

²⁰⁵Rn α decay

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 187,355 (2023)	20-Sep-2022

Parent: ²⁰⁵Rn: E=0; J ^{π} =5/2⁻; T_{1/2}=170 s 4; Q(α)=6386.5 18; % α decay=24.6 9
²⁰⁵Rn-J ^{π} , T_{1/2} and % α decay from [2020Ko17](#); Q(α) from [2021Wa16](#).

²⁰¹Po Levels

E(level) [†]	J ^{π} [†]	T _{1/2} [†]	Comments
0 [@]	3/2 ⁻	15.50 min 22	
5.61 [‡] 15	5/2 ⁻		E(level): Other: 0.3 keV 25 using Q(α)=6386.5 18 and E(α).
142 [#] 3	(1/2 ⁻)		E(level): From α - γ coincidences in 1971Jo19 .

[†] From Adopted Levels, unless otherwise stated.

[‡] Configuration= ν f_{5/2}⁻¹.

[#] Configuration= ν p_{1/2}⁻¹. The assignment is tentative.

[@] Configuration= ν p_{3/2}⁻¹.

α radiations

E α	E(level)	I α [‡]	HF [†]	Comments
6122 3	142	≤0.1	≥325	E α : From Q(α)=6386.5 18 and E(level). E α observed in 1971Jo19 , but a value was not given by the authors. I α : Estimated by evaluator from Fig. 1 in 1971Jo19 .
6261.4 18	5.61	≈98.5	≈1.3	E α : Weighted average of E α =6262 keV 3 (1967Va17), 6262 keV 6 (1971Ho01) and 6260.9 keV 25 (1993Wa04).
(6268 4)	0	1.4 <i>syst</i>	99 <i>syst</i>	I α : Based on α decay HF values for configuration= ν f _{5/2} ⁻¹ to configuration= ν p _{3/2} ⁻¹ decay in ²⁰³ Po (HF=95 15) and ²⁰⁵ Po (HF=105 17).

[†] Using r₀(²⁰¹Po)=1.497 6, unweighted average of r₀(²⁰⁰Po)=1.5026 13 and r₀(²⁰²Po)=1.4917 29 ([2020Si16](#)).

[‡] For absolute intensity per 100 decays, multiply by 0.246 9.