

$^9\text{Be}(^{48}\text{K}, \text{X}\gamma)$ 2012St12

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

2012St12: E=85 MeV/nucleon ^{48}K beam was produced from fragmentation of 140 MeV/nucleon ^{48}Ca beam with ^9Be target at the Coupled cyclotron facility of NSCL at MSU. Target=376 mg/cm² ^9Be . The beam was purified in A1900 fragment separator. The S800 spectrograph together with plastic scintillators was used for event-by-event identification of projectile-like reaction products and time-of-flight and energy loss information. Measured E_γ , I_γ , $\gamma\gamma$ coin, (fragment) γ coin using SeGA array of 32-fold segmented HPGe detectors. Shell-model calculations.

 ^{43}Cl Levels

E(level) [†]	J^π [‡]	Comments
0	(1/2 ⁺)	
327 5	(3/2 ⁺)	
882? 14		
940 9	(5/2 ⁺)	
1665 16		E(level): ordering of the 256-1338 γ cascade is not established in this work, but in 2006Ga31 , intensity of the 256 γ is much weaker than that of the 1338 γ .
1921 16		

[†] From E_γ data.

[‡] From shell-model calculations ([2012St12](#)).

 $\gamma(^{43}\text{Cl})$

E_γ	I_γ	$E_i(\text{level})$	J^π_i	E_f	J^π_f	Comments
256 [†] 4	18 1	1921		1665		
327 5	100 3	327	(3/2 ⁺)	0	(1/2 ⁺)	
613 7	45 3	940	(5/2 ⁺)	327	(3/2 ⁺)	
882 14	30 3	882?		0	(1/2 ⁺)	882 γ was not observed in coin with either the 327 γ or the 613 γ as proposed in 2004So30 .
^x 1024 10	7 2					
1338 [†] 15	22 3	1665		327	(3/2 ⁺)	
^x 1494 [‡] 16						
^x 1529 [‡] 16						

[†] Ordering of the 256-1328 γ cascade is not established in this work, but it is based on much weaker intensity of 256 γ in [2006Ga31](#).

[‡] Weak unresolved doublet.

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

