

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 122, 377 (2014)	1-Sep-2014

$Q(\beta^-) = -1598$  SY;  $S(n) = 6349$  SY;  $S(p) = 3092$  SY;  $Q(\alpha) = 7160$  SY [2012Wa38](#)

The systematics uncertainties are 53, 56, 55, and 50 for  $Q(\beta^-)$ ,  $S(n)$ ,  $S(p)$ , and  $Q(\alpha)$ , respectively.

 $^{248}\text{Es}$  Levels

E(level)	$J^\pi$	$T_{1/2}$	Comments
0.0	$(2^-, 0^+)$	24 min 3	<p><math>\% \varepsilon = 99.7</math> 3; <math>\% \alpha \approx 0.25</math></p> <p><math>J^\pi</math>: analogy to <math>^{249}\text{Es}</math>, <math>^{251}\text{Es}</math>, <math>^{253}\text{Es}</math> isotopes suggests either <math>\pi 3/2[521]</math> or <math>\pi 7/2[633]</math> Nilsson state for the 99<sup>th</sup> proton and analogy to <math>^{243}\text{Pu}</math>, <math>^{245}\text{Cm}</math>, <math>^{247}\text{Cf}</math> suggests <math>\nu 7/2[624]</math> orbital for the 149<sup>th</sup> neutron state. Therefore, the configuration is either <math>K^\pi = 2^-</math>: <math>\pi 3/2[521]</math>, <math>\nu 7/2[624]</math> or <math>K^\pi = 0^+</math>: <math>\pi 7/2[633]</math>, <math>\nu 7/2[624]</math>.</p> <p><math>T_{1/2}</math>: weighted average (min) of 23 3 (<a href="#">2001Sh09</a>), 28 5 (<a href="#">1970Ah01</a>), and 25 5 (<a href="#">1956Ch67</a>). Other: 19 13 (<a href="#">1989Ha27</a>).</p> <p><math>\% \varepsilon</math>: <math>\varepsilon/\alpha \approx 400</math> was estimated by <a href="#">1956Ch67</a> from observed <math>\alpha</math> counts of <math>^{248}\text{Es}</math> and <math>^{248}\text{Cf}</math> decays. This gives <math>\% \alpha \approx 0.25</math>. The evaluator assigns this as <math>&lt; 0.6</math> to get <math>\varepsilon = 99.7</math> 3.</p> <p><math>\varepsilon</math>-delayed fission has been measured by <a href="#">1980Ga07</a>, who report <math>3 \times 10^{-5} \%</math> and by <a href="#">2001Sh09</a> who report <math>3.5 \times 10^{-4} \%</math> 18, a factor of 10 larger.</p>