^{9}Be(^{208}Pb,Xγ) 2005KuZU,2013Mo20,2011St21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 177, 509, 2021	4-Jul-2021

2005KuZU: E(^{208}Pb)=1000 MeV/A from the SIS-18 synchrotron (GSI). Target: ^{9}Be; Detectors: fragment separator, two position-sensitive plastic scintillators, four double-sided silicon strip detectors; Measured: $T_{1/2}$.

2013Mo20: E(^{208}Pb)=1000 MeV/A from the SIS-18 synchrotron (GSI). ^{9}Be 2.5 g/cm^2-thick target. Reaction products were separated and identified by the Fragment Separator (FRS). The recoils were stopped in an active stopper. Measured (ion)$\beta\gamma$-time correlations using the RISING array for γ rays, and Si detector arrays for particle detection.

2011St21: E(^{208}Pb)=1000 MeV/A from the SIS-18 synchrotron (GSI). ^{9}Be 2.526 g/cm^2-thick target, backed by a ^{93}Nb foil of thickness 0.223 g/cm^2. Fragments were identified in flight by the Fragment Separator (FRS), based on time of flight, Bρ and energy loss. Transmitted ions were 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.

^{203}Pt Levels

E(level)[†]	J$^\pi$[#]	$T_{1/2}$	Comments
0	(1/2$^-$)	22 s *4*	$T_{1/2}$: From β-γ(Δt) analysis in 2014Mo15. Other: 10.1 s *30* (2005KuZU) probably associated with the decay of the J^π=(13/2$^+$) isomeric state (2013Mo20). Configuration=$\nu(p^{-1}_{1/2})$. The assignment is tentative.
367.0?[‡]	(5/2$^-$)		
1367?[‡] *3*	(13/2$^+$)	12 s *5*	%IT=?; %β^-=? $T_{1/2}$: From 2013Mo20, using 367γ(t) and 353γ(t). Other: 10.1 s *30* (2005KuZU), associated with the ground state. Configuration=$\nu(i^{-1}_{13/2})$. The assignment is tentative.
1367+x[@]	(27/2$^-$)[@]		Additional information 1. E(level): Probably a long-lived isomeric state (2011St21). Configuration=$\nu(i^{-1}_{13/2})\pi[h^{-1}_{11/2},d^{-1}_{3/2\ 7^-}]$. The assignment is tentative.
2471.0+x[@]	(33/2$^+$)[@]	641 ns *55*	$T_{1/2}$: From 1104γ(t) in 2011St21. Experimental isomeric ratio=1.3% *2* (2011St21). Configuration=$\nu(i^{-1}_{13/2})\pi[(h^{-2}_{11/2})_{10^+}]$. The assignment is tentative.

[†] From Eγ.
[‡] Tentative assignment proposed in 2013Mo20. It is also possible that the 12 s activity is associated with the ground state β^- decay of ^{203}Ir, as the isomer is not observed in 2011St21.
[#] From Adopted Levels.
[@] From 2011St21.

γ(^{203}Pt)

Eγ	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Comments
[x]353 *2*					Eγ: From 2013Mo20. Shows a 12 s time component, indicating that most likely it follows the decay of the J^π=13/2$^+$ isomer in ^{203}Pt. However, there is no direct evidence that this γ-ray is associated with the β^- branch of the isomer, since such a decay would proceed via the J^π=11/2$^-$ isomer at 641 keV in ^{203}Au, which was not observed in 2013Mo20. The existence of a high-spin (J=11/2,13/2,15/2) state at 353 keV in ^{203}Au seems unphysical and most-likely the 353γ follows the IT decay of the J^π=13/2$^+$ isomer in ^{203}Pt or β^- decay of the ^{203}Ir ground state.
367	367.0?	(5/2$^-$)	0	(1/2$^-$)	Eγ: From 2013Mo20. In coincidence with the Pt K$_{\alpha_2}$ X rays and shows a 12 s lifetime.
1000.0 *29*	1367?	(13/2$^+$)	367.0?	(5/2$^-$)	Eγ: Weighted average from the observed 925 keV *13* and 986 keV *3* K- and

Continued on next page (footnotes at end of table)

^{9}Be(^{208}Pb,Xγ) 2005KuZU,2013Mo20,2011St21 (continued)

$\gamma(^{203}Pt)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
					L-ce lines in coincidence with 367γ in 2013Mo20 (B_{e^-}(K)=78.395 keV and B_{e^-}(L)=13.880 keV).
1104.0	2471.0+x	(33/2$^+$)	1367+x	(27/2$^-$)	E_γ: From 2011St21.

^{x} γ ray not placed in level scheme.

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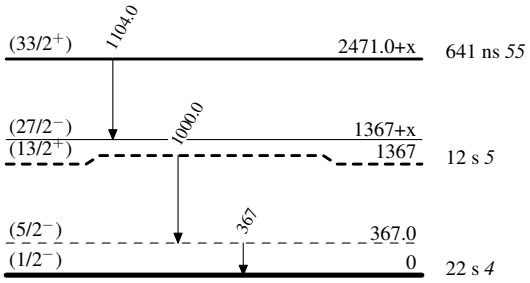
Level Scheme



$^{203}_{78}Pt_{125}$