

$^{48}\text{Ca}(^{238}\text{U},\text{X}\gamma)$ 2009Bh02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde		NDS 128, 185 (2015)	10-Jul-2015

E=1.31 GeV beam on 1 MG/CM2 thick, enriched ^{48}Ca target, detected and analyzed using VAMOS spectrometer. The focal plane detection system consisted of two position-sensitive drift chambers, electron (timing) detector (SeD) and a segmented ionization chamber followed by a 21-element Si wall. The mass/charge identification was made on the basis of magnetic rigidity and time-of-flight. Measured $E\gamma$, $I\gamma$, γ rays in singles and coincidence mode using EXOGAM array of clover Ge detectors. The γ -ray spectra were Doppler corrected. The γ rays were detected in coin with ^{52}Sc fragments.

 ^{52}Sc Levels

E(level)	J^π	Comments
0 [†]	(3 ⁺)	
0+x [†]	(4 ⁺)	Additional information 1.
212+x [†] 1	(5 ⁺)	
675 [†] 3	(2 ⁺)	
1655+x 7	(4 ⁺)	Configuration= $\pi f_{7/2} \otimes \nu(p_{3/2}^2 p_{1/2})$.
2329+x 8	(6 ⁺)	Configuration= $\pi f_{7/2} \otimes \nu[(p_{3/2}^2 f_{5/2}) + (p_{3/2}^2 p_{1/2})]$.
3593+x 10	(7 ⁻ , 8 ⁺)	Configuration= $\pi f_{7/2} \otimes \nu(p_{3/2}^2 f_{5/2})$ or $\pi f_{7/2} \otimes \nu(p_{3/2}^3 \otimes 3^-$ octupole vibration).

[†] Multiplet with configuration= $\pi f_{7/2} \otimes \nu p_{3/2}^3$.

 $\gamma(^{52}\text{Sc})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
212 1	212+x	(5 ⁺)	0+x	(4 ⁺)
675 3	675	(2 ⁺)	0	(3 ⁺)
1264 6	3593+x	(7 ⁻ , 8 ⁺)	2329+x	(6 ⁺)
1443 8	1655+x	(4 ⁺)	212+x	(5 ⁺)
1654 13	1655+x	(4 ⁺)	0+x	(4 ⁺)
2117 8	2329+x	(6 ⁺)	212+x	(5 ⁺)

$^{48}\text{Ca}(^{238}\text{U},\text{X}\gamma)$ 2009Bh02Level Scheme