

$^{28}\text{Si} (^{28}\text{Si}, 2\alpha 2p\gamma)$ 1998Ca26

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 91, 1 (2000)	15-Jul-2000

$E(^{28}\text{Si})=125$ MeV; 8 π γ spectrometer; 20 element Ge array with BGO array for γ rays; and 44 CsI detectors for charge particles; γ , $\gamma\gamma$, $\gamma(\theta)$ with a self-supporting natural Si target of two separated 800 $\mu\text{g}/\text{cm}^2$ layers; DCO for spin determinations. Lifetime determined from Doppler shift of the γ rays with a 800 $\mu\text{g}/\text{cm}^2$ target on a gold backing.

^{46}Ti Levels

E(level) [†]	J^π	$T_{1/2}$	Comments
0.0 [‡]	0 ⁺		
889.0 [‡] 10	2 ⁺		
2010.0 [‡] 15	4 ⁺		
3059.1 [#] 16	3 ⁻		
3299.0 [‡] 16	6 ⁺		
3442.0 [#] 16	4 ⁻		
3852.2 [#] 16	5 ⁻		
4416.5 22	6 ⁻		J^π : from adopted level.
4662.6 [#] 17	6 ⁻		
4896.9 [‡] 18	8 ⁺	0.92 ps 23	
5197.5 [#] 17	7 ⁻		
6150.6 [#] 20	8 ⁻	0.30 ps 3	
6201.0 18	8 ⁺	<0.19 ps	
6241.9 [‡] 20	10 ⁺	1.7 ps 4	
6829.7 [#] 18	9 ⁻	0.53 ps 10	
7942.0 [‡] 22	11 ⁺	<0.07 ps	
7961.6 [#] 22	10 ⁻	<0.30 ps	
8217.0 [‡] 22	12 ⁺	0.58 ps 6	
8279.0 23	10,12 ⁺	<0.17 ps	
8716.8 [#] 21	11 ⁻	<0.29 ps	
10040.0 [‡] 24	14 ⁺	<0.6 ps	
10380.0 24			
12974 3			
13169 3			

[†] Deduced by evaluator from a least-square fit to γ -ray energies.

[‡] Band(A): $K^\pi=0^+$ g.s. band.

[#] Band(B): $K^\pi=3^-$ band.

$\gamma(^{46}\text{Ti})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	
195	1	13169		12974			810	1	4662.6	6 ⁻	3852.2	5 ⁻		
275	1	8217.0	12 ⁺	7942.0	11 ⁺	M1	889	1	889.0	2 ⁺	0.0	0 ⁺		
383	1	3442.0	4 ⁻	3059.1	3 ⁻		1049	1	3059.1	3 ⁻	2010.0	4 ⁺		
410	1	3852.2	5 ⁻	3442.0	4 ⁻		1121	1	2010.0	4 ⁺	889.0	2 ⁺		
535	1	5197.5	7 ⁻	4662.6	6 ⁻		1221	1	4662.6	6 ⁻	3442.0	4 ⁻		
553	1	3852.2	5 ⁻	3299.0	6 ⁺		1289	1	3299.0	6 ⁺	2010.0	4 ⁺		
793	1	3852.2	5 ⁻	3059.1	3 ⁻		1304	1	3.7	6201.0	8 ⁺	4896.9	8 ⁺	M1

Continued on next page (footnotes at end of table)

${}^{28}\text{Si}({}^{28}\text{Si},2\alpha2p\gamma)$ 1998Ca26 (continued) $\gamma({}^{46}\text{Ti})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
1345	<i>I</i>	5197.5	7 ⁻	3852.2	5 ⁻		
1345	<i>I</i>	6241.9	10 ⁺	4896.9	8 ⁺	E2	DCO=0.95 5.
1432	<i>I</i>	3442.0	4 ⁻	2010.0	4 ⁺		
1488	<i>I</i>	6150.6	8 ⁻	4662.6	6 ⁻	E2	DCO=1.5 2.
1598	<i>I</i>	4896.9	8 ⁺	3299.0	6 ⁺	E2	DCO=0.94 3.
1632	<i>I</i>	6829.7	9 ⁻	5197.5	7 ⁻	E2	
1700	<i>I</i>	7942.0	11 ⁺	6241.9	10 ⁺	M1	DCO=0.65 4.
1734	<i>I</i>	6150.6	8 ⁻	4416.5	6 ⁻	E2	
1811	<i>I</i>	7961.6	10 ⁻	6150.6	8 ⁻	E2	DCO=1.2 2.
1823	<i>I</i>	10040.0	14 ⁺	8217.0	12 ⁺	E2	DCO=1.0 <i>I</i> .
1842	<i>I</i>	3852.2	5 ⁻	2010.0	4 ⁺		
1887	<i>I</i>	8716.8	11 ⁻	6829.7	9 ⁻	E2	DCO=0.9 2.
1933	<i>I</i>	6829.7	9 ⁻	4896.9	8 ⁺	E1	
1975	<i>I</i>	8217.0	12 ⁺	6241.9	10 ⁺	E2	DCO=0.8 <i>I</i> .
2037 [†]	1.8	8279.0	10,12 ⁺	6241.9	10 ⁺	(E2+M1)	
2163 [†]		10380.0		8217.0	12 ⁺		
2594 [†]		12974		10380.0			
2902 [†]	5.7	6201.0	8 ⁺	3299.0	6 ⁺	E2	

[†] Energy precision slightly higher than 1 keV.

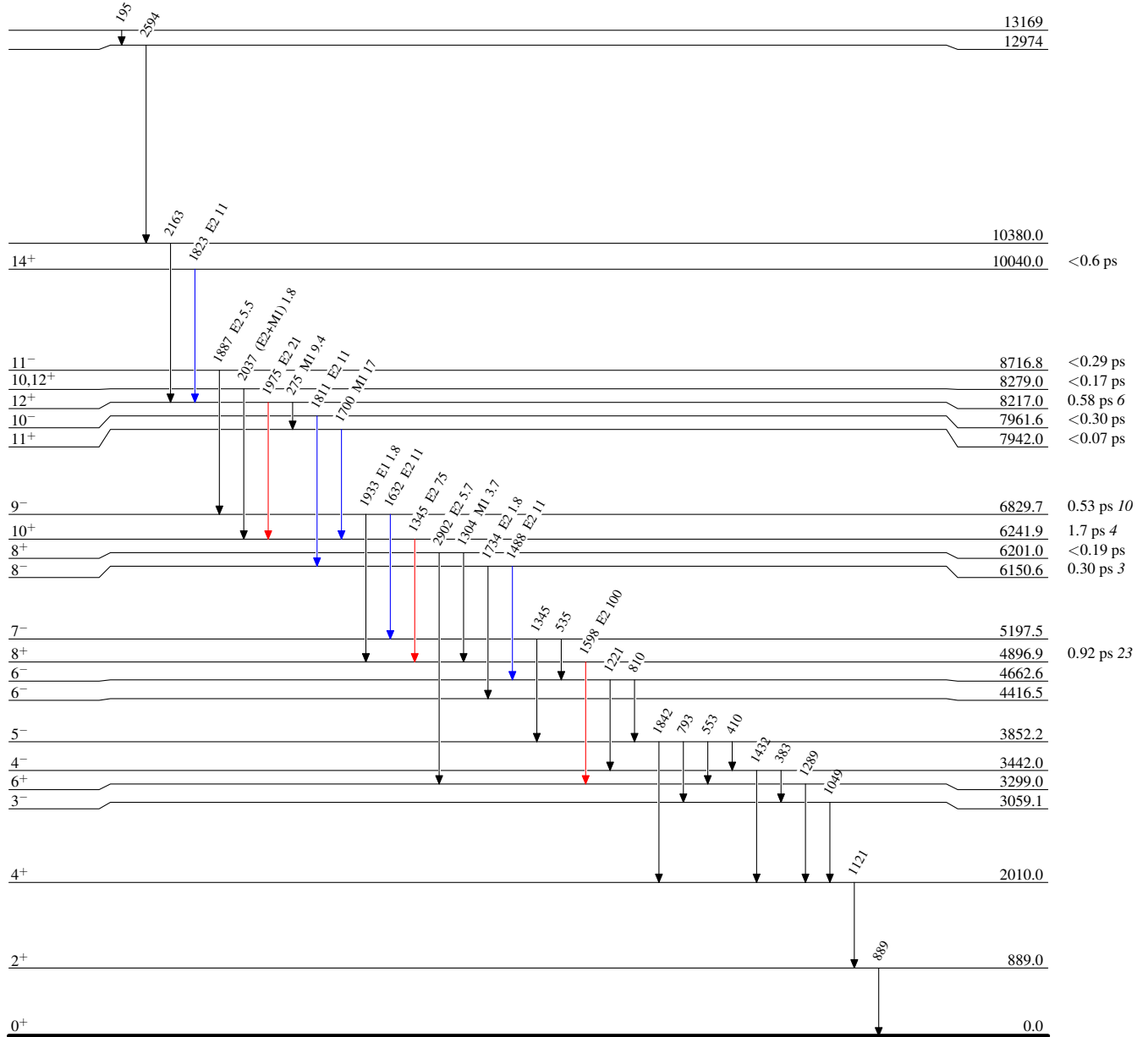
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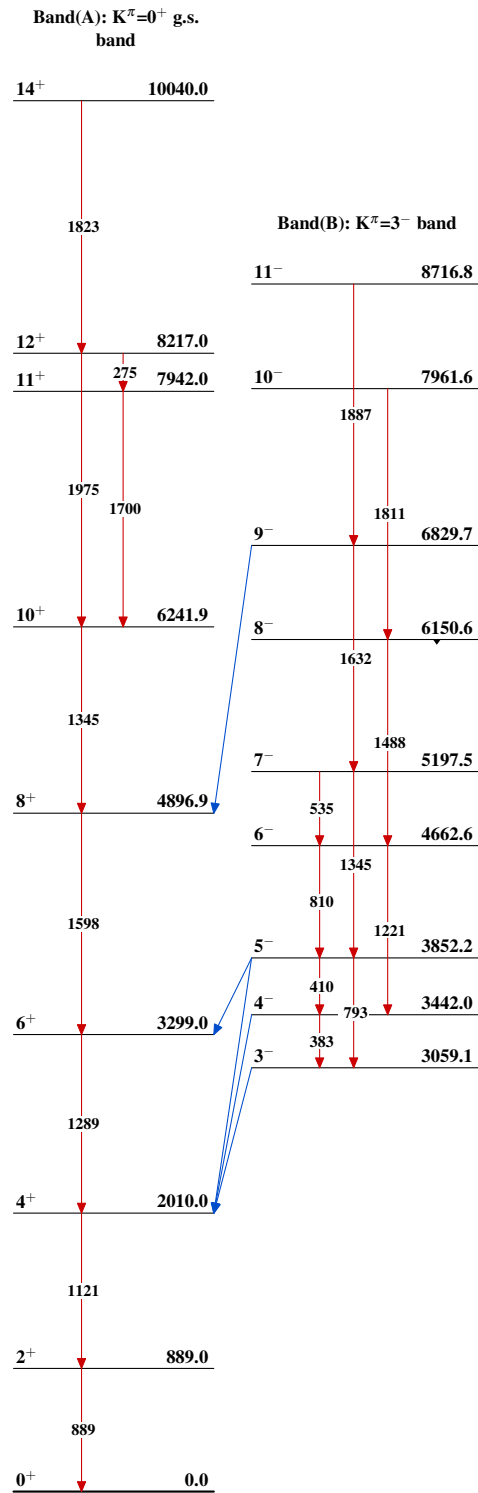
Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{46}\text{Ti}_{24}$

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