

Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Y. Akovali	NDS 94,131 (2001)	1-Aug-2001

$Q(\beta^-) = -3.9 \times 10^3$ syst; $S(n) = 7.00 \times 10^3$ syst; $S(p) = 4.5 \times 10^3$ syst; $Q(\alpha) = 8.49 \times 10^3$ syst [2012Wa38](#)

Note: Current evaluation has used the following Q record -3945 syst 6985 syst 4516 syst 8490 syst [1995Au04](#).

Theoretical calculations:

Deformation, $Q(\alpha)$, $E(2^+)$ and $I\alpha(\text{to } 2^+)/I\alpha(0^+)$ were calculated by [2001Mu06](#).

For calculations of fission barrier, see [1974Ju02](#), [1983Cw01](#), [1987Mi30](#), [2001Mo07](#).

$T_{1/2}(\text{SF})$ was calculated by [1976Ra02](#), [1978Po09](#), [1985Lo17](#), [1989Mo03](#), [1989St20](#).

$T_{1/2}(\alpha)$ was calculated by [1997Po18](#) and [1997Mo25](#).

Decay by pion was studied, and π/SF probability was calculated by [1988Io04](#).

Assignment:

²⁴⁴Pu(²²Ne, 4n) excitation function:
 $E(^{22}\text{Ne}) = 114.4, 109.8, 119.0, \text{ and } 123.6$ MeV ([1996La11](#))

²⁶²Rf Levels

Cross Reference (XREF) Flags

A ²⁶⁶Sg α decay

E(level)	J π	T _{1/2}	XREF	Comments
0.0	0 ⁺	2.3 s 4	A	<p>%SF ≤ 100</p> <p>T_{1/2}: the measured half-lives are 1.2 s +10-5 (obtained by 1994La22 from correlation times for α-SF events in ²⁶⁶Sg α decay), 2.1 s 2 (1996La11), 2.5 s +24-16 (1998Tu01). Earlier measurements: 1985So03, 1978NiZW.</p> <p>Only the SF decay mode of ²⁶²Rf has been observed.</p> <p>No α decay from ²⁶²Rf was observed, and an upper limit of 0.8% was set by 1996La11.</p> <p>α-SF correlation (²⁵⁸No decays by SF) was searched by 2000La34, none was detected, and an upper limit of 3% was estimated.</p> <p>Various calculations for spontaneous fission half-life gave values ranging from 300 μs to 15 min. See 1989Mo03, 1989St20, 1985Lo17, 1978Po09 and 1976Ra02.</p> <p>Calculated partial half-life for α decay by various methods also do not agree with each other: T_{1/2}(α) = 2630 s by 1997Mo25; T_{1/2}(α) = 7 s by 1997Po18 [$E\alpha = 8670$ was used in their semiempirical formula; no correction has been made for $E\alpha(\text{g.s. to g.s.}) \approx 8360$ from $Q(\alpha) = 8490$ syst (1995Au04)]; log T_{1/2}(α) = -7.42 y [T_{1/2}(α) = 1.2 s] by 1976Ra02.</p> <p>Calculations of 1997Mo25 gave T_{1/2}(β) > 100 s.</p> <p>See ²⁶⁶Sg α decay data set for a comment about this level.</p>
254? 50			A	