

^{216}Ra α decay [1973No09](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	K. Auranen and E. A. Mccutchan		NDS 168, 117 (2020)	1-Aug-2020

Parent: ^{216}Ra : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=172$ ns *10*; $Q(\alpha)=9526$ 8; $\% \alpha$ decay=100.0

^{216}Ra - $T_{1/2}$: weighted average of 161 ns *11* ([2019Pa45](#)) and 182 ns *10* ([1973No09](#)). Other: 167 ns *53* ([2017Su18](#)).

^{216}Ra - $\% \alpha$ decay: ε decay branch for ^{216}Ra was estimated by [1986Ma45](#) as $<1 \times 10^{-8}\%$ from $\log ft$ value for a possible branch to the ground state of ^{216}At .

[1973No09](#): ^{216}Ra activity produced in $^{208}\text{Pb}(^{12}\text{C},4n)$ reaction with $E(^{12}\text{C})=79$ MeV. Measured $E\alpha$, $I\alpha$, $\alpha(t)$, excitation function using thin Si detector.

Others: [2019Pa45](#), [2017Su18](#), [1973Ha32](#).

 ^{212}Rn Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+	23.9 min <i>12</i>	$T_{1/2}$: from the Adopted Levels.

 α radiations

$E\alpha$	E(level)	$I\alpha^\ddagger$	HF †	Comments
9349 8	0.0	100	1.0	$E\alpha$: from 1973No09 . Others: 9340 <i>20</i> (1973Ha32), 9349 <i>17</i> (2017Su18). $I\alpha$: only one α group has been observed. Upper limit for intensity of a 8099-keV unobserved α to the 2^+ state at 1274 keV is estimated as $\leq 0.06\%$ by requiring its hindrance factor to be ≥ 1 . Possible α transitions to higher levels are ignored.

† $r_0(^{212}\text{Rn})=1.543$ 4 is calculated by evaluators from $\text{HF}(9349\alpha)=1.0$.

‡ Absolute intensity per 100 decays.