

^{204}Fr α decay (0.8 s) [1992Hu04](#),[2005Uu02](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski		NDS 108,1471 (2007)	1-Aug-2006

Parent: ^{204}Fr : $E=316$ 10; $J^\pi=(10^-)$; $T_{1/2}=0.8$ s 2; $Q(\alpha)=7171.3$ 25; $\% \alpha$ decay ≈ 100.0
 $^{204}\text{Fr}-E(^{204}\text{Fr})$ from $E(J^\pi=(10^+))=344$ keV 5 in ^{200}At Adopted Levels and $Q(\alpha)(\text{g.s.}) - Q(\alpha)(7013\alpha)$.
 $^{204}\text{Fr}-T_{1/2}(^{204}\text{Fr})$ from [2005Uu02](#). Other: ≈ 1 s ([1992Hu04](#)).

 ^{200}At Levels

E(level) [†]	J^π [†]	$T_{1/2}$ [†]	Comments
0	(3 ⁺)	43 s 1	
113 5	(7 ⁺)	47 s 1	
344 5	(10 ⁻)	7.3 s +26-15	$E\alpha=6543$ keV 6 (2005Uu02), 6538 keV 3 (1992Hu04) and 6536 keV 5 (1967Tr06). Probable Configuration= $((\pi \text{ h}9/2)^{+1}(\nu \text{ i}13/2)^{-1})(\pi^{+2} \nu^{-6})_{0+}$.

[†] From Adopted Levels.

 α radiations

$E\alpha$ [‡]	E(level)	$I\alpha$ ^{‡#}	HF [†]	Comments
7013 5	344	100	≈ 0.74	$E\alpha$: Other: 7017 keV 6 (2005Uu02), correlated with $E\alpha=6543$ keV 6 depopulating the $J^\pi=(10^-)$ state in the daughter nucleus ^{200}At .

[†] Using $r_0(^{200}\text{At})=1.516$ 8 weighted average of 1.533 4 (^{204}Ra), 1.527 8 (^{206}Ra), 1.516 7 (^{202}Rn) and 1.504 3 (^{204}Rn) from [1998Ak04](#).

[‡] From [1992Hu04](#).

[#] For absolute intensity per 100 decays, multiply by ≈ 1.0 .

 $\gamma(^{200}\text{At})$

E_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
230.9 2	344	(10 ⁻)	113	(7 ⁺)	E3	Mult.: From $\alpha(\text{K})\text{exp}=0.29$ 8, $\alpha(\text{L})\text{exp}=1.1$ 2 and $\alpha(\text{M})\text{exp}=0.27$ 6 in 1992Hu04 .

[†] From [1992Hu04](#).

^{204}Fr α decay (0.8 s) 1992Hu04,2005Uu02Decay Scheme