



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-105m (7.23m) ITECB+	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-105M

SUMMARY DATA

GENERAL

CLASSIFICATION

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

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture, Internal transition
Half-life: 7.23 [m]
Decay constant: $1.5978\text{e-}03$ [1/s]
Daughters: Ag-105 (99.7%), Pd-105 (0.34%)
Radioactive daughters: Ag-105

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.0252 [MeV]
Mean photon energy: 0.00126 [MeV]
Air kerma rate constant, Γ_{10} : $6.522\text{e-}20$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $6.538\text{e-}20$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $4.037\text{e-}15$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

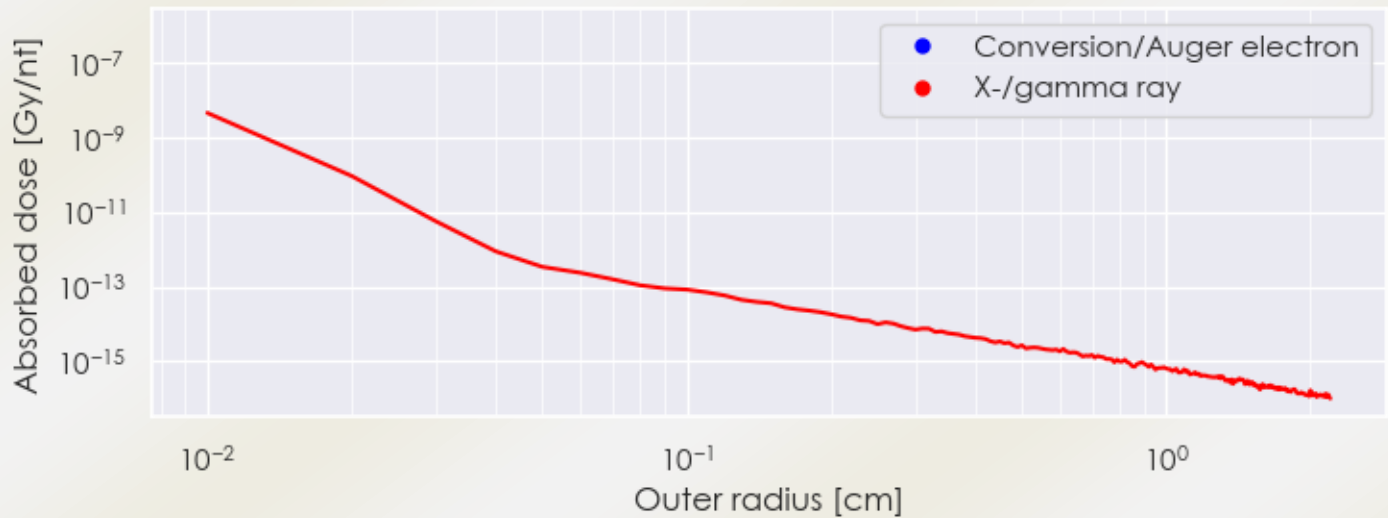
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta+, e^-}$: 4.037e-15 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 2.019e-16 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

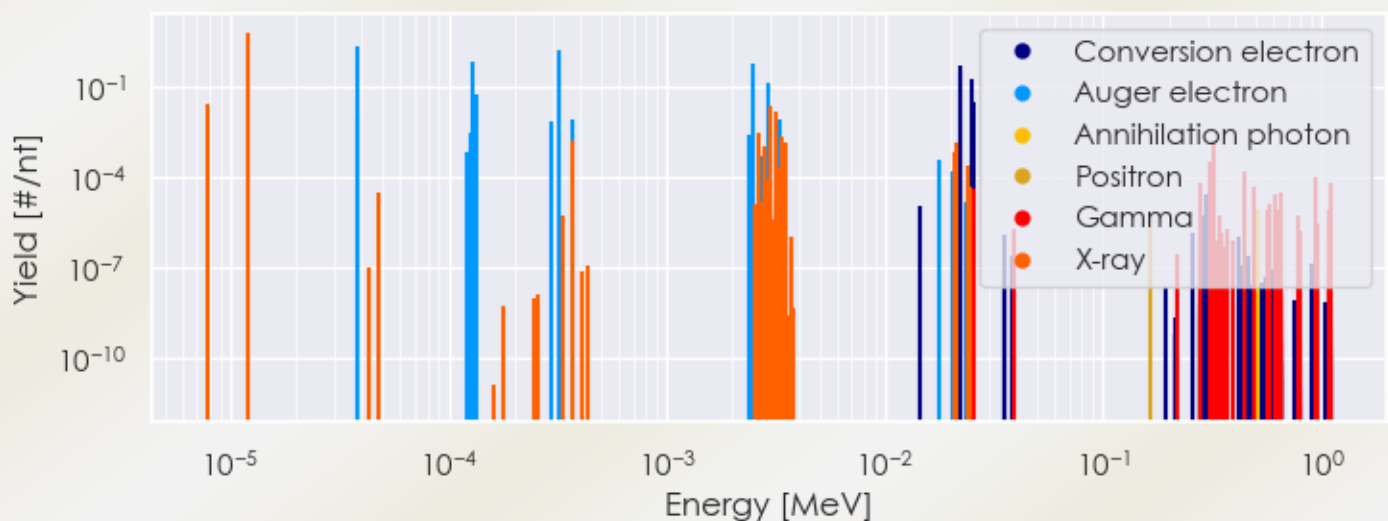
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



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

SUMMARY SPECTRA (PLOT)

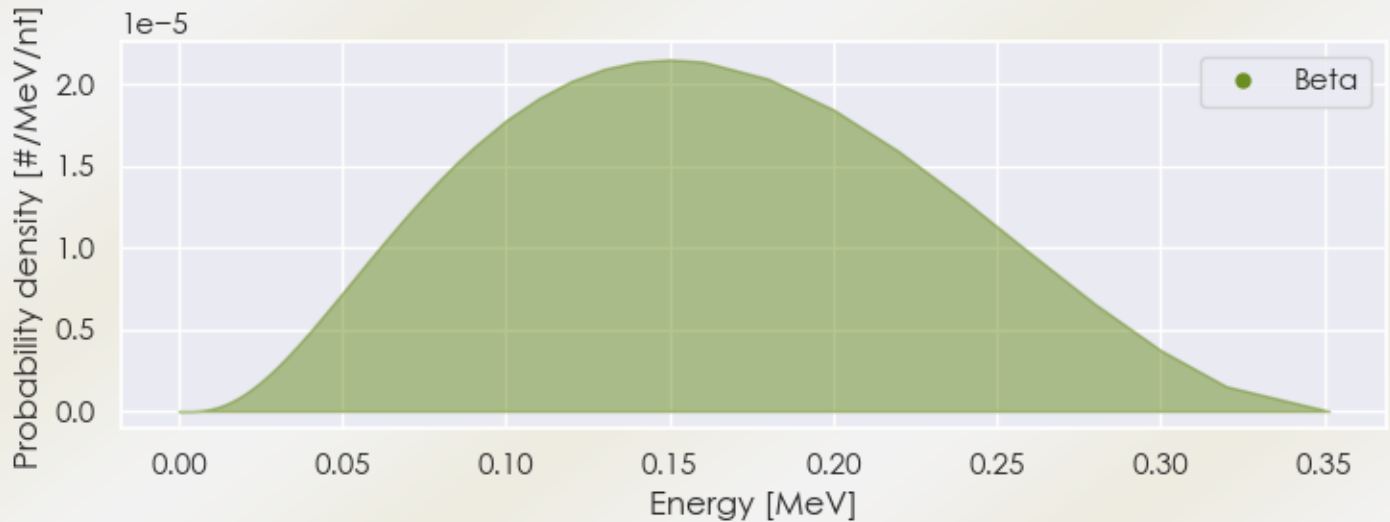
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Ag-105m Summary Spectrum.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/Ag-105m Beta 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-105m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
7.85942e-06	2.765e-02	X-ray
1.20810e-05	6.291e+00	X-ray
2.97344e-03	2.199e-02	X-ray
3.14510e-03	1.479e-02	X-ray
3.79360e-05	2.282e+00	Auger electron
3.81969e-05	1.042e-02	Auger electron
1.29452e-04	6.538e-01	Auger electron
1.33620e-04	5.158e-02	Auger electron
3.18752e-04	1.554e+00	Auger electron

2.49300e-03	6.071e-01	Auger electron
2.89929e-03	1.314e-01	Auger electron
2.19519e-02	3.180e-01	Conversion electron
2.21300e-02	4.746e-01	Conversion electron
2.49115e-02	1.737e-01	Conversion electron
2.54800e-02	2.948e-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