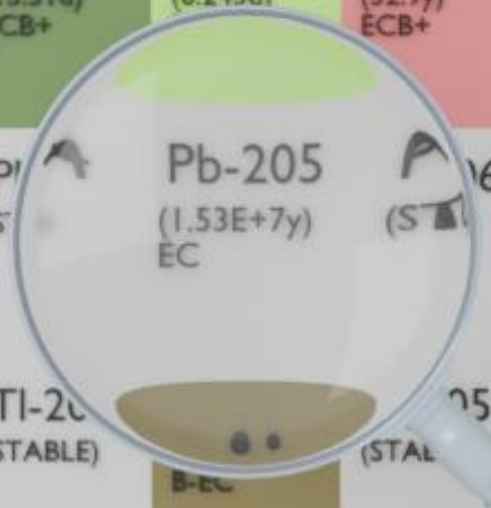




Bi-202	Bi-203	Bi-204	Bi-205	Bi-206	Bi-207	Bi-208	Bi-209
(1.72h) CB+	(11.76h) ECB+	(11.22h) ECB+	(15.31d) ECB+	(6.243d) ECB+	(32.9y) ECB+	(3.68E+5y) EC	(5.013d) B-A
Pb-201	Pb-202	Pb-203	Pb-204	Pb-205	Pb-206	Pb-207	Pb-208
(2.33h) CB+	(5.25E+4y) ECA	(51.873h) EC	(5.012E+5y) EC	(1.53E+7y) EC	(STABLE)	(STABLE)	(3.253h) B-
Tl-200	Tl-201	Tl-202	Tl-203	Tl-204	Tl-205	Tl-206	Tl-207
(26.1h) CB+	(72.912h) EC	(12.23d) EC	(STABLE)	(STABLE)	(STABLE)	(4.200m) B-	(4.77m) B-
Pb-208	Pb-209	Pb-210	Pb-211	Pb-212	Pb-213	Pb-214	Pb-215
(3.826E+6y) EC	(3.434E+6y) EC	(162.6y) EC	(14.29h) EC	(3.826E+6y) EC	(4.35E-7s) EC	(3.38E-6s) EC	(4.81E-7s) EC

LEAD-205

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Pb-205
Atomic number (Z): 82
Mass number (A): 205
Neutron number (N): 123

RADIOACTIVE DECAY

Decay modes: Electron capture
Half-life: 15300000.0 [y]
Decay constant: 1.4356×10^{-15} [1/s]
Daughters: Tl-205 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

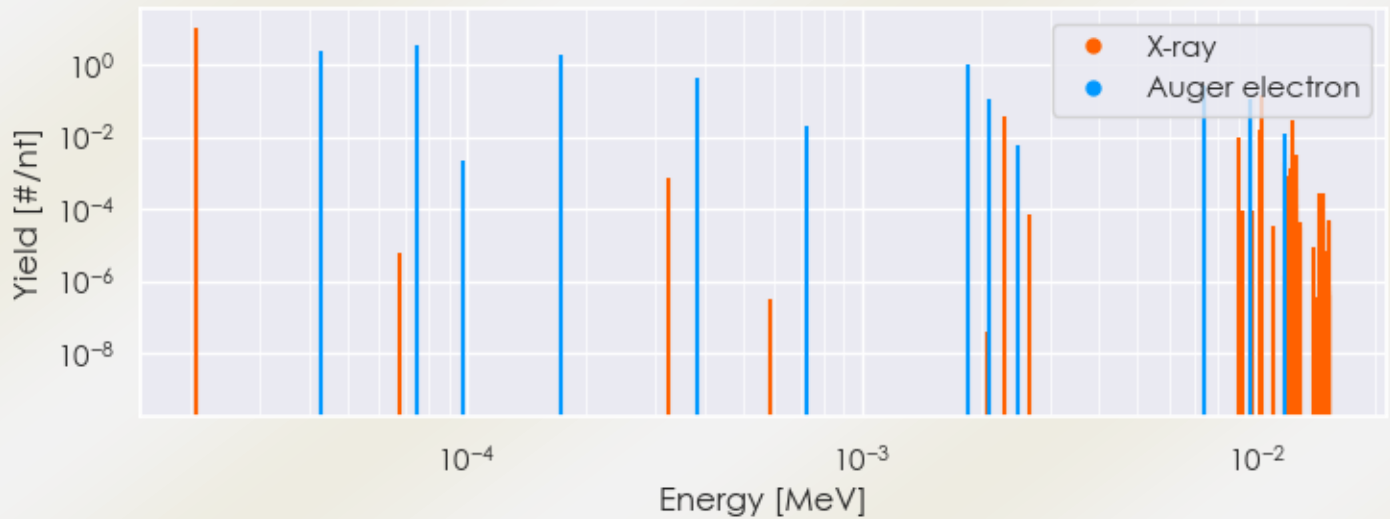
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.00621 [MeV]
Mean photon energy: 0.00252 [MeV]
Air kerma rate constant, Γ_{10} : 1.071×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 1.071×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 9.950×10^{-16} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 9.950e-16 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 4.037e-16 [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/Pb-205 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Pb-205%20Summary%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/Pb-205 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Pb-205%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
2.07163e-05	1.085e+01	X-ray
2.29157e-03	3.746e-02	X-ray
1.01663e-02	1.625e-02	X-ray
1.02661e-02	1.431e-01	X-ray
1.22749e-02	2.727e-02	X-ray
4.28409e-05	2.397e+00	Auger electron

7.47417e-05	3.540e+00	Auger electron
1.72451e-04	1.866e+00	Auger electron
3.82150e-04	4.358e-01	Auger electron
7.22315e-04	2.119e-02	Auger electron
1.85164e-03	9.807e-01	Auger electron
2.09830e-03	1.164e-01	Auger electron
7.33757e-03	2.729e-01	Auger electron
9.58671e-03	1.176e-01	Auger electron
1.18417e-02	1.215e-02	Auger electron

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