

²⁵²Fm α decay 1984Ah02

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

Parent: ²⁵²Fm: E=0.0; J ^{π} =0⁺; T_{1/2}=25.39 h 4; Q(α)=7152.7 20; % α decay=99.9977 2

²⁴⁸Cf Levels

E(level)	J ^{π}
0.0 [†]	0 ⁺
41.53 [†] 6	2 ⁺
137.81 [†] 9	4 ⁺
285 [†] 4	6 ⁺

[†] Band(A): K ^{π} =0⁺ g.s. band.

α radiations

E α [†]	E(level)	I α ^{‡@}	HF [#]
6759 3	285	0.023 5	225 49
6904 2	137.81	0.97 4	23.0 10
6998 2	41.53	15.0 2	3.77 6
7039 2	0.0	84.0 5	1.000

[†] Others: 1977Be36, 1967Ch17, and 1956Fr07.

[‡] Intensity per 100 α decays.

[#] r₀(²⁴⁸Cf)=1.4670 8 is calculated from HF(7039 α)=1.0.

[@] For absolute intensity per 100 decays, multiply by 0.999977 2.

γ (²⁴⁸Cf)

I γ normalization: from Ti(41 γ -96 γ)=I α (6998 α). This is consistent with the intensity balance At the g.s., Ti(41 γ)=100-I α (7039 α)=16.0 5 from which one gets a normalization factor of 0.0109 3.

E γ	I γ ^{†‡}	E _i (level)	J _i ^{π}	E _f	J _f ^{π}	Mult.	α [#]	Comments
41.53 6	1.0	41.53	2 ⁺	0.0	0 ⁺	[E2]	1461 23	α (L)=1076; α (M)=305.6
96.28 6	3.3 3	137.81	4 ⁺	41.53	2 ⁺	[E2]	26.5 4	α (L)=19.5; α (M)=5.549; α (N+..)=2.217

[†] Relative photon intensity.

[‡] For absolute intensity per 100 decays, multiply by 0.0109 3.

[#] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

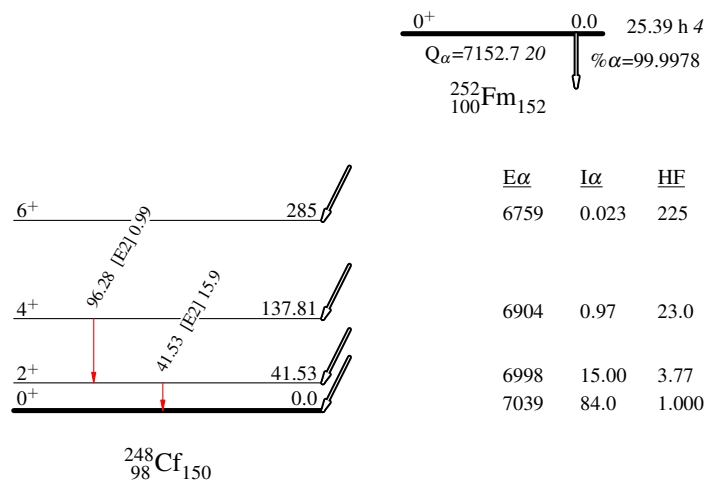
^{252}Fm α decay 1984Ah02Decay Scheme

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$

 $I_\gamma < 10\% \times I_\gamma^{\max}$

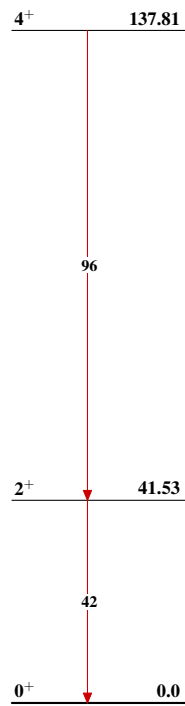
 $I_\gamma > 10\% \times I_\gamma^{\max}$

Intensities: $I_{(\gamma+ce)}$ per 100 decays through this branch

${}^{252}\text{Fm}$ α decay 1984Ah02

Band(A): $K^\pi=0^+$ g.s.
band

6⁺ 285



${}^{248}_{98}\text{Cf}_{150}$