

$^{238}\text{U}(^{70}\text{Zn}, ^{62}\text{Co}\gamma)$ 2012Re11

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Huang Xiaolong, and Wang Xianghan		NDS 204,1 (2025)	30-Jun-2023

2012Re11: 460 MeV ^{70}Zn beam 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 $E\gamma$, $I\gamma$, $\gamma(\theta)$, $(^{62}\text{Co})\gamma$ coin. Multinucleon transfer reaction.

 ^{62}Co Levels

E(level) [†]	J ^π	Comments
0.0	(2) ⁺ [‡]	
22	(5) ⁺ [‡]	
610.1 3	5 ⁺	E(level): level energy held fixed in least-squares adjustment.
1216.9 4	(6 ⁺)	J ^π : from 2012Re11; (5) ⁺ in the Adopted Levels.
1543.6 5		J ^π : from 2012Re11; same in the Adopted Levels.
2311.1 7		

[†] From $E\gamma$ data.

[‡] From the Adopted Levels.

 $\gamma(^{62}\text{Co})$

$R_\theta = I_\gamma(\geq 150^\circ)/I_\gamma(100^\circ)$.

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
^x 230.3 3	27 4					
^x 247.0 3	17 3					$R_\theta=0.6$ 3.
^x 309.3 15	17 5					
326.7 [†] 2	70 6	1543.6		1216.9	(6 ⁺)	$R_\theta=1.24$ 25.
588.2 3	61 7	610.1	5 ⁺	22	(5) ⁺	
607.8 8	15 7	1216.9	(6 ⁺)	610.1	5 ⁺	
767.4 [†] 5	40 7	2311.1		1543.6		
^x 889.4 10	26 7					
1194.7 4	100 10	1216.9	(6 ⁺)	22	(5) ⁺	$R_\theta=0.84$ 19.

[†] Placement from the Adopted dataset.

^x γ ray not placed in level scheme.

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Level Scheme
Intensities: Relative I_γ

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

