^{54}Fe(^{12}C,2pnγ) 1978Me17

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

1978Me17: E=50, 55, 60 MeV beams were produced from the McMaster FN tandem. γ rays were detected with Ge(Li) detectors. Measured Eγ, Iγ, $\gamma(\theta)$. Deduced levels, J, π, γ-ray multipolarities, mixing ratios. 1978Me17 also report data on ^{63}Cu(p,nγ), ^{60}Ni(α,nγ). All Eγ data from the three measurements are combined by 1978Me17 and the uncertainties of combined Eγ values are presented by the evaluator only in (α,nγ) dataset to avoid duplicate.

^{63}Zn Levels

E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡
0	3/2$^-$	1063.9	7/2	1703.7	9/2	3763.0	17/2
192.9	5/2$^-$	1206.8	7/2	2051.4	9/2	5344.2	21/2
650.2	5/2$^-$	1436.5	5/2	2585.0	13/2		

† From Eγ data in 1978Me17.
‡ As given in 1978Me17.

γ(^{63}Zn)

E$_i$(level)	J$_i^\pi$	E$_\gamma$†	E$_f$	J$_f^\pi$	E$_i$(level)	J$_i^\pi$	E$_\gamma$†	I$_\gamma$	E$_f$	J$_f^\pi$
192.9	5/2$^-$	192.9	0	3/2$^-$	1703.7	9/2	496.6		1206.8	7/2
650.2	5/2$^-$	650.2	0	3/2$^-$			639.7		1063.9	7/2
1063.9	7/2	413.5	650.2	5/2$^-$	2051.4	9/2	987.3		1063.9	7/2
		870.8	192.9	5/2$^-$			1857.6‡# *3*		192.9	5/2$^-$
		1064.1	0	3/2$^-$	2585.0	13/2	881.3		1703.7	9/2
1206.8	7/2	1013.4	192.9	5/2$^-$	3763.0	17/2	1178.8‡ *2*	100	2585.0	13/2
		1206.8	0	3/2$^-$	5344.2	21/2	1580.4‡ *3*	100	3763.0	17/2
1436.5	5/2	1243.5	192.9	5/2$^-$						

† From 1978Me17. See (α,nγ) dataset for a full list of Eγ data including uncertainties from 1978Me17 that combinines measurements of ^{63}Ni(p,nγ), ^{60}Ni(α,nγ), and ^{54}Fe(^{12}C,2pnγ). γ transitions listed in this dataset are those seen in the (^{12}C,2pnγ) measurement, as indicated in 1978Me17.
‡ Seen only in (^{12}C,2pnγ) measurement in 1978Me17.
# Placement of transition in the level scheme is uncertain.

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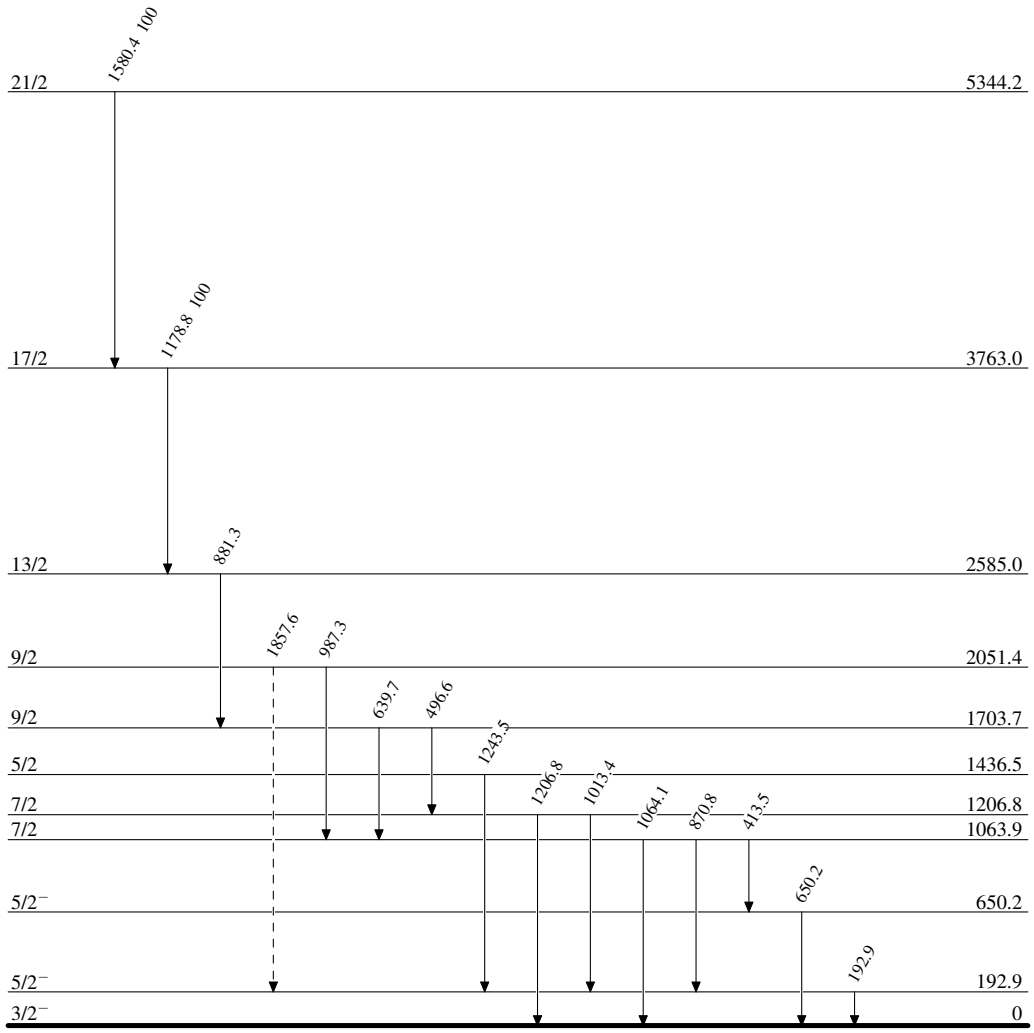
Legend

Level Scheme

Intensities: % photon branching from each level

γ Decay (Uncertain)



$^{63}_{30}Zn_{33}$