^{238}U(^{64}Ni,Xγ) 2007Lu13

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

Adapted from the XUNDL dataset for 2007Lu13, compiled by S. Geraedts and B. Singh (McMaster), on September 3, 2007.
2007Lu13: E=400 MeV ^{64}Ni beam was produced from the LNL Tandem-ALPI accelerator. Target was ^{238}U. Projectile-like nuclei were identified with the PRISMA large acceptance magnetic spectrometer. γ rays were detected with the CLARA array comprised of 25 Clover Ge detectors with Compton-suppression. Measured Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J, π, band structure. Comparisons with shell-model calculations.

^{65}Fe Levels

E(level)[†‡]	J$^\pi$[#]	Comments
393.64[@] *18*	(9/2$^+$)	Additional information 1. E(level): from Adopted Levels. The position of this level is unknown in 2007Lu13, but this level is most likely the same level as the (9/2$^+$) isomeric level at E=402 identified in ^{9}Be(^{76}Ge,X) by 2008Bl05.
1165.2[@] *7*	(13/2$^+$)	
2283.5[@] *12*	(17/2$^+$)	

† Additional information 2.
‡ From Eγ data.
# Proposed in 2007Lu13 based on shell-model predictions and band assignment.
@ Band(A): Band based on (9/2$^+$).

γ(^{65}Fe)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
771.6 *7*	100 *20*	1165.2	(13/2$^+$)	393.64	(9/2$^+$)
1118.2 *10*	48 *15*	2283.5	(17/2$^+$)	1165.2	(13/2$^+$)

† From 2007Lu13.

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Level Scheme

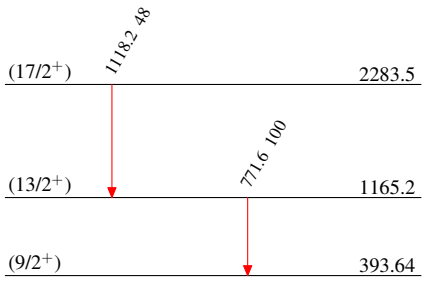
Intensities: Relative I_γ

Legend

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

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

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



$^{65}_{26}Fe_{39}$

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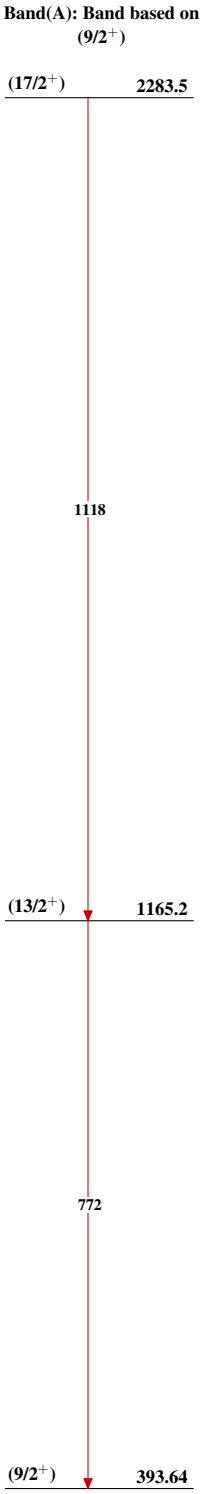

$^{65}_{26}Fe_{39}$