^{9}Be(^{208}Pb,Xγ) 2011St21

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 133, 221 (2016)	1-Dec-2015

^{198}Pt nuclide formed by in-flight fragmentation of ^{208}Pb beam at 1 GeV/nucleon from the GSI UNILAC and SIS-18 accelerator complex. Beam was fully-stripped or mixture of H- or He-like nuclei. Target thickness=2.526 g/cm^2, backed by ^{93}Nb foil of thickness=0.223 g/cm^2. Fragments identified in flight by the Fragment Recoil Separator (FRS) operated in achromatic mode based on time of flight, Bρ and energy loss. Transmitted ions slowed in Al degraders and stopped in a plastic catcher. The stopper was surrounded by the RISING γ-ray spectrometer. Measured Eγ, Iγ, delayed γ-rays, isomer lifetime.

A high-lying 36-ns isomer reported previously is weakly seen by 2011St21 through the delayed 135, 752 and 823 γ-rays feeding the 7$^-$ isomer. The half-life measured in 2011St21 suffered from uncertainty due to poor statistics, but it is consistent with previous measurements.

^{198}Pt Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0.0†	0$^+$		
407.2† *5*	2$^+$		
985.0† *10*	4$^+$		
1367.0 *15*	(5$^-$)		
1502 *2*	(7$^-$)	3.4 ns *2*	T$_{1/2}$: From Adopted Levels, confirmed in 2011St21.

† Band(A): g.s. band.

γ(^{198}Pt)

E$_\gamma$†	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
134.9		1502	(7$^-$)	1367.0	(5$^-$)	E$_\gamma$: From Adopted Gammas.
382.0 *5*	54 *16*	1367.0	(5$^-$)	985.0	4$^+$	
407.2 *5*	100 *29*	407.2	2$^+$	0.0	0$^+$	
577.8 *5*	65 *25*	985.0	4$^+$	407.2	2$^+$	

† From Table I in 2011St21. Uncertainty of 0.5 keV is assigned in consultation with Zs. Podolyak.

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Level Scheme

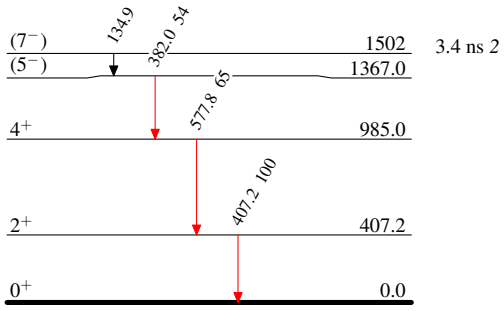
Intensities: Relative I_γ

Legend

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

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

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



$^{198}_{78}Pt_{120}$

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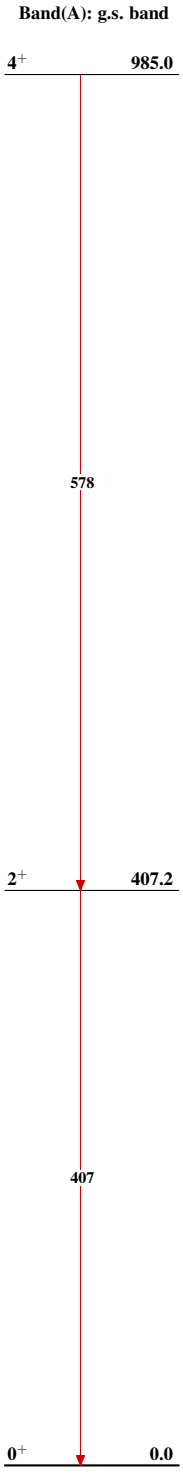

$^{198}_{78}Pt_{120}$