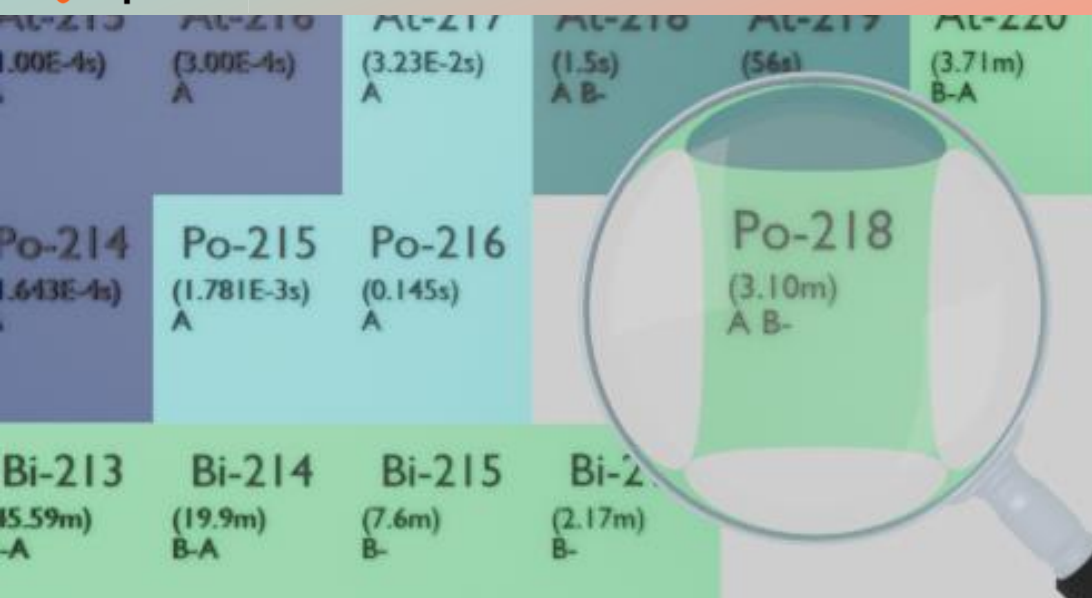




POLONIUM-218

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Po-218
Atomic number (Z): 84
Mass number (A): 218
Neutron number (N): 134

RADIOACTIVE DECAY

Decay modes: α , β^-
Half-life: 3.1 [m]
Decay constant: $3.7266\text{e-}03$ [1/s]
Daughters: Pb-214 (100.0%), At-218 (0.02%)
Radioactive daughters: Pb-214, At-218

DOSIMETRIC CONSTANTS

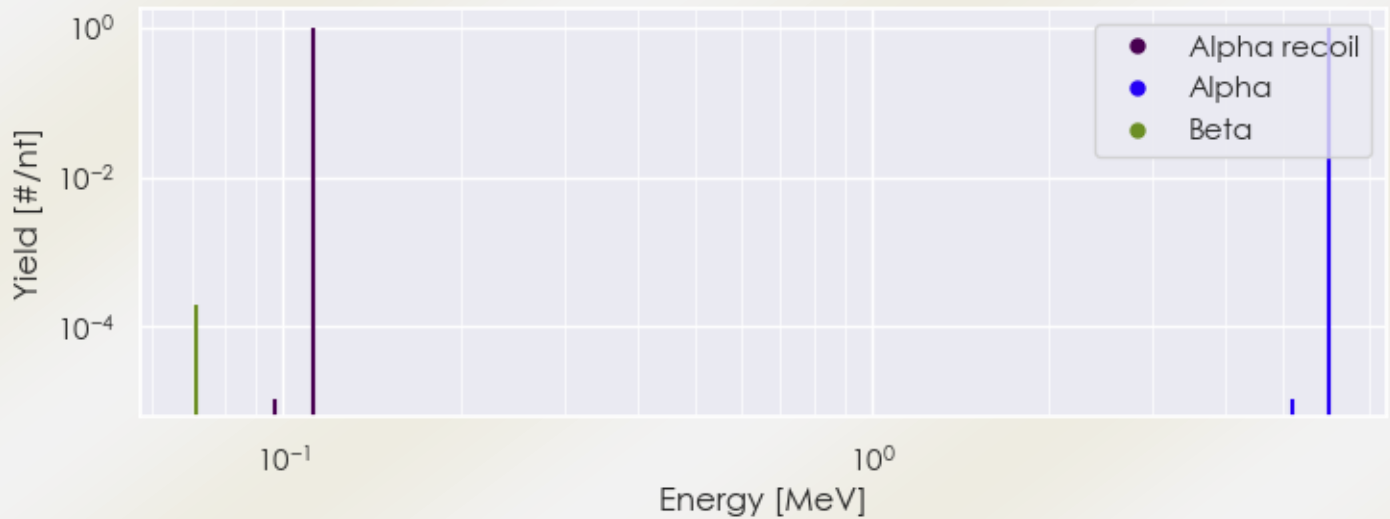
Mean alpha energy: 6.1134 [MeV]
Mean electron energy: $1\text{e-}05$ [MeV]
Mean photon energy: 0.0 [MeV]
Air kerma rate constant, Γ_{10} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $9.795\text{e-}13$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $9.795\text{e-}13$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta+, e-}$: 1.602e-18 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 0.000e+00 [Gy·kg/Bq·s]

SUMMARY SPECTRA (PLOT)

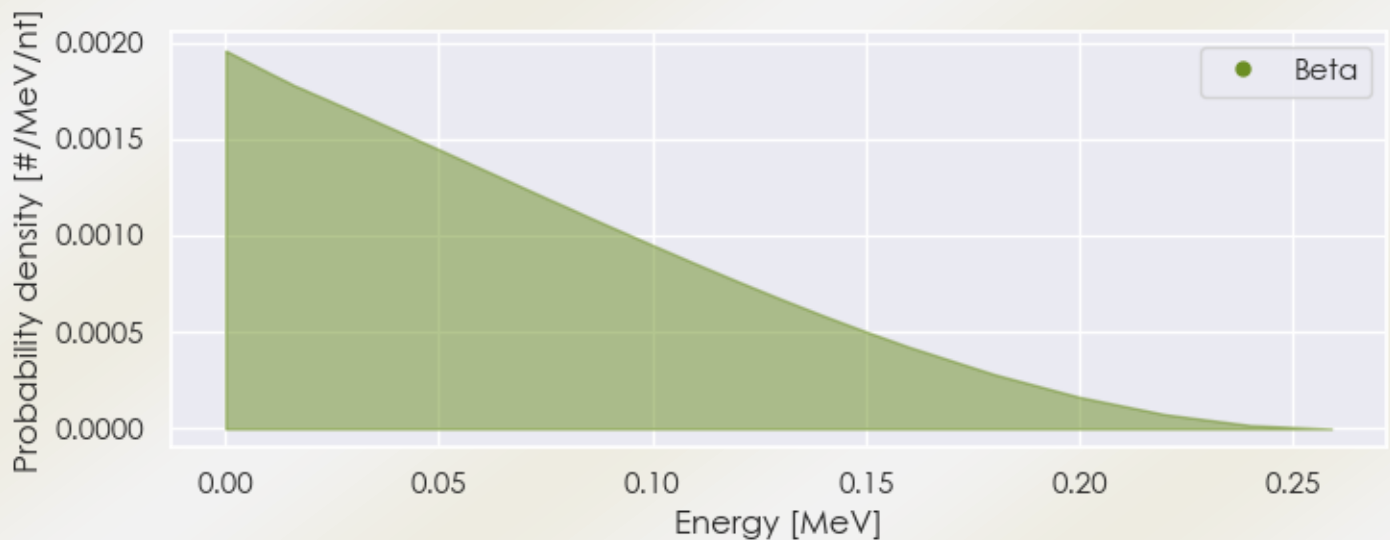
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Po-218 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Po-218%20Summary%20Spectrum.csv)

BETA SPECTRA (PLOT)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated beta spectra file here: [www.mirdsoft.org/products/MIRDspecs/Po-218 Beta Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Po-218%20Beta%20Spectrum.csv)

TABULATED DATA

SUMMARY SPECTRA (TABLE)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**

Note: Radiations with yield < 0.01 are excluded from the table, but are available in the linked *.csv data.

Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Po-218 Summary Spectrum.csv

Energy [MeV]	Yield [#/(nt)] if > 0.01	Radiation type
6.00241e+00	9.998e-01	Alpha
1.12268e-01	9.998e-01	Alpha recoil

USEFUL LINKS

Isotope decay characteristics are periodically updated as better measurements can be made - changes that may not be reflected on this page. Please see useful links:

National Nuclear Data Center (NNDC): <https://www.nndc.bnl.gov/nudat3/mird/>

International Atomic Energy Agency (IAEA) Livechart: <https://www-nds.iaea.org/relnsd/vcharthtml/VChartHTML.html>

REFERENCE LINKS

ICRP Report 107: <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20107>

Graves et al. Dose Point Kernels: <https://doi.org/10.1002/mp.13789>

MIRD Decay Schemes 2nd Edition: https://sites.snmmi.org/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6