

$^{208}\text{Pb}(^{36}\text{S},\text{X}\gamma)$ 2010WaZT

2010WaZT,2010Wa20: A 215-MeV ^{36}S beam was produced from the XTU-Tandem ALPI-superconducting linear accelerator complex at the INFN Legnaro National Laboratory, Italy. The target was 1 mg/cm² 99.7% enriched ^{208}Pb with 1 mg/cm² Nb backing and mounted onto the Cologne differential plunger. 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 $E\gamma$ with Doppler corrections, $I\gamma$, and (^{35}Si) γ -coin. Deduced levels. Compared with shell-model calculations.

 ^{35}Si Levels

<u>$E(\text{level})^\dagger$</u>	<u>J^π^\ddagger</u>
0	(7/2 ⁻)
910.0 10	(3/2 ⁻)
974.0 10	(3/2 ⁺)

[†] From a least-squares fit to γ -ray energies.

[‡] As given in 2010WaZT, based on shell-model calculations.

 $\gamma(^{35}\text{Si})$

<u>E_γ^\dagger</u>	<u>I_γ^\dagger</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
910 1	100 25	910.0	(3/2 ⁻)	0	(7/2 ⁻)
974 1	21 10	974.0	(3/2 ⁺)	0	(7/2 ⁻)

[†] From 2010WaZT.

 $^{208}\text{Pb}(^{36}\text{S},\text{X}\gamma)$ 2010WaZTLevel Scheme

Intensities: Relative I_γ

Legend

\longrightarrow	$I_\gamma < 2\% \times I_\gamma^{\text{max}}$
\longrightarrow	$I_\gamma < 10\% \times I_\gamma^{\text{max}}$
\longrightarrow	$I_\gamma > 10\% \times I_\gamma^{\text{max}}$

