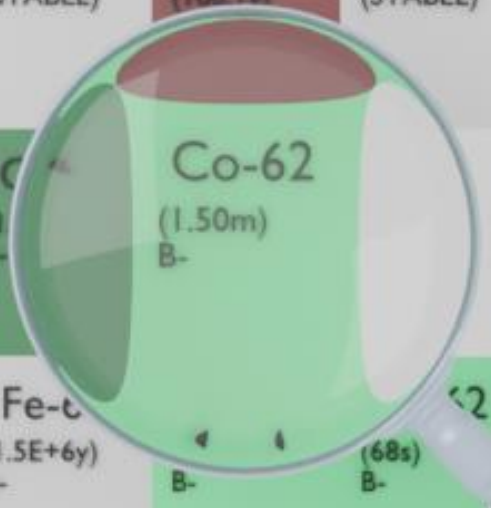




Co-58 (70.86d) CB+	Co-59 (STABLE)	Co-60 (5.2713y) B-	Co-61 (1.67e+6y) B-	Co-62 (1.50m) B-	Co-63 (100.1y) B-	Co-64 (191.3y) B-	Co-65 (17.52h) B-	Co-66 (50.42d) B-
Fe-57 (STABLE)	Fe-58 (STABLE)	Fe-59 (44.495d) B-	Fe-60 (2.62e+6y) B-	Fe-61 (5.97e+5y) B-	Fe-62 (68s) B-	Fe-63 (8.51e+4y) B-	Fe-64 (2.93e+3y) B-	Fe-65 (2.73e+2y) B-

COBALT-62

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Co-62
Atomic number (Z): 27
Mass number (A): 62
Neutron number (N): 35

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 1.5 [m]
Decay constant: 7.7016×10^{-3} [1/s]
Daughters: Ni-62 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.63356 [MeV]
Mean photon energy: 1.60504 [MeV]
Air kerma rate constant, Γ_{10} : 5.251×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : 5.251×10^{-17} [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 2.617×10^{-13} [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy $\cdot$ kg/Bq $\cdot$ s]

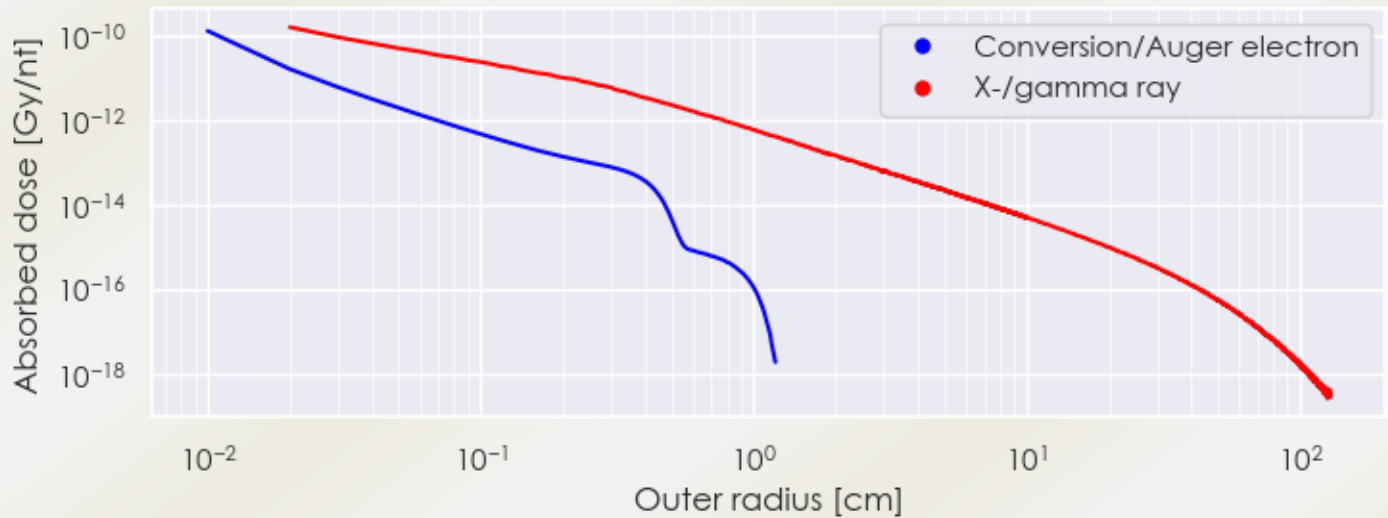
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta+, e-}$: 2.617×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 2.572×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

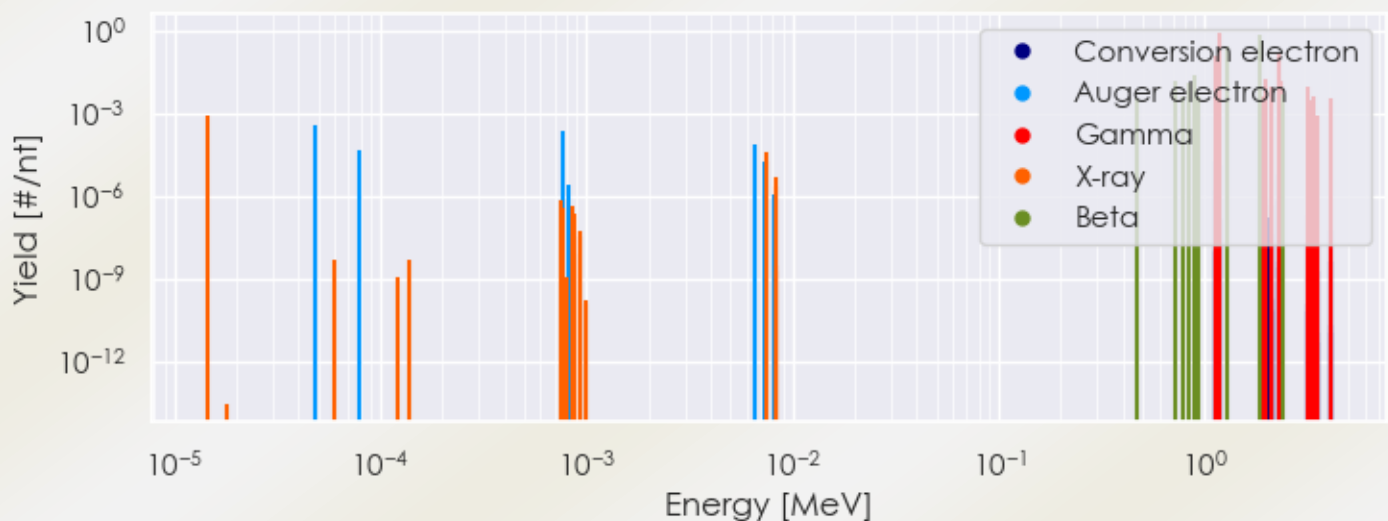
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



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

SUMMARY SPECTRA (PLOT)

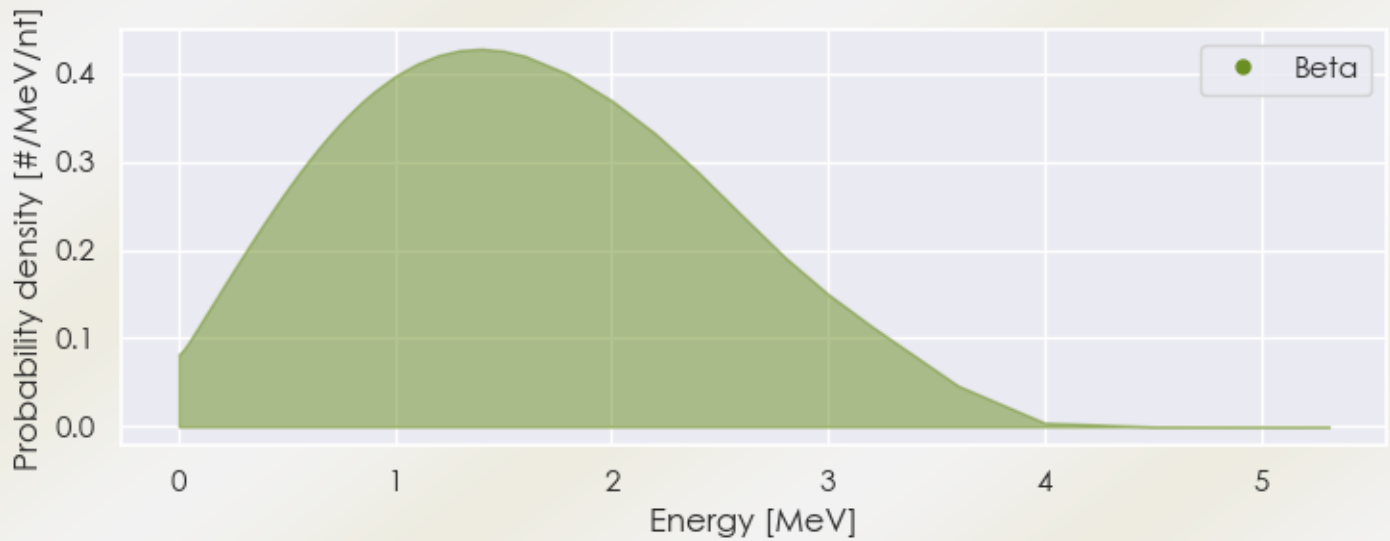
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



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

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.12890e+00	1.111e-01	Gamma
1.17290e+00	8.350e-01	Gamma
1.98500e+00	1.587e-02	Gamma
2.30180e+00	1.470e-01	Gamma
2.34590e+00	1.336e-02	Gamma
7.18649e-01	1.392e-02	Beta
8.33815e-01	1.203e-02	Beta
8.86147e-01	2.387e-02	Beta
1.29179e+00	2.566e-01	Beta
1.83562e+00	6.743e-01	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