

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Y. A. Akovali	NDS 77,433 (1996)	1-Feb-1996

Q( $\beta^-$ )=1113 5; S(n)=5399 6; S(p)=4973 4; Q( $\alpha$ )=5536 22 [2012Wa38](#)

Note: Current evaluation has used the following Q record 1117 5 5399 8 4974 4 5536 22 [1995Au04](#).

The superdeformation properties, such as deformation parameters, level energy and potential-well depth, were calculated by [1992Ch20](#).

Search for a fissioning isomer was carried out by [1972Ku26](#) via the <sup>226</sup>Ra(d,xn) reaction; no SF isomer was observed.

See [1984Ro23](#) and [1980Ku14](#) for calculations and discussions on the fission barriers.

For calculation of <sup>5</sup>He emission probability, see [1984Po11](#).

<sup>226</sup>Ac Levels

Cross Reference (XREF) Flags

A <sup>230</sup>Pa  $\alpha$  decay

E(level)	J $^\pi$	T <sub>1/2</sub>	XREF	Comments
0.0	(1)	29.37 h 12	A	<p><math>\% \alpha = 6 \times 10^{-3}</math> 2; <math>\% \beta^- = 83</math> 3; <math>\% \epsilon = 17</math> 3</p> <p><math>\alpha</math> branching was deduced by <a href="#">1975VaZD</a>; <math>\beta</math> and <math>\epsilon</math> branchings have been determined from relative <math>\gamma</math> intensities measured by <a href="#">1974Va28</a> in <sup>226</sup>Ac <math>\beta^-</math> and <math>\epsilon</math> decays. The measured radium K x-ray intensity (corrected for radium x rays from <sup>226</sup>Th <math>\alpha</math> decay) and theoretical <math>\epsilon K/\epsilon</math> ratios for the <sup>226</sup>Ac <math>\epsilon</math> decay, measured <math>\beta</math> intensity to 230-keV level in <sup>226</sup>Th for the <sup>226</sup>Ac <math>\beta^-</math> decay have been used to calculate the <math>\epsilon/\beta^-</math> ratio. <math>\epsilon/\beta^- = 62</math> 10/309 17 was obtained by the evaluator.</p> <p>T<sub>1/2</sub>: measurement of <a href="#">1987Mi10</a>. Other measurement: 29 h (<a href="#">1952Sk82</a> in <a href="#">1964Hy02</a>).</p> <p>J<math>^\pi</math>: <math>\beta^-</math> and <math>\epsilon</math> decays to 0<sup>+</sup> and 2<sup>+</sup> levels suggest J<math>^\pi</math>=0<sup>-</sup>,1 or 2<sup>-</sup>. Ratios of ft values for transitions to 0<sup>+</sup> and 2<sup>+</sup> states are in agreement with Alaga rule for J=K=1. <math>\pi=+</math> was suggested by <a href="#">1974Va28</a> from smaller log ft value for transition to 1<sup>-</sup> state (6.7 in <math>\epsilon</math> decay) than for those to 0<sup>+</sup> and 2<sup>+</sup> states (7.6 and 7.9 in <math>\epsilon</math> decay).</p>
5.1 13			A	
18.8 10			A	
33.3 10			A	
45.0 10			A	
58.3 17			A	
70.3 10			A	
77.7 10			A	
130.4 17			A	
165 4			A	
195 3			A	
230 4			A	
265 3			A	
290 4			A	
378 3			A	
418 4			A	
556? 6			A	
589 3	(2 <sup>-</sup> )		A	<p>J<math>^\pi</math>: the hindrance factor of 7<math>\pm</math>4 for <math>\alpha</math> decay from <sup>230</sup>Pa, (J<math>^\pi</math>=2<sup>-</sup>), indicates that it is probably a favored transition.</p>