

⁴⁷Ti(²⁸Si,3pγ) 1996Pa17

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni		NDS 111,1 (2010)	1-May-2009

Includes ⁵⁹Co(¹⁶O,2pnγ).

E=95 MeV. Also ⁵⁹Co(¹⁶O,2pnγ) reaction. Measured γ, γγ, γ(θ), γ(lin pol), γγ(t) using an array of 20 Ge detectors.

⁷²As Levels

E(level) [#]	J ^π	T _{1/2}	Comments
0	2 ⁻		
45.8	1 ⁺		
213.7	3 ⁺	78.4 [†] ns	
309.9	4 ⁻	20 [†] ns 6	
363.0	5 ⁻		
563.3	7 ⁻	90 [†] ns 3	
663.2			
828.5	(7 ⁻)		
834.4	(6 ⁺ ,7 ⁻)		
981.6 [@]	8 ⁽⁺⁾	402 [‡] ps 14	
1179.5			
1402.2 [@]	9 ⁽⁺⁾	≤0.35 [‡] ps	
1875.6	10 ⁽⁺⁾	1.7 [‡] ps 4	T _{1/2} : mean lifetime=2 to 3 ps (1996Pa17).
2308.2 [@]	11 ⁽⁺⁾	≤0.35 [‡] ps	
2327.2			
3506.2 [@]	(13 ⁺)		
4781.2 [@]	(15 ⁺)		
6092.2 [@]	(17 ⁺)		

[†] From γ(t).

[‡] From recoil distance method.

[#] From least-squares fit to Eγ assuming ΔEγ=1 keV.

[@] Band(A): 8⁺ band.

γ(⁷²As)

E _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	δ	Comments
45.8	45.8	1 ⁺	0	2 ⁻			
53.1	363.0	5 ⁻	309.9	4 ⁻			
96.2	309.9	4 ⁻	213.7	3 ⁺			
153.1	981.6	8 ⁽⁺⁾	828.5	(7 ⁻)			
167.9	213.7	3 ⁺	45.8	1 ⁺			
200.3	563.3	7 ⁻	363.0	5 ⁻			
213.7	213.7	3 ⁺	0	2 ⁻			
265.2	828.5	(7 ⁻)	563.3	7 ⁻			
271.1	834.4	(6 ⁺ ,7 ⁻)	563.3	7 ⁻			
300.2	663.2		363.0	5 ⁻			
309.9	309.9	4 ⁻	0	2 ⁻			
351.0	1179.5		828.5	(7 ⁻)			
418.3	981.6	8 ⁽⁺⁾	563.3	7 ⁻	E1		A ₂ =- 0.214 4, A ₄ =- 0.001 3 give δ≈0.
420.6	1402.2	9 ⁽⁺⁾	981.6	8 ⁽⁺⁾	M1+E2	-1.98	A ₂ =- 0.483 6, A ₄ =- 0.066 4.

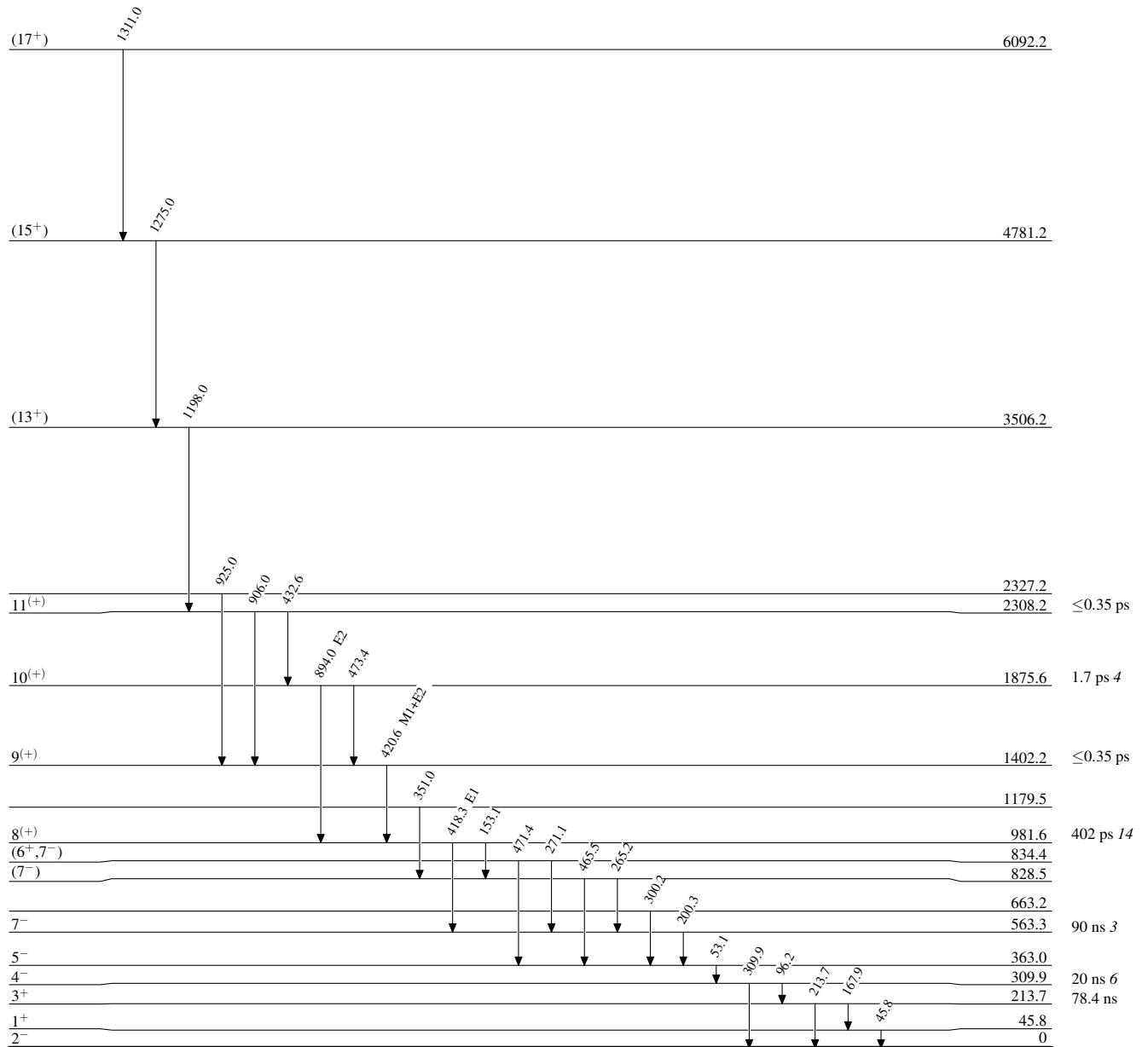
Continued on next page (footnotes at end of table)

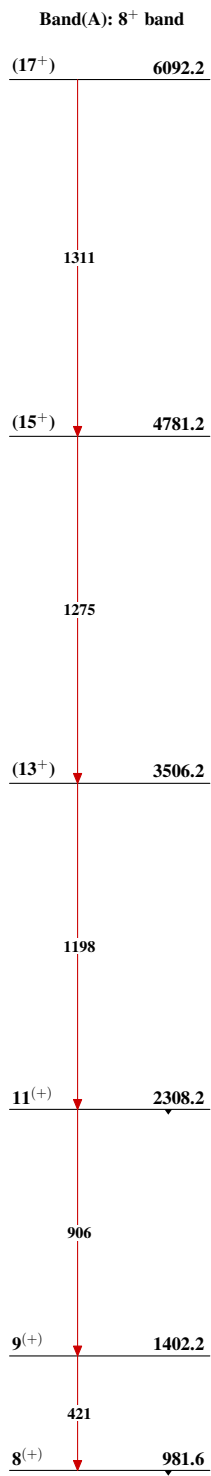
$^{47}\text{Ti}(^{28}\text{Si},3\text{p}\gamma)$ 1996Pa17 (continued) $\gamma(^{72}\text{As})$ (continued)

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
432.6	2308.2	11 ⁽⁺⁾	1875.6	10 ⁽⁺⁾		
465.5	828.5	(7 ⁻)	363.0	5 ⁻		
471.4	834.4	(6 ⁺ ,7 ⁻)	363.0	5 ⁻		
473.4	1875.6	10 ⁽⁺⁾	1402.2	9 ⁽⁺⁾		
894.0	1875.6	10 ⁽⁺⁾	981.6	8 ⁽⁺⁾	E2	$A_2=+ 0.235$ 5, $A_4=- 0.043$ 6.
906.0	2308.2	11 ⁽⁺⁾	1402.2	9 ⁽⁺⁾		
925.0	2327.2		1402.2	9 ⁽⁺⁾		
1198.0	3506.2	(13 ⁺)	2308.2	11 ⁽⁺⁾		
1275.0	4781.2	(15 ⁺)	3506.2	(13 ⁺)		
1311.0	6092.2	(17 ⁺)	4781.2	(15 ⁺)		

$^{47}\text{Ti}(^{28}\text{Si},3p\gamma)$ 1996Pa17

Level Scheme

 $^{72}_{33}\text{As}_{39}$

${}^{47}\text{Ti}({}^{28}\text{Si}, 3p\gamma)$ 1996Pa17 ${}^{72}_{33}\text{As}_{39}$