^{208}Pb(^{48}Ca,Xγ) 2005Fo14

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Huo Junde	NDS 110,2689 (2009)	31-Mar-2007

Deep inelastic reactions. Includes ^{238}U(^{48}Ca,Xγ).

E=305 MeV for ^{208}Pb target, 330 MeV for ^{238}U target. Measured Eγ, Iγ, $\gamma\gamma$, γg(θ) using Gammasphere array of 101 Compton-suppressed HPGe detectors. Comparison of observed levels with full fp-shell-model calculations.

^{53}Ti Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0#	(3/2$^-$)	2205.84# *24*	9/2$^-$	3143.1# *4*	15/2$^-$	6056.7 *7*	(21/2$^-$)
1237.06 *17*	(5/2$^-$)	2498.1# *3*	11/2$^-$	4802.3 *6*	(17/2$^-$)	6631.0 *7*	
1576.28 *17*	7/2$^-$	2755.9# *4*	13/2$^-$	5729.4 *6*	(17/2$^-$)	8131.7 *9*	

† From least-squares fit to Eγ's.

‡ Based on GG correlation analysis and on comparisons with shell-model calculations.

Band(A): γ sequence based on g.s..

γ(^{53}Ti)

Eγ	Iγ	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
257.8 *2*	65 *5*	2755.9	13/2$^-$	2498.1	11/2$^-$	(258γ)(1576γ)(θ): Iγ(28°)/Iγ(85°)=0.81 *2*. (258γ)(292γ)(θ): Iγ(28°)/Iγ(85°)=1.43 *3*.
292.3 *2*	77 *5*	2498.1	11/2$^-$	2205.84	9/2$^-$	(292γ)(1576γ)(θ): Iγ(28°)/Iγ(85°)=0.95 *2*. (292γ)(630γ)(θ): Iγ(28°)/Iγ(85°)=1.10 *2*. (292γ)(1237γ)(θ): Iγ(28°)/Iγ(85°)=1.21 *3*.
339.4 *3*	33 *5*	1576.28	7/2$^-$	1237.06	(5/2$^-$)	Branching ratio: Iγ(339)/Iγ(1576)=18 *2*/82 *5*.
387.2 *2*	28 *2*	3143.1	15/2$^-$	2755.9	13/2$^-$	(387γ)(1576γ)(θ): Iγ(28°)/Iγ(85°)=0.68 *2*. (387γ)(292γ)(θ): Iγ(28°)/Iγ(85°)=1.54 *4*.
574.4 *6*	2.0 *5*	6631.0		6056.7	(21/2$^-$)	
629.6 *2*	86 *5*	2205.84	9/2$^-$	1576.28	7/2$^-$	(630γ)(1576γ)(θ): Iγ(28°)/Iγ(85°)=0.91 *2*.
901.6 *4*	5 *1*	6631.0		5729.4	(17/2$^-$)	
921.8 *4*	13 *2*	2498.1	11/2$^-$	1576.28	7/2$^-$	Branching ratio: Iγ(922)/Iγ(292)=11 *3*/89 *8*.
968.6 *5*	9 *2*	2205.84	9/2$^-$	1237.06	(5/2$^-$)	Branching ratio: Iγ(969)/Iγ(630)=9 *3*/91 *7*.
1237.1 *2*	45 *5*	1237.06	(5/2$^-$)	0	(3/2$^-$)	
1254.4 *4*	8 *2*	6056.7	(21/2$^-$)	4802.3	(17/2$^-$)	
1500.7 *6*	3 *1*	8131.7		6631.0		
1576.2 *2*	100	1576.28	7/2$^-$	0	(3/2$^-$)	
1659.2 *4*	9 *2*	4802.3	(17/2$^-$)	3143.1	15/2$^-$	
1828†		6631.0		4802.3	(17/2$^-$)	
2586.1 *5*	5 *1*	5729.4	(17/2$^-$)	3143.1	15/2$^-$	

† Placement of transition in the level scheme is uncertain.

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Level Scheme

Intensities: Relative I_γ

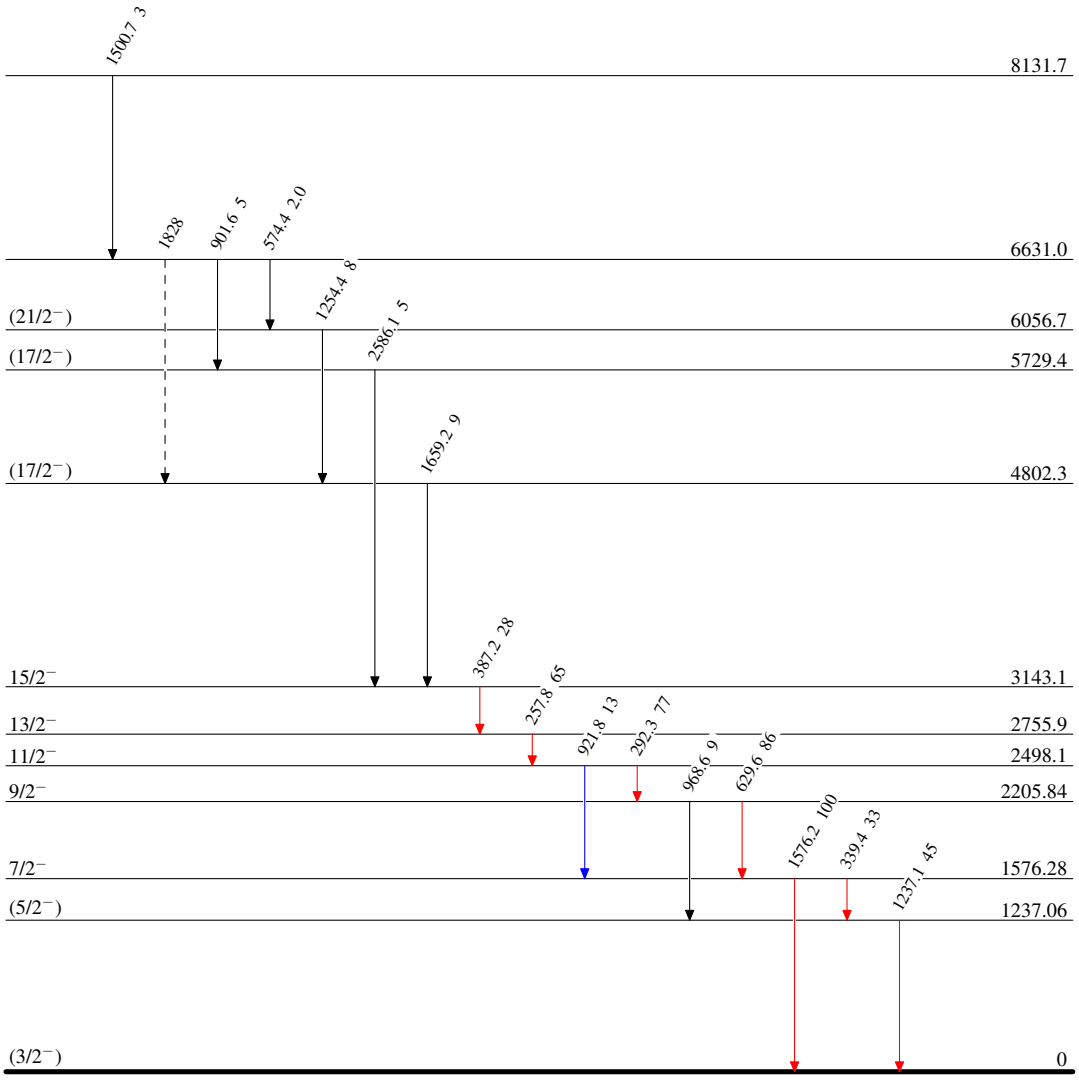
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{53}_{22}Ti_{31}$

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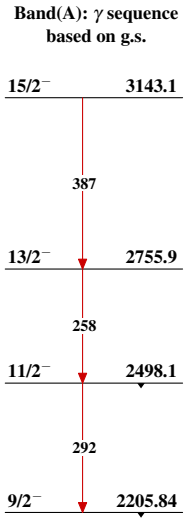

$^{53}_{22}Ti_{31}$