^{64}Ni(^{238}U,Xγ) 2011Di08,2017Kl01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 196,17 (2024)	30-Sep-2023

2011Di08,2011Di04: E=6.5 MeV/nucleon ^{238}U beam was produced at GANIL. Target was 1.5 mg/cm^2 ^{64}Ni followed by a 4.7 mg/cm^2 Mg degrader. Reaction products were detected and identified by the VAMOS spectrometer and γ rays were detected by the EXOGAM Ge array. Measured Eγ, Iγ, $\gamma\gamma$-coin, recoil distance Doppler shift with a plunger device. Deduced levels, lifetimes, B(E2). Comparison with large-scale shell-model calculations.

2017Kl01: E=6.5 MeV/nucleon ^{238}U beam was produced at GANIL. Target was 1.25 mg/cm^2 thick ^{64}Ni. Target-like reaction products were detected and identified with the VAMOS++ spectrometer. γ rays were detected with the AGATA γ-ray tracking array of 19 HPGe detectors. Measured Eγ, (recoil ions)γ-coin, recoil distance using Orsay universal plunger system (OUPS). Deduced level, lifetime of 1674 level, B(E2). Comparison with large-scale shell-model calculations, and with beyond-mean-field CHFB+5DCH calculations using Gogny D1S interaction.

^{63}Co Levels

E(level)†	J$^\pi$†	T$_{1/2}$	Comments
0.0	7/2$^-$		
995	3/2$^-$	10.7 ps *12*	T$_{1/2}$: from τ=15.4 ps *18* using RDDS with 995γ in 2011Di08.
1384	(9/2$^-$)	0.62 ps *28*	T$_{1/2}$: from τ=0.9 ps *4* using RDDS with 1382γ in 2011Di08.
1674	11/2$^-$	0.38 ps *13*	T$_{1/2}$: from τ=0.55 ps *19* using RDDS method with 1672γ (2017Kl01). Unobserved feeding is 62% with effective mean lifetime of 7 ps.

† From Adopted Levels. Energies are rounded values.

γ(^{63}Co)

E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
995	995	3/2$^-$	0.0	7/2$^-$
1383	1384	(9/2$^-$)	0.0	7/2$^-$
1674	1674	11/2$^-$	0.0	7/2$^-$

† Rounded values from Adopted Gammas.

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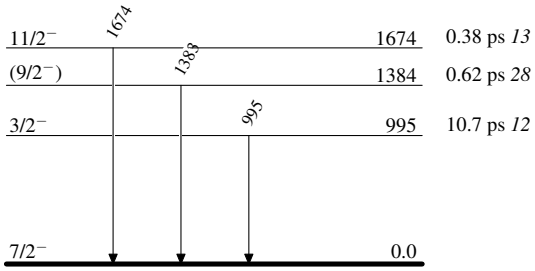
Level Scheme



$^{63}_{27}Co_{36}$