^{208}Pb(^{37}Cl,Xγ) 1997Fo01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 201,1 (2025)	31-Oct-2024

1997Fo01 (also 1998Fo07): E=230 MeV ^{37}Cl beam was produced from the Legnaro superconducting linear accelerator ALPI. Target was 50 mg/cm^2 ^{208}Pb. γ rays were detected with the GASP array consisting of 40 Compton-suppressed Ge detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, γ(t), yield. Deduced levels, $T_{1/2}$.

Other:
2002AsZY: ^{198}Pt(^{37}Cl,X) E=9 MeV/nucleon. Measured Eγ, Iγ, $\gamma\gamma$-coin, (fragment)γ-coin, deduced isomer. Set of four Ge detectors used.

^{32}Si Levels

E(level)	J^π	$T_{1/2}$	Comments
0	0^+		
1942	2^+		J^π: from the Adopted Levels.
5502 *4*			J^π: (4^+) assigned by 1997Fo01, but 2002AsZY assign (5^-). $T_{1/2}$: 2002AsZY assign isomer of $T_{1/2}$=33.4 ns *5* to this state.
5581 *4*		27 ns *2*	E(level): level proposed by 1997Fo01 (also 1998Fo07). But 2002AsZY using ^{198}Pt(^{37}Cl,X) at 9 MeV/nucleon did not confirm this level since they did not observe 79-keV γ ray. J^π: (5^-) assigned by 1997Fo01, based on systematics of (5^-) to (4^+) transitions in N=18 isotones (^{34}S and ^{36}Ar), but 2002AsZY assign 5^- to 5502 level. $T_{1/2}$: from γ(t) in 1997Fo01. 2002AsZY report an isomer with $T_{1/2}$=33.1 ns *5* but assign this isomer to 5502 state (33.4 ns *5* from Fig.1 of 2002AsZY).

γ(^{32}Si)

Eγ	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
79 *1*	5581		5502		Eγ: from 1997Fo01, not confirmed by 2002AsZY. It should be pointed out that 1997Fo01 used a much bigger (GASP) array for γ ray detection than the four-detector arrangement used by 2002AsZY.
1942	1942	2^+	0	0^+	Eγ: from 1997Fo01.
3560	5502		1942	2^+	

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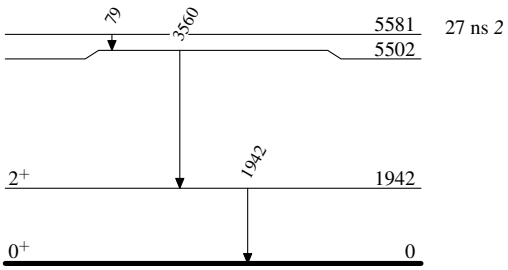
Level Scheme



$^{32}_{14}Si_{18}$