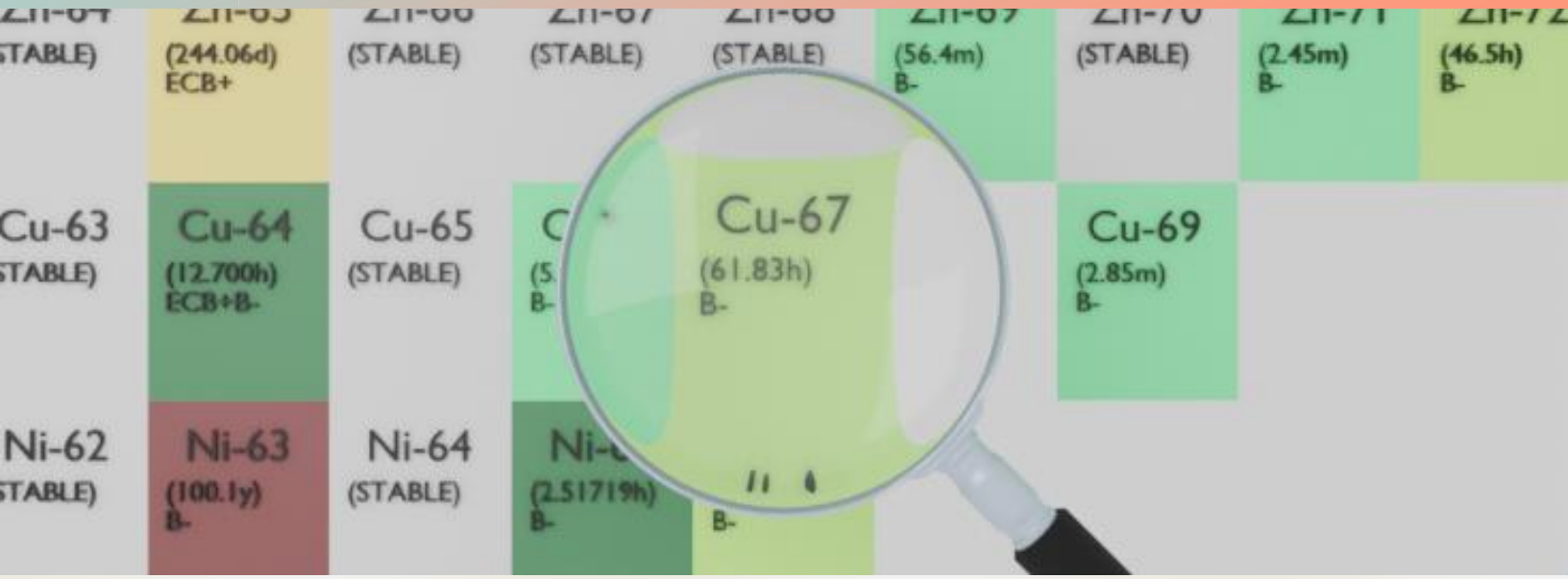


COPPER-67

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Cu-67
Atomic number (Z): 29
Mass number (A): 67
Neutron number (N): 38

RADIOACTIVE DECAY

Decay modes: β-
Half-life: 61.83 [h]
Decay constant: 3.1140e-06 [1/s]
Daughters: Zn-67 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

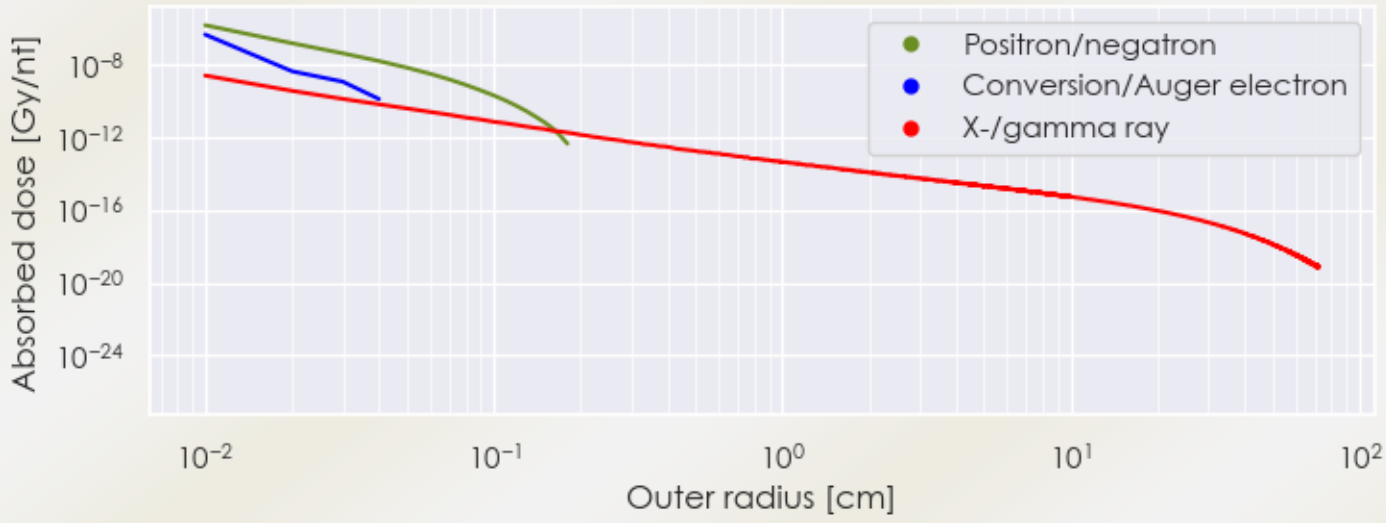
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.15038 [MeV]
Mean photon energy: 0.11535 [MeV]
Air kerma rate constant, Γ_{10}: 3.772e-18 [Gy·m^2/Bq·s]
Air kerma coefficient, K_{air}: 3.772e-18 [Gy·m^2/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 2.409e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{a}: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 2.409e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 1.848e-14 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

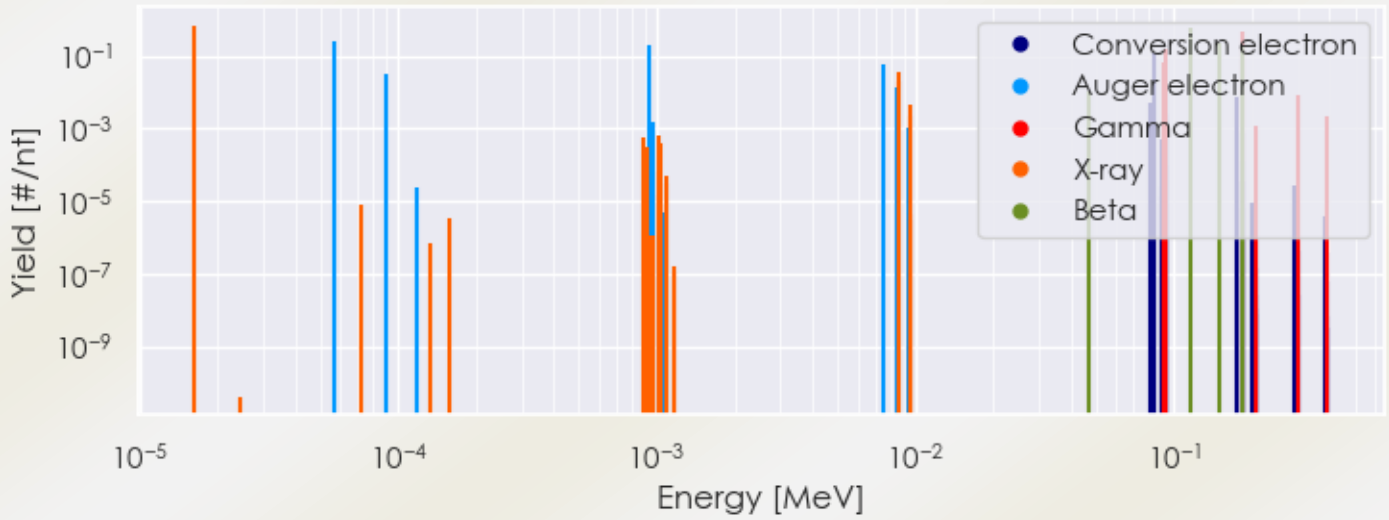
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Cu-67 DPK.csv

SUMMARY SPECTRA (PLOT)

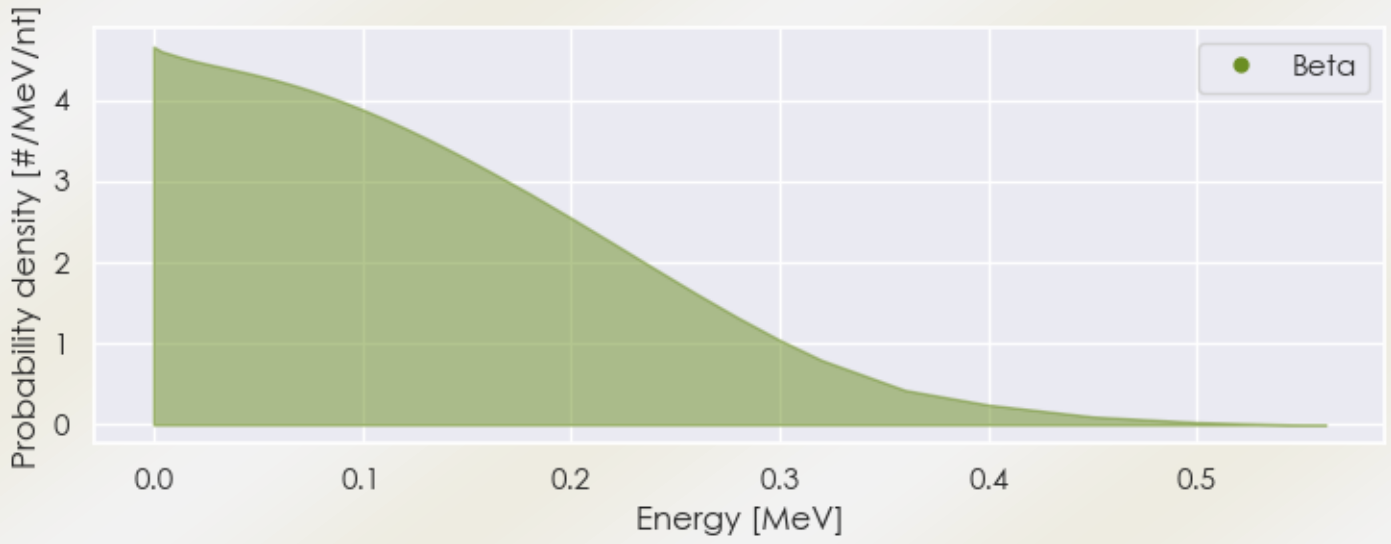
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Cu-67 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-67 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-67 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
1.63567e-05	7.115e-01	X-ray
8.57190e-03	1.881e-02	X-ray
8.59639e-03	3.663e-02	X-ray
9.12660e-02	7.000e-02	Gamma
9.33110e-02	1.610e-01	Gamma
1.84577e-01	4.870e-01	Gamma
4.66457e-02	1.099e-02	Beta
1.15794e-01	5.694e-01	Beta
1.48786e-01	2.198e-01	Beta
1.83900e-01	1.998e-01	Beta

5.68441e-05	2.569e-01	Auger electron
8.96545e-05	3.408e-02	Auger electron
9.29276e-04	1.949e-01	Auger electron
7.48697e-03	5.611e-02	Auger electron
8.45549e-03	1.432e-02	Auger electron
8.36886e-02	1.208e-01	Conversion electron
9.21266e-02	1.086e-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/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6