

$^9\text{Be}(^{35}\text{Si}, ^{34}\text{SiX}\gamma)$ 2002En02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, Balraj Singh		NDS 113, 1563 (2012)	28-May-2012

Single-neutron knockout reaction.

2002En02: $E=73$ MeV ^{35}Si beam obtained from fragmentation of 100 MeV/nucleon beam and followed by A1200 fragment separator and S800 spectrograph at NSCL facility. Measured (fragment) γ coincidence spectra using an array of NaI(Tl) detectors, analyzed momentum distribution for neutron knockout from ^{35}Si .

Level scheme of ^{34}Si proposed in **2002En02** is similar to the one in **2001Nu01**. **2002En02** analyzed their γ spectrum (in coin with particles) using as input known γ rays from **2001Nu01** in ^{34}Al decay study and matching of the envelope of their observed gamma-ray spectrum with a NaI(Tl) detector array.

Population of all levels and gamma rays in this experiment is considered as tentative (by evaluators).

 ^{34}Si Levels

2133, (0^+) level proposed in **2001Nu01** but not confirmed by **2002Mi44** and **2003Iw02** is omitted here. The 1193 transition feeding from 3326 level to a 2133 level is placed from a 4519 level to 3326 level according to **2003Iw02**.

E(level)	J^π
0	0^+
3326	2^+
4257	3^-
4379	(3^-)
4519? [†]	
4970	$(3^-, 4^-, 5^-)$
5041? [†]	
6022? [†]	

[†] Level proposed in **2003Iw02** from $^2\text{H}(^{34}\text{Si}, ^{34}\text{Si}'\gamma)$.

[‡] From **2001Nu01**.

 $\gamma(^{34}\text{Si})$

All γ rays reported in **2002En02** are taken from **2001Nu01**.

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
123		4379	(3^-)	4257	3^-	
591	14 3	4970	$(3^-, 4^-, 5^-)$	4379	(3^-)	
929	33 4	4257	3^-	3326	2^+	
1053 [‡]	4 2	4379	(3^-)	3326	2^+	
1193 ^{†‡}	8 2	4519?		3326	2^+	
1715 ^{†‡}	12 4	5041?		3326	2^+	
2696 ^{†‡}	5 2	6022?		3326	2^+	
3326	54 3	3326	2^+	0	0^+	
4257	7 1	4257	3^-	0	0^+	[E3]

[†] Placement from **2003Iw02** from $^2\text{H}(^{34}\text{Si}, ^{34}\text{Si}'\gamma)$; unplaced in **2002En02**.

[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme
 Intensities: Relative I_γ

- \longrightarrow $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- \longrightarrow $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- \longrightarrow $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- \dashrightarrow γ Decay (Uncertain)

