^{208}Pb(^{64}Ni,Xγ) 1994Pa20

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

Also includes ^{198}Pt(^{76}Ge, Xγ) from 1997Is13.

1994Pa20,1994Pa32,1995Fo16: E=350 MeV ^{64}Ni beam was produced from the VICKSI accelerator at HMI Berlin. Target was 98.7% enriched ^{208}Pb with a thickness of 30 mg/cm^2. γ rays were detected with the OSIRIS γ-spectrometer consisting of 11 Compton-suppressed Ge detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, γ(t). Deduced levels, J, π, $T_{1/2}$. Comparisons with shell-model calculations.

1997Is13: ^{198}Pt(^{76}Ge, Xγ) E=600 MeV ^{76}Ge beam was produced from the JAERI tandem. γ rays were detected with five Ge detectors. Measured Eγ, fragment-γ-coin, γ(t). Deduced $T_{1/2}$ for 1017 level.

^{65}Ni Levels

E(level)†	J$^\pi$	$T_{1/2}$	Comments
0.0	5/2$^-$‡		
63.4 *5*	1/2$^-$‡		
310.39 *19*	3/2$^-$‡		
692.8 *4*	3/2$^-$‡		
1017.01 *10*	9/2$^+$‡	24 ns *3*	$T_{1/2}$: weighted aveage of 24 ns *3* (1997Is13) and 25 ns *5* (1994Pa20), both using 1017γ(t).
1920.7 *3*	5/2$^+$‡		
2185.74 *21*	(11/2$^+$)#		
2519.34 *22*	(13/2$^+$)#		
2906.36 *25*	(13/2$^+$)#		
3522.8 *3*	(15/2$^+$)#		
4011.1 *5*	(17/2$^+$)#		

† From a least-squares fit to γ-ray energies.
‡ From Adopted Levels.
# From shell model calculations and level systematics (1994Pa20).

γ(^{65}Ni)

E$_\gamma$†	I$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
310.4 *2*	71.0 *30*	310.39	3/2$^-$	0.0	5/2$^-$
382.4 *4*	2.2 *4*	692.8	3/2$^-$	310.39	3/2$^-$
488.3 *4*	3.0 *4*	4011.1	(17/2$^+$)	3522.8	(15/2$^+$)
616.5 *3*	4.6 *5*	3522.8	(15/2$^+$)	2906.36	(13/2$^+$)
629.4 *3*	21.0 *20*	692.8	3/2$^-$	63.4	1/2$^-$
692.7 *5*	2.7 *3*	692.8	3/2$^-$	0.0	5/2$^-$
720.6 *2*	7.1 *5*	2906.36	(13/2$^+$)	2185.74	(11/2$^+$)
1003.5 *4*	1.4 *3*	3522.8	(15/2$^+$)	2519.34	(13/2$^+$)
1017.0 *1*	100	1017.01	9/2$^+$	0.0	5/2$^-$
1168.7 *2*	14.6 *12*	2185.74	(11/2$^+$)	1017.01	9/2$^+$
1491.6 *6*	1.1 *3*	4011.1	(17/2$^+$)	2519.34	(13/2$^+$)
1502.3 *2*	18.6 *15*	2519.34	(13/2$^+$)	1017.01	9/2$^+$
1610.3 *2*	18.4 *15*	1920.7	5/2$^+$	310.39	3/2$^-$
1889.5 *5*	1.9 *5*	2906.36	(13/2$^+$)	1017.01	9/2$^+$

† From 1994Pa20.

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Level Scheme

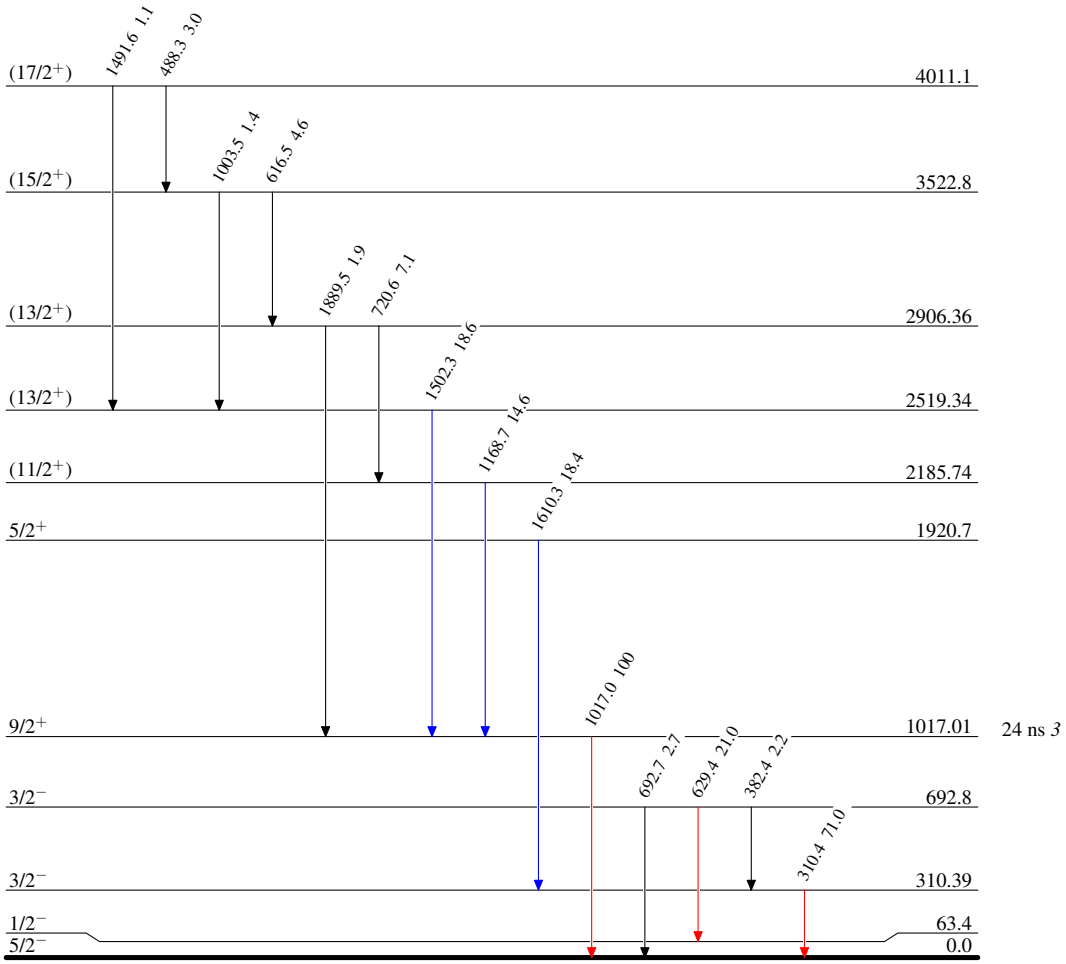
Intensities: Relative I_γ

Legend

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

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

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



$^{65}_{28}Ni_{37}$