C(^{40}Si,^{38}Mg),(^{39}Al,^{38}Mg) 2013Do22

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 152, 1 (2018)	30-Sep-2017

One- and two-proton knockout reactions.

2013Do22: Radioactive beams of ^{39}Al and ^{40}Si at energies of 219 MeV/nucleon and 226 MeV/nucleon were produced from fragmentation of ^{48}Ca beam at 345 MeV/nucleon with Be target at RIBF-RIKEN facility. Secondary target was a 2.54 g/cm^2 thick carbon. Secondary beams were purified via Bρ-ΔE-Bρ method and identified by ΔE-Bρ-tof method using BigRIPS separator. γ rays were detected in coincidence with ^{38}Mg particles using DALI2 array of 186 large-volume NaI(Tl) detectors. Measured Eγ, Iγ. Deduced levels, J, π. Comparison with shell-model calculations.

^{38}Mg Levels

E(level)	J$^\pi$
0	0$^+$
656 *6*	(2$^+$)†
2016 *21*	(4$^+$)†

† From systematics of even-even nuclei and shell-model predictions.

γ(^{38}Mg)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
656 *6*	656	(2$^+$)	0	0$^+$	I$_\gamma$: most intense peak in γ(^{38}Mg)-coin spectrum figure 2 in 2013Do22.
1360 *20*	2016	(4$^+$)	656	(2$^+$)	I$_\gamma$: weak peak in γ(^{38}Mg)-coin spectrum figure 2 in 2013Do22.

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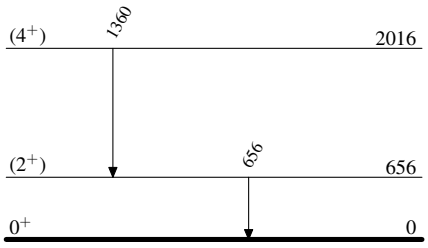
Level Scheme



$^{38}_{12}Mg_{26}$