^{208}Pb(^{36}S,^{35}Siγ) 2010WaZT

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Lijie Sun and Jun Chen	NDS 211,1 (2026)	30-Sep-2025

2010WaZT,2010Wa20: A 215-MeV $^{36}S^{9+}$ beam was produced from the XTU-Tandem ALPI-superconducting linear accelerator complex at the INFN Legnaro National Laboratory, Italy. The target was 300 μg/cm^2 99.7% enriched ^{208}Pb with 20 μg/cm^2 carbon backing. Projectile-like fragments produced in binary grazing reactions were separated and identified by the PRISMA spectrometer. γ rays were detected using the CLARA array of 22 escape-suppressed Ge clover detectors covering the azimuthal angles from 98° to 180°. Measured Eγ with Doppler corrections, Iγ, and (^{35}Si)γ-coin. Deduced levels. Compared with shell-model calculations.

^{35}Si Levels

E(level)[†‡]	J$^\pi$[#]
0	(7/2$^-$)
910	(3/2$^-$)
974	(3/2$^+$)

† Additional information 1.
‡ From Eγ data.
# As given in 2010WaZT, based on shell-model calculations.

γ(^{35}Si)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
910	100 *25*	910	(3/2$^-$)	0	(7/2$^-$)
974[‡]	21 *10*	974	(3/2$^+$)	0	(7/2$^-$)

† From 2010WaZT. The author report ΔEγ=1 keV, but it is very likely statistical only since 910γ and 974γ are weak with poor statistics in the γ-ray spectrum, and thus is not adopted by the evaluators.
‡ Placement of transition in the level scheme is uncertain.

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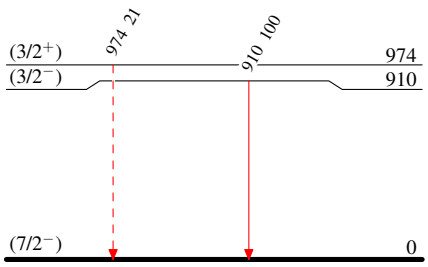
Level Scheme

Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{35}_{14}Si_{21}$