

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 114, 1189 (2013)	1-Apr-2013

$Q(\beta^-) = -1.122 \times 10^4$ 16; S(n)=14497 26; S(p)=2052.3 12; $Q(\alpha) = -9525.0$ 15 [2012Wa38](#)

 ^{28}P LevelsCross Reference (XREF) Flags

- A** $^{28}\text{S} \beta^+$ decay
B $^{28}\text{Si}(p,n\gamma), (p,n)$
C $^{28}\text{Si}(^3\text{He}, t)$

E(level) [†]	J ^π #	T _{1/2} [@]	XREF	Comments
0.0	3 ⁺	270.3 ms 5	ABC	$\% \epsilon + \% \beta^+ = 100$; $\% \epsilon p = 0.0013$ 4; $\% \epsilon \alpha = 0.00086$ 25 $\mu = 0.3115$ 34 μ : From 2010MaZJ and 2011StZZ . J^π : From allowed $^{28}\text{P} \beta^+$ decay to 2 ⁺ and 4 ⁺ states in ^{28}Si at 1779 keV and 4618 keV, respectively. T _{1/2} : from 1968Ar03 . $\% \epsilon p, \% \epsilon \alpha$: from 1996Og01 .
105.64 [‡] 10	(2 ⁺)		BC	
877 [‡] 2			BC	
1134.0 [‡] 5	(3 ⁺)	<1.0 ps	BC	
1313 [‡] 2	(1 ⁺)		BC	
1516 [‡] 2	(2 ⁺)		BC	
1567 [‡] 3	(1 ⁺)		BC	
2104 [‡] 1	(2 ⁺)	<87 fs	BC	
2143 5	(1 ⁺)		C	
2216 5	(3,4) ⁺		C	
2406 5	(0,1,2) ⁺		C	
2483 5			C	
2628 5	(3,4) ⁺		C	
2857 5			C	
2896 5	(3,4) ⁺		C	
2973 5	(1 ⁺)		C	
3164 5	(3,4) ⁺		C	
3200 5			C	
3250 5			C	
3512 5	(1 ⁺)		C	
3558 5			C	
3728 5			C	
3806 5			C	
3911 5	(2 ⁺)		C	
4150 10			C	
4180 10			C	
4290 10			C	
4500			C	
4630 10	1 ⁺		C	J^π : $J^\pi = 1^+$ is assigned in 1997Fu02 from a comparison of ($^3\text{He}, t$) spectrum at 0° with B(M1) strength in $^{28}\text{Si}(e, e')$ experiment.
4940 10	6 ⁻		BC	J^π : from angular distribution and analyzing power in (p,n) and (pol P,N).
4970 10			C	
5190 10			C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{28}P Levels (continued)

<u>E(level)[†]</u>	<u>J^π[#]</u>	<u>XREF</u>	<u>Comments</u>
5900 21	0 ⁺	A	T=2 J ^π : From ^{28}S (J ^π =0 ⁺) β ⁺ Decay feeding (Superaligned transition).

[†] From (^3He ,t), except otherwise noted.

[‡] From (p,nγ).

[#] From (^3He ,t), based on L values, except otherwise noted.

[@] From (p,nγ),(p,n), except otherwise noted.

γ(^{28}P)

<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_f</u>	<u>J_f^π</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_f</u>	<u>J_f^π</u>
105.64	(2 ⁺)	105.64 [‡]	100	0.0	3 ⁺	1516	(2 ⁺)	1516 3	100	0.0	3 ⁺
877		773 3	100	105.64	(2 ⁺)	1567	(1 ⁺)	1461 [‡]	100	105.64	(2 ⁺)
1134.0	(3 ⁺)	1028 4	67 18	105.64	(2 ⁺)	2104	(2 ⁺)	1227 [‡]	<15	877	
		1134 3	100 18	0.0	3 ⁺			1998 3	100 18	105.64	(2 ⁺)
1313	(1 ⁺)	434 2	100 37	877				2104 5	67 18	0.0	3 ⁺
		1207 [‡]	85 37	105.64	(2 ⁺)						

[†] From (p,nγ), except otherwise noted.

[‡] From level energy differences. Recoil energy is subtracted.

Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level

