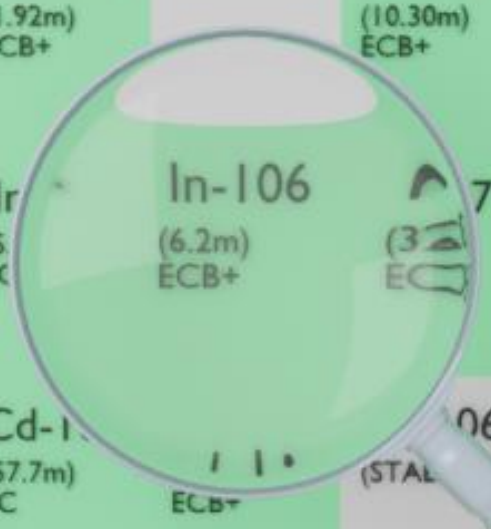




			Sn-106 (1.92m) ECB+	Sn-108 (10.30m) ECB+	Sn-109 (18.0m) ECB+	Sn-110 (4.11h) EC	Sn-111 (35.3m) ECB+
	In-103 (60s) ECB+		In-106 (6.2m) ECB+	In-107 (3.2m) EC	In-108 (58.0m) ECB+	In-109 (4.2h) ECB+	In-110 (4.9h) ECB+
Cd-101 (1.36m) ECB+	Cd-102 (5.5m) ECB+	Cd-103 (7.3m) ECB+	Cd-104 (57.7m) EC	Cd-106 (STABLE) ECB+	Cd-107 (6.50h) ECB+	Cd-108 (STABLE) ECB+	Cd-109 (461.4d) EC

INDIUM-106

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: In-106
Atomic number (Z): 49
Mass number (A): 106
Neutron number (N): 57

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 6.2 [m]
Decay constant: $1.8633\text{e-}03$ [1/s]
Daughters: Cd-106 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.08435 [MeV]
Mean photon energy: 3.55412 [MeV]
Air kerma rate constant, Γ_{10} : $1.013\text{e-}16$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $1.319\text{e-}16$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.737\text{e-}13$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

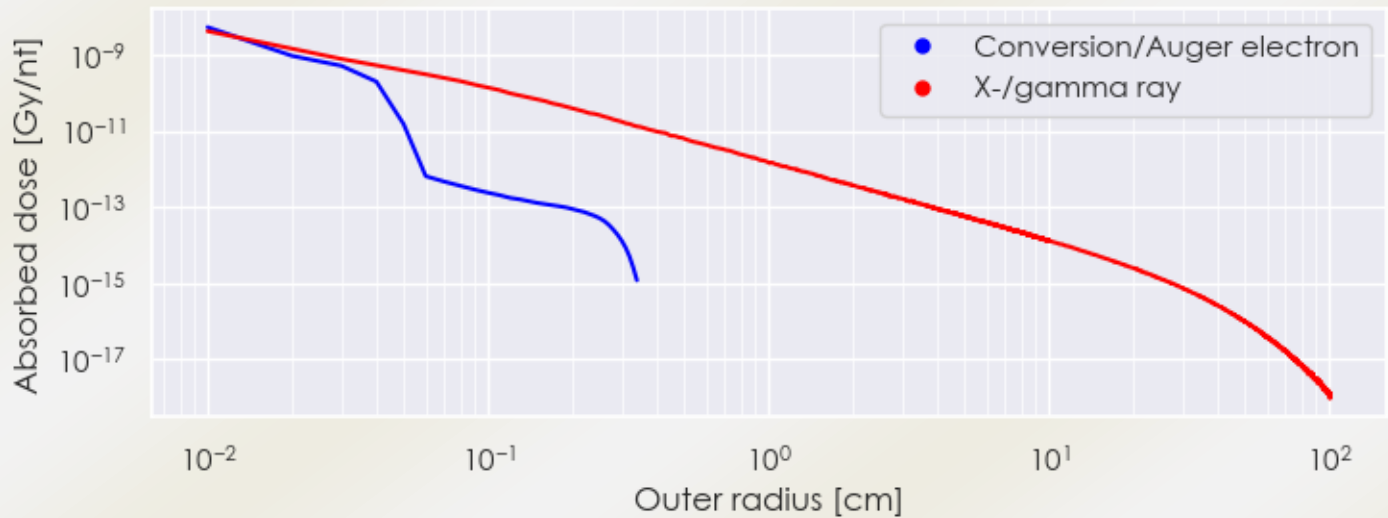
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-\beta^+,e^-}$: $1.737\text{e-}13$ [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : $5.694\text{e-}13$ [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

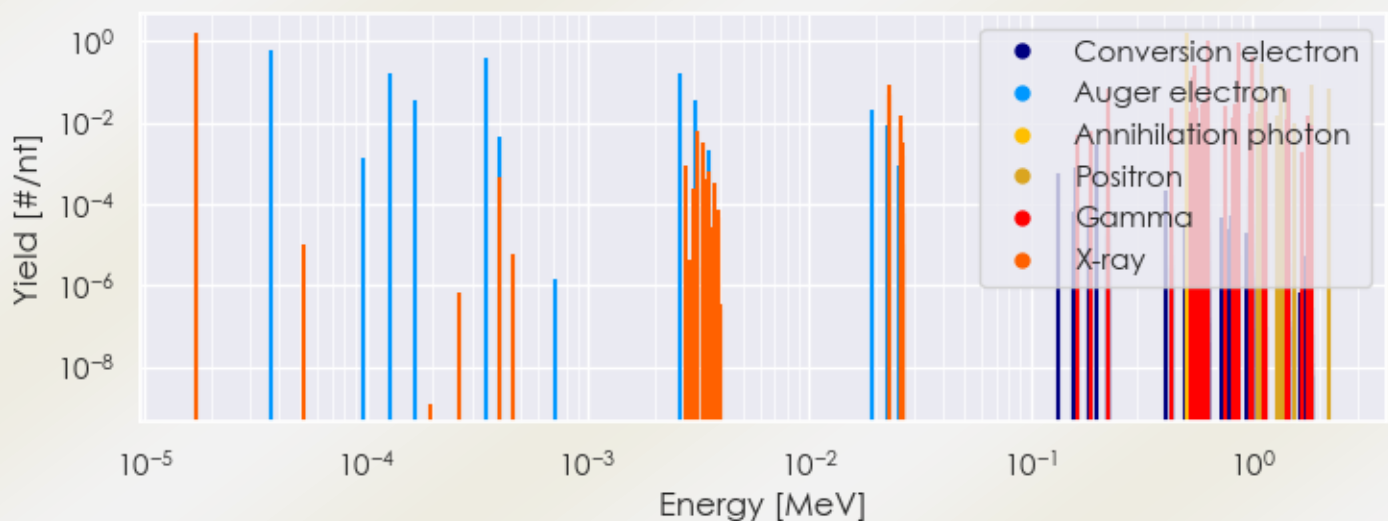
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/In-106 DPK.csv

SUMMARY SPECTRA (PLOT)

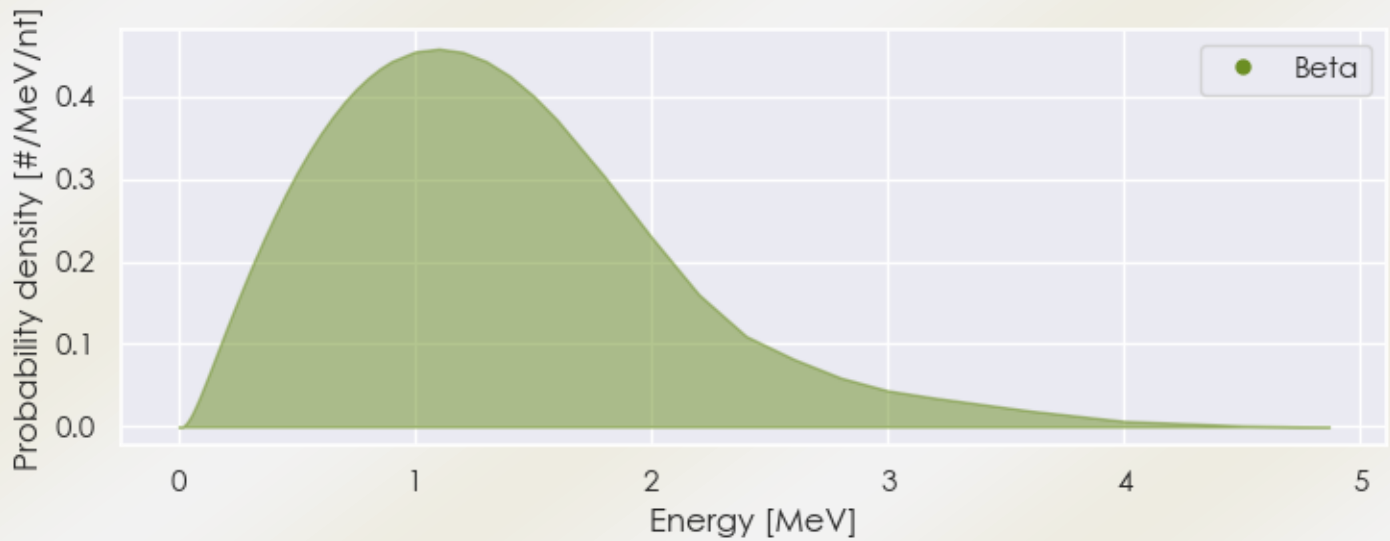
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/In-106 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-106 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/In-106 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.71476e-05	1.656e+00	X-ray
2.29571e-02	4.676e-02	X-ray
2.31527e-02	8.790e-02	X-ray
2.60753e-02	1.507e-02	X-ray
2.25700e-01	6.879e-02	Gamma
4.33100e-01	2.293e-02	Gamma
5.11000e-01	1.581e+00	Annihilation photon
5.24600e-01	1.894e-02	Gamma
5.41000e-01	1.246e-01	Gamma
5.52400e-01	2.512e-01	Gamma

5.58600e-01	2.193e-02	Gamma
5.92100e-01	2.991e-02	Gamma
6.10700e-01	3.589e-02	Gamma
6.23200e-01	1.795e-02	Gamma
6.32600e-01	9.970e-01	Gamma
7.53300e-01	2.492e-02	Gamma
8.11100e-01	1.276e-02	Gamma
8.36700e-01	2.792e-02	Gamma
8.61100e-01	8.973e-01	Gamma
9.74600e-01	1.595e-02	Gamma
9.92100e-01	1.495e-02	Gamma
9.97800e-01	4.138e-01	Gamma
1.00930e+00	2.742e-01	Gamma
1.13900e+00	2.692e-02	Gamma
1.14500e+00	3.888e-02	Gamma
1.43080e+00	1.196e-02	Gamma
1.47190e+00	6.580e-02	Gamma
1.78010e+00	1.495e-02	Gamma
8.30008e-01	1.431e-02	Positron
1.06656e+00	1.937e-02	Positron
1.08596e+00	4.389e-02	Positron
1.10452e+00	2.834e-01	Positron
1.15977e+00	2.576e-02	Positron
1.30718e+00	1.536e-02	Positron
1.35637e+00	6.679e-02	Positron
1.36161e+00	8.588e-02	Positron
1.44412e+00	5.821e-02	Positron
1.84604e+00	8.588e-02	Positron
2.24434e+00	6.679e-02	Positron
3.67772e-05	5.847e-01	Auger electron
1.28100e-04	1.705e-01	Auger electron
1.65912e-04	3.583e-02	Auger electron
3.45338e-04	4.082e-01	Auger electron
2.61021e-03	1.575e-01	Auger electron
3.05322e-03	3.626e-02	Auger electron
1.92752e-02	2.075e-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