

$^9\text{Be}(^{208}\text{Pb},\text{X}\gamma), ^9\text{Be}(^{238}\text{U},\text{X}\gamma)$ 2018La03,2013Bo18

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

2018La03: ^{202}Pb produced and identified in $^9\text{Be}(^{208}\text{Pb},\text{x})$, $E=1$ GeV/nucleon from the UNILAC and SIS-18 accelerator complex at GSI. Target thickness=2.526 g/cm², with a ^{93}Nb foil of thickness=0.223 g/cm² placed behind it. Fragments identified by the Fragment Recoil Separator (FRS), slowed in Al degraders and stopped in a plastic catcher that was surrounded by the RISING γ -ray spectrometer. Measured $E\gamma$, $I\gamma$ (delayed), $\gamma(t)$.

2013Bo18, 2013BoZT: ^{202}Pb produced in $^9\text{Be}(^{238}\text{U},\text{x})$, $E=1$ GeV/nucleon from the UNILAC and SIS-18 accelerator complex at GSI. Target thickness=1.63 g/cm², with a ^{93}Nb foil of thickness=0.22 g/cm² placed behind it. Fragments identified by the Fragment Recoil Separator (FRS), slowed in Al degraders and stopped in a plastic catcher that was surrounded by the RISING γ -ray spectrometer. Measured $E\gamma$, $I\gamma$ (delayed), $\gamma(t)$.

 ^{202}Pb Levels

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$T_{1/2}^\#$	Comments
0	0 ⁺		
961.0 9	2 ⁺		
1383.0 11	4 ⁺		
1623.0 15	4 ⁺		
1915.0 9	4 ⁺		
2040.0 11	5 ⁻		
2170.0 15	9 ⁻	3.54 h 2	$T_{1/2}$: From Adopted Levels. Isomeric ratio=9.0% 7 (2018La03).
2208.0 12	7 ⁻	64.5 ns 3	
3058.0 18	11 ⁻		
3238.0 20	12 ⁺		
4023.0 23	(12,13)		
4068.0 23	13		
4091.0 23	14 ⁺		
4091+x	16 ⁺	103 ns 10	Additional information 1. Isomeric ratio=2.2% 3 (2018La03).
4445.0+x 8	16 ⁺		
5242.0+x 8	17 ⁻		
5242+y	19 ⁻	105 ns 38	Isomeric ratio=0.5% 1 (2018La03) and 4.7% 38 (2013Bo18).
5251.0+x 10	18 ⁺		

[†] From a least-squares fit to $E\gamma$ by assuming $\Delta E\gamma=1$ keV.

[‡] From 2018La03.

[#] From $\gamma(t)$ in 2018La03, unless otherwise stated.

 $\gamma(^{202}\text{Pb})$

$E_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
125	2040.0	5 ⁻	1915.0	4 ⁺	
168	2208.0	7 ⁻	2040.0	5 ⁻	
180	3238.0	12 ⁺	3058.0	11 ⁻	
240	1623.0	4 ⁺	1383.0	4 ⁺	
354	4445.0+x	16 ⁺	4091+x	16 ⁺	
422	1383.0	4 ⁺	961.0	2 ⁺	
657	2040.0	5 ⁻	1383.0	4 ⁺	
785	4023.0	(12,13)	3238.0	12 ⁺	
787	2170.0	9 ⁻	1383.0	4 ⁺	E_γ : Rounded value from adopted gammas.
797	5242.0+x	17 ⁻	4445.0+x	16 ⁺	
825	2208.0	7 ⁻	1383.0	4 ⁺	
830	4068.0	13	3238.0	12 ⁺	

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$^9\text{Be}(^{208}\text{Pb},\text{X}\gamma), ^9\text{Be}(^{238}\text{U},\text{X}\gamma)$ [2018La03,2013Bo18](#) (continued)

$\gamma(^{202}\text{Pb})$ (continued)

<u>E_γ[†]</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
853	4091.0	14 ⁺	3238.0	12 ⁺
888	3058.0	11 ⁻	2170.0	9 ⁻
961	961.0	2 ⁺	0	0 ⁺
1151	5242.0+x	17 ⁻	4091+x	16 ⁺
1160	5251.0+x	18 ⁺	4091+x	16 ⁺
1915	1915.0	4 ⁺	0	0 ⁺

[†] From [2018La03](#).

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Level Scheme

