^{208}Pb(^{40}Ar,Xγ)   2013Sz02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen[#] and Balraj Singh	NDS 135, 1 (2016)	31-May-2016

2013Sz02 (also 2013Sz01): transfer channel: 1p removal and 3n addition E(^{40}Ar)=255 MeV provided by the ECR ion source and accelerated by the superconducting ALPI-Linac accelerator of the Laboratory Nazionali di Legnaro. Target=300 μg/cm^2 ^{208}Pb. Measured fragments, Eγ, Iγ, time-of-flight, energy loss, $\gamma\gamma$-, (fragment)Iγ-coin using the Clara array and magnetic spectrometer Prisma. Deduced level, J, π. Comparison with large-scale shell-model calculations.

^{42}Cl Levels

E(level)	J$^{\pi}$[†]
0	(2$^-$)
522? 1	(4$^-$)

[†] From 2013Sz02 based on shell-model calculations.

γ(^{42}Cl)

E$_\gamma$	I$_\gamma$[‡]	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$
^{x}117[†]					
^{x}230[†]					
^{x}275[†]					
^{x}400[†]					
522 1	2.0 4	522?	(4$^-$)	0	(2$^-$)
^{x}1225[†]					

[†] Weak γ observed. Authors claim corresponding γ (except the 230γ) present in ^{42}S β^- decay from the work on β decay by D. O'Donnell, Ph.D. thesis, University of the West Scotland (2008).

[‡] Effective number of counts after taking into account detector efficiency. Iγ from 2013Sz02 divided by 10.

[x] γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative I$_\gamma$

$^{42}_{17}Cl_{25}$

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