Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Yang Dong, Huo Junde	NDS 128, 185 (2015)	10-Jul-2015

Q(β^-)=9.30×10^3 *14*; S(n)=5.01×10^3 *14*; S(p)=1.112×10^4 *14*; Q(α)=−1.031×10^4 *14* 2012Wa38

^{52}Sc Levels

Cross Reference (XREF) Flags

A ^{52}Ca β^- decay
B ^{9}Be(^{55}V,Xγ),(^{57}Cr,Xγ)
C ^{48}Ca(^{238}U,Xγ)
D ^{238}U(^{48}Ca,Xγ)

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0.0	3$^{(+)}$	8.2 s *2*	ABCD	%β^-=100 J$^\pi$: from the observed feedings with log $f^{1u}t$<8.5 to the 2$^+$ and the 4$^+$ states in ^{52}Ti. T$_{1/2}$: inferred from the ^{52}Sc-^{52}Ti β^- decay rate of 1050, 1214, 1268, and 1382 keV transitions in ^{52}Ti (1985Hu03).
0+x	(4$^+$)		BCD	
212.0+x	(5$^+$)		BCD	
675.21 *23*			ABC	
1636.43 *18*	1$^+$		A	
1655+x	(4$^+$)		C	Configuration=$\pi f_{7/2}\otimes\nu(p^2_{3/2}p_{1/2})$.
2332.0+x	(6$^+$)		CD	
2745.7 *7*	1$^+$		A	
3458.1 *10*			A	
3603.1+x	(7$^-$,8$^+$)		CD	Configuration=$\pi f_{7/2}\otimes\nu(p^2_{3/2}f_{5/2})$ or $\pi f_{7/2}\otimes\nu(p^3_{3/2}\otimes 3^-$ octupole vibration) (2009Bh02).
3954.1+x	(7$^-$)		D	
4265.7 *15*	1$^+$		A	
4345.1+x *6*	(8$^-$)		D	
5696.1+x *9*			D	

† From least squares fit for Eγ's.
‡ From the log *ft* values in ^{52}Ca β^- decay and shell model calculations and similarties with features in neighboring nuclei for proton states.

γ(^{52}Sc)

E$_i$(level)	J$_i^\pi$	E$_\gamma$†	I$_\gamma$†	E$_f$	J$_f^\pi$
212.0+x	(5$^+$)	212.0# *2*	100	0+x	(4$^+$)
675.21		675.2 *3*	100	0.0	3$^{(+)}$
1636.43	1$^+$	961.2 *3*	100 *3*	675.21	
		1636.4 *2*	71 *2*	0.0	3$^{(+)}$
1655+x	(4$^+$)	1443‡ *8*		212.0+x	(5$^+$)
		1654‡ *13*		0+x	(4$^+$)
2332.0+x	(6$^+$)	2120.0# *2*	100	212.0+x	(5$^+$)

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Adopted Levels, Gammas (continued)

$\gamma(^{52}Sc)$ (continued)

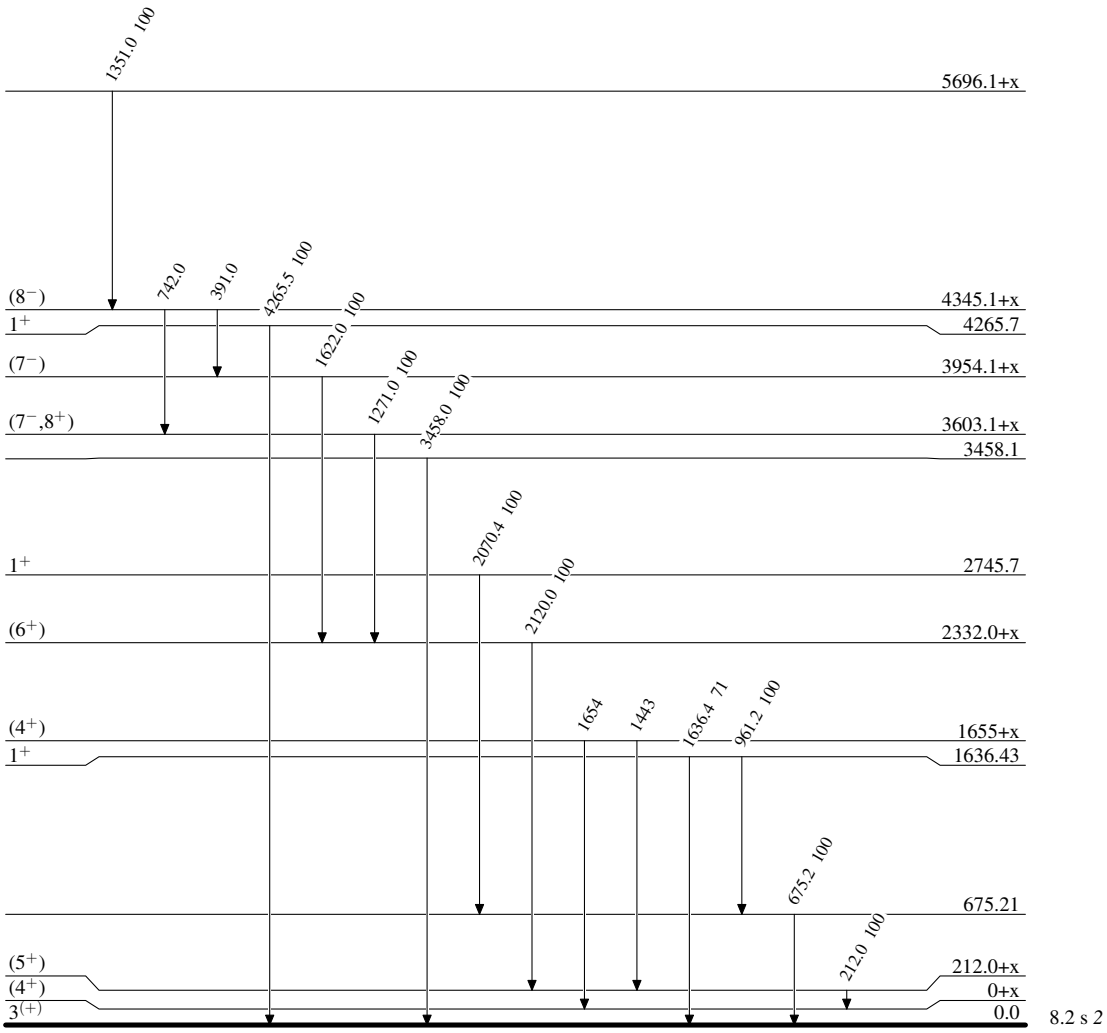
E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
2745.7	1^+	2070.4 *6*	100	675.21		4265.7	1^+	4265.5 *15*	100	0.0	$3^{(+)}$
3458.1		3458.0 *10*	100	0.0	$3^{(+)}$	4345.1+x	(8^-)	391.0# *6*		3954.1+x	(7^-)
3603.1+x	$(7^-,8^+)$	1271.0# *2*	100	2332.0+x	(6^+)			742.0# *6*		3603.1+x	$(7^-,8^+)$
3954.1+x	(7^-)	1622.0# *6*	100	2332.0+x	(6^+)	5696.1+x		1351.0# *6*	100	4345.1+x	(8^-)

† From ^{52}Ca β^- decay, except as noted.
‡ From ^{48}Ca(^{238}U,Xγ).
# From ^{238}U(^{48}Ca,Xγ).

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{52}_{21}Sc_{31}$