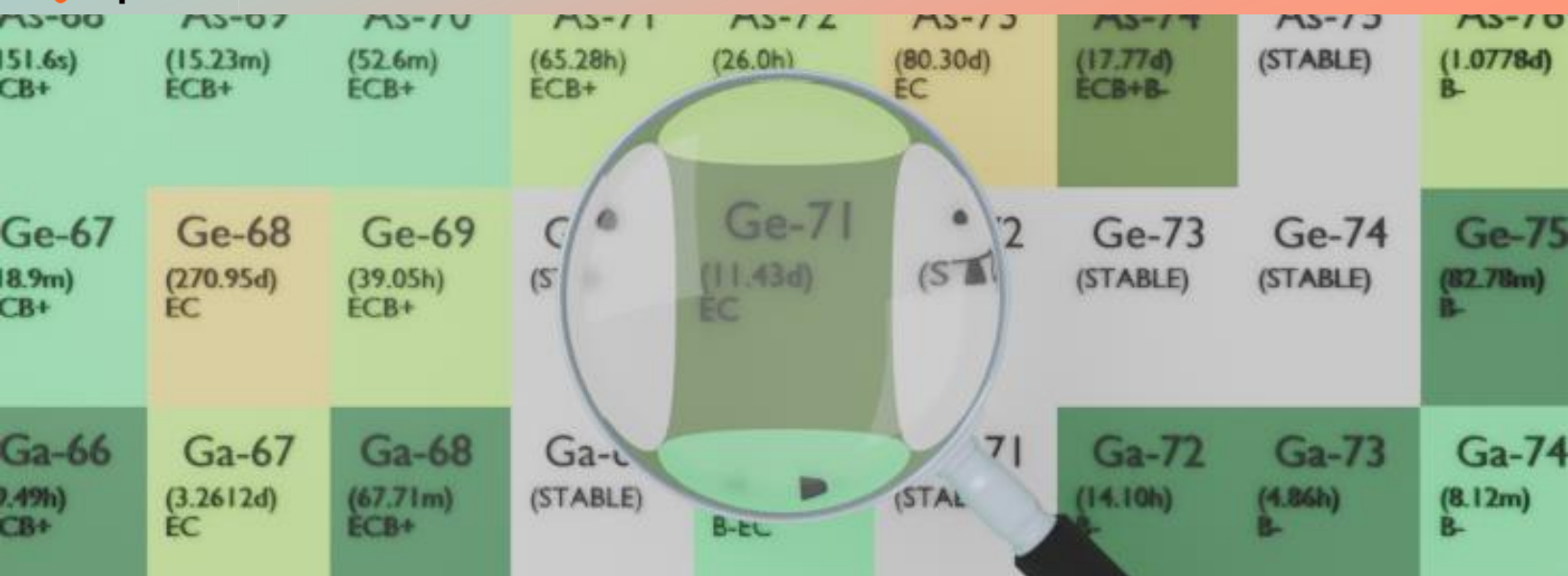




As-68 (51.6s) CB+	As-67 (15.23m) ECB+	As-70 (52.6m) ECB+	As-71 (65.28h) ECB+	As-72 (26.0h) EC	As-73 (80.30d) EC	As-74 (17.77d) ECB+B-	As-75 (STABLE)	As-76 (1.0778d) B-
Ge-67 (18.9m) CB+	Ge-68 (270.95d) EC	Ge-69 (39.05h) ECB+	Ge-71 (11.43d) EC	Ge-72 (STABLE)	Ge-73 (STABLE)	Ge-74 (STABLE)	Ge-75 (82.78m) B-	Ge-76 (STABLE)
Ga-66 (9.49h) CB+	Ga-67 (3.2612d) EC	Ga-68 (67.71m) ECB+	Ga-71 (STABLE)	Ga-72 (14.10h) B-	Ga-73 (4.86h) B-	Ga-74 (8.12m) B-	Ga-75 (STABLE)	Ga-76 (STABLE)

GERMANIUM-71

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ge-71
Atomic number (Z): 32
Mass number (A): 71
Neutron number (N): 39

RADIOACTIVE DECAY

Decay modes: Electron capture
Half-life: 11.43 [d]
Decay constant: 7.0188×10^{-7} [1/s]
Daughters: Ga-71 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.00501 [MeV]
Mean photon energy: 0.00416 [MeV]
Air kerma rate constant, Γ_{10} : 2.845×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 2.845×10^{-18} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 8.027×10^{-16} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000×10^0 [Gy $\cdot$ kg/Bq $\cdot$ s]

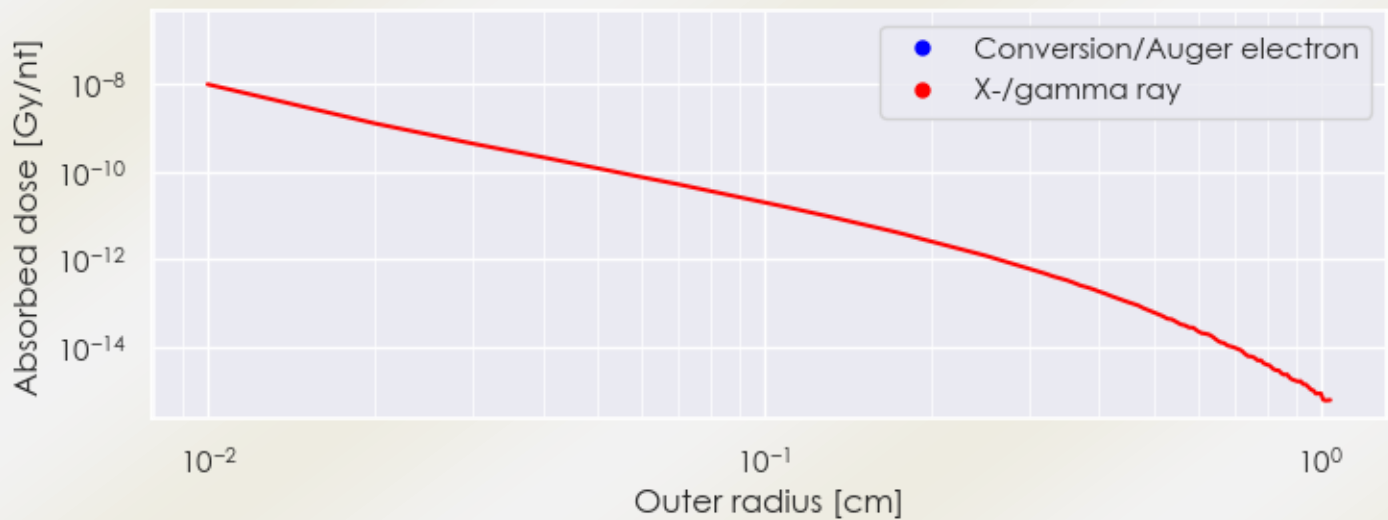
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 8.027×10^{-16} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 6.665×10^{-16} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

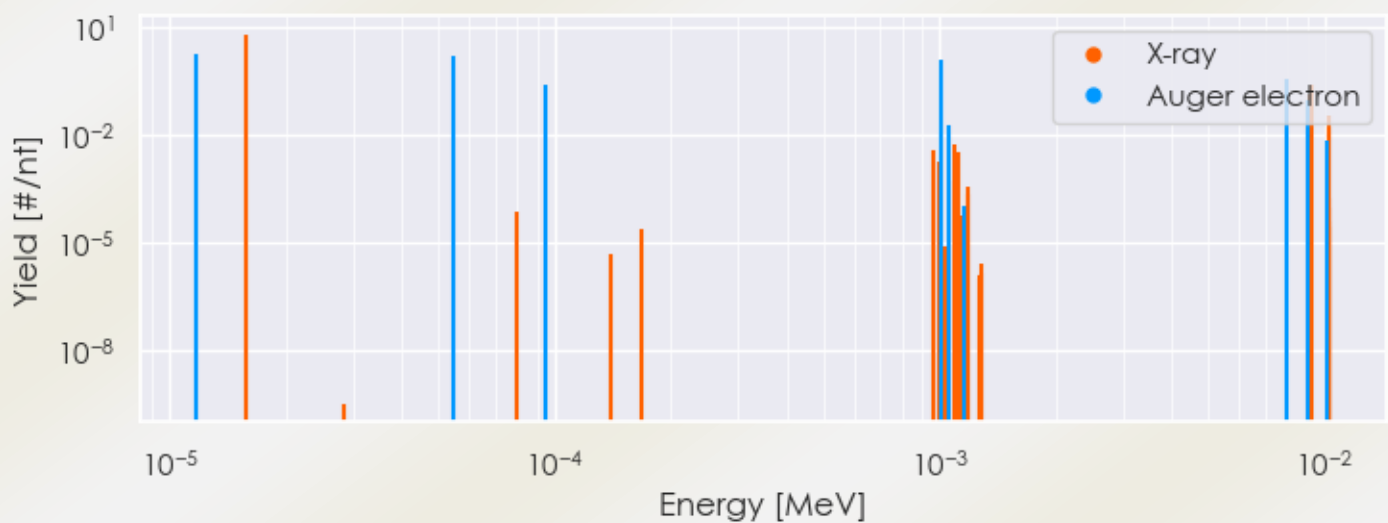
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Ge-71 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-71 Summary 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-71 Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ge-71%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# /n _t] if > 0.01	Radiation type
1.57864e-05	6.205e+00	X-ray
9.18060e-03	1.311e-01	X-ray
9.20900e-03	2.548e-01	X-ray
1.02200e-02	1.657e-02	X-ray
1.02237e-02	3.237e-02	X-ray
1.17414e-05	1.706e+00	Auger electron
5.44134e-05	1.566e+00	Auger electron
9.45413e-05	2.403e-01	Auger electron
1.00301e-03	1.234e+00	Auger electron
1.05326e-03	1.918e-02	Auger electron
7.99646e-03	3.429e-01	Auger electron
9.04875e-03	9.055e-02	Auger 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