

$^{238}\text{U}(^{70}\text{Zn}, ^{62}\text{Co}\gamma)$  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  $^{70}\text{Zn}$  beam delivered by the Laboratori Nazionali di Legnaro (LNL) Tandem-ALPI accelerator complex. Target= $400 \mu\text{g}/\text{cm}^2$   $^{238}\text{U}$ . 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.

$^{62}\text{Co}$  Levels

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

<sup>†</sup> From  $E\gamma$  data.  
<sup>‡</sup> From the Adopted Levels.

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

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

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

<sup>†</sup> Placement from the Adopted dataset.  
<sup>x</sup>  $\gamma$  ray not placed in level scheme.

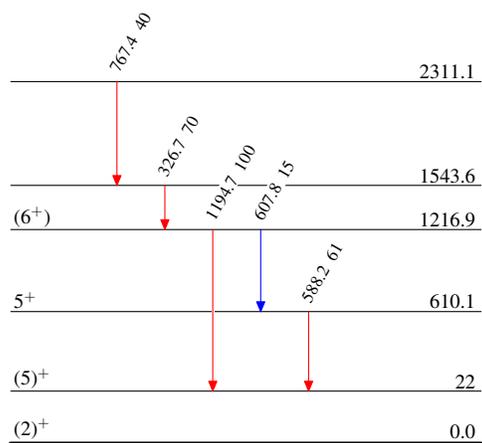
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## Level Scheme

Intensities: Relative  $I_\gamma$ 

## Legend

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

 $^{62}_{27}\text{Co}_{35}$