

$^{211}\text{Ac}$   $\alpha$  decay [2000He17](#),[1968Va04](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski		NDS 112, 707 (2011)	1-Aug-2010

Parent:  $^{211}\text{Ac}$ :  $E=0.0$ ;  $J^\pi=(9/2^-)$ ;  $T_{1/2}=0.21$  s 3;  $Q(\alpha)=7620$  50;  $\% \alpha$  decay=100.0

$^{211}\text{Ac}$ - $J^\pi$ : Assuming a favored  $\alpha$ -decay to  $^{207}\text{Fr}$  g.s. ( $J^\pi=9/2^-$ ).

$^{211}\text{Ac}$ - $T_{1/2}$  is from [2004Br45](#).  $Q(\alpha)$  is from [2003Au03](#).

[1968Va04](#): produced in  $^{197}\text{Au}(^{20}\text{Ne},6n)$  and  $^{203}\text{Tl}(^{16}\text{O},8n)$  reactions at beam energies of 124 MeV ( $^{20}\text{Ne}$ ) and 135 MeV and 112 MeV ( $^{16}\text{O}$ ). Si(Au) detector was used and singles  $E\alpha$  and  $T_{1/2}$  were measured.

[2000He17](#): Produced using various heavy-ion reactions at GSI. The velocity filter SHIP was used to separate reaction residues and scattered beam. 16-strip position-sensitive silicon detector was used to implant the recoils and correlate subsequent alpha decay events.

 $^{207}\text{Fr}$  Levels

<u>E(level)</u>	<u><math>J^\pi</math></u>	<u><math>T_{1/2}</math></u>
0.0	$9/2^-$	14.8 s 1

 $\alpha$  radiations

<u><math>E\alpha</math></u>	<u>E(level)</u>	<u><math>I\alpha^\ddagger</math></u>	<u>HF<math>^\dagger</math></u>	<u>Comments</u>
7477 6	0.0	100	0.94 20	$E\alpha$ : Weighted average of 7472 keV 10 ( <a href="#">2000He17</a> ) and 7480 keV 8 ( <a href="#">1968Va04</a> ).

$^\dagger$   $r_0(^{207}\text{Fr})=1.491$  3, weighted average from values for neighboring even-even  $^{208}\text{Ra}$  ( $r_0=1.510$  27) and  $^{206}\text{Rn}$  ( $r_0=1.4905$  29) nuclei deduced by using  $\text{Hf}(E\alpha)=1.0$ .

$^\ddagger$  Absolute intensity per 100 decays.