

Adopted Levels

<u>Type</u>	<u>Author</u>	<u>History Citation</u>	<u>Literature Cutoff Date</u>
Full Evaluation	Balraj Singh	NDS 144, 297 (2017)	25-Aug-2017

$Q(\beta^-) = -1260$  SY;  $S(n) = 6240$  SY;  $S(p) = 6270$  SY;  $Q(\alpha) = 6660$  SY [2017Wa10](#)

Estimated uncertainties ([2017Wa10](#)): 200 for  $Q(\beta^-)$ ,  $S(n)$  and  $Q(\alpha)$ , 460 for  $S(p)$ .

$S(2n) = 11200$  200,  $S(2p) = 11190$  370 (syst, [2017Wa10](#)).

[1971Hu03](#):  $^{258}\text{Fm}$  produced in  $^{257}\text{Fm}(d,p)$ , measured  $T_{1/2}(\text{SF})$ .

[1971Jo13](#):  $^{258}\text{Fm}$  from thermal neutron capture in  $^{257}\text{Fm}$ , studied SF distribution.

[1986Hu05](#):  $^{258}\text{Fm}$  from  $\varepsilon$ -decay daughter of 57-min  $^{258}\text{Md}$ ; measured time correlation of fermium K-x rays with SF fragments.

[1989Hu09](#), [1986Hu01](#), [1980Ho04](#): measured fission-fragment mass and total kinetic energy distributions.

Theoretical studies: consult the NSR database at [www.nndc.bnl.gov](http://www.nndc.bnl.gov) for about 120 references dealing with theoretical calculations of half-lives for different decay modes, binding energies, fission characteristics, and other nuclear structure aspects.

[Additional information 1](#).

 $^{258}\text{Fm}$  LevelsCross Reference (XREF) Flags

**A**  $^{258}\text{Md}$   $\varepsilon$  decay (57.0 min)

<u>E(level)</u>	<u>J<math>\pi</math></u>	<u>T<math>_{1/2}</math></u>	<u>XREF</u>	<u>Comments</u>
0	0 <sup>+</sup>	370 $\mu\text{s}$ 14	<b>A</b>	<p>%SF <math>\approx</math> 100</p> <p>Only SF decay has been observed. The <math>\beta</math> decay mode is forbidden.</p> <p><math>T_{1/2}</math>: average value of 370 <math>\mu\text{s}</math> 43 at <math>3\sigma</math> is recommended by <a href="#">1986Hu05</a> from their two measurements: 380 <math>\mu\text{s}</math> 60 (<a href="#">1971Hu03</a>, with <math>3\sigma</math> uncertainty) and 360 <math>\mu\text{s}</math> 20 (<a href="#">1986Hu05</a>).</p> <p>Theoretical partial half-lives for <math>\alpha</math> decay predict very small <math>\alpha</math> branch: <math>T_{1/2}(\alpha) = 12.9</math> y (<a href="#">1997Mo25</a>), 86 d (<a href="#">1997Po18</a>).</p>