

$^{238}\text{U}(^{70}\text{Zn},\text{X}\gamma)$ 2012Re11

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 178, 41 (2021).	12-Nov-2021

2012Re11: ^{70}Zn beam at E=460 MeV delivered by the Laboratori Nazionali di Legnaro (LNL) Tandem-ALPI accelerator complex. Target=400 $\mu\text{g}/\text{cm}^2$ ^{238}U . Gamma rays detected in coincidence with nuclei by the CLARA-PRISMA setup: a large-acceptance magnetic spectrometer and 22 Compton-suppressed Ge clover detectors. Measured $E\gamma$, $I\gamma$, $\gamma(\theta)$, (^{64}Co) γ -coin. Deduced levels from multinucleon transfer reactions.

 ^{64}Co Levels

<u>E(level)[†]</u>	<u>J^π[‡]</u>
0.0	1 ⁺
310.9 5	(1 ⁺ ,2 ⁺ ,3 ⁺)
439.9 3	(2 ⁺ ,3 ⁺)
671.3 3	(3 ⁺)
767.6 4	(4 ⁺)

[†] From $E\gamma$ data.

[‡] From the Adopted Levels.

 $\gamma(^{64}\text{Co})$

$R(\theta)=I\gamma(\theta\geq 150^\circ)/I\gamma(\theta=100^\circ)$ (2012Re11).

<u>E_γ</u>	<u>I_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Comments</u>
96.3 2	59 4	767.6	(4 ⁺)	671.3	(3 ⁺)	$R(\theta)=0.73$ 14.
231.1 2	59 3	671.3	(3 ⁺)	439.9	(2 ⁺ ,3 ⁺)	$R(\theta)=1.33$ 18.
^x 274.1 2	100 4					$R(\theta)=1.41$ 14.
310.9 [†] 5	17 3	310.9	(1 ⁺ ,2 ⁺ ,3 ⁺)	0.0	1 ⁺	
^x 341.3 6	23 4					
439.3 3	37 4	439.9	(2 ⁺ ,3 ⁺)	0.0	1 ⁺	
672.3 [†] 4	37 8	671.3	(3 ⁺)	0.0	1 ⁺	
^x 738.5 2	85 6					$R(\theta)=0.84$ 16.

[†] Placement from the Adopted Levels, Gammas dataset.




^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative I_γ

Legend

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

