Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh	NDS 113,1 (2012)	31-Dec-2011

Q(β^-)=10413 *14*; S(n)=3465 *14*; S(p)=1.318×10^4 *4*; Q(α)=−11577 *18* 2012Wa38
Note: Current evaluation has used the following Q record $ 10413 13 *3465* 13 *13180* 41-11614 *87* 2011AuZZ.
Q(β^-n)=524 *13*, S(2n)=11845 *13*, S(2p)=31782 *61* (2011AuZZ).
Values in 2003Au03: S(2n)=11836 *14*, S(2p)=31900 *110*. Q(β^-), S(n), S(p), Q(α), Q(β^-n) in 2003Au03 are the same as in 2011AuZZ.
1971Ar32: Identification and production of ^{36}P in ^{232}Th(^{40}Ar,X) at 290 MeV fragmentation reaction.
1982Hi05: ^{36}P from ^{37}Cl(n,p), measured half-life, Eγ, Iγ.
1986Du07, 1986Du11: ^{9}Be(^{40}Ar,X) E=60 MeV/nucleon, measured half-life, $\beta\gamma$(t).
Additional information 1.
1999Ai02: Si(^{36}P,X) E=41.89, 73.56 MeV/nucleon, measured energy integrated cross sections, deduced radius.
2006Kh08: Si(^{36}P,X) E=52.60 MeV/nucleon, measured energy integrated cross sections, deduced radius.
No information is available about level population in ^{36}p from ^{37}Si β^-n decay (90 ms) with %β^-n=17 *13* (1995ReZZ).

^{36}P Levels

Cross Reference (XREF) Flags

- A ^{36}Si β^- decay (0.45 s)
- B ^{36}S(^{7}Li,^{7}Be),(^{11}B,^{11}C),
- C ^{37}Cl(^{13}C,^{14}O)
- D ^{176}Yb(^{36}S,X):tentative

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0	4$^-$	5.6 s *3*	ABCD	%β^-=100 J$^\pi$: log *ft*=5.72 to 4$^-$, 6.1 to 3$^-$, and 6.39 to 5$^-$. T$_{1/2}$: weighted average of 5.9 s *4* (1982Hi05), 5.2 s *12* (1986Al11), and 5.3 s *5* (1986Du07). Mean-square radius r$_0^2$=1.15 fm^2 *9* from measured integrated σ_R=2.35 b *18* at 52.60 MeV/nucleon in Si(^{36}P,X) reaction (2006Kh08). Mean radius r$_0^2$=1.24 fm^2 *7* from measured integrated σ_R=2.45 b *14* at 73.56 MeV/nucleon, and 1.19 fm^2 *8* from σ=2.31 b *15* at 41.89 MeV/nucleon in Si(^{36}P,X) reaction (1999Ai02).
249.9 *2*			ABcD	XREF: D(?). J$^\pi$: comparison of measured σ with calculations (1993Fi03) suggest 3$^-$.
424.9 *2*	(1$^+$)		ABcD	XREF: D(?). J$^\pi$: log *ft*=5.1 from 0$^+$. (2$^-$) is proposed for a 420 group in charge-exchange reactions (1993Fi03) from comparison of measured σ with calculations. γ to 4$^-$ is inconsistent with 1$^+$.
1303.1 *2*	1$^+$		A	J$^\pi$: log *ft*=4.45 from 0$^+$.
1346.3 *3*			A	E(level): alternate value: 1359.4 *3*; applies if order of 921.4γ-934.7γ cascade is reversed.
2000 *20*			C	
2281.0 *3*	1$^+$		A C	J$^\pi$: log *ft*=4.01 from 0$^+$.
2640 *30*			C	
3060 *30*			C	
3630 *30*			C	

Adopted Levels, Gammas (continued)

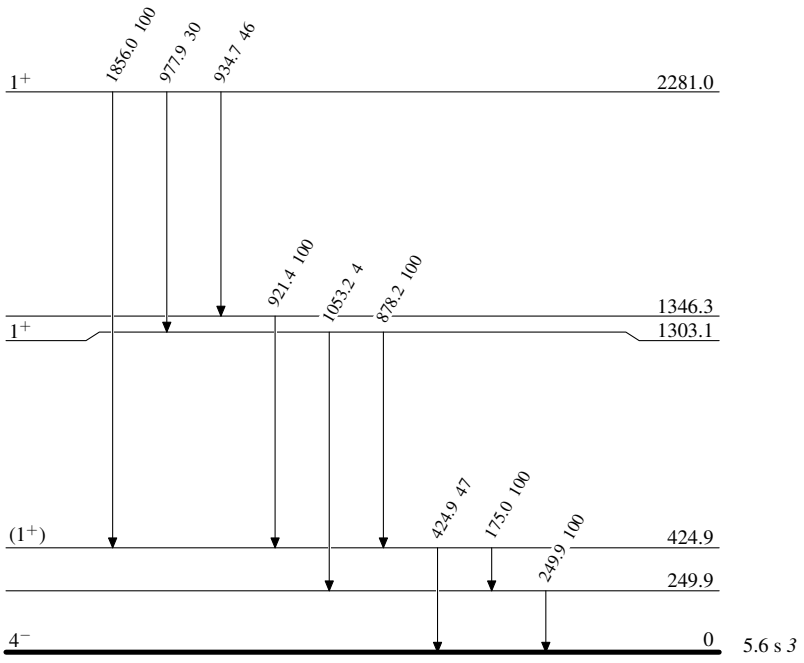
γ(^{36}P)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Comments
249.9		249.9	100	0	4^-	
424.9	(1^+)	175.0	100 *4*	249.9		
		424.9	47 *4*	0	4^-	
1303.1	1^+	878.2	100 *3*	424.9	(1^+)	
		1053.2	4 *3*	249.9		
1346.3		921.4	100	424.9	(1^+)	If order of 921.4γ-934.7γ cascade is reversed, 921.4γ and 934.7γ populate and depopulate a 1359.4 level, respectively.
2281.0	1^+	934.7	46 *7*	1346.3		See comment with 921.4γ.
		977.9	30 *5*	1303.1	1^+	
		1856.0	100 *9*	424.9	(1^+)	

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{36}_{15}P_{21}$