



Sn-106 (1.92m) ECB+	Sn-107 (10.30m) ECB+	Sn-108 (18.0m)	Sn-109 (4.11h) EC	Sn-110 (35.3m) ECB+	Sn-111 (STABLE)	Sn-112 (115.09d) EC
In-105 (5.07m) ECB+	In-106 (6.2m) ECB+	In-107 (3.1m) EC	In-108m (39.6m) ECB+	In-109 (4.9h) ECB+	In-110 (2.8047d) EC	In-111 (14.97m) ECB+B-
Cd-103 (7.3m) CB+	Cd-104 (57.7m) EC	Cd-105 (55.5m) ECB+	Cd-106 (STABLE)	Cd-107 (STABLE)	Cd-108 (461.4d) EC	Cd-109 (STABLE)

INDIUM-108M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: In-108m
Atomic number (Z): 49
Mass number (A): 108
Neutron number (N): 59

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 39.6 [m]
Decay constant: $2.9173\text{e-}04$ [1/s]
Daughters: Cd-108 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.70206 [MeV]
Mean photon energy: 2.76548 [MeV]
Air kerma rate constant, Γ_{10} : $7.033\text{e-}17$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : $9.118\text{e-}17$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.125\text{e-}13$ [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [Gy $\cdot$ kg/Bq $\cdot$ s]

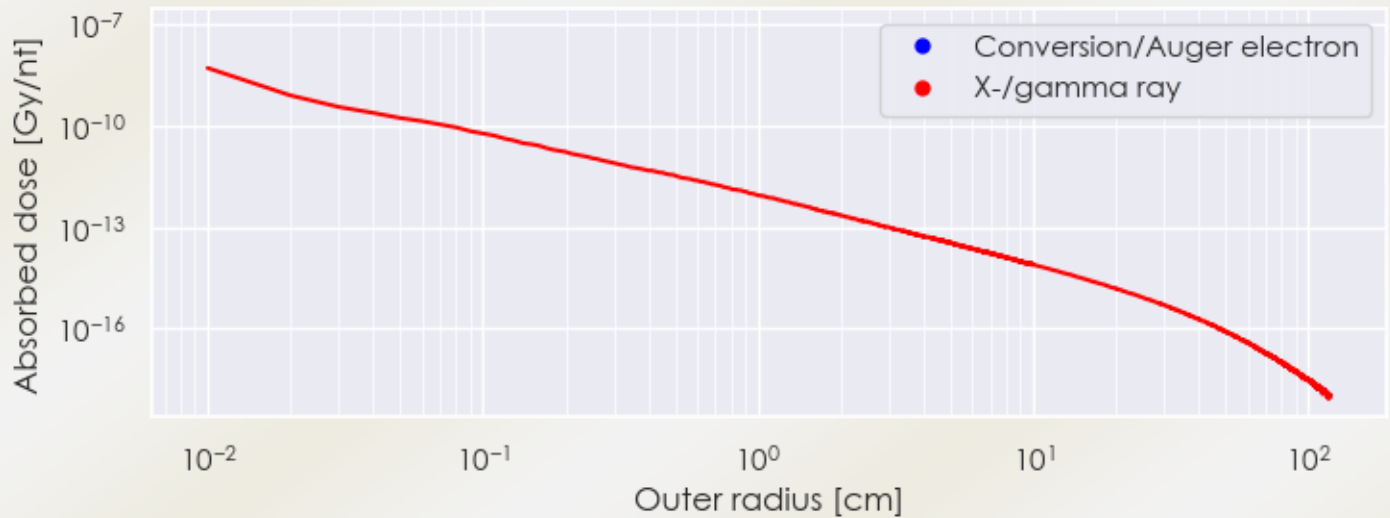
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 1.125×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 4.431×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

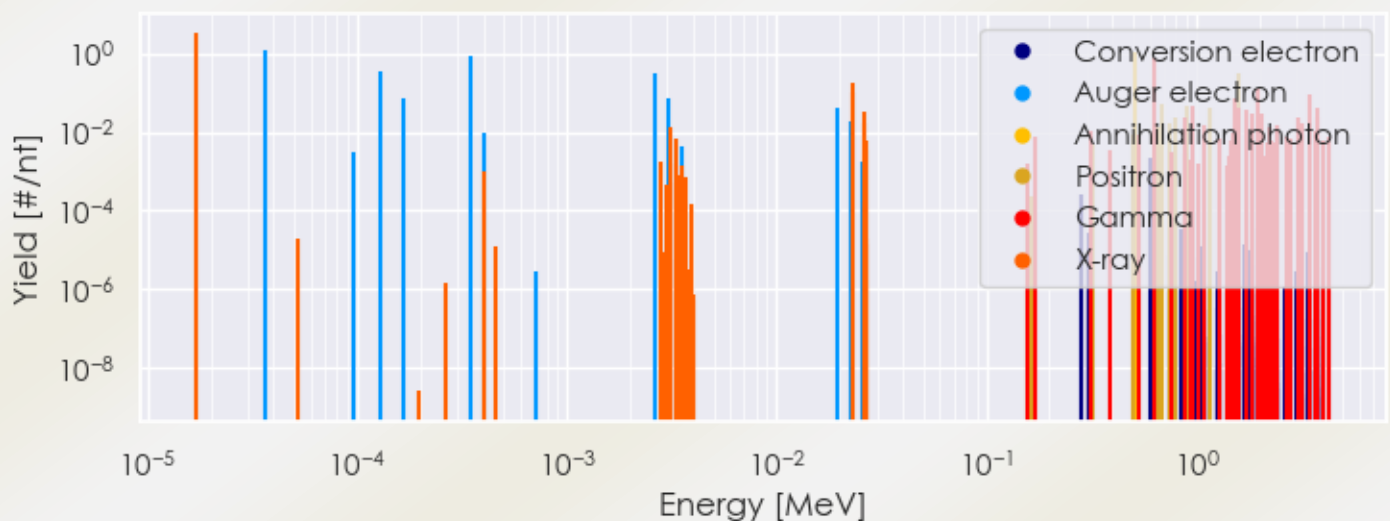
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/In-108m DPK.csv

SUMMARY SPECTRA (PLOT)

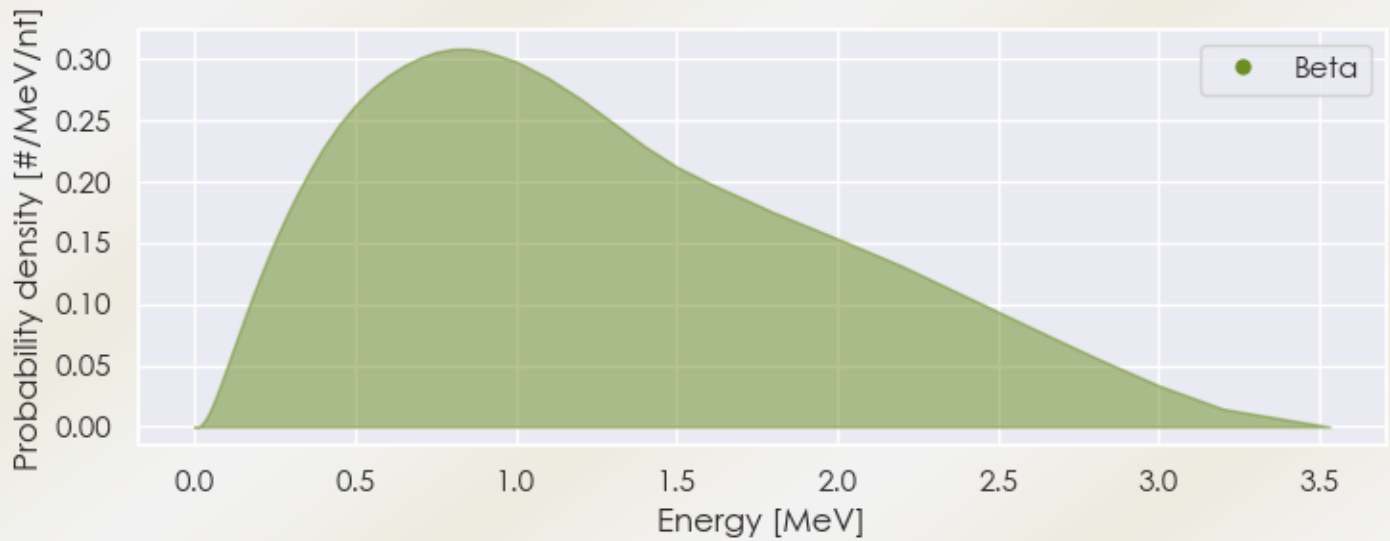
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/In-108m 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/In-108m Beta Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/In-108m%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/In-108m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/In-108m%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.71475e-05	3.446e+00	X-ray
3.12254e-03	1.330e-02	X-ray
2.29571e-02	9.721e-02	X-ray
2.31527e-02	1.827e-01	X-ray
2.60401e-02	1.612e-02	X-ray
2.60753e-02	3.132e-02	X-ray
3.11600e-01	1.008e-02	Gamma
5.11000e-01	1.078e+00	Annihilation photon
6.32900e-01	7.640e-01	Gamma

8.75400e-01	2.445e-02	Gamma
9.68500e-01	4.355e-02	Gamma
1.08750e+00	1.528e-02	Gamma
1.52940e+00	7.334e-02	Gamma
1.60120e+00	4.049e-02	Gamma
1.73210e+00	3.820e-02	Gamma
1.85190e+00	3.056e-02	Gamma
1.98630e+00	1.238e-01	Gamma
2.04830e+00	3.056e-02	Gamma
2.22420e+00	1.375e-02	Gamma
2.41320e+00	1.452e-02	Gamma
3.04680e+00	2.445e-02	Gamma
3.17840e+00	1.604e-02	Gamma
3.45220e+00	9.168e-02	Gamma
3.68940e+00	1.070e-02	Gamma
3.81180e+00	4.202e-02	Gamma
3.82550e+00	2.368e-02	Gamma
6.61023e-01	1.380e-02	Positron
6.89119e-01	5.413e-02	Positron
7.49126e-01	1.698e-02	Positron
8.03828e-01	2.441e-02	Positron
8.96185e-01	4.776e-02	Positron
1.15480e+00	3.927e-02	Positron
1.60838e+00	3.227e-01	Positron
3.67760e-05	1.217e+00	Auger electron
1.28081e-04	3.549e-01	Auger electron
1.65975e-04	7.493e-02	Auger electron
3.45347e-04	8.494e-01	Auger electron
2.61029e-03	3.276e-01	Auger electron
3.05333e-03	7.542e-02	Auger electron
1.92752e-02	4.314e-02	Auger electron
2.24238e-02	1.775e-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/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6