^{208}Pb(^{18}O,Fγ) 2007Fo03

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

Includes ^{136}Xe(ν,2nγ).

E(^{18}O)=91 MeV beam from 88 inch cyclotron at LBNL. Measured Eγ, Iγ, γγ coin using GAMMASPHERE with 100 Compton-suppressed HPGe detectors. Comparisons with shell-model calculations.

The neutron beam in (n,2n) reaction on ^{136}Xe target was provided by LANSCE/WNR facility. Measured Eγ, Iγ, γγ coin using GEANIE array consisting of 11 planar Ge detectors with Compton suppression.

In ^{136}Xe(ν,2nγ) reaction, only the 1221.9 and 309.9 keV γ rays were observed.

^{135}Xe Levels

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	Comments
0	3/2$^+$		J$^\pi$: from 'Adopted Levels'.
526.6	11/2$^-$	15.29 min *5*	%IT>99.4 Additional information 1. E(level): Rounded energy from 'Adopted Levels'. $T_{1/2}$: from 'Adopted Levels'. E(level): $h_{11/2}$ state.
1748.5 *4*	(15/2$^-$)		
1849.8? *4*	(13/2$^-$)		
2058.4 *6*	(19/2$^-$)		
2168.9? *8*	(17/2$^-$)		
2356.5 *8*			
2387.5? *11*			
2570.7 *8*			
2710.6? *11*			
3169.9 *9*			

[†] From least-squares fit to Eγ's. All the excited states are interpreted as $\nu h^{-1}_{11/2}$ coupled ^{136}Xe core states based on comparisons with shell-model calculations.

[‡] From shell-model predictions (2007Fo03).

γ(^{135}Xe)

Eγ[†]	Iγ	E_i(level)	J^π_i	E_f	J^π_f	Eγ[†]	Iγ	E_i(level)	J^π_i	E_f	J^π_f
218.5[#] *9*	11 *3*	2387.5?		2168.9?	(17/2$^-$)	541.8[#] *9*	<1	2710.6?		2168.9?	(17/2$^-$)
298.1 *6*	30 *5*	2356.5		2058.4	(19/2$^-$)	599.2 *6*	20 *6*	3169.9		2570.7	
309.9[‡] *4*	77 *7*	2058.4	(19/2$^-$)	1748.5	(15/2$^-$)	813.4 *9*	15 *4*	3169.9		2356.5	
319.1[#] *6*	20 *6*	2168.9?	(17/2$^-$)	1849.8?	(13/2$^-$)	1221.9[‡] *4*	100	1748.5	(15/2$^-$)	526.6	11/2$^-$
323.1[#] *9*	3 *1*	2710.6?		2387.5?		1323.2[#] *4*	35 *9*	1849.8?	(13/2$^-$)	526.6	11/2$^-$
512.3 *6*	28 *6*	2570.7		2058.4	(19/2$^-$)						

[†] Uncertainties assigned as 0.4 keV for Iγ>30, 0.7 keV for Iγ=20-30 and 0.9 for Iγ<20 based on a general statement by 2007Fo03 that these vary from 0.4 to 0.9 keV.

[‡] The γ ray also seen in ^{136}Xe(ν,2nγ) reaction.

[#] Placement of transition in the level scheme is uncertain.

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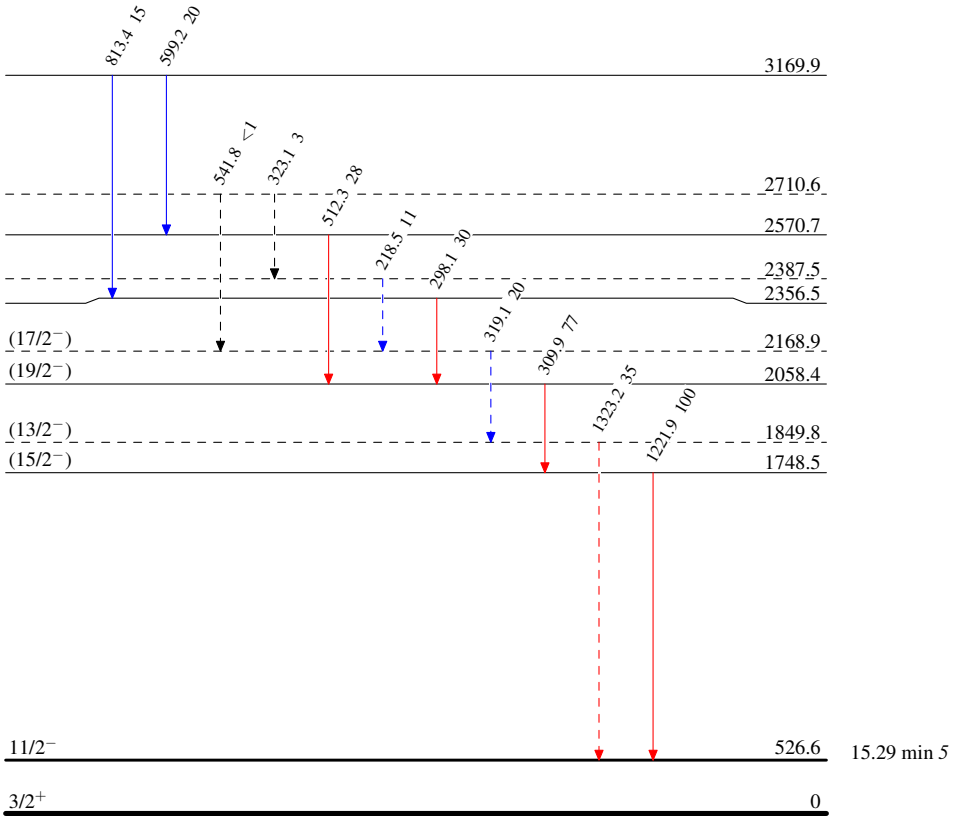
Level Scheme

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)



$^{135}_{54}Xe_{81}$