^{24}Mg(α,nγ)   1977St32

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 112, 1875 (2011)	30-Nov-2010

Others: 1971Ma49, 1972Ha22.

^{24}Mg(α,nγ), E=12.60, 12.90, 15.45, 16.35 MeV; Na(I), Ge(Li) detectors; measured n$\gamma(\theta)$, DSA, Eγ, Iγ; deduced levels, T$_{1/2}$, J,
π, δ, γ-branching; 99.94% enriched target.

^{27}Si Levels

E(level)[†]	J$^{\pi}$[‡]	E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	E(level)[†]	T$_{1/2}$[#]
0	5/2$^+$	2866.4 *6*			4474.3 *9*	
780.8 *4*		2909.8 *3*	9/2$^+$		5282.6 *3*	<21 fs
957.4 *3*	3/2$^+$	3805.2 *9*			5315.9 *11*	
2163.7 *2*	7/2$^+$	4288 *2*				
2647.6 *3*	5/2$^+$	4447.7 *3*	11/2$^+$	312 fs *70*		

[†] Level energies from 1977St32, except otherwise noted.
[‡] From Adopted Levels.
[#] Deduced from reported meanlife values in 1977St32 measured by the Doppler shift attenuation method.

γ(^{27}Si)

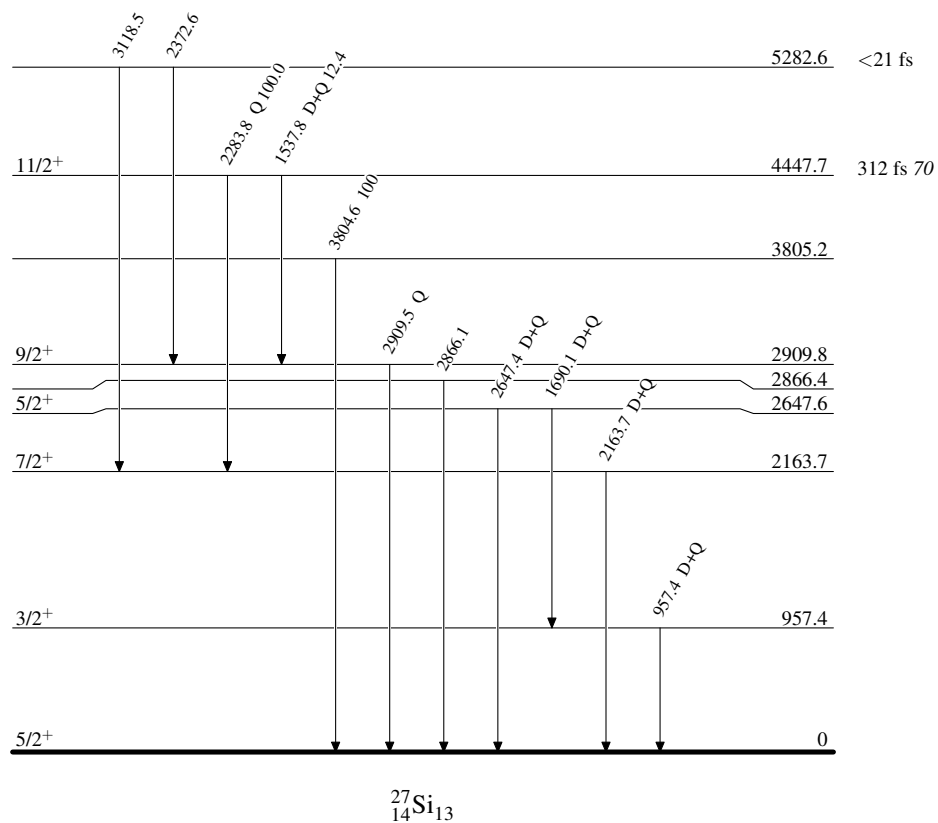| E$_i$(level)	J$^{\pi}_i$	E$_{\gamma}$[†]	I$_{\gamma}$[‡]	E$_f$	J$^{\pi}_f$	Mult.	δ	Comments
957.4	3/2$^+$	957.4 *3*		0	5/2$^+$	D+Q	+0.50 *4*	
2163.7	7/2$^+$	2163.7 *2*		0	5/2$^+$	D+Q	−0.48 *3*	
2647.6	5/2$^+$	1690.1 *4*		957.4	3/2$^+$	D+Q	−0.12 *3*	
		2647.4 *3*		0	5/2$^+$	D+Q	−0.36 *14*	
2866.4		2866.1 *6*		0	5/2$^+$			
2909.8	9/2$^+$	2909.5 *3*		0	5/2$^+$	Q		a mixing ratio of +0.05 *7* is reported in 1977St32.
3805.2		3804.6 *9*	100	0	5/2$^+$			
4447.7	11/2$^+$	1537.8 *4*	12.4 *22*	2909.8	9/2$^+$	D+Q	+0.9 *6*	
		2283.8 *4*	100.0 *22*	2163.7	7/2$^+$	Q		a mixing ratio of −0.05 *7* is reported in 1977St32.
5282.6		2372.6 *4*		2909.8	9/2$^+$			
		3118.5 *4*		2163.7	7/2$^+$			

[†] Deduced by the evaluator from level energy differences. Recoil energy subtracted.
[‡] Branching from 1977St32.

From ENSDF

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Level Scheme

Intensities: Relative photon branching from each level

$${}^{27}_{14}\text{Si}_{13}$$