Adopted Levels

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 141, 327 (2017)	22-Mar-2017

Q(β^-)=1700 *SY*; S(n)=4970 *SY*; S(p)=4910 *SY*; Q(α)=6230 *SY* 2017Wa10
Estimated uncertainties (2017Wa10): 100 for Q(β^-) and S(n), 220 for S(p) and Q(α).
S(2n)=10950 *100*, S(2p)=11780 *310* (syst,2017Wa10).
1955Ch30, 1981Lo15: assignment in ^{255}Es(n,γ),E=thermal followed by chemical separation, parent of ^{256}Fm (the growth and decay of SF activity from ^{256}Fm were observed).
1984Br14, 1980Br02: ^{254}Es(t,pF),E=11-17 MeV; measured (fragment)(fragment)-coin spectra, deduced fission yield, first barrier height.
Theoretical calculations: consult the Nuclear Science References (NSR) database for about 15 theory references.
Additional information 1.

^{256}Es Levels

E(level)	J$^\pi$	$T_{1/2}$	Comments
0.0	(1$^+$,0$^-$)	25.4 min *24*	%β^-=100 $T_{1/2}$: measured by 1981Lo15. The authors could not exclude the possibility that although no evidence was observed, some 7.6-h ^{256}Es could have been produced in ^{255}Es(n,γ),E=thermal reaction. 1981Lo15 pointed out that if this isomeric state was also produced, then the actual half-life should be slightly smaller than the given value. J$^\pi$: in analogy to ^{253}Es and to ^{257}Fm, possible configuration= π7/2[633]⊗ν9/2[615] or π3/2[521]⊗n3/2[622]. E(level): Gallagher-Moszkowski rule predicts the 1$^+$ state with configuration=π7/2[633]-ν9/2[615] to be lower in energy than the 8$^+$ state with configuration=π7/2[633]+ν9/2[615]. Similarly, the 0$^-$ state with configuration=π3/2[521]-ν3/2[622] is expected to be lower than the 3$^-$ state with configuration=π3/2[521]+ν3/2[622]. The low-spin 25.4-min state is adopted as the ground state of ^{256}Es on this basis only in the absence of any experimental evidence. Only the β^- decay mode is observed. The theoretical calculations by 1997Mo25 give $T_{1/2}(\alpha)=1\times10^{10}$ s for α partial half-life.
0.0+x	(8$^+$)	7.6 h	%β^-=100 %β^-SF=0.002 (1989Ho10) $T_{1/2}$: measured by 1976HoZB. Assignment: ^{254}Es(t,p), chem, parent of ^{256}Fm (1976HoZB, 1976HuZU, 1976HoZF). Production σ of the isomer also measured by 2013Kr14 in ^{238}U+^{238}U reaction at GSI. J$^\pi$: β decays to the 1425.5-, 1560.2-keV levels in ^{256}Fm and no decay to low-spin states imply J=6,7,8. Possible configuration= π7/2[633]+ν9/2[615] is consistent with β^- decay to the proposed 7$^-$ state with configuration=π7/2[633]+π7/2[514] state in ^{256}Fm at 1425.5 keV. No Es x-rays were observed, suggesting no isomeric transition to ^{256}Es g.s., and no α particles to ^{252}Bk were found (1976HoZB). β-delayed-fission activity was observed by 1989Ha10, and the measured β-delayed-fission probability (number of delayed fissions/100 β^- decays of 7.6-h ^{256}Es) was measured to be 2×10^{-5} or 0.002 per 100 β^- decays.