



Ga-66 (2.49h) CB+	Ga-67 (3.2612d) EC	Ga-68 (67.71m) ECB+	Ga-69 (STABLE)	Ga-70 (21.14m)	Ga-71 (STABLE)	Ga-72 (14.10h) B-	Ga-73 (4.86h) B-	Ga-74 (8.12m) B-
Zn-65 (244.06d) CB+	Zn-66 (STABLE)	Zn-67 (STABLE)	Zn-68 (STABLE)	Zn-69 (56.4m) B-	Zn-70 (STABLE)	Zn-71 (2.45m) B-	Zn-72 (46.5h) B-	
Cu-64 (12.700h) CB+B-	Cu-65 (STABLE)	Cu-66 (5.120m) B-	Cu-67 (61.83h) B-	Cu-68 (2.851m) B-				

ZINC-69

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Zn-69
Atomic number (Z): 30
Mass number (A): 69
Neutron number (N): 39

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 56.4 [m]
Decay constant: 2.0483×10^{-4} [1/s]
Daughters: Ga-69 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.32155 [MeV]
Mean photon energy: 0.0 [MeV]
Air kerma rate constant, Γ_{10} : 2.206×10^{-22} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 2.206×10^{-22} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 5.152×10^{-14} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000×10^0 [Gy $\cdot$ kg/Bq $\cdot$ s]

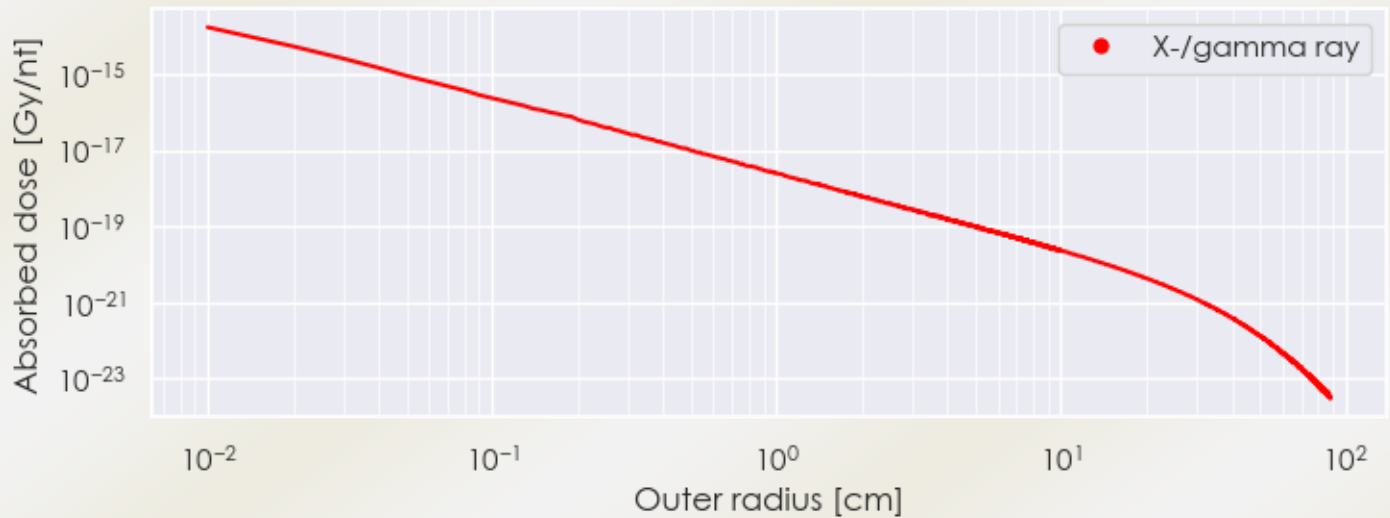
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-\beta+,e-}$: 5.152e-14 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 0.000e+00 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

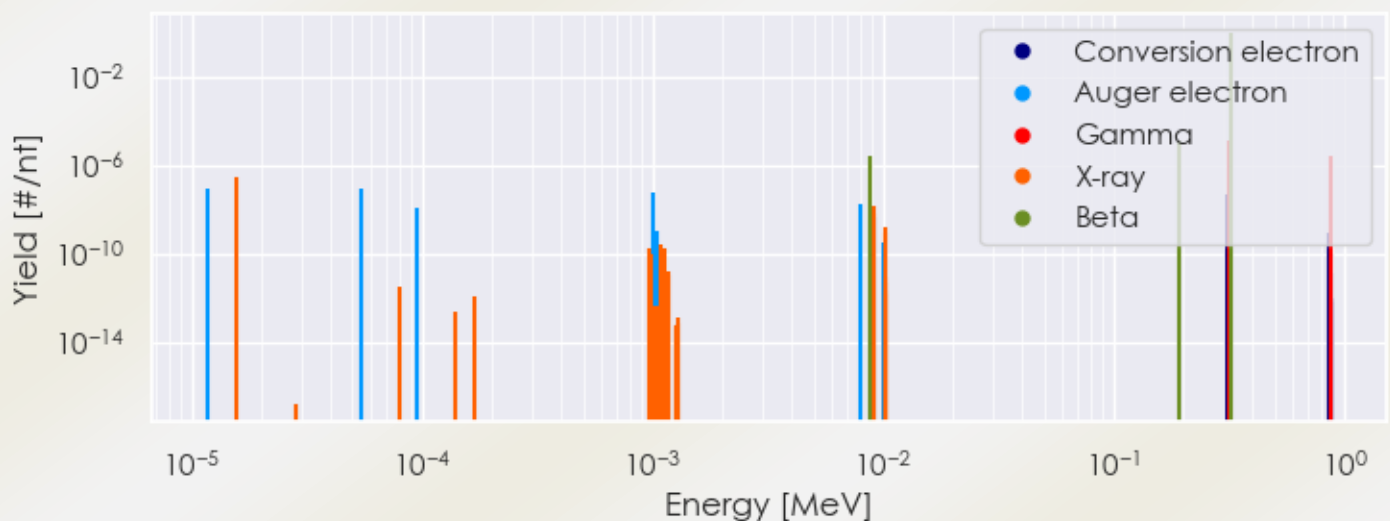
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Zn-69 DPK.csv

SUMMARY SPECTRA (PLOT)

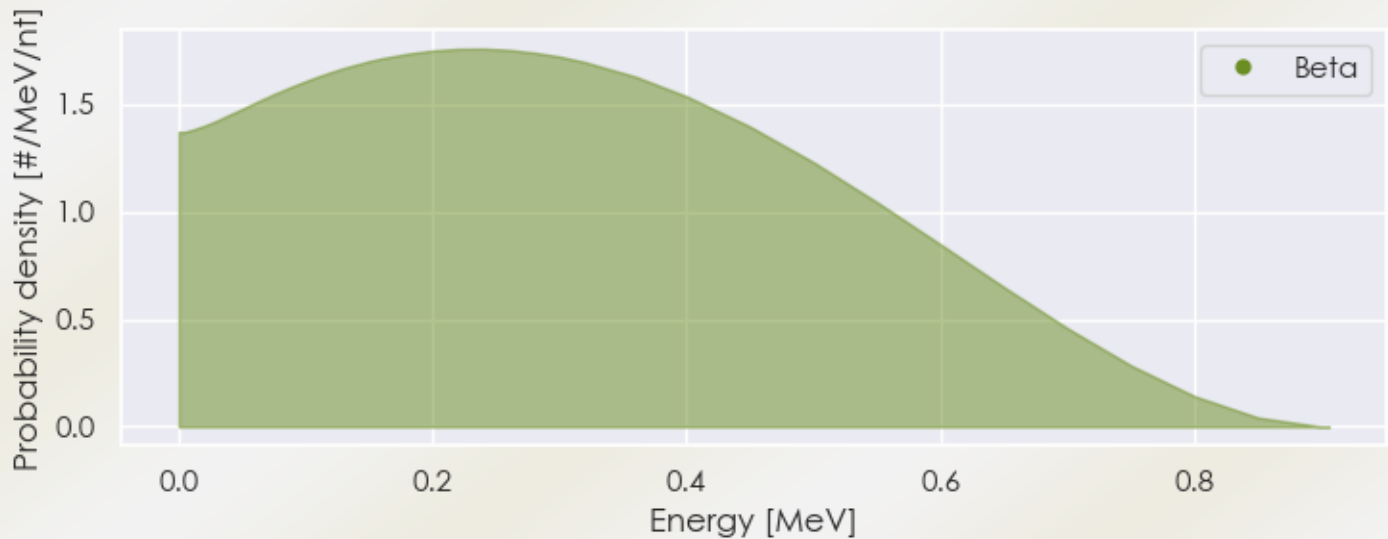
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Zn-69 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-69 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-69 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
3.21557e-01	1.000e+00	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/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6