^{9}Be(^{48}K,Xγ) 2012St12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 190,1 (2023)	20-Jun-2023

2012St12: E=85 MeV/nucleon ^{48}K beam was produced from fragmentation of 140 MeV/nucleon ^{48}Ca beam with ^{9}Be target at the Coupled cyclotron facility of NSCL, MSU. Target=376 mg/cm^2 ^{9}Be. 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. γ rays were detected with the SeGA array of 32-fold segmented HPGe detectors. Measured Eγ, Iγ, fragment-γ coin. Deduced levels. No $\gamma\gamma$ coincidences were observed. Comparisons with Shell-model calculations.

^{44}Cl Levels

E(level)†	J$^\pi$	Comments
0	(2$^-$)	J$^\pi$: from g factor measurement (2010De11) and shell-model calculations (2012St12,2010De11).
475 *6*		
518 *4*		
725 *4*		
891? *5*		
996? *5*		

† From Eγ data.

γ(^{44}Cl)

E$_\gamma$	I$_\gamma$	E$_i$(level)	E$_f$	J$^\pi_f$	Comments
x107 *3*	5 *1*				
x351 *4*					
475 *6*	36 *5*	475	0	(2$^-$)	E$_\gamma$: 455 in spectral figure 9 of 2012St12 seems a misprint.
518 *4*	100 *3*	518	0	(2$^-$)	
x610† *8*					
x631† *8*					
725 *4*	76 *3*	725	0	(2$^-$)	
891 *5*	29 *3*	891?	0	(2$^-$)	E$_\gamma$: 892 in table VI of 2012St12, but 891 in other places.
996 *5*	14 *2*	996?	0	(2$^-$)	
x1091† *8*					
x1151† *8*					
x1226† *8*					

† Weak γ ray.
x γ ray not placed in level scheme.

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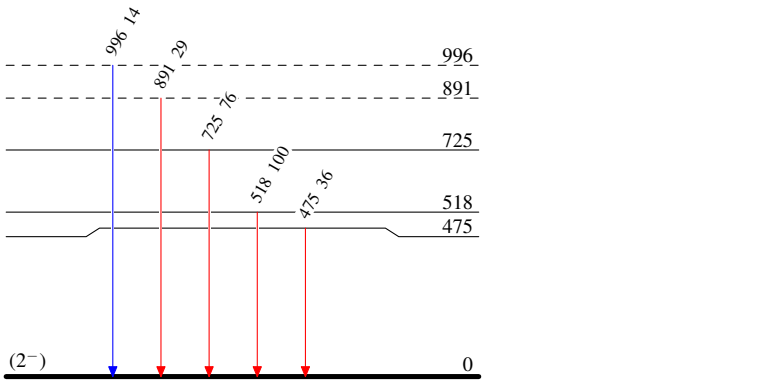
Level Scheme

Intensities: Relative I_γ



$^{44}_{17}Cl_{27}$