

$^9\text{Be}(^{54}\text{Ti},^{52}\text{CaX}\gamma)$ 2006Ga24

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

$E(^{54}\text{Ti})=72$ MeV/nucleon secondary beam produced from fragmentation of ^{76}Ge beam at 130 MeV/nucleon with a ^9Be target.

Fragments were separated by A1900 separator at NSCL, Michigan facility. The ^{54}Ti beam impinged another ^9Be target and the residues were analyzed by S-800 spectrograph. The knockout residues were identified by time-of-flight, energy loss measurement, position and angle information. The SeGA array of 32-fold segmented HPGe detectors was used for γ -ray detection in coin with knockout residues. Deduced cross sections for population of excited states in ^{52}Ca .

Total cross section for $^{52}\text{Ca}=0.32$ mb 4. Results confirm doubly-magic interpretation (N=32 subshell closure) for ^{52}Ca .

 ^{52}Ca Levels




E(level)	J^π	Comments
0	0^+	$\sigma=0.21$ mb 3; 67% 7 of the total cross section.
2562 13	2^+	no measurable direct feeding of 2^+ state.
3992 14	(3^-)	$\sigma=0.11$ mb 3; 33% 6 of the total cross section.

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

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
1430 7	105 20	3992	(3^-)	2562	2^+	E_γ : uncertainty from text in 2006Ga24, listed as 12 in authors' figure 2.
2562 13	100 25	2562	2^+	0	0^+	

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Legend

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

