SILVER-116

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ag-116
Atomic number (Z): 47
Mass number (A): 116
Neutron number (N): 69

RADIOACTIVE DECAY

Decay modes: β-
Half-life: 2.68 [m]
Decay constant: 4.3106e-03 [1/s]
Daughters: Cd-116 (100.0%)
Radioactive daughters: None

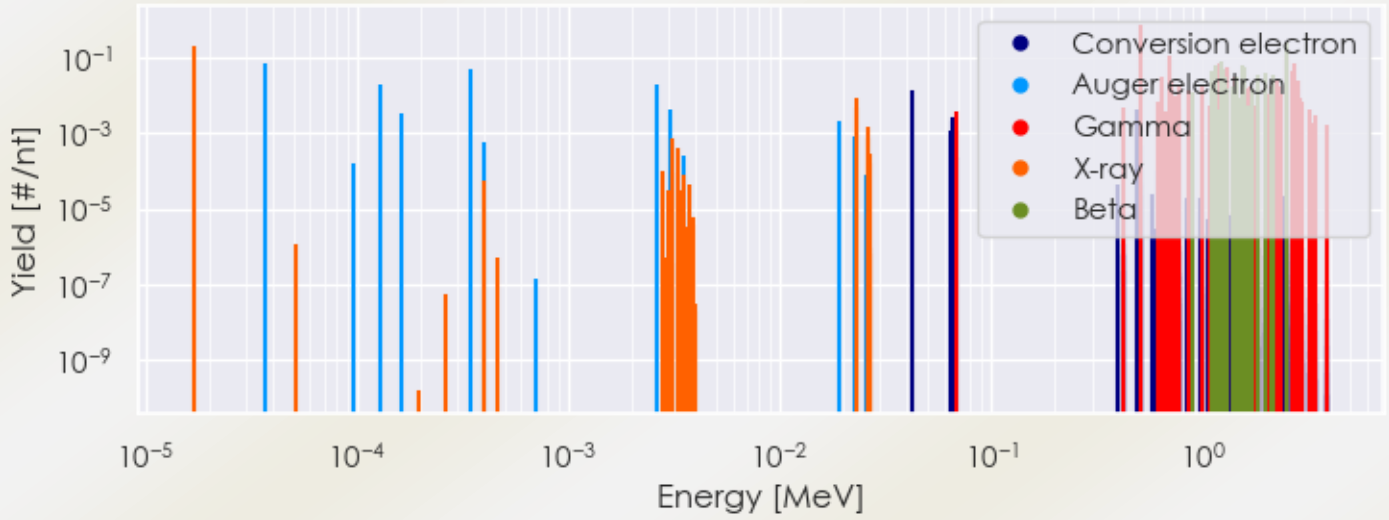
DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 1.75402 [MeV]
Mean photon energy: 2.14733 [MeV]
Air kerma rate constant, Γ_{10}: 6.837e-17 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air}: 6.837e-17 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (a and/or electrons), Δ_{wp}: 2.810e-13 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{a}: 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta-,\beta+,e-}$: 2.810e-13 [Gy·kg/Bq·s]
Equilibrium dose constant for photons, Δ_{p}: 3.440e-13 [Gy·kg/Bq·s]

SUMMARY SPECTRA (PLOT)

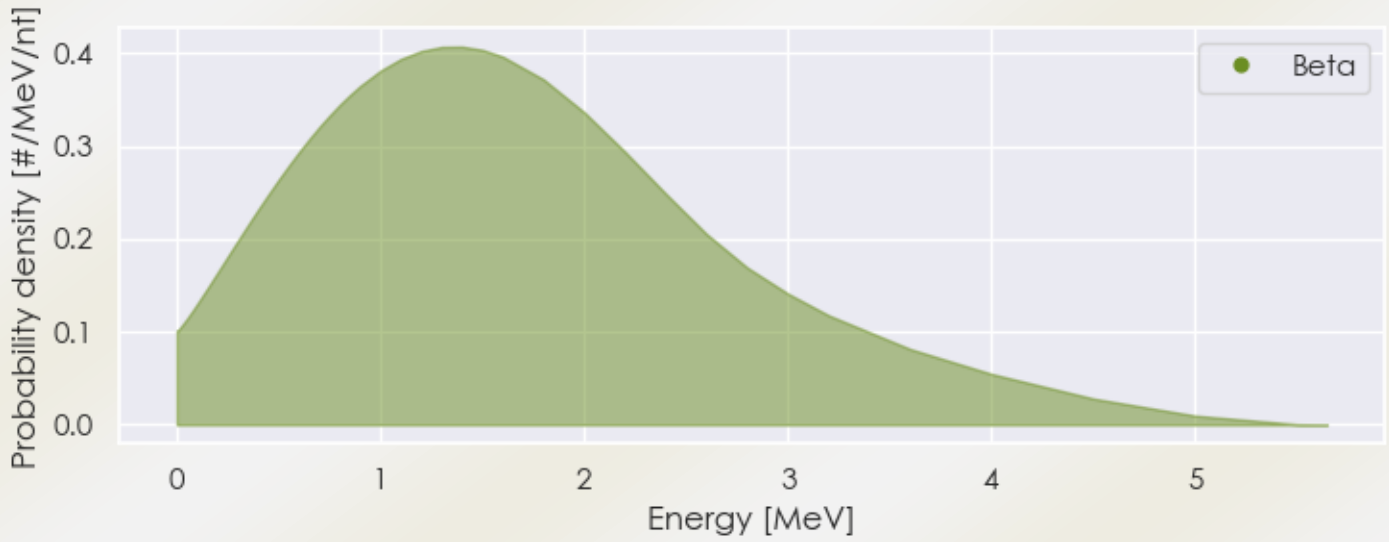
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Ag-116 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/Ag-116 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/Ag-116 Summary Spectrum.csv

Energy [MeV]	Yield [#/nt] if > 0.01	Radiation type
1.71503e-05	1.951e-01	X-ray
5.13400e-01	7.600e-01	Gamma
6.40030e-01	3.116e-02	Gamma
6.43730e-01	1.672e-02	Gamma
6.99590e-01	1.087e-01	Gamma
7.02700e-01	1.444e-02	Gamma
7.05800e-01	2.432e-02	Gamma
7.69000e-01	1.748e-02	Gamma
8.67400e-01	1.368e-02	Gamma
9.94050e-01	1.672e-02	Gamma
1.12910e+00	2.508e-02	Gamma
1.17287e+00	2.508e-02	Gamma
1.21313e+00	7.144e-02	Gamma
1.30465e+00	5.472e-02	Gamma
1.40180e+00	1.216e-02	Gamma
1.40804e+00	3.116e-02	Gamma
1.43710e+00	1.596e-02	Gamma
1.60460e+00	1.140e-02	Gamma
1.64240e+00	1.520e-02	Gamma
1.68100e+00	1.748e-02	Gamma
2.00390e+00	1.900e-02	Gamma
2.09080e+00	1.064e-02	Gamma
2.13440e+00	1.748e-02	Gamma
2.24630e+00	2.356e-02	Gamma
2.28900e+00	1.748e-02	Gamma
2.34870e+00	1.140e-02	Gamma
2.47790e+00	1.155e-01	Gamma
2.66180e+00	4.180e-02	Gamma

2.70320e+00	6.992e-02	Gamma
2.82810e+00	1.292e-02	Gamma
2.83410e+00	2.508e-02	Gamma
8.97972e-01	1.170e-02	Beta
1.10381e+00	4.518e-02	Beta
1.12156e+00	1.150e-02	Beta
1.16158e+00	5.998e-02	Beta
1.22264e+00	7.997e-02	Beta
1.24235e+00	4.668e-02	Beta
1.26893e+00	3.119e-02	Beta
1.31764e+00	1.519e-02	Beta
1.38939e+00	1.100e-02	Beta
1.40502e+00	1.799e-02	Beta
1.41024e+00	1.140e-02	Beta
1.41721e+00	1.749e-02	Beta
1.43733e+00	3.199e-02	Beta
1.55200e+00	6.577e-02	Beta
1.57029e+00	5.858e-02	Beta
1.70434e+00	1.519e-02	Beta
1.82000e+00	1.999e-02	Beta
1.83404e+00	3.339e-02	Beta
1.83671e+00	2.149e-02	Beta
1.96678e+00	3.759e-02	Beta
2.12108e+00	1.449e-02	Beta
2.15074e+00	1.999e-02	Beta
2.17056e+00	3.349e-02	Beta
2.50333e+00	2.559e-01	Beta
3.68201e-05	6.868e-02	Auger electron
1.28812e-04	2.011e-02	Auger electron
3.45126e-04	4.834e-02	Auger electron
2.60834e-03	1.880e-02	Auger electron
4.22120e-02	1.402e-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