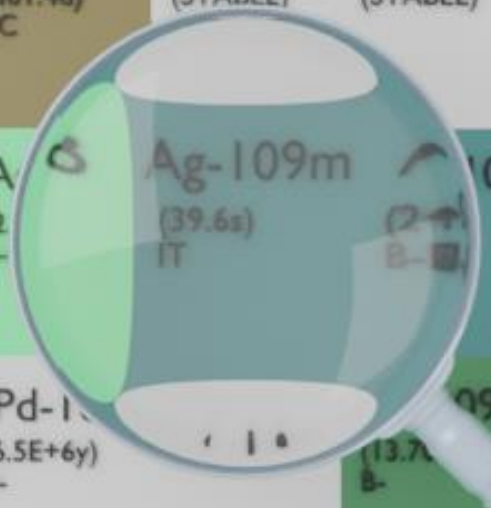




CU-106 (STABLE)	CU-107 (6.50h) ECB+	CU-108 (STABLE)	CU-109 (461.4d) EC	CU-110 (STABLE)	CU-111 (STABLE)	CU-112 (STABLE)	CU-113 (7.7E+15y) B-	CU-114 (STABLE)
Ag-105 (11.29d) C	Ag-106 (23.96m) ECB+B-	Ag-107 (STABLE)	Ag-109m (39.6s) IT	Ag-110 (2.4h) B-	Ag-111 (7.45d) B-	Ag-112 (3.130h) B-	Ag-113 (5.37h) B-	Ag-114 (1.1h) B-
Pd-104 (STABLE)	Pd-105 (STABLE)	Pd-106 (STABLE)	Pd-107 (6.5E+6y) B-	Pd-108 (13.7d) B-	Pd-110 (STABLE)	Pd-111 (23.4m) B-	Pd-112 (21.03h) B-	Pd-113 (1.1h) B-

SILVER-109M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Ag-109m
Atomic number (Z): 47
Mass number (A): 109
Neutron number (N): 62

RADIOACTIVE DECAY

Decay modes: Internal transition
Half-life: 39.6 [s]
Decay constant: 1.7504e-02 [1/s]
Daughters: Ag-109 (100.0%)
Radioactive daughters: None

DOSIMETRIC CONSTANTS

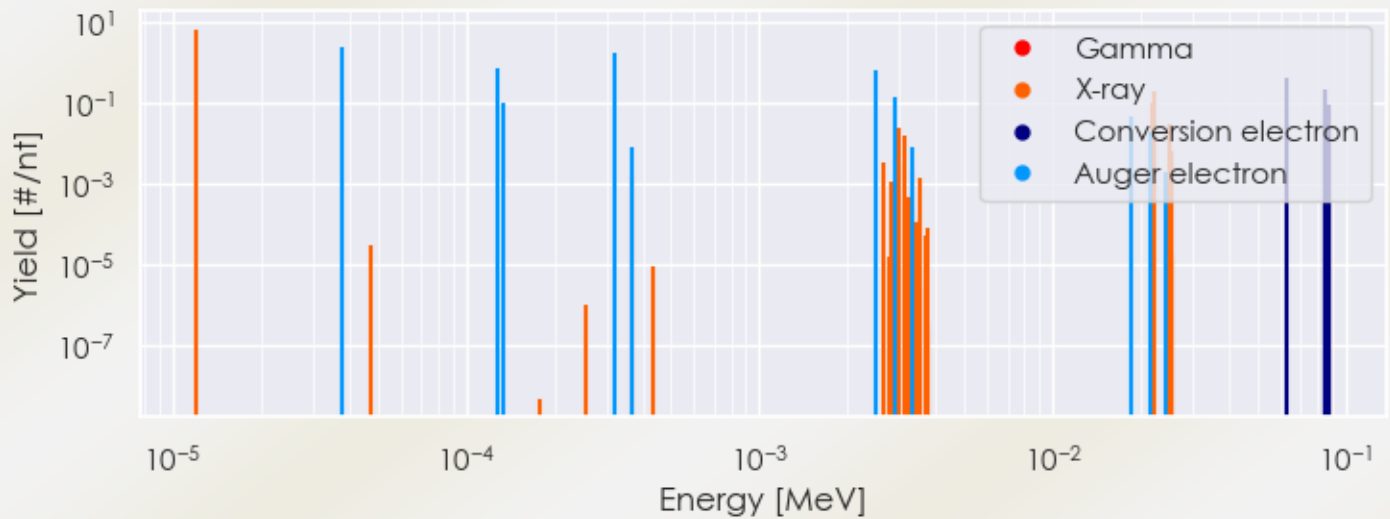
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.07695 [MeV]
Mean photon energy: 0.01108 [MeV]
Air kerma rate constant, Γ_{10} : 3.733e-18 [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : 3.733e-18 [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : 1.233e-14 [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : 0.000e+00 [Gy·kg/Bq·s]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 1.233e-14 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.775e-15 [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-109m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-109m%20Summary%20Spectrum.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-109m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Ag-109m%20Summary%20Spectrum.csv)

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.20804e-05	6.725e+00	X-ray
2.97344e-03	2.321e-02	X-ray
3.14510e-03	1.517e-02	X-ray
2.19609e-02	9.812e-02	X-ray
2.21389e-02	1.849e-01	X-ray
2.48888e-02	1.612e-02	X-ray

2.49204e-02	3.133e-02	X-ray
8.80336e-02	3.595e-02	Gamma
3.78952e-05	2.442e+00	Auger electron
1.28632e-04	6.895e-01	Auger electron
1.34434e-04	9.911e-02	Auger electron
3.18856e-04	1.659e+00	Auger electron
2.49661e-03	6.458e-01	Auger electron
2.90377e-03	1.399e-01	Auger electron
1.84717e-02	4.742e-02	Auger electron
2.14605e-02	1.916e-02	Auger electron
6.25446e-02	4.088e-01	Conversion electron
8.42502e-02	3.245e-02	Conversion electron
8.45055e-02	1.918e-01	Conversion electron
8.46836e-02	2.230e-01	Conversion electron
8.74651e-02	9.213e-02	Conversion electron
8.80336e-02	1.594e-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