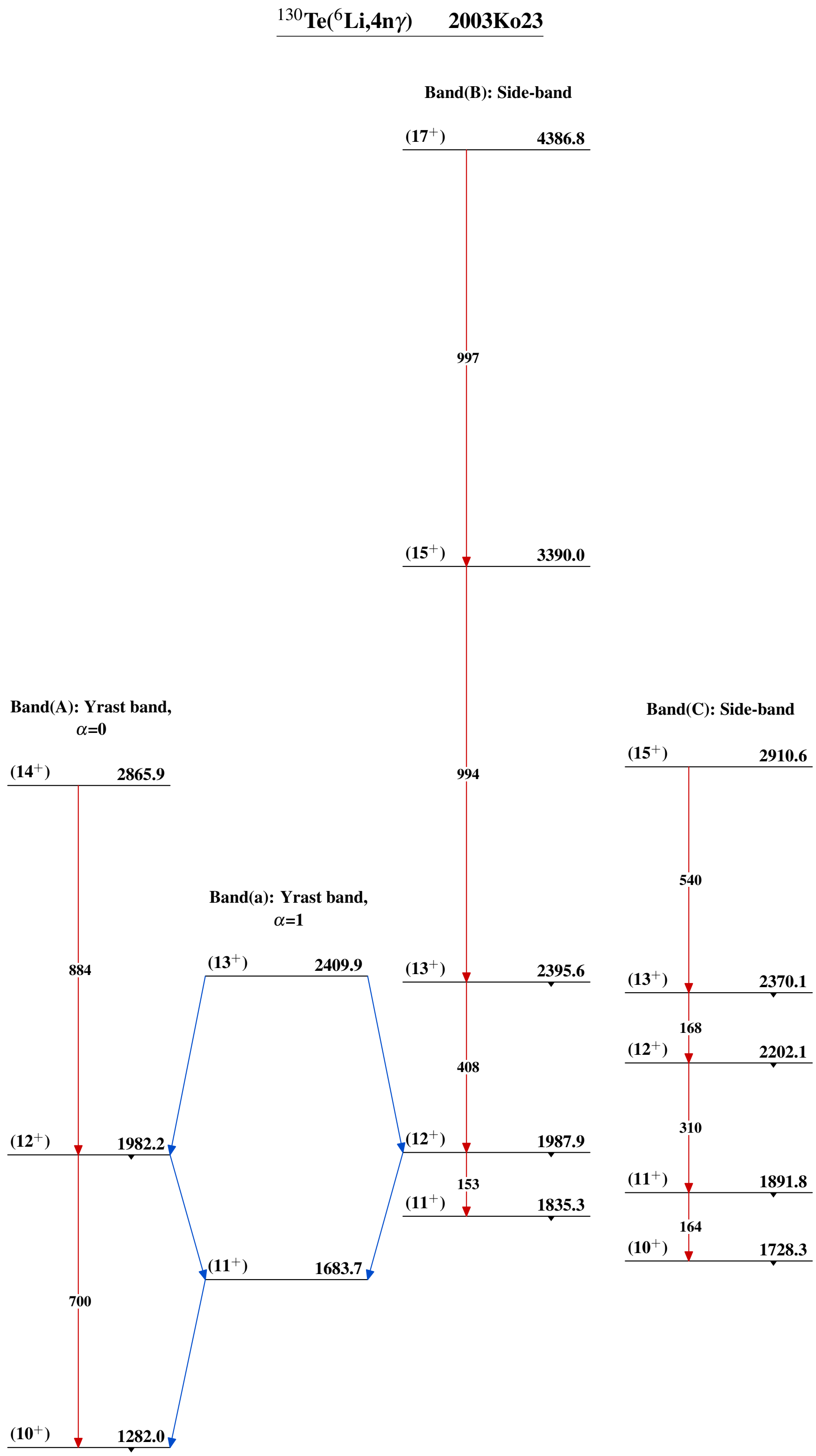
^{130}Te(^{6}Li,4nγ) 2003Ko23

Level Scheme

Intensities: Relative I_γ



$^{132}_{55}Cs_{77}$


^{130}Te(^{6}Li,4nγ) 2003Ko23
Band(B): Side-band
(17+) 4386.8
997
(15+) 3390.0
994
(13+) 2395.6
408
(12+) 1987.9
153
(11+) 1835.3
Band(A): Yrast band, α=0
(14+) 2865.9
884
(12+) 1982.2
700
(10+) 1282.0
Band(a): Yrast band, α=1
(13+) 2409.9
(11+) 1683.7
Band(C): Side-band
(15+) 2910.6
540
(13+) 2370.1
168
(12+) 2202.1
310
(11+) 1891.8
164
(10+) 1728.3

$^{132}_{55}Cs_{77}$