^{9}Be(^{45}Cl,Xγ) 2009Ri11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 126, 1 (2015)	31-Mar-2015

2009Ri11: E=98 MeV/nucleon ^{45}Cl beam was produced by fragmentation of a 140 MeV/nucleon ^{48}Ca on a ^{9}Be fragmentation target and incident on a target of 376 mg/cm^2 thick ^{9}Be. Fragments (84% ^{44}S, 14% ^{45}Cl) were separated by the A1900 separator and identified by the time-of-flight and energy loss in the S800 ionization chamber; γ-rays were detected by the Segmented Germanium Array (SeGA). Measured Eγ, Iγ, $\gamma\gamma$-coin. Deduced levels, J, π, branching ratios and rotational band. Comparisons with shell-model calculations.

This dataset shares the γ-energies with the dataset of ^{9}Be(^{44}S,Xγ).

^{43}S Levels

E(level)[†]	J$^\pi$[‡]
0[#]	3/2$^-$
971[#] *5*	(5/2$^-$,7/2$^-$)
1154[#] *5*	(5/2$^-$,7/2$^-$)

[†] From least-squares fit to Eγ data.
[‡] From comparisons with shell-model calculations.
[#] Band(A): ground state rotational band.

γ(^{43}S)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
183 *1*	58 *12*	1154	(5/2$^-$,7/2$^-$)	971	(5/2$^-$,7/2$^-$)
[x]231 *1*	8 *5*				
[x]459 *3*	10 *7*				
[x]621 *4*	34 *11*				
[x]770 *5*	15 *10*				
[x]849 *5*	23 *12*				
971 *6*	62 *17*	971	(5/2$^-$,7/2$^-$)	0	3/2$^-$
[x]1060 *5*	40 *15*				
1154 *7*	100	1154	(5/2$^-$,7/2$^-$)	0	3/2$^-$
[x]1203 *7*	51 *15*				
[x]1529 *9*	93 *22*				

[x] γ ray not placed in level scheme.

^{9}Be(^{45}Cl,Xγ) 2009Ri11

Level Scheme

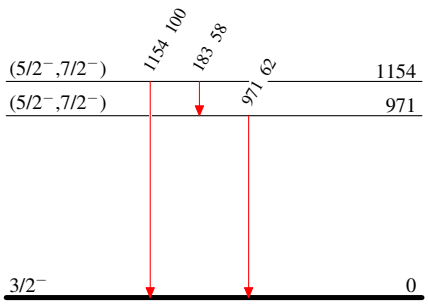
Intensities: Relative I_γ

Legend

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

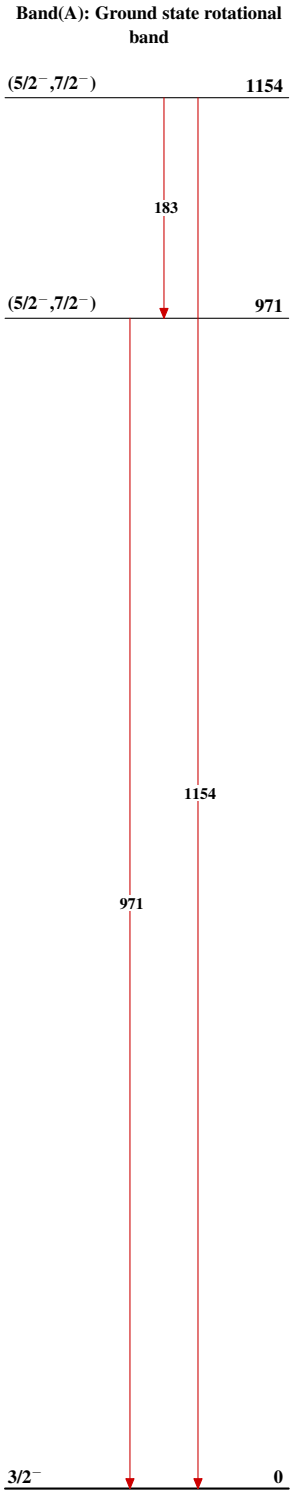
$I_\gamma < 10\% \times I_\gamma^{max}$

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



$^{43}_{16}S_{27}$

^{9}Be(^{45}Cl,Xγ) 2009Ri11



$^{43}_{16}S_{27}$