^{27}P β^+ decay 1996Og01,1985Ay02

History

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

Parent: ^{27}P: E=0.0; $J^\pi=1/2^+$; $T_{1/2}$=260 ms *80*; Q(β^+)=11668 *26*; %β^+ decay=100.0

1996Og01: ^{27}P obtained from ^{28}Si(p,2n), E=45 MeV; two gas ΔE and a Si E detectors; measured beta-delayed Ep, proton intensity, deduced level energy.

1985Ay02: ^{27}P obtained from ^{28}Si(p,2n), E=28-50 MeV; ΔE-E telescope followed by an E detector, measured beta-delayed Ep, proton intensity, deduced Gamow-Teller strength function, level energy.

1996Og01 and 1985Ay02 from the same research group.

^{27}Si Levels

E(level)[†]	J^π[‡]	Comments
0.0	$5/2^+$	J^π: From Adopted Levels.
6626 *3*	$1/2^+$	E(level),J^π: From Adopted Levels.
8175 *3*	$(1/2,3/2)^+$	E_p=466 *3* (lab).
8327 *2*	$(1/2,3/2)^+$	E_p=612 *2* (lab).
8450 *2*	$(1/2,3/2)^+$	E_p=731 *2* (lab).
9066 *4*	$(1/2,3/2)^+$	E_p=9067 *4* (lab).

[†] From 1996Og01, except otherwise noted. Based on S(p)(^{27}Si)=7463.20(16) keV (2011AuZZ) and feeding of the isomeric level (0^+) at 228.305(13) keV of ^{26}Al. Level energies 1 keV higher in 1996Og01.

[‡] Assigned in 1996Og01 based on Gamow-Teller strength function and logft values, except otherwise noted.

ε,β^+ radiations

E(decay)	E(level)	Log *ft*	I($\varepsilon+\beta^+$)[†‡]	Comments
(2.60×10^3 *3*)	9066	5.37 *20*	0.0023 *7*	
(3.22×10^3 *3*)	8450	4.8	0.033	
(3.34×10^3 *3*)	8327	4.95 *14*	0.032 *1*	
(3.49×10^3 *3*)	8175	6.10 *17*	0.0030 *7*	
(5.04×10^3 *3*)	6626	≈3.3	≈16	I($\varepsilon+\beta^+$): assuming log *ft*=3.3 from analog state.

[†] Deduced by the evaluator from reported proton intensities and total β^+p branch of 0.07% (1996Og01), except otherwise noted.

[‡] For absolute intensity per 100 decays, multiply by ≈1.0.