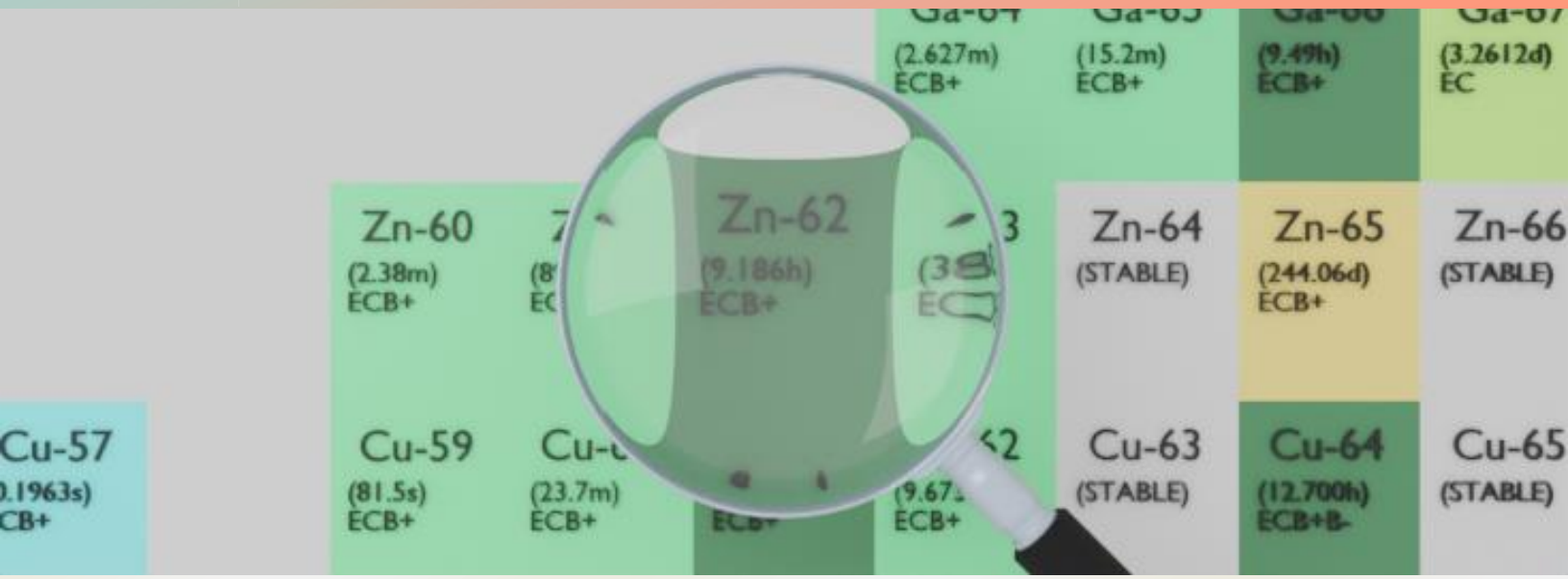


ZINC-62

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Zn-62
Atomic number (Z): 30
Mass number (A): 62
Neutron number (N): 32

RADIOACTIVE DECAY

Decay modes: β+, Electron capture
Half-life: 9.186 [h]
Decay constant: 2.0960e-05 [1/s]
Daughters: Cu-62 (100.0%)
Radioactive daughters: Cu-62

DOSIMETRIC CONSTANTS

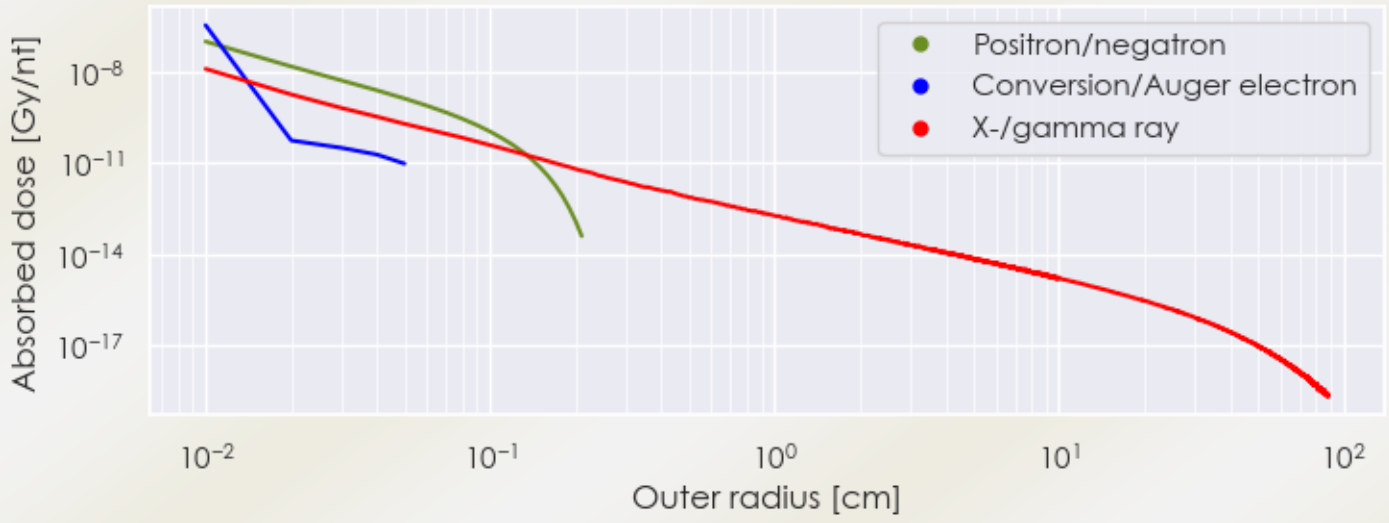
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.03264 [MeV]
Mean photon energy: 0.44305 [MeV]
Air kerma rate constant, Γ_{10}: 1.380e-17 [Gy·m^2/Bq·s]
Air kerma coefficient, K_{air}: 1.705e-17 [Gy·m^2/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 5.230e-15 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_a: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 5.230e-15 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 7.098e-14 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

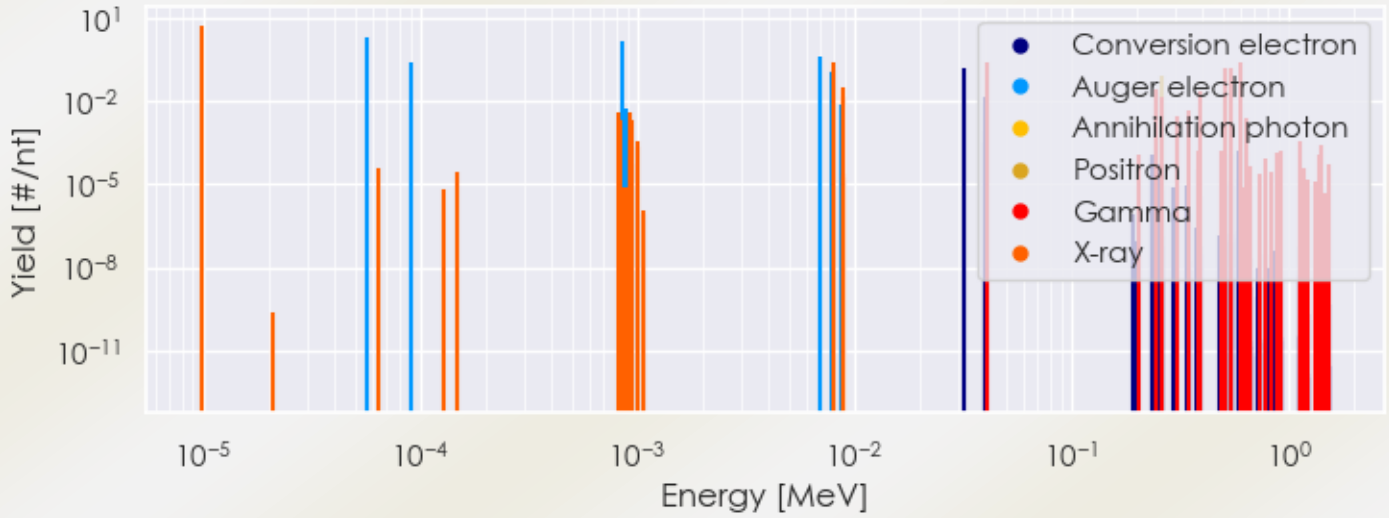
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Zn-62 DPK.csv

SUMMARY SPECTRA (PLOT)

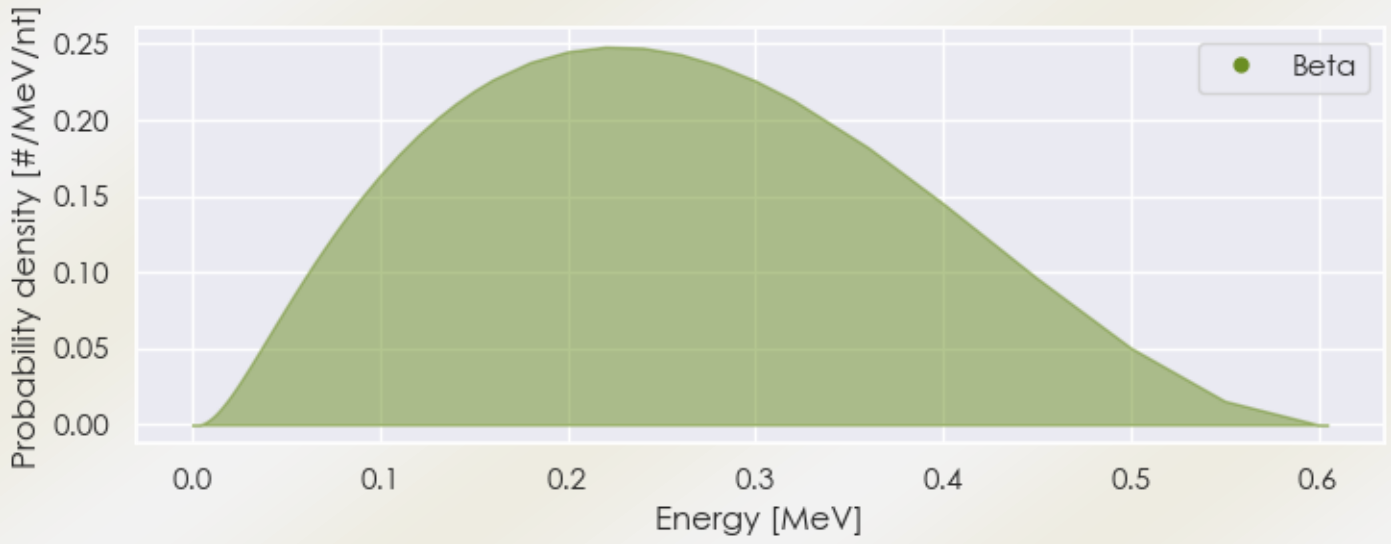
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Zn-62 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/Zn-62 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/Zn-62 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
9.87242e-06	5.287e+00	X-ray
7.98465e-03	1.258e-01	X-ray
8.00569e-03	2.453e-01	X-ray
8.86267e-03	1.525e-02	X-ray
8.86532e-03	2.983e-02	X-ray
4.08500e-02	2.548e-01	Gamma
2.43360e-01	2.522e-02	Gamma
2.46950e-01	1.898e-02	Gamma
2.60430e-01	1.352e-02	Gamma
3.94030e-01	2.236e-02	Gamma

5.07600e-01	1.482e-01	Gamma
5.11000e-01	1.678e-01	Annihilation photon
5.48350e-01	1.534e-01	Gamma
5.96560e-01	2.600e-01	Gamma
2.58608e-01	8.388e-02	Positron
5.68495e-05	1.968e+00	Auger electron
9.09533e-05	2.641e-01	Auger electron
8.56058e-04	1.425e+00	Auger electron
6.99135e-03	4.298e-01	Auger electron
7.88044e-03	1.061e-01	Auger electron
3.19068e-02	1.482e-01	Conversion electron
3.97639e-02	1.473e-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