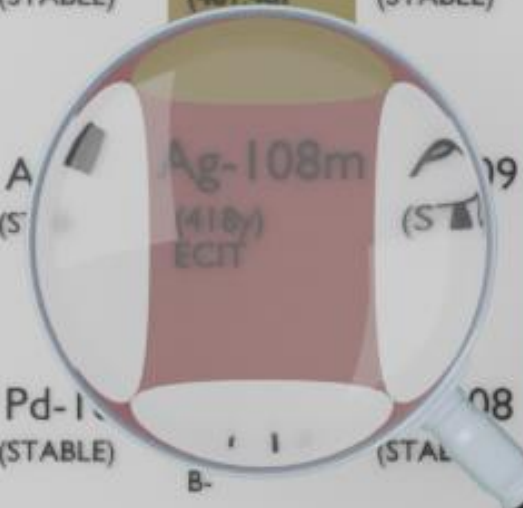




Cd-106 (5.5m) CB+	Cd-106 (STABLE)	Cd-107 (6.50h) ECB+	Cd-108 (STABLE)	Cd-109 (461.4d)	Cd-110 (STABLE)	Cd-111 (STABLE)	Cd-112 (STABLE)	Cd-113 (7.7E+15y) B-
Ag-104 (59.2m) CB+	Ag-105 (41.29d) EC	Ag-106 (23.96m) ECB+B-	Ag-107 (41.8y) ECIT	Ag-108 (418y) ECIT	Ag-109 (24.6s) B-EC	Ag-110 (24.6s) B-EC	Ag-111 (7.45d) B-	Ag-112 (3.130h) B-
Pd-103 (16.991d) C	Pd-104 (STABLE)	Pd-105 (STABLE)	Pd-106 (STABLE)	Pd-107 (STABLE)	Pd-108 (13.7012h) B-	Pd-109 (13.7012h) B-	Pd-110 (STABLE)	Pd-111 (23.4m) B-

SILVER-108M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ag-108m

Atomic number (Z): 47

Mass number (A): 108

Neutron number (N): 61

RADIOACTIVE DECAY

Decay modes: Electron capture, Internal transition

Half-life: 418.0 [y]

Decay constant: 5.2548×10^{-11} [1/s]

Daughters: Ag-108 (8.7%), Pd-108 (91.3%)

Radioactive daughters: Ag-108

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]

Mean electron energy: 0.01591 [MeV]

Mean photon energy: 1.62088 [MeV]

Air kerma rate constant, Γ_{10} : 6.798×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]

Air kerma coefficient, K_{air} : 6.798×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]

Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 2.549×10^{-15} [Gy $\cdot$ kg/Bq $\cdot$ s]

Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

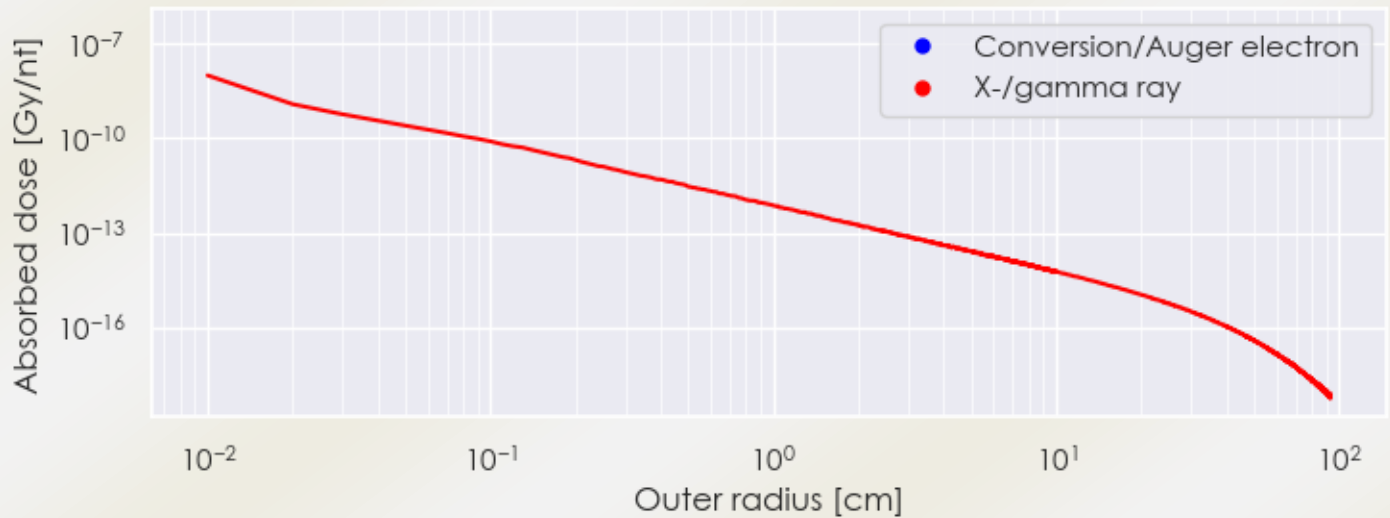
Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 2.549e-15 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 2.597e-13 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

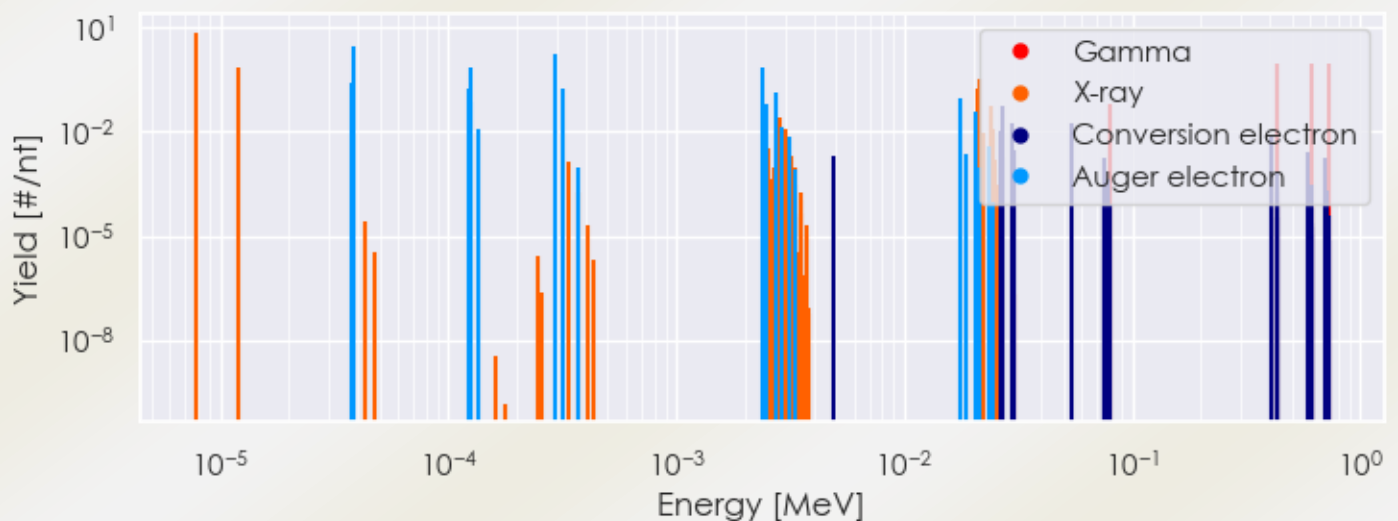
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ag-108m 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-108m 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-108m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-108m%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / n _t] if > 0.01	Radiation type
7.85937e-06	7.440e+00	X-ray
1.20703e-05	7.236e-01	X-ray
2.82809e-03	2.445e-02	X-ray
2.98437e-03	1.144e-02	X-ray
2.09884e-02	1.850e-01	X-ray
2.11504e-02	3.496e-01	X-ray
2.37657e-02	3.011e-02	X-ray
2.37942e-02	5.852e-02	X-ray
2.42659e-02	1.179e-02	X-ray
7.91310e-02	6.627e-02	Gamma
4.33937e-01	9.048e-01	Gamma
6.14276e-01	8.984e-01	Gamma
7.22907e-01	9.084e-01	Gamma
3.77533e-05	2.646e-01	Auger electron
3.81911e-05	2.805e+00	Auger electron
1.21651e-04	1.791e-01	Auger electron
1.25430e-04	7.457e-02	Auger electron
1.25820e-04	7.367e-01	Auger electron
1.35136e-04	1.194e-02	Auger electron
2.92952e-04	1.817e+00	Auger electron
3.19067e-04	1.788e-01	Auger electron
2.38270e-03	6.885e-01	Auger electron
2.46715e-03	6.667e-02	Auger electron
2.75750e-03	1.397e-01	Auger electron
2.87356e-03	1.439e-02	Auger electron
1.76856e-02	9.761e-02	Auger electron
2.05196e-02	3.874e-02	Auger electron

2.65966e-02	1.057e-02	Conversion electron
2.70300e-02	5.275e-02	Conversion electron
2.98115e-02	1.674e-02	Conversion electron
5.36420e-02	1.796e-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