

$^{58}\text{Ni}(^{46}\text{Ti},\alpha 2n\gamma)$ 2006Ve09

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

2006Ve09: E(^{46}Ti)=175 MeV from LBNL cyclotron facility. Target=2 mg/cm² ^{58}Ni target, backed with 10 mg/cm² of gold.

Measured E γ , I γ , $\gamma\gamma$ -coin, (particle) γ -coin, $\gamma(\theta)$, isomer lifetime by $\gamma\gamma(t)$ using Gammasphere and Microball arrays. Deduced high-spin and core-excited states. Shell-model calculations. In this brief conference report, 2006Ve09 stated that the level scheme was extended tentatively to (15⁺), but no details are available to the evaluators as of now.

See also $^{46}\text{Ti}(^{58}\text{Ni},\alpha 2n\gamma)$ dataset.

 ^{98}Cd Levels

E(level) [†]	J π [‡]	T _{1/2}	Comments
0.0 [#]	0 ⁺		
1395.1 [#] 3	(2 ⁺)		
2082.8 [#] 4	(4 ⁺)		
2280.4 [#] 4	(6 ⁺)		
2426.9 [#] 4	(8 ⁺)		
6633.9 11	(12 ⁺)	230 ns +80-90	T _{1/2} : from $\gamma(t)$ (2006Ve09).

[†] From a least-squares to γ -ray energies.

[‡] From Adopted Levels.

[#] Seq.(A): Yrast cascade.

 $\gamma(^{98}\text{Cd})$

E γ	I γ	E _i (level)	J π _i	E _f	J π _f	Mult.	Comments
146.5 2	33 20	2426.9	(8 ⁺)	2280.4	(6 ⁺)	[E2]	A ₂ =+1.8 15
197.6 1	40 19	2280.4	(6 ⁺)	2082.8	(4 ⁺)	[E2]	A ₂ =+0.6 6
687.7 2	91 18	2082.8	(4 ⁺)	1395.1	(2 ⁺)		A ₂ =+0.6 8
^x 1165 1	113 38						A ₂ =+1.1 3
1395.1 3	100 21	1395.1	(2 ⁺)	0.0	0 ⁺		A ₂ =+0.7 5
4207 1	63 18	6633.9	(12 ⁺)	2426.9	(8 ⁺)	[E4]	A ₂ =+1.0 8

^x γ ray not placed in level scheme.

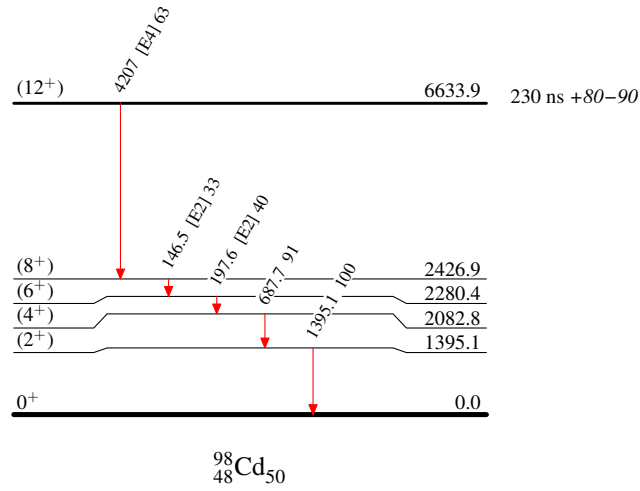
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Level Scheme

Intensities: Relative I_γ

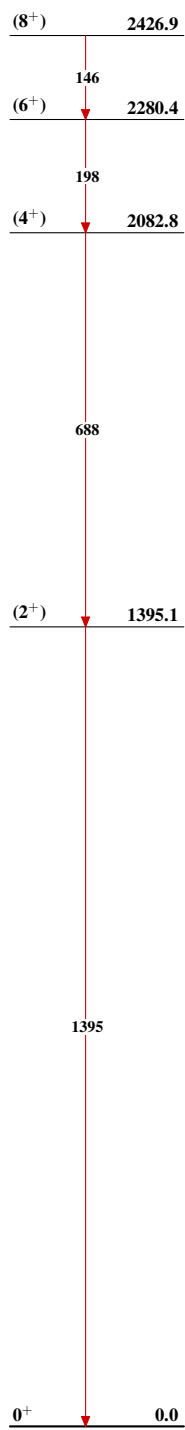
Legend

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



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Seq.(A): Yrast cascade

 ${}^{98}_{48}\text{Cd}_{50}$