^{1}H(^{68}Fe,2p4nγ) 2018Li46

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

Adapted from the XUNDL dataset for 2018Li46 compiled by Y. Ichikawa (RIKEN) and F.G. Kondev (ANL) on November 6, 2018.
2018Li46: E=260 MeV/nucleon secondary ^{63}Fe beam was produced by fragmentation of a 345 MeV/nucleon primary ^{238}U beam with an average beam intensity of 15 pnA on a 3-mm-thick ^{9}Be target at the RIKEN-RIBF facility. Fragments were separated by the BigRIPS separator using the tof-Bρ-ΔE method. The secondary target was 102(1)-mm-thick liquid hydrogen (LH_2). Reaction products were identified through the ZeroDegree Spectrometer; γ rays were detected with the DALI2 array comprising of 186 NaI detectors. Measured: Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J, π. Comparisons with large-scale shell-model calculations.

^{63}Mn Levels

E(level)[†]	J$^{\pi}$[‡]	Comments
0.0[#]	5/2$^{(-)}$	J$^{\pi}$: from Adopted Levels.
249[#] *5*	(7/2$^-$)	
894[#] *8*	(9/2$^-$)	
1270[#] *11*	(11/2$^-$)	

[†] From Eγ data.
[‡] Tentative assignments by 2018Li46 based on shell-model predictions, unless otherwise noted.
[#] Seq.(A): Sequence based on 5/2$^{(-)}$ ground state.

γ(^{63}Mn)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$
249[#] *5*	100 *4*	249	(7/2$^-$)	0.0	5/2$^{(-)}$
376[‡#] *7*	20 *2*	1270	(11/2$^-$)	894	(9/2$^-$)
645[‡] *6*	20 *2*	894	(9/2$^-$)	249	(7/2$^-$)

[†] From 2018Li46.
[‡] Observed in coin spectrum gated by 249γ.
[#] Observed in coin spectrum gated by 645γ.

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Level Scheme

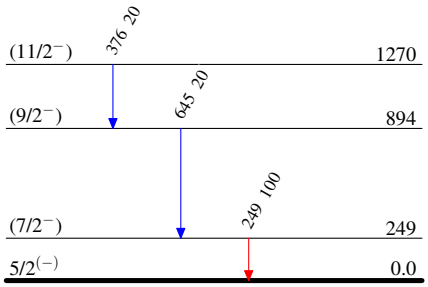
Intensities: Relative I_γ

Legend

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

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

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



$^{63}_{25}Mn_{38}$

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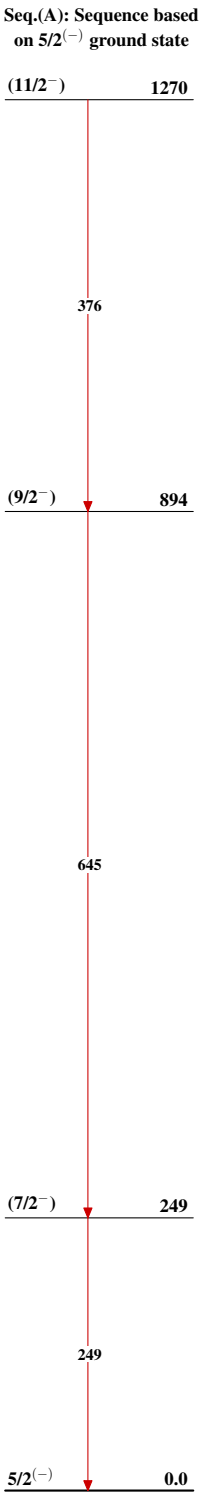

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