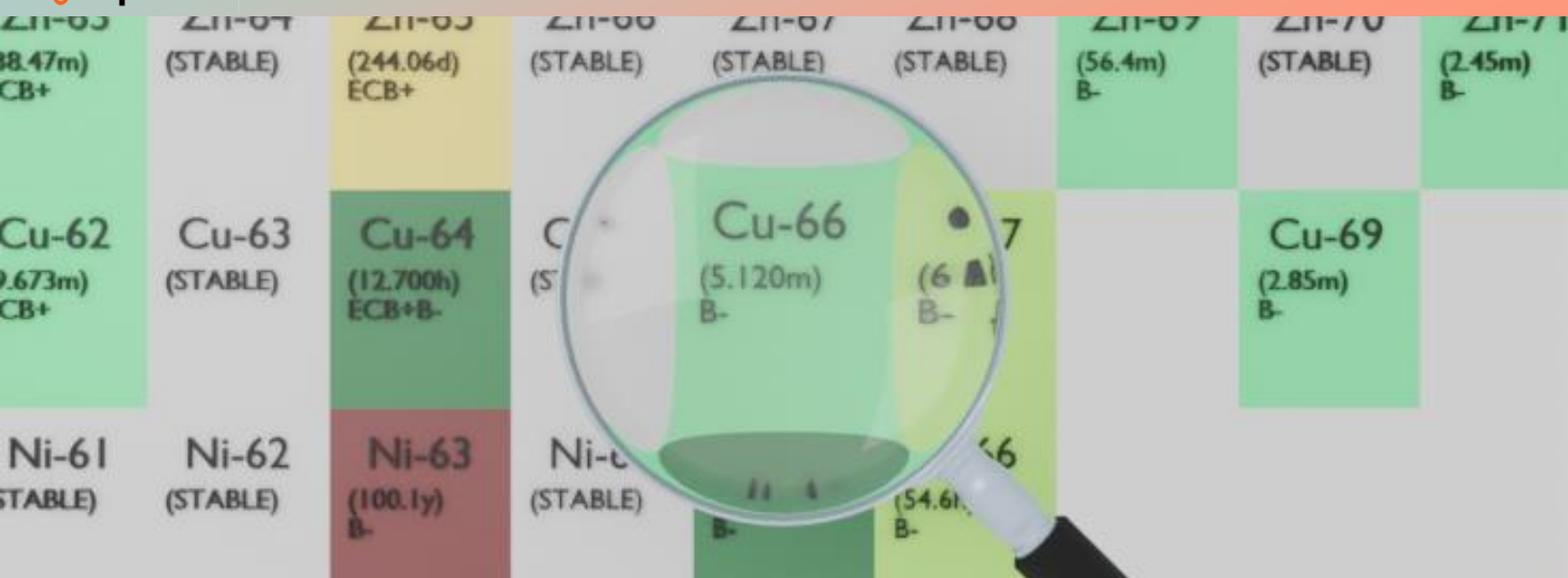




(8.47m) CB+	(STABLE)	(244.06d) ECB+	(STABLE)	(STABLE)	(STABLE)	(56.4m) B-	(STABLE)	(2.45m) B-
Cu-62 (9.673m) CB+	Cu-63 (STABLE)	Cu-64 (12.700h) ECB+B-	Cu-65 (STABLE)	Cu-66 (5.120m) B-	Cu-67 (6.19h) B-	Cu-68 (3.7m) B-	Cu-69 (2.85m) B-	Cu-70 (6.58m) B-
Ni-61 (STABLE)	Ni-62 (STABLE)	Ni-63 (100.1y) B-	Ni-64 (STABLE)	Ni-65 (STABLE)	Ni-66 (54.6h) B-	Ni-67 (3.52d) B-	Ni-68 (2.2m) B-	Ni-69 (1.1s) B-

COPPER-66

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Cu-66
Atomic number (Z): 29
Mass number (A): 66
Neutron number (N): 37

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 5.12 [m]
Decay constant: 2.2563×10^{-3} [1/s]
Daughters: Zn-66 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.06637 [MeV]
Mean photon energy: 0.0978 [MeV]
Air kerma rate constant, Γ_{10} : 3.466×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 3.466×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 1.709×10^{-13} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000×10^0 [Gy $\cdot$ kg/Bq $\cdot$ s]

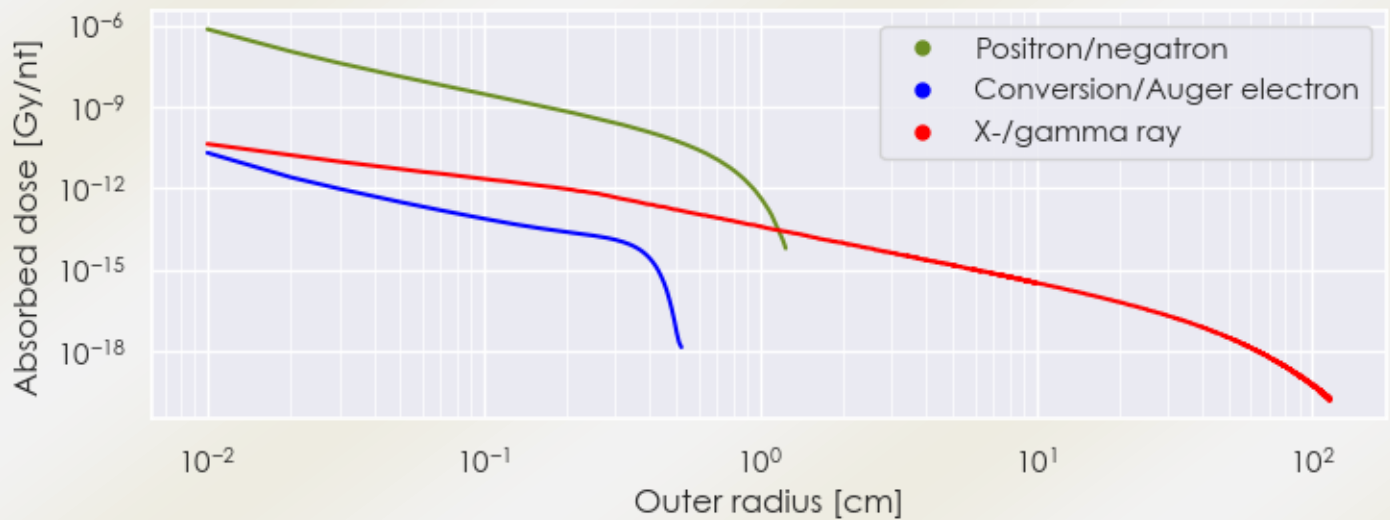
Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 1.709×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.567×10^{-14} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

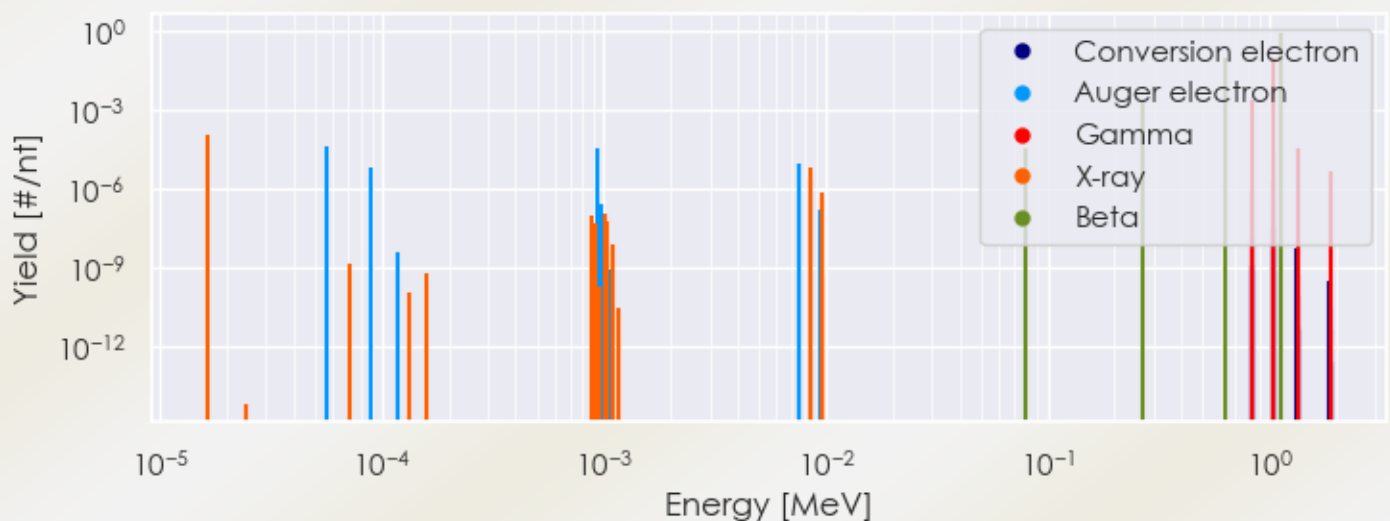
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Cu-66 DPK.csv

SUMMARY SPECTRA (PLOT)

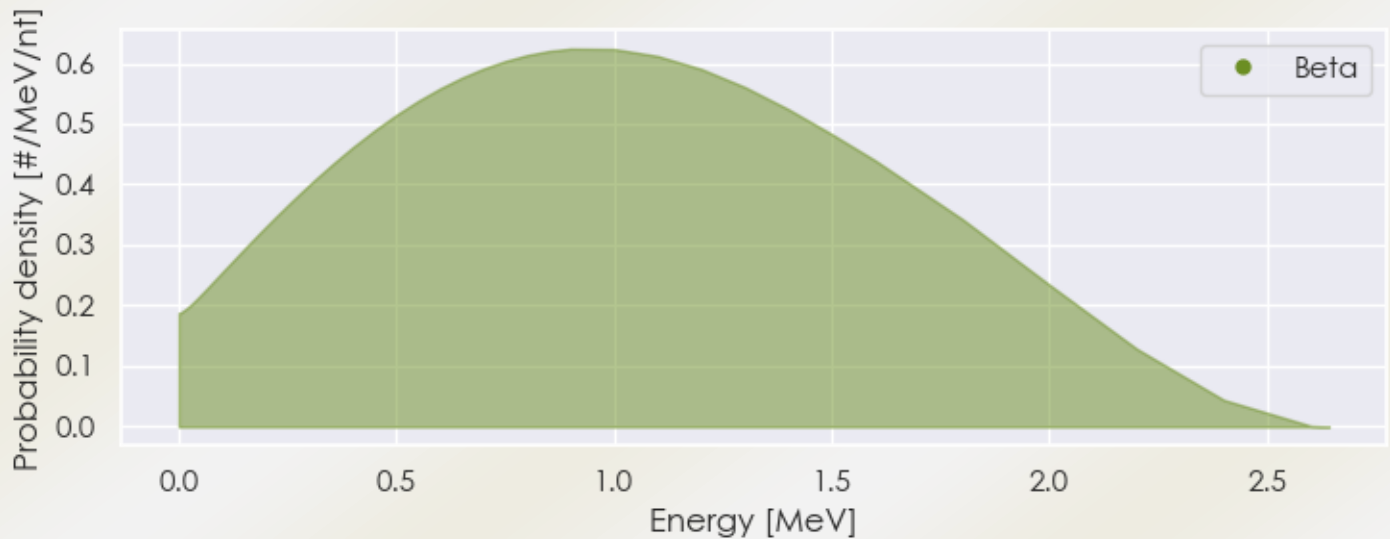
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Cu-66 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/Cu-66 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/Cu-66 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.03920e+00	9.230e-02	Gamma
6.28048e-01	9.010e-02	Beta
1.11183e+00	9.077e-01	Beta

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