^{134}Te(^{9}Be,^{8}Beγ),(^{13}C,^{12}Cγ) 2005Ra32,2002Ra46

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Alexander A. Rodionov And Yuri L. Khazov	NDS 109, 517 (2008)	22-Jan-2008

Beam=^{134}Te, targets=^{13}C and ^{9}Be.

2005Ra32: E(^{134}Te)=4.3 MeV/nucleon. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$, (particle)γ coin using CLARION array and HyBall array of CsI detectors. 2002Ra46 used E(^{134}Te)=4 MeV/nucleon. Other reports from the same group: 2005Gr25, 2005Ra09, 2004Ra27.

^{135}Te Levels

E(level)†	J$^{\pi}$‡	Relative intensity#	Comments
0.0	(7/2$^-$)		
659	(3/2$^-$)	1.00 *8*	Probable $\nu p_{3/2}$. relative intensity=1.00 *7* In ^{134}Te(^{9}Be,^{8}Be).
1083	(1/2$^-$)	0.22 *2*	Probable $\nu p_{1/2}$. relative intensity=0.92 *4* In ^{134}Te(^{9}Be,^{8}Be).
1126	(5/2$^-$)	0.17 *3*	Probable $\nu f_{5/2}$. relative intensity=0.59 *4* In ^{134}Te(^{9}Be,^{8}Be).
1180	(11/2$^-$)	0.13 *5*	Probable configuration=$\pi g^2_{7/2}\nu f_{7/2}$. relative intensity=0.22 *2* In ^{134}Te(^{9}Be,^{8}Be).
1246	(9/2$^-$)	0.042 *12*	Probable $\nu h_{9/2}$. relative intensity=0.054 *13* In ^{134}Te(^{9}Be,^{8}Be).
1400?	(5/2$^-$)		E(level),J$^{\pi}$: possible $\nu f_{5/2}$ state (2002Ra46).
1830?			
2109	(13/2$^+$)	0.22 *2*	E(level): possible $\nu i_{13/2}$ from systematics of N=83 isotones. relative intensity=0.04 *3* In ^{134}Te(^{9}Be,^{8}Be).

† Most levels are deduced from γ rays observed In coin with two α particles In (^{9}Be,^{8}Beγ) reaction.

‡ From 'Adopted Levels'.

Values correspond to ^{134}Te(^{13}C,^{12}C) reaction. Values from ^{134}Te(^{9}Be,^{8}Be) are given under comments. 2005Ra32 compare experimental cross sections from these two single-neutron transfer reactions with DWBA calculations. The agreement is generally good, except for 1083 and 1180 levels for which DWBA values In ^{134}Te(^{9}Be,^{8}Be) reaction are much lower than the experimental values.

$\gamma(^{135}$Te)

E$_\gamma$†	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.	Comments
424	1083	(1/2$^-$)	659	(3/2$^-$)		
659	659	(3/2$^-$)	0.0	(7/2$^-$)		
929	2109	(13/2$^+$)	1180	(11/2$^-$)	D	E$_\gamma$: from (^{9}Be,^{8}Be) reaction. Mult.: dipole from $\gamma(\theta)$ (2005Gr25).
1126	1126	(5/2$^-$)	0.0	(7/2$^-$)		
1180	1180	(11/2$^-$)	0.0	(7/2$^-$)		
1246	1246	(9/2$^-$)	0.0	(7/2$^-$)		
1400‡	1400?	(5/2$^-$)	0.0	(7/2$^-$)		
1830‡	1830?		0.0	(7/2$^-$)		E$_\gamma$: weak γ In spectrum figure 3 of 2002Ra46 and 2004Ra27, probably corresponds to 1837γ In 'Adopted Levels, Gammas'.

† Most γ rays are observed In coin with two α particles In (^{9}Be,^{8}Beγ) reaction.

‡ Placement of transition in the level scheme is uncertain.

Legend

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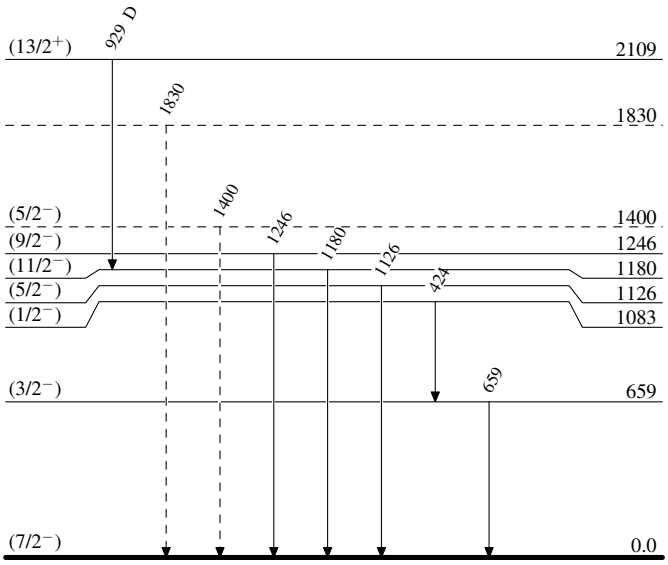
Level Scheme

γ Decay (Uncertain)



$^{135}_{52}Te_{83}$