Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 111,2331 (2010)	30-Jun-2010

Q(β^-)=−1.850×10^4 *syst*; S(n)=1.897×10^4 *5*; S(p)=4395.5 *7*; Q(α)=−9343.0 *4* 2012Wa38
Note: Current evaluation has used the following Q record −18506 syst 18974 *50* 4399 3 −9343 *4* 2009AuZZ.
ΔQ(β^-)=196(syst) (2009AuZZ).
Q(β^-)=18510 *200*(syst), S(n)=18970 *50*, S(p)=4399 *3*, S(α)=−9343 *4* (2003Au03).

^{1}H(^{30}S,^{30}S), E=53 MeV/u: 2000Bl25,2001Kh17 and 2001Bl17 (same group): measured recoil proton spectra, deduced σ(E,θ).

^{1}H(^{31}S,^{30}S), E=71 MeV/u: 2008Ga07 and 2007Ga46 (same group): measured Eγ, particle-γ coincidence, reported 1192γ, 2210γ and 3402γ.

^{30}S Levels

Cross Reference (XREF) Flags

- A ^{31}Ar β^+p decay
- B ^{28}Si(^{3}He,nγ),^{28}Si(^{3}He,n)
- C Coulomb excitation
- D ^{32}S(p,t)

E(level)†	Jπ	$T_{1/2}$@	L	XREF	Comments
0	0$^+$	1.178 s *5*		ABCD	%ε+%β^+=100 Jπ: L=0 in (p,t). $T_{1/2}$: From 1980Wi13. Others: 1.22 s *3* (1971Mo27), 1.18 s *4* (1967Ba36).
2210.6‡ *5*	2$^+$	156 fs *9*		ABCD	Jπ: L=2 in (p,t). $T_{1/2}$: Weighted average of 158 fs *12* (^{3}He,nγ) and 153 fs *13* (Coul. Ex.).
3402.6‡ *5*	2$^+$	109 fs *12*		AB D	Jπ: L=2 in (p,t).
3667.5‡ *10*		>1 ps		AB	
3676‡ *3*	(1$^+$)	97 fs *55*		AB D	Jπ: Angular distribution consistent with 1$^+$, does not agree with 0$^+$ in (p,t).
4704 *5*	(3$^+$)			D	E(level),Jπ: Energy and angular distribution consistent with 3$^+$ assignment; less likely possibility is 2$^+$ (p,t).
4814 *3*	(2$^+$)			D	Jπ: From comparison of the 2+$_3$ state location with the prediction by isobaric multiple mass equation (IMME) ((p,t) − 2010Se07).
5136‡ *2*	(3$^+$)	38 fs *14*		AB D	Jπ: From comparison of the 3+$_2$ state location with the prediction by IMME ((p,t) − 2010Se07).
5168 *6*	(4$^+$)		4+0	D	Jπ: L=4+0 for doublet in (p,t).
5217.4# *7*	(0$^+$)			A D	XREF: D(5226). E(level): From ^{31}Ar β^+p decay. Jπ: L=4+0 for doublet in (p,t).
5318 *4*	(3$^-$)			B D	XREF: B(5288). Jπ: L=3 (^{3}He,n) and prediction of the 3$^-$ state location (p,t).
5389# *2*	(2$^+$)			A D	Jπ: From prediction and L=3,(2) in (p,t).
5843 *5*	(1$^-$)			A D	Jπ: L=(1) in (p,t) and also L=2,3,4 are possible.
5945 *3*				A	
6071 *11*				A D	
6202 *3*				A	
6280.1 *12*				A	
6341 *5*				A D	
6532 *13*				A D	
6643 *3*				A	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{30}S Levels (continued)

E(level)†	J^π	L	XREF	Comments
6766 *10*	2^+	2	A D	J^π: L=2 in (p,t).
6855 *4*			A	
6927 *4*			A	
7074 *9*			A D	
7123 *10*			AB	
7295 *14*			AB	
7352 *8*			AB	
7485 *4*			AB	
7598 *4*			A	
7693 *4*			A	
7924 *5*			A	

† From ^{32}S(p,t), except otherwise noted or when only one ref dataset.
‡ From ^{28}Si(^{3}He,nγ).
# From ^{31}Ar β^+p decay.
@ From (^{3}He,nγ), except otherwise noted.

$\gamma(^{30}S)$

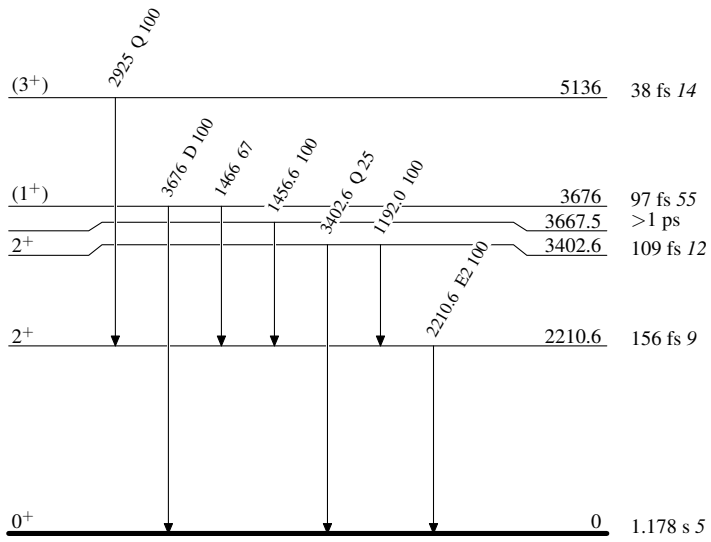
E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.‡
2210.6	2^+	2210.6 *5*	100	0	0^+	E2
3402.6	2^+	1192.0 *5*	100 *4*	2210.6	2^+	
		3402.6 *13*	25 *4*	0	0^+	Q
3667.5		1456.6 *11*	100	2210.6	2^+	
3676	(1^+)	1466 *3*	67 *17*	2210.6	2^+	
		3676 *3*	100 *17*	0	0^+	D
5136	(3^+)	2925 *2*	100	2210.6	2^+	Q

† From (^{3}He,nγ).
‡ From (^{3}He,nγ), based on γ-ray angular correlations.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{30}_{16}S_{14}$