

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 91,1 (2000)	15-Jul-2000

$Q(\beta^-)=7724.5$ 24; $S(n)=6869.6$ 9; $S(p)=12932.1$ 9; $Q(\alpha)=-1.293\times 10^4$ 15 [2012Wa38](#)

Note: Current evaluation has used the following Q record \$ 7716 16 6882 19 12989 62

[1995Au04](#).

Isotope shifts: [1990Ma52](#).

 ^{46}K LevelsCross Reference (XREF) Flags

A	^{46}Ar β^- decay
B	$^{48}\text{Ca}(p, ^3\text{He})$
C	$^{48}\text{Ca}(d, \alpha), (d, \alpha\gamma)$
D	$^{48}\text{Ca}(\text{pol } d, \alpha)$

E(level) [†]	J^π [‡]	$T_{1/2}$	XREF	Comments
0.0	(2 ⁻)	105 s 10	ABCD	$\% \beta^- = 100$ $T_{1/2}$: unweighted average of 95 s 5 from decay of 1345γ (1968YaZZ), and 115 s 4 from decays of 1347γ and $\beta^- > 3$ MeV (1966Pa20). J^π : L=(1+3) in (p, ^3He), (d, α). J^π : L=3 in (p, ^3He), (d, α). J^π : L=(3+5) in (p, ^3He), (d, α). J^π : L=5 in (p, ^3He), (d, α). J^π : L=3 in (p, ^3He), (d, α). J^π : L=(3) in (d, α). J^π : L=2+0 in (p, ^3He), (d, α). J^π : L=0 in (p, ^3He). J^π : L=(2) in (p, ^3He). J^π : L=(3+5) in (p, ^3He). J^π : L=(0+?) in (p, ^3He). Doublet; 3350 level reported in (d, α), ΔE not given. E(level): from (p, ^3He). J^π : L=4 in (d, α). J^π : L=6 in (pol d, α). J^π : L=6 in (pol d, α). E(level): possible $J=0^+$, T=5 analog state from (p, ^3He).
587.4 4	3 ⁻		BCD	
690.9 4	(4 ⁻)		BCD	
885.5 7	5 ⁻		BCD	
1369.9 7	3 ⁻		BCD	
1738.4 21	(4 ⁻)		BCD	
1944.34 9	1 ⁺		ABCD	
2222 5	(0 ⁺)		B	
2790 6	(2 ⁺)		B	
2969 6	(4 ⁻)		B	
3383 7			B	
3606 8			BC	
≈ 4340	(3 ⁺)		C	
≈ 4540	7 ⁺		CD	
≈ 5950	7 ⁺		CD	
≈ 11470	(0 ⁺)		B	

[†] From least-squares fit to γ data, except as noted.

[‡] Based on analysis of $\sigma(\theta)$ in (p, ^3He), (d, α) and tensor analyzing power in (pol d, α), except as noted.

 $\gamma(^{46}\text{K})$

$E_i(\text{level})$	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π
587.4	3 ⁻	587.3 5	100	0.0	(2 ⁻)
690.9	(4 ⁻)	103.5 5	100	587.4	3 ⁻
		691.0 5	38 11	0.0	(2 ⁻)
885.5	5 ⁻	194.6 5	100	690.9	(4 ⁻)
1369.9	3 ⁻	679.0 5	100	690.9	(4 ⁻)

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Adopted Levels, Gammas (continued)

γ(⁴⁶K) (continued)

<u>E_i(level)</u>	<u>J^π_i</u>	<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_f</u>	<u>J^π_f</u>	<u>Comments</u>
1738.4	(4 ⁻)	1151 2	100	587.4	3 ⁻	
1944.34	1 ⁺	1944.30 9	100	0.0	(2 ⁻)	E _γ : from ⁴⁶ Ar β ⁻ decay.

[†] From (d,αγ), except as noted.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

