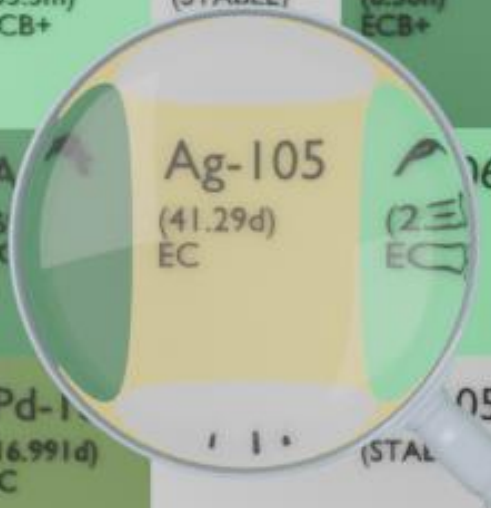




Cd-102 (5.5m) CB+	Cd-103 (7.3m) ECB+	Cd-104 (57.7m) EC	Cd-105 (55.5m) ECB+	Cd-106 (STABLE)	Cd-107 (6.50h) ECB+	Cd-108 (STABLE)	Cd-109 (461.4d) EC	Cd-110 (STABLE)
Ag-101 (11.1m) CB+	Ag-102 (12.9m) ECB+	Ag-103 (65.7m) ECB+	Ag-104 (6.5m) EC	Ag-105 (41.29d) EC	Ag-106 (2.3m) EC	Ag-107 (STABLE)	Ag-108 (2.37m) B-ECB+	Ag-109 (STABLE)
Pd-100 (3.63d) C	Pd-101 (8.47h) ECB+	Pd-102 (STABLE)	Pd-103 (16.991d) EC	Pd-104 (STABLE)	Pd-105 (STABLE)	Pd-106 (STABLE)	Pd-107 (6.5E+6y) B-	Pd-108 (STABLE)

SILVER-105

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ag-105
Atomic number (Z): 47
Mass number (A): 105
Neutron number (N): 58

RADIOACTIVE DECAY

Decay modes: Electron capture
Half-life: 41.29 [d]
Decay constant: 1.9430×10^{-7} [1/s]
Daughters: Pd-105 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.01915 [MeV]
Mean photon energy: 0.5138 [MeV]
Air kerma rate constant, Γ_{10} : 2.804×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 2.804×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 3.068×10^{-15} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

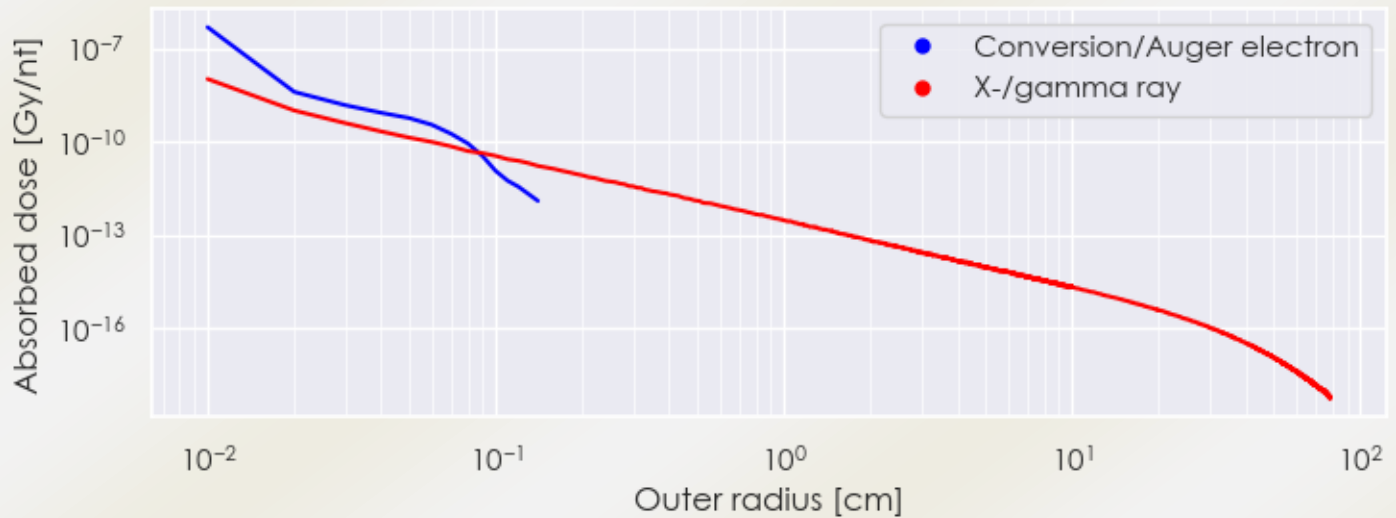
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 3.068×10^{-15} [Gy · kg/Bq · s]

Equilibrium dose constant for photons, Δ_p : 8.232×10^{-14} [Gy · kg/Bq · s]

DOSE POINT KERNELS (PLOT)

Dose point kernel source: **Graves, et al. Medical Physics. 2019 Nov.; 46(11):5284-5293.**

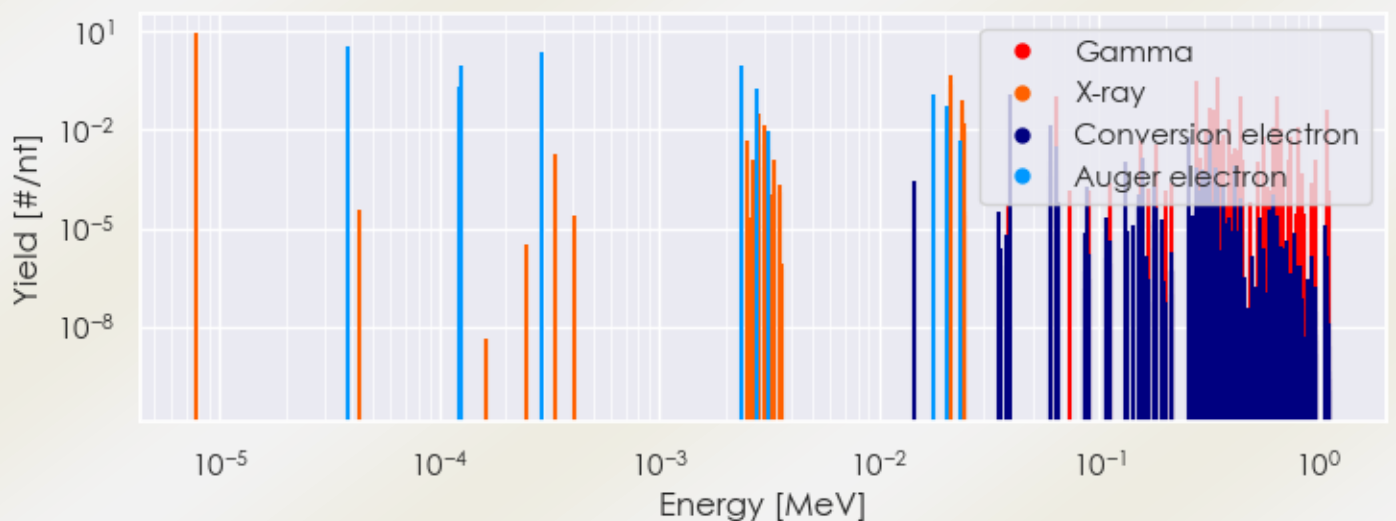
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ag-105 DPK.csv

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/Ag-105 Summary Spectrum.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/Ag-105 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-105%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [#]/nt] if > 0.01	Radiation type
7.85942e-06	9.363e+00	X-ray
2.82809e-03	3.089e-02	X-ray
2.98437e-03	1.463e-02	X-ray
2.09884e-02	2.373e-01	X-ray
2.11504e-02	4.482e-01	X-ray
2.37657e-02	3.860e-02	X-ray
2.37942e-02	7.503e-02	X-ray
2.42659e-02	1.512e-02	X-ray
6.39800e-02	1.047e-01	Gamma
2.80440e-01	3.022e-01	Gamma
3.19160e-01	4.347e-02	Gamma
3.31510e-01	4.099e-02	Gamma
3.44520e-01	4.140e-01	Gamma
3.92640e-01	1.983e-02	Gamma
4.43370e-01	1.047e-01	Gamma
6.17850e-01	1.155e-02	Gamma
6.44550e-01	1.105e-01	Gamma
6.50720e-01	2.538e-02	Gamma
6.73210e-01	1.047e-02	Gamma
8.07460e-01	1.155e-02	Gamma
1.08794e+00	3.850e-02	Gamma
3.81969e-05	3.528e+00	Auger electron
1.21674e-04	2.162e-01	Auger electron
1.25970e-04	9.270e-01	Auger electron
2.92906e-04	2.288e+00	Auger electron
2.38239e-03	8.705e-01	Auger electron
2.75708e-03	1.766e-01	Auger electron

1.76856e-02	1.251e-01	Auger electron
2.05196e-02	4.967e-02	Auger electron
3.96590e-02	1.261e-01	Conversion electron
6.04000e-02	1.438e-02	Conversion 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