^{1}H(^{68}Fe,2p2nγ) 2018Li46

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

Adapted from the XUNDL dataset of 2018Li46, compiled by Y. Ichikawa (RIKEN) and F.G. Kondev (ANL) on November 6, 2018.

2018Li46: E≈260 MeV/nucleon ^{68}Fe beam was produced by fragmentation of a 345 MeV/nucleon primary ^{238}U beam on a ^{9}Be target at the RIKEN-RIBF facility. The secondary target was 102(1)-mm-thick liquid hydrogen (LH_2). Reaction residues were identified and selected with the BigRIPS before the target and the ZeroDegree spectrometer after target by the Bρ-ΔE-TOF method. Charged particles were detected with the Time-Projection Chamber (TPC) of the MINOS device; γ rays were detected by the DALI2 spectrometer. Measured Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J, π. Comparisons with large-scale shell-model calculations.

^{65}Mn Levels

E(level)[†]	J$^{\pi}$[‡]
0	(5/2$^-$)
273[#] *5*	(7/2$^-$)
783[#] *8*	(9/2$^-$)
1177[#] *10*	(11/2$^-$)

[†] From Eγ data.
[‡] As proposed in 2018Li46 based on shell-model predictions and an assumption of a ΔJ=1 dipole transition deexciting each excited level.
[#] Seq.(A): Cascade based on the (5/2$^-$) ground state.

γ(^{65}Mn)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
273[#] *5*	100 *2*	273	(7/2$^-$)	0	(5/2$^-$)
394[‡#] *6*	16 *1*	1177	(11/2$^-$)	783	(9/2$^-$)
510[‡] *6*	22 *1*	783	(9/2$^-$)	273	(7/2$^-$)

[†] From 2018Li46.
[‡] Observed in coin spectrum gated by the 273-keV γ ray.
[#] Observed in coin spectrum gated by the 510-keV γ ray.

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Level Scheme

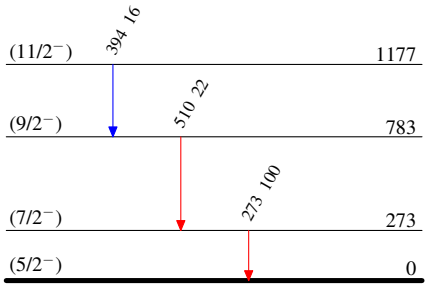
Intensities: Relative I_γ

Legend

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

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

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



$^{65}_{25}Mn_{40}$

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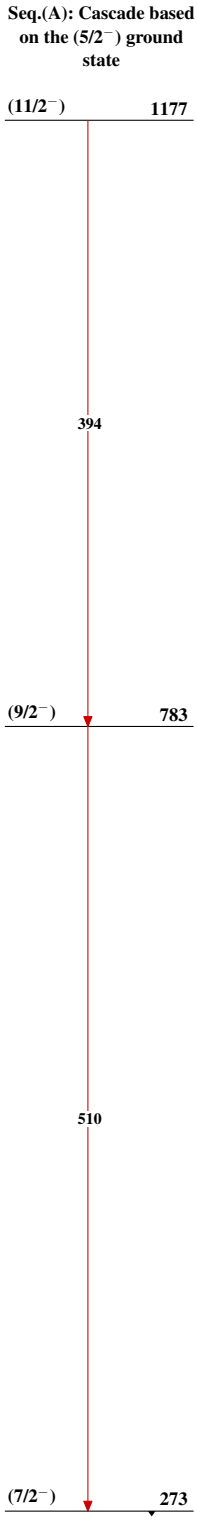

$^{65}_{25}Mn_{40}$