^{1}H(^{50}Ar,2p2nγ) 2021Li58

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Ota and E. A. Mccutchan	NDS 203,1 (2025)	1-Apr-2025

2021Li58; E=247 MeV/nucleon ^{50}Ar beam was produced from fragmentation of 345 MeV/nucleon ^{70}Zn beam on ^{9}Be target at RIKEN. Secondary target was 151 mm liquid hydrogen with MINOS setup (beam E=184 MeV/nucleon at exit). Scattered ions analyzed with the SAMURAI spectrometer. Measured Eγ, Iγ, recoil-γ using the DALI2^{+} array consisting of 226 NaI(Tl) detectors and momentum distributions with the SAMURAI array. The experiment measured the ^{48}Cl(p,pn)^{47}Cl reaction as well.

^{47}Cl Levels

Level scheme is very tentative. 2021Li58 propose another level scheme where the 578 and 632 keV transitions depopulate a single level at 632 keV, with the 632γ going to the ground state and the 578γ going to an unobserved level at 56 keV. The 148 keV transition only observed in ^{50}Ar(p,2p2n) may not be a ground state transition, but a transition between two low-lying states.

E(level)[†]
0
148? *4*
578? *12*
632? *23*

[†] From Eγ data.

γ(^{47}Cl)

E_γ	E_i(level)	E_f
148[†] *4*	148?	0
578[†] *12*	578?	0
632[†] *23*	632?	0

[†] Placement of transition in the level scheme is uncertain.

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Level Scheme