



As-66 (151.6s) ECB+	As-67 (15.23m) ECB+	As-70 (52.6m) ECB+	As-71 (65.28h) ECB+	As-72 (26.0h) ECB+
Ge-64 (2.627m) ECB+	Ge-67 (18.9m) ECB+	Ge-69 (39.05h) ECB+	Ge-70 (STABLE)	Ge-71 (11.43d) EC
Ga-64 (2.627m) ECB+	Ga-67 (15.2m) ECB+	Ga-68 (3.26h) EC	Ga-69 (67.71m) ECB+	Ga-70 (21.14m) B-EC

GERMANIUM-67

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ge-67
Atomic number (Z): 32
Mass number (A): 67
Neutron number (N): 35

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 18.9 [m]
Decay constant: $6.1124\text{e-}04$ [1/s]
Daughters: Ga-67 (100.0%)
Radioactive daughters: Ga-67

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.16881 [MeV]
Mean photon energy: 1.42541 [MeV]
Air kerma rate constant, Γ_{10} : $1.600\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $5.199\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.873\text{e-}13$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

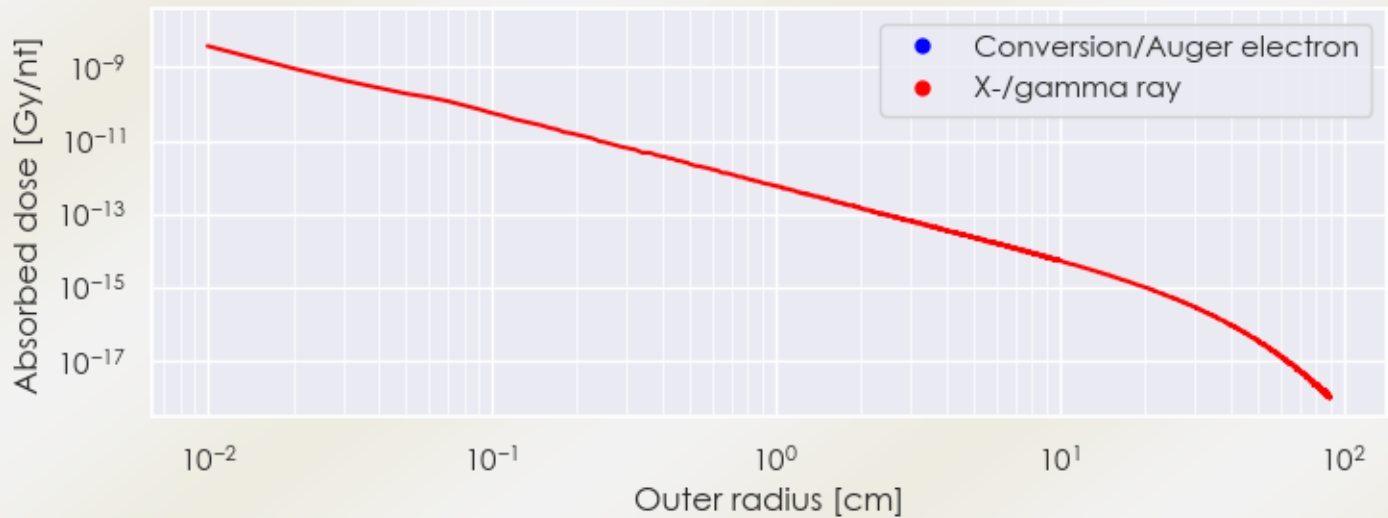
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 1.873×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 2.284×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

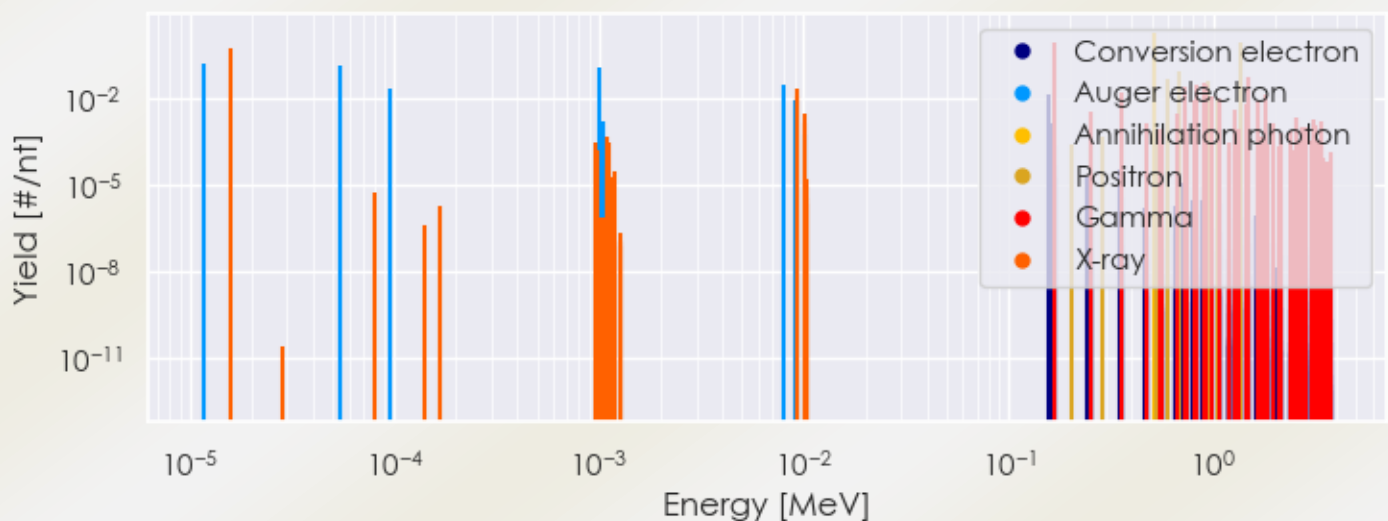
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



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

SUMMARY SPECTRA (PLOT)

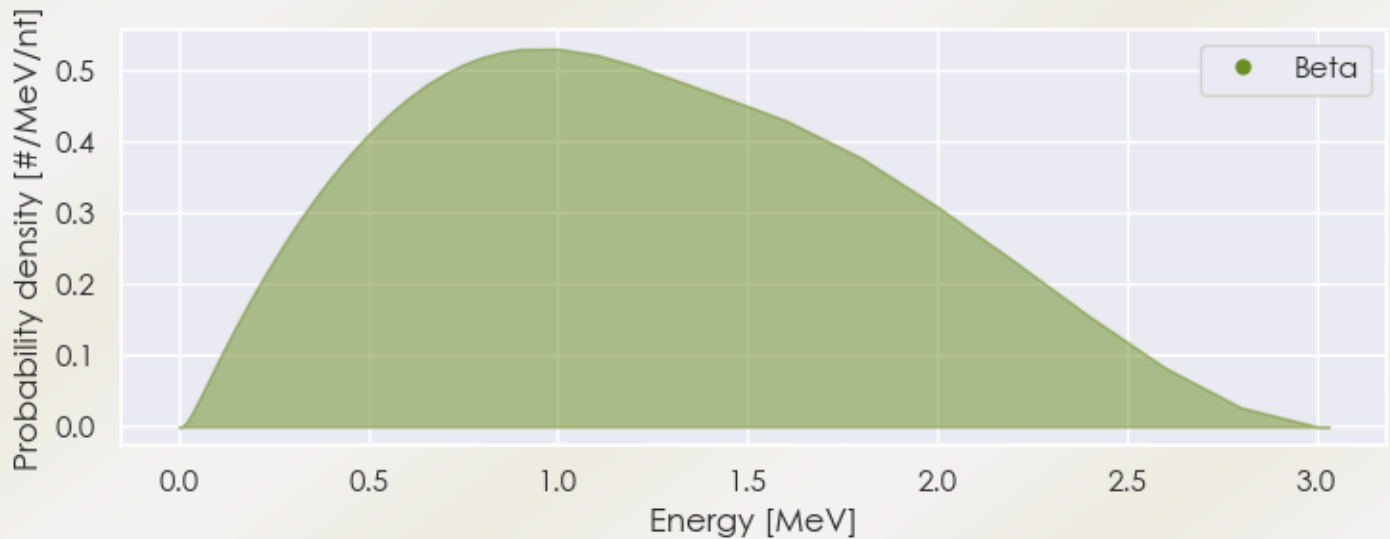
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



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

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.57866e-05	5.318e-01	X-ray
9.18060e-03	1.135e-02	X-ray
9.20900e-03	2.206e-02	X-ray
1.67010e-01	8.428e-01	Gamma
3.59500e-01	1.470e-02	Gamma
5.11000e-01	1.860e+00	Annihilation photon
7.28700e-01	2.352e-02	Gamma
8.28300e-01	2.989e-02	Gamma
9.11200e-01	3.087e-02	Gamma
9.14800e-01	3.038e-02	Gamma

9.81300e-01	1.127e-02	Gamma
1.08130e+00	1.029e-02	Gamma
1.47280e+00	4.900e-02	Gamma
1.80940e+00	1.323e-02	Gamma
6.04961e-01	4.221e-02	Positron
6.81639e-01	7.722e-02	Positron
9.38003e-01	3.604e-02	Positron
1.05599e+00	1.030e-02	Positron
1.36766e+00	7.619e-01	Positron
1.17412e-05	1.462e-01	Auger electron
5.44315e-05	1.340e-01	Auger electron
9.44182e-05	2.012e-02	Auger electron
1.00289e-03	1.061e-01	Auger electron
7.99646e-03	2.968e-02	Auger electron
1.56677e-01	1.365e-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