^{209}Ra α decay 2008Ha12,2003He06,1967Va22

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 166,1 (2020)	20-Apr-2020

Parent: ^{209}Ra: E=0.0; $J^\pi=5/2^-$; $T_{1/2}$=4.8 s *2*; Q(α)=7143.1 *27*; %α decay≈100

^{205}Rn Levels

E(level)†	J^π‡	$T_{1/2}$‡
0.0	$5/2^-$	170 s *4*
387.0 *5*	$(7/2^-)$	
633.7 *11*	$(7/2^-)$	

† From the measured Eγ following ^{209}Ra α-decay (2003He06, 2001HeZY).
‡ From Adopted Levels.

α radiations

Eα	E(level)	Iα†#	HF‡	Comments
6376 *10*	633.7	0.2	≈2.2	
6625 *5*	387.0	0.5	≈8.5	
7006 *3*	0.0	99.3	≈1.2	Eα: Weighted average of 7005 keV *4* (2008Ha12), 7003 keV *10* (2003He06,2001HeZY), 7008 keV *5* (1967Va22), 7010 keV *20* (1968Lo15) and 7010 keV *30* (1997Mi03).

† From 2003He06 and 2001HeZY.
‡ Using $r_0(^{205}Rn)$=1.493 *3*, unweighted average deduced from values for neighboring even-even ^{204}Rn (r_0=1.496 *8*) and ^{206}Rn (r_0=1.4905 *29*) nuclei and HF_α=1.0.
# For absolute intensity per 100 decays, multiply by ≈1.0.

$\gamma(^{205}Rn)$

Eγ†	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
387.0‡ *5*	387.0	$(7/2^-)$	0.0	$5/2^-$	Eγ: In coincidence with Eα=6625 keV *5* (2003He06 and 2001HeZY).
633.7‡ *11*	633.7	$(7/2^-)$	0.0	$5/2^-$	Eγ: In coincidence with Eα=6376 keV *10* (2003He06 and 2001HeZY).

† From 2003He06 and 2001HeZY.
‡ Placement of transition in the level scheme is uncertain.

^{209}Ra α decay 2008Ha12,2003He06,1967Va22

Legend

γ Decay (Uncertain)

Decay Scheme