

²³⁸U(⁷⁰Zn,xγ) **2012Re11**

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

Multinucleon transfer reactions.
2012Re11: ⁷⁰Zn beam at E=460 MeV delivered by the LNL-Legnaro Tandem-ALPI accelerator complex. Target=400 μg/cm² ²³⁸U. 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_γ, I_γ, γ(θ), (⁶²Ni)γ coin.

⁶²Fe Levels

E(level) [†]	J ^π [‡]
0.0	0 ⁺
877.81 20	2 ⁺
2176.8 3	4 ⁺
3015.5 5	(5 ⁻)
3387.4 5	6 ⁺

[†] From E_γ data.
[‡] From the Adopted Levels.

γ(⁶²Fe)

R_θ=I_γ(150°)/I_γ(100°).

E _γ	I _γ	E _i (level)	J ^π _i	E _f	J ^π _f	Mult. [†]	Comments
838.7 3	34 3	3015.5	(5 ⁻)	2176.8	4 ⁺	D	R _θ =0.75 20.
877.8 2	100 4	877.81	2 ⁺	0.0	0 ⁺	Q	R _θ =1.13 12.
1210.6 4	32 3	3387.4	6 ⁺	2176.8	4 ⁺	Q	R _θ =1.58 35.
1299.0 2	83 5	2176.8	4 ⁺	877.81	2 ⁺	Q	R _θ =1.77 23.

[†] From γ(θ) data.

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

Level Scheme

 Intensities: Relative I_γ

Legend

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

