



Sn-107 (8.0m) CB+	Sn-110 (4.11h) EC	Sn-111 (35.3m) ECB+	Sn-112 (STABLE)	Sn-113 (115.09d)	Sn-114 (STABLE)	Sn-115 (STABLE)	Sn-116 (STABLE)	Sn-117 (STABLE)
In-108 (58.0m) CB+	In-109 (4.2h) ECB+	In-110 (4.9h) ECB+	In-112m (20.56m) IT	In-113 (97.28d) B-	In-114 (71.9s) B-ECB+	In-115 (4.41E+14y) B-	In-116 (6.0E+14y) B-	In-117 (4.2E+14y) B-
Cd-107 (5.50h) CB+	Cd-108 (STABLE)	Cd-109 (461.4d) EC	Cd-110 (STABLE)	Cd-111 (STABLE)	Cd-112 (STABLE)	Cd-113 (7.7E+15y) B-	Cd-114 (STABLE)	Cd-115 (53.46h) B-

INDIUM-112M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: In-112m
Atomic number (Z): 49
Mass number (A): 112
Neutron number (N): 63

RADIOACTIVE DECAY

Decay modes: Internal transition
Half-life: 20.56 [m]
Decay constant: 5.6189e-04 [1/s]
Daughters: In-112 (100.0%)
Radioactive daughters: In-112

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.12166 [MeV]
Mean photon energy: 0.03473 [MeV]
Air kerma rate constant, Γ_{10} : 5.669e-18 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : 5.669e-18 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 1.949e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 1.949×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 5.564×10^{-15} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

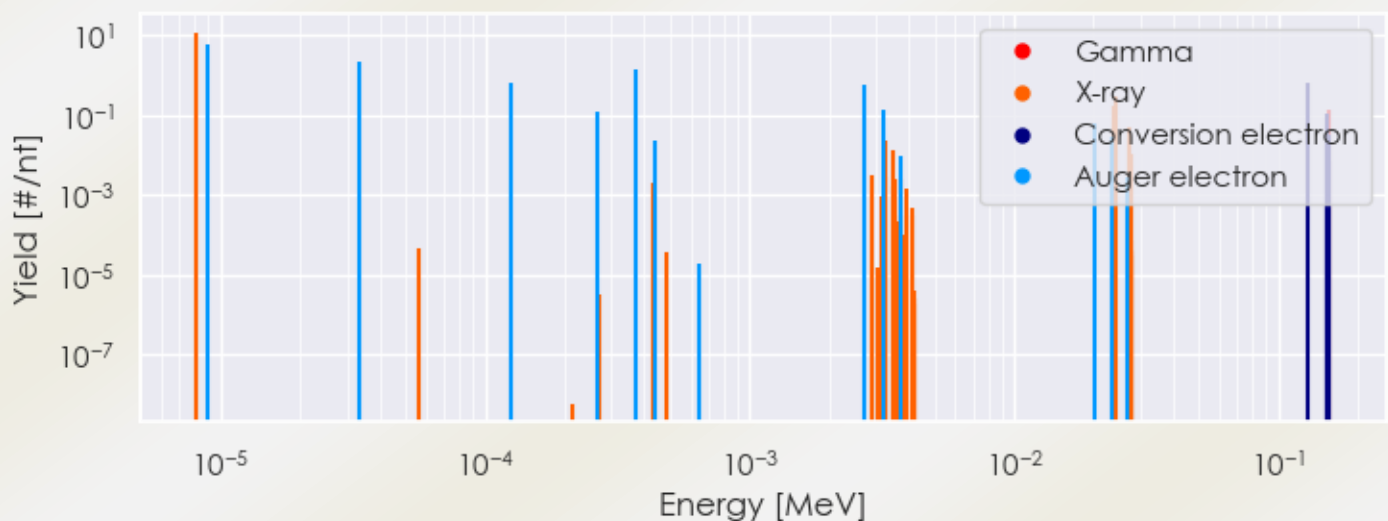
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/In-112m 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-112m 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/In-112m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/In-112m%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# /n ^t] if > 0.01	Radiation type
8.12508e-06	1.212e+01	X-ray
3.27540e-03	2.436e-02	X-ray
3.48147e-03	1.358e-02	X-ray
2.39785e-02	1.632e-01	X-ray
2.41926e-02	3.061e-01	X-ray
2.72214e-02	2.731e-02	X-ray
2.72603e-02	5.303e-02	X-ray
2.78371e-02	1.085e-02	X-ray
1.56400e-01	1.309e-01	Gamma
8.85997e-06	6.013e+00	Auger electron
3.35171e-05	2.117e+00	Auger electron
1.25547e-04	6.610e-01	Auger electron
2.66457e-04	1.199e-01	Auger electron
3.70971e-04	1.483e+00	Auger electron
4.37448e-04	2.442e-02	Auger electron
2.73571e-03	5.870e-01	Auger electron
3.21634e-03	1.436e-01	Auger electron
2.00957e-02	6.668e-02	Auger electron
2.34091e-02	2.792e-02	Auger electron
1.28479e-01	6.641e-01	Conversion electron
1.52186e-01	1.096e-01	Conversion electron
1.52457e-01	1.744e-02	Conversion electron
1.52672e-01	3.667e-02	Conversion electron
1.55739e-01	3.409e-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