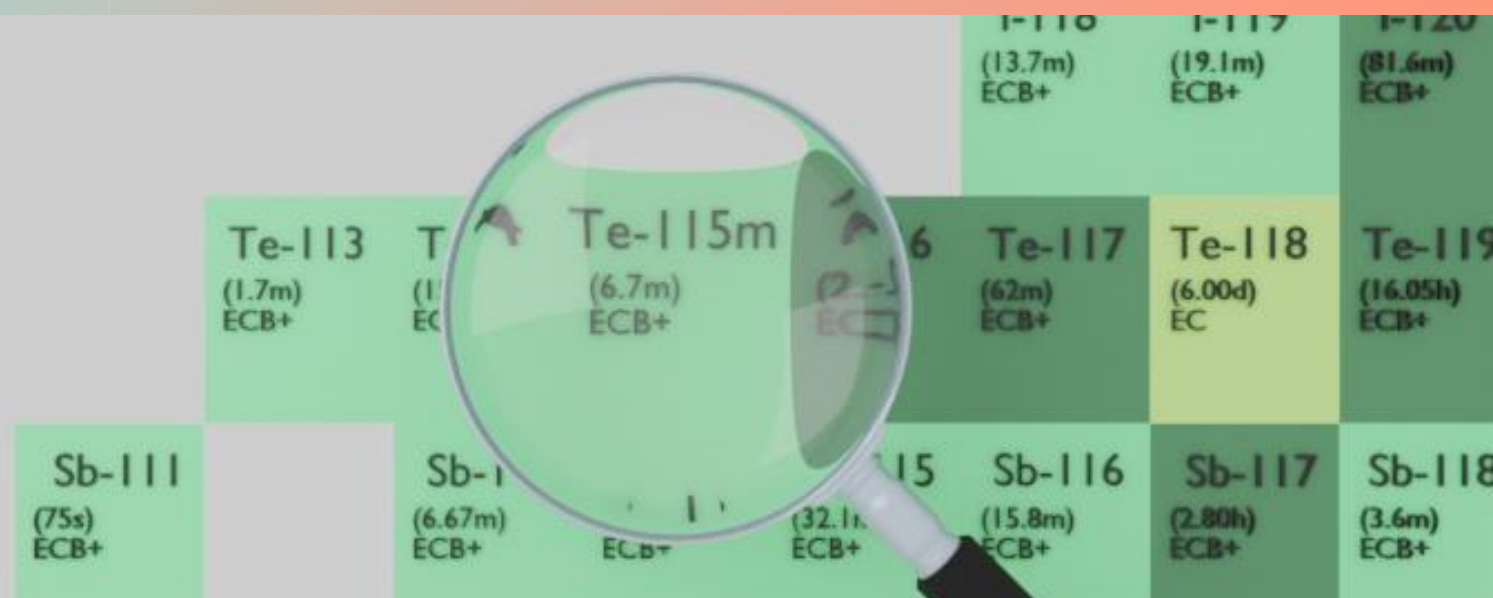




TELLURIUM-115M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Te-115m
Atomic number (Z): 52
Mass number (A): 115
Neutron number (N): 63

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 6.7 [m]
Decay constant: $1.7242\text{e-}03$ [1/s]
Daughters: Sb-115 (100.0%)
Radioactive daughters: Sb-115

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.69388 [MeV]
Mean photon energy: 2.60412 [MeV]
Air kerma rate constant, Γ_{10} : $7.021\text{e-}17$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Air kerma coefficient, K_{air} : $9.247\text{e-}17$ [Gy $\cdot$ m²/Bq $\cdot$ s]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $1.112\text{e-}13$ [Gy $\cdot$ kg/Bq $\cdot$ s]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [Gy $\cdot$ kg/Bq $\cdot$ s]

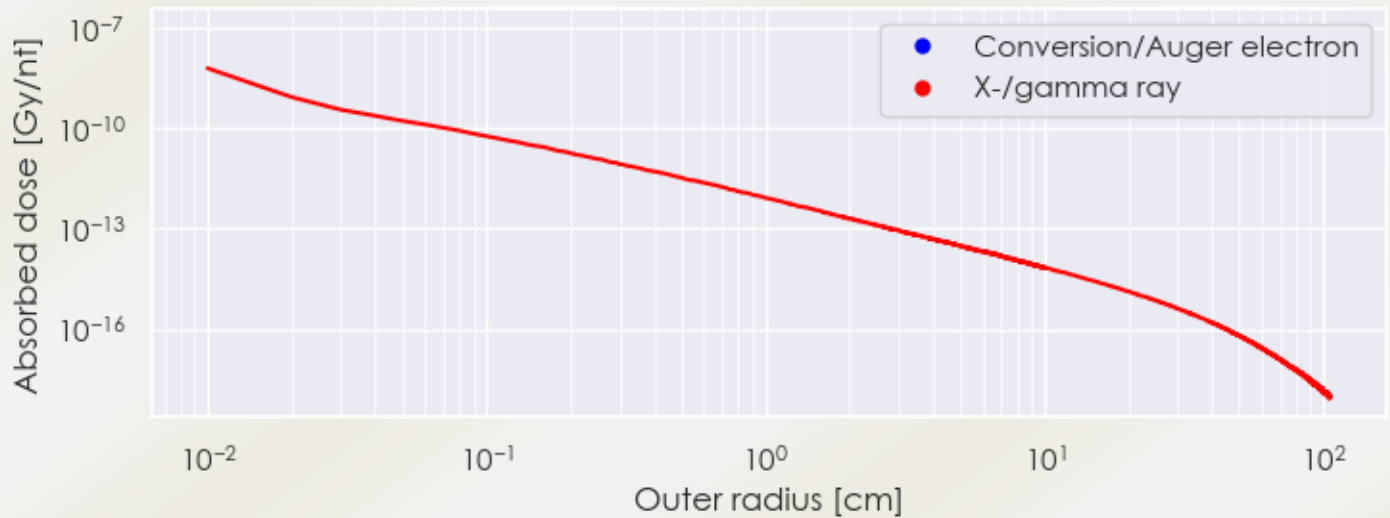
Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 1.112×10^{-13} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 4.172×10^{-13} [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

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

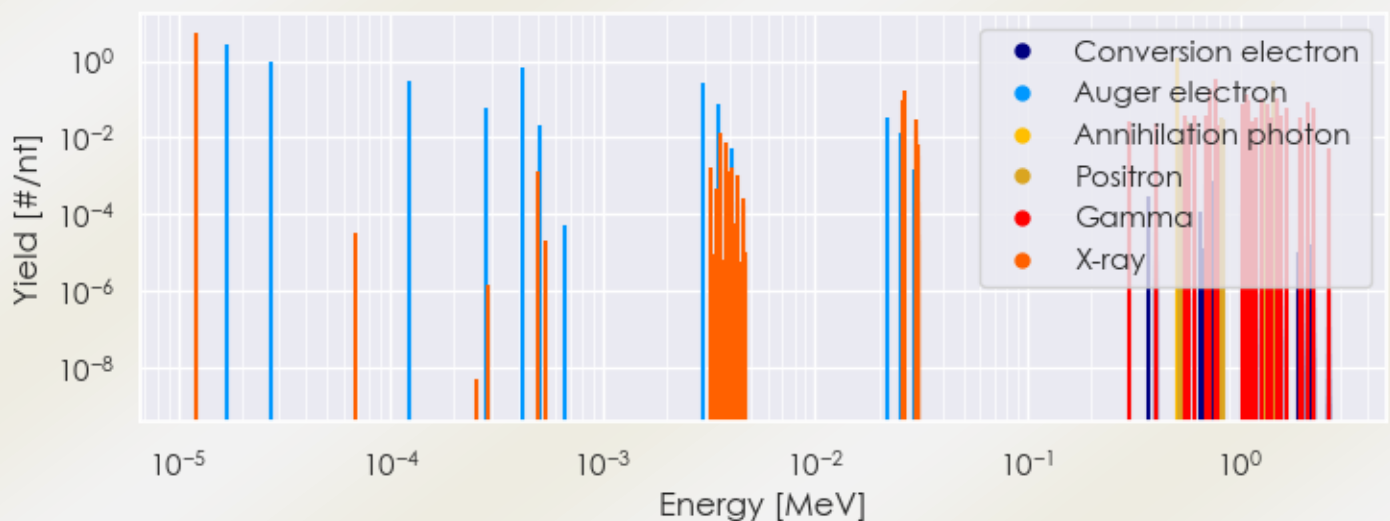
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Te-115m DPK.csv

SUMMARY SPECTRA (PLOT)

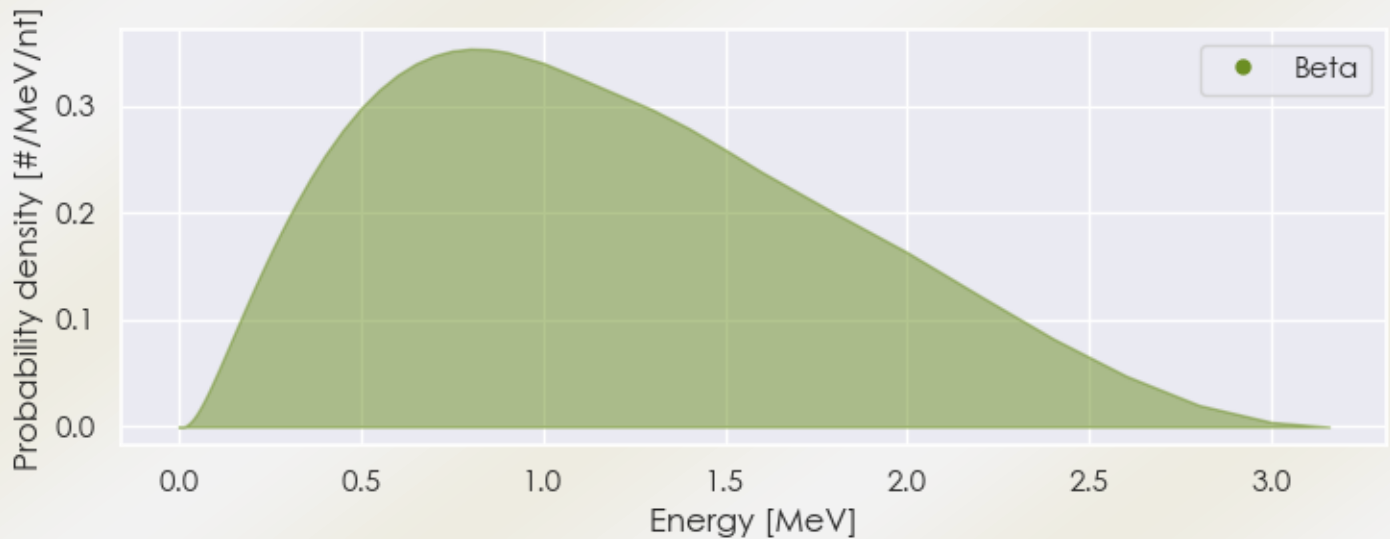
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Te-115m 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-115m 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-115m Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
1.22327e-05	5.676e+00	X-ray
3.59266e-03	1.373e-02	X-ray
2.60930e-02	9.202e-02	X-ray
2.63486e-02	1.717e-01	X-ray
2.96698e-02	1.566e-02	X-ray
2.97173e-02	3.037e-02	X-ray
3.03100e-01	2.700e-02	Gamma
4.05900e-01	2.400e-02	Gamma
5.11000e-01	1.150e+00	Annihilation photon

5.48700e-01	3.600e-02	Gamma
5.55700e-01	1.650e-02	Gamma
5.70000e-01	2.100e-02	Gamma
6.10600e-01	3.900e-02	Gamma
6.89400e-01	3.900e-02	Gamma
7.23600e-01	1.800e-01	Gamma
7.70400e-01	3.420e-01	Gamma
7.80500e-01	2.100e-02	Gamma
1.03190e+00	7.800e-02	Gamma
1.07170e+00	1.290e-01	Gamma
1.09870e+00	9.000e-02	Gamma
1.11530e+00	2.100e-02	Gamma
1.14340e+00	1.500e-02	Gamma
1.15570e+00	2.700e-02	Gamma
1.20550e+00	3.300e-02	Gamma
1.27930e+00	1.020e-01	Gamma
1.35080e+00	7.800e-02	Gamma
1.40810e+00	3.300e-02	Gamma
1.49170e+00	3.300e-02	Gamma
1.50410e+00	1.020e-01	Gamma
1.56170e+00	3.600e-02	Gamma
1.65480e+00	6.300e-02	Gamma
1.93600e+00	3.300e-02	Gamma
1.98620e+00	1.260e-02	Gamma
2.10440e+00	8.400e-02	Gamma
2.21530e+00	5.700e-02	Gamma
5.20909e-01	1.327e-02	Positron
5.67107e-01	2.594e-02	Positron
7.66548e-01	3.880e-02	Positron
8.16665e-01	3.268e-02	Positron
8.30278e-01	2.961e-02	Positron
1.09126e+00	4.595e-02	Positron
1.29170e+00	9.068e-02	Positron
1.43239e+00	2.890e-01	Positron
1.68961e-05	2.794e+00	Auger electron
2.73582e-05	9.430e-01	Auger electron
1.22008e-04	3.159e-01	Auger electron
2.83409e-04	5.723e-02	Auger electron

4.22547e-04	7.075e-01	Auger electron
5.04944e-04	2.142e-02	Auger electron
2.96515e-03	2.785e-01	Auger electron
3.51997e-03	7.537e-02	Auger electron
2.17904e-02	3.209e-02	Auger electron
2.54497e-02	1.390e-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/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6