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^-)=7.86×10^3 *8*; S(n)=6.10×10^3 *9*; S(p)=1.946×10^4 *10*; Q(α)=−1.399×10^4 *8* 2012Wa38
Note: Current evaluation has used the following Q record 7833 58 *6129* 69 *19487* 90-13931 *59* 2011AuZZ.
Q(β^-n)=4369 *57*, S(2n)=8604 *58*, S(2p)=35556 *107* (2011AuZZ).
Values in 2003Au03: Q(β^-)=7770 *120*, S(n)=6190 *130*, S(p)=19640 *210*, Q(α)=−13950 *120*, S(2n)=8670 *120*, S(2p)=35870 *260*, Q(β^-n)=4300 *120*.
1971Ar32: Identification and production of ^{36}Si in ^{232}Th(^{40}Ar,X) at 290 MeV fragmentation reaction.
1986Du07: ^{36}Si produced in ^{9}Be(^{40}Ar,X) at 60 MeV/nucleon, measured $\beta\gamma$(t) and half-life.
Additional information 1.
1986Vi09: ^{232}Th(p,X) E=800 MeV, measured fragment spectra, deduced mass excess.
1987Gi05: Ta(^{40}Ar,X) E=60 MeV/nucleon, measured fragment spectra, deduced mass excess.
1991Or01: Ta(^{48}Ca,X) E=55 MeV/nucleon, measured fragment spectra, deduced mass excess.
1991Zh24: Th(p,X) E=800 MeV, measured fragment spectra, deduced mass excess.
1999Ai02: Si(^{36}Si,X) E=65.88 MeV/nucleon, measured energy integrated cross sections, deduced radius.
2006Kh08: Si(^{36}Si,X) E=45.87, 52.56 MeV/nucleon, measured energy integrated cross sections, deduced radius.
Mass measurement: 2007Ju03, 1987VaZS.
No details of ^{36}Al to ^{36}Si β^- decay are available.

^{36}Si Levels

Cross Reference (XREF) Flags

A ^{36}Si(p,p′γ)
B Coulomb excitation
C ^{208}Pb(^{36}S,Xγ)

E(level)†	J$^\pi$‡	$T_{1/2}$	XREF	Comments
0	0$^+$	0.45 s *6*	ABC	%β^-=100; %β^-n<10 %β^-n: from 1988Mu08. Calculated %β^-n=80.6 (1997Mo25). Other: 1995ReZZ. $T_{1/2}$: from 1986Du07 (and private communication to P.M. Endt). Mean radius r_0^2=1.216 fm^2 *22* from measured integrated σ_R=2.59 b *8* at 52.56 MeV/nucleon and 2.44 b *6* at 45.87 MeV/nucleon in Si(^{36}Si,X) reaction (2006Kh08). Mean radius r_0^2=1.25 fm^2 *11* from measured integrated σ_R=2.48 b *21* at 65.88 MeV/nucleon in Si(^{36}Si,X) reaction (1999Ai02).
1408.0 *10*	2$^+$	2.7 ps *+11−7*	ABC	$T_{1/2}$: from B(E2)=0.0193 *59* (1998Ib01). 2001Ra27 give $T_{1/2}$=3.1 *12* using B(E2) from 1998Ib01.
2850 *4*	(4$^+$)		C	
3692 *4*	(6$^+$)		C	

† From Eγ data.
‡ From observation of yrast cascade and systematics of even-even nuclei.

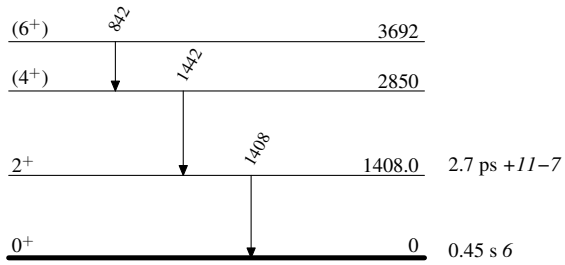
Adopted Levels, Gammas (continued)

γ(^{36}Si)

E_i(level)	J_i^π	E_γ	E_f	J_f^π	Comments
1408.0	2^+	1408 *1*	0	0^+	B(E2)(W.u.)=5.5 *16*
2850	(4^+)	1442 *3*	1408.0	2^+	
3692	(6^+)	842 *1*	2850	(4^+)	

Adopted Levels, Gammas

Level Scheme



$^{36}_{14}Si_{22}$