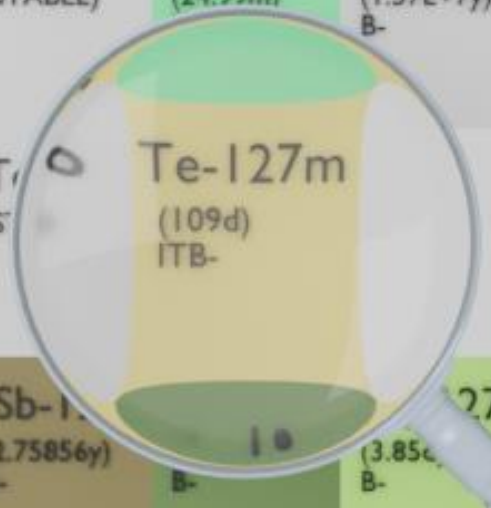




I-127 (1760d) CB+	I-125 (59.400d) EC	I-126 (12.93d) ECB+B-	I-127 (STABLE)	I-128 (24.99m) B-	I-129 (1.57E+7y) B-	I-130 (12.36h) B-	I-131 (8.02070d) B-	I-132 (2.295h) B-
Te-123 (5.00E+14y) C	Te-124 (STABLE)	Te-125 (STABLE)	Te-126 (STABLE)	Te-127m (109d) ITB-	Te-128 (69.6m) B-	Te-129 (69.6m) B-	Te-130 (25.0m) B-	Te-131 (25.0m) B-
Sb-122 (2.7238d) ECB+	Sb-123 (STABLE)	Sb-124 (60.20d) B-	Sb-125 (2.75856y) B-	Sb-126 (3.85d) B-	Sb-127 (3.85d) B-	Sb-128 (9.01h) B-	Sb-129 (4.40h) B-	Sb-130 (39.5m) B-

TELLURIUM-127M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Te-127m
Atomic number (Z): 52
Mass number (A): 127
Neutron number (N): 75

RADIOACTIVE DECAY

Decay modes: β^- , Internal transition
Half-life: 109.0 [d]
Decay constant: $7.3601\text{e-}08$ [1/s]
Daughters: Te-127 (97.6%), I-127 (2.4%)
Radioactive daughters: Te-127

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.08237 [MeV]
Mean photon energy: 0.01133 [MeV]
Air kerma rate constant, Γ_{10} : $2.531\text{e-}18$ [Gy·m²/Bq·s]
Air kerma coefficient, K_{air} : $2.531\text{e-}18$ [Gy·m²/Bq·s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.320\text{e-}14$ [Gy·kg/Bq·s]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [Gy·kg/Bq·s]

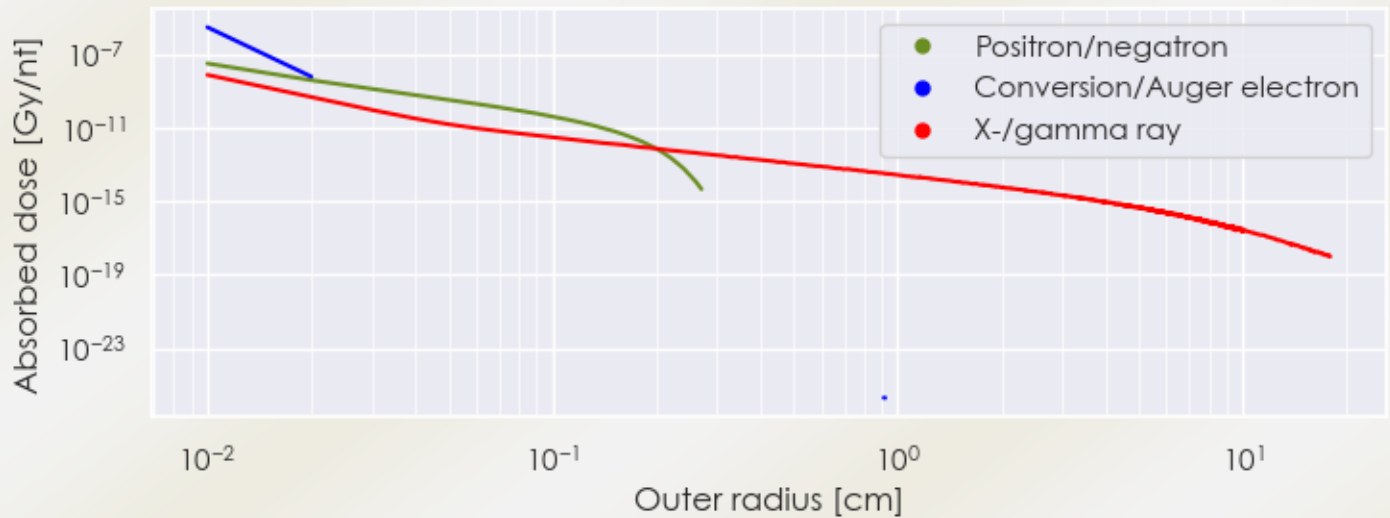
Equilibrium dose constant for betas/electrons, $\Delta_{\beta,\beta^+,e^-}$: 1.320×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.815×10^{-15} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

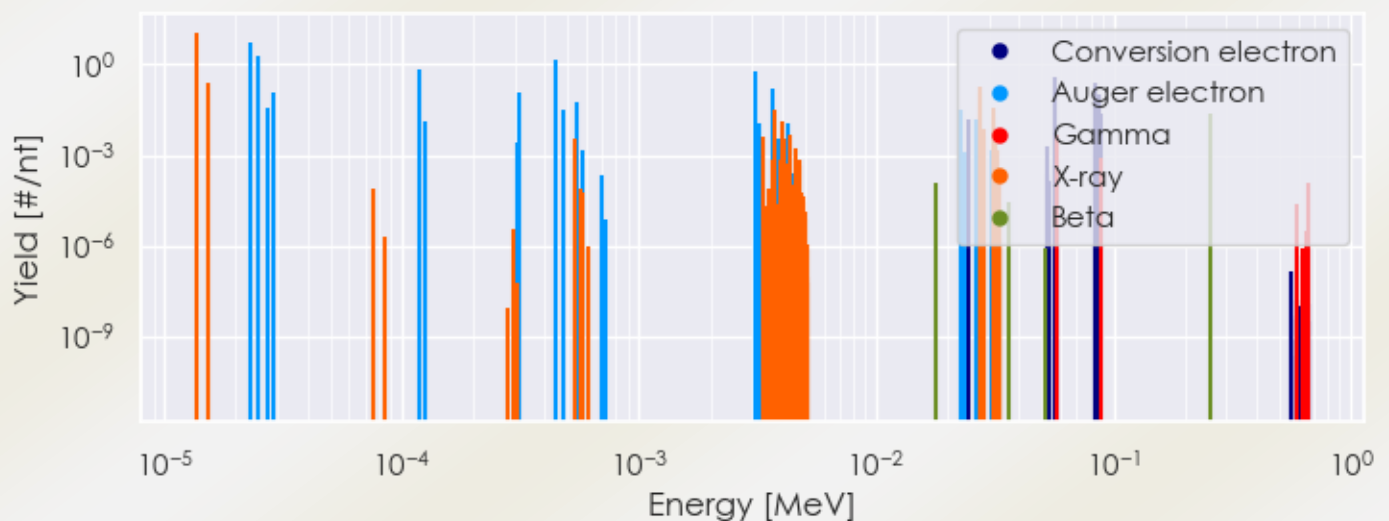
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Te-127m DPK.csv

SUMMARY SPECTRA (PLOT)

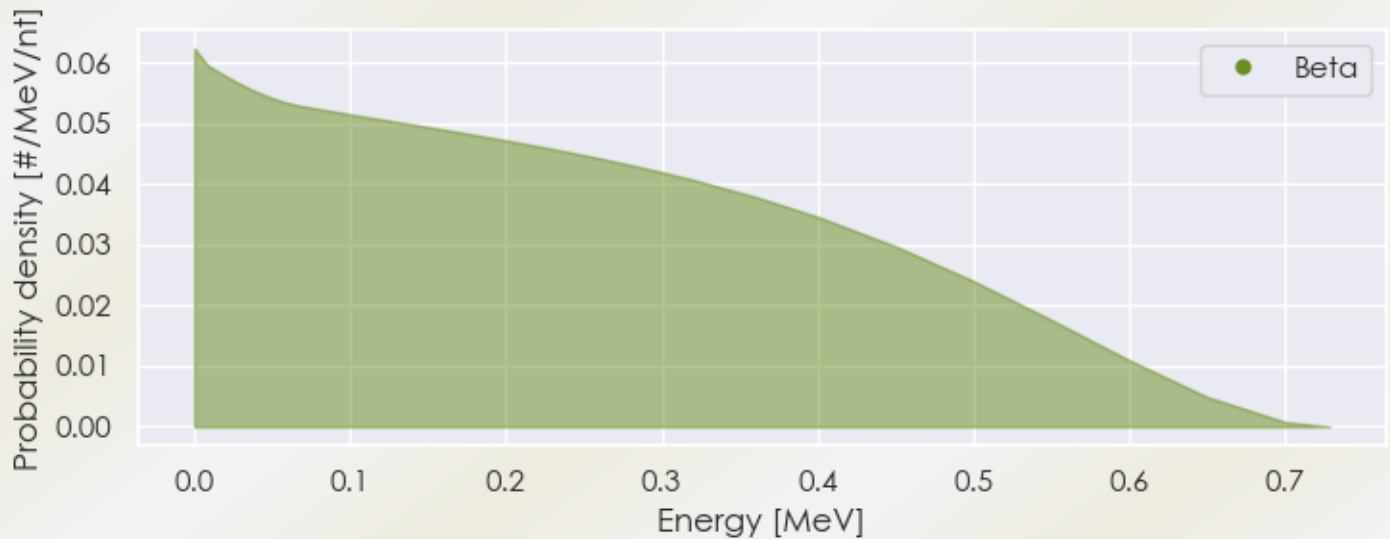
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Te-127m 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/Te-127m 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/Te-127m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.36124e-05	1.184e+01	X-ray
1.52660e-05	2.342e-01	X-ray
3.75695e-03	3.331e-02	X-ray
4.02446e-03	1.267e-02	X-ray
2.71868e-02	1.026e-01	X-ray
2.74652e-02	1.910e-01	X-ray
3.09378e-02	1.759e-02	X-ray
3.09901e-02	3.411e-02	X-ray
2.54389e-01	2.385e-02	Beta

2.29179e-05	5.787e+00	Auger electron
2.48461e-05	1.947e+00	Auger electron
2.70119e-05	3.509e-02	Auger electron
2.89499e-05	1.129e-01	Auger electron
1.19659e-04	6.771e-01	Auger electron
1.25053e-04	1.293e-02	Auger electron
3.14947e-04	1.233e-01	Auger electron
4.49803e-04	1.478e+00	Auger electron
4.76927e-04	3.010e-02	Auger electron
5.42297e-04	5.713e-02	Auger electron
3.07365e-03	5.723e-01	Auger electron
3.20467e-03	1.181e-02	Auger electron
3.66785e-03	1.619e-01	Auger electron
4.28470e-03	1.145e-02	Auger electron
2.26653e-02	3.316e-02	Auger electron
2.44660e-02	1.621e-02	Conversion electron
2.65056e-02	1.461e-02	Auger electron
5.64550e-02	4.065e-01	Conversion electron
8.33458e-02	1.500e-01	Conversion electron
8.36418e-02	3.419e-02	Conversion electron
8.39203e-02	2.554e-01	Conversion electron
8.74452e-02	1.051e-01	Conversion electron
8.82600e-02	2.397e-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.snm-mi.org/SNM-MI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6