

<sup>46</sup>K β<sup>-</sup> decay: data set #1 1968YaZZ

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

Parent: <sup>46</sup>K: E=0.0; J<sup>π</sup>=(2<sup>-</sup>); T<sub>1/2</sub>=105 s 10; Q(β<sup>-</sup>)=7716 16; %β<sup>-</sup> decay=100.0

<sup>46</sup>K-Produced in <sup>48</sup>Ca(γ,pn) with bremsstrahlung of E(max)=45 to 65 MeV.

See <sup>46</sup>K β<sup>-</sup> decay: data set #2 for alternate decay scheme. Substantial discrepancies exist between the two versions. Ge(Li) detector; measured E<sub>γ</sub>, I<sub>γ</sub>, T<sub>1/2</sub>.

<sup>46</sup>Ca Levels

E(level)	J <sup>π</sup> †
0.0	0 <sup>+</sup>
1345	2 <sup>+</sup>
2580	4 <sup>+</sup>
3020	2 <sup>+</sup>
3630	3 <sup>-</sup>
4520	
5080	
6295	
6625	

† From Adopted Levels.

β<sup>-</sup> radiations

E(decay)	E(level)	Iβ <sup>-</sup> †	Log ft	Comments
(1091 16)	6625	≈2.1	≈4.8	av Eβ=411 7
(1421 16)	6295	≈1.5	≈5.4	av Eβ=558 8
(2636 16)	5080	≈25	≈5.3	av Eβ=1124 8
(3196 16)	4520	≈0.6	≈7.3	av Eβ=1393 8
(4086 16)	3630	≈5	≈6.8	av Eβ=1824 8
(5136 16)	2580	≈3	≈9.3 <sup>1u</sup>	av Eβ=2346 8
6.3×10 <sup>3</sup> 3	1345	≈63	≈6.6	av Eβ=2941 8 E(decay): from 1966Pa20.

† Absolute intensity per 100 decays.

γ(<sup>46</sup>Ca)

E <sub>γ</sub>	I <sub>γ</sub> <sup>#</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	E <sub>γ</sub>	I <sub>γ</sub> <sup>#</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>
<sup>x</sup> 595 3						<sup>x</sup> 3015 <sup>‡</sup>					
<sup>x</sup> 650 3						3020 <sup>@</sup> 3	2.2 1	3020	2 <sup>+</sup>	0.0	0 <sup>+</sup>
<sup>x</sup> 785 3						3170 <sup>†@</sup>		4520		1345	2 <sup>+</sup>
1235 3	6.4 3	2580	4 <sup>+</sup>	1345	2 <sup>+</sup>	3710 3	1.10 6	6295		2580	4 <sup>+</sup>
1345 3	100	1345	2 <sup>+</sup>	0.0	0 <sup>+</sup>	3735 3	21.4 11	5080		1345	2 <sup>+</sup>
<sup>x</sup> 1420 3	0.80 4					<sup>x</sup> 4075 3	2.1 1				
<sup>x</sup> 1435 3	1.20 6					<sup>x</sup> 4230 <sup>‡</sup> 3	1.9 1				
1450 <sup>†@</sup>		5080		3630	3 <sup>-</sup>	4520 3	0.6 3	4520		0.0	0 <sup>+</sup>
1675 3	3.5 2	3020	2 <sup>+</sup>	1345	2 <sup>+</sup>	4950 3	0.40 2	6295		1345	2 <sup>+</sup>
2060 3	4.5 2	5080		3020	2 <sup>+</sup>	<sup>x</sup> 5160 3	0.50 3				
2285 3	5.1 3	3630	3 <sup>-</sup>	1345	2 <sup>+</sup>	5280 3	0.10 5	6625		1345	2 <sup>+</sup>

Continued on next page (footnotes at end of table)

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${}^{46}\text{K} \beta^-$  decay: data set #1 [1968YaZZ](#) (continued)

$\gamma({}^{46}\text{Ca})$  (continued)

† Displayed in decay scheme but not listed in table by [1968YaZZ](#).

‡ Evaluator assumed to be unplaced.

# For absolute intensity per 100 decays, multiply by  $\approx 1.0$ .

@ Placement of transition in the level scheme is uncertain.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

**${}^{46}\text{K}$   $\beta^-$  decay: data set #1 1968YaZZ**Decay SchemeIntensities: Relative  $I_\gamma$ 

## Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - - ->  $\gamma$  Decay (Uncertain)

