C(^{36}Mg,^{35}Naγ)   2014Do05

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	ENSDF	15-Dec-2017

2014Do05: E=236 MeV/nucleon ^{36}Mg beam produced by fragmentation of 345 MeV/nucleon ^{48}Ca primary beam on a ^{9}Be target at the RIBF-RIKEN facility. The ^{36}Mg was separated by BigRIPS fragment separator using Bρ-ΔE-Bρ method. The secondary reaction targets were 2.54 g/cm^2 thick carbon and 2.13 g/cm^2 thick CH$_2$ polyethylene. Gamma rays were detected using DALI2 array of 186 large NaI(Tl) detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J^π, band. Comparison with shell-model calculations.
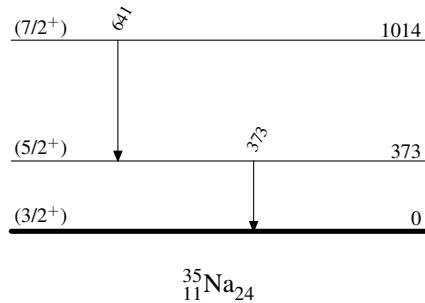
^{35}Na Levels

E(level)	$J^{\pi\dagger}$
0‡	(3/2$^+$)
373‡ 5	(5/2$^+$)
1014‡ 17	(7/2$^+$)

$\dagger$ From Monte-Carlo shell-Model calculations using the SPDF-M effective interaction.
$\ddagger$ Band(A): K^π=(3/2$^+$) band. Rotational band predicted by shell model calculations.

γ(^{35}Na)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
373 5	373	(5/2$^+$)	0	(3/2$^+$)
641 16	1014	(7/2$^+$)	373	(5/2$^+$)

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Level Scheme

$^{35}_{11}$Na$_{24}$

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Band(A): K^{π}=(3/2$^+$)
band

(7/2$^+$) —————————— 1014

641

(5/2$^+$) —————————— 373

373

(3/2$^+$) —————————— 0

$^{35}_{11}$Na$_{24}$