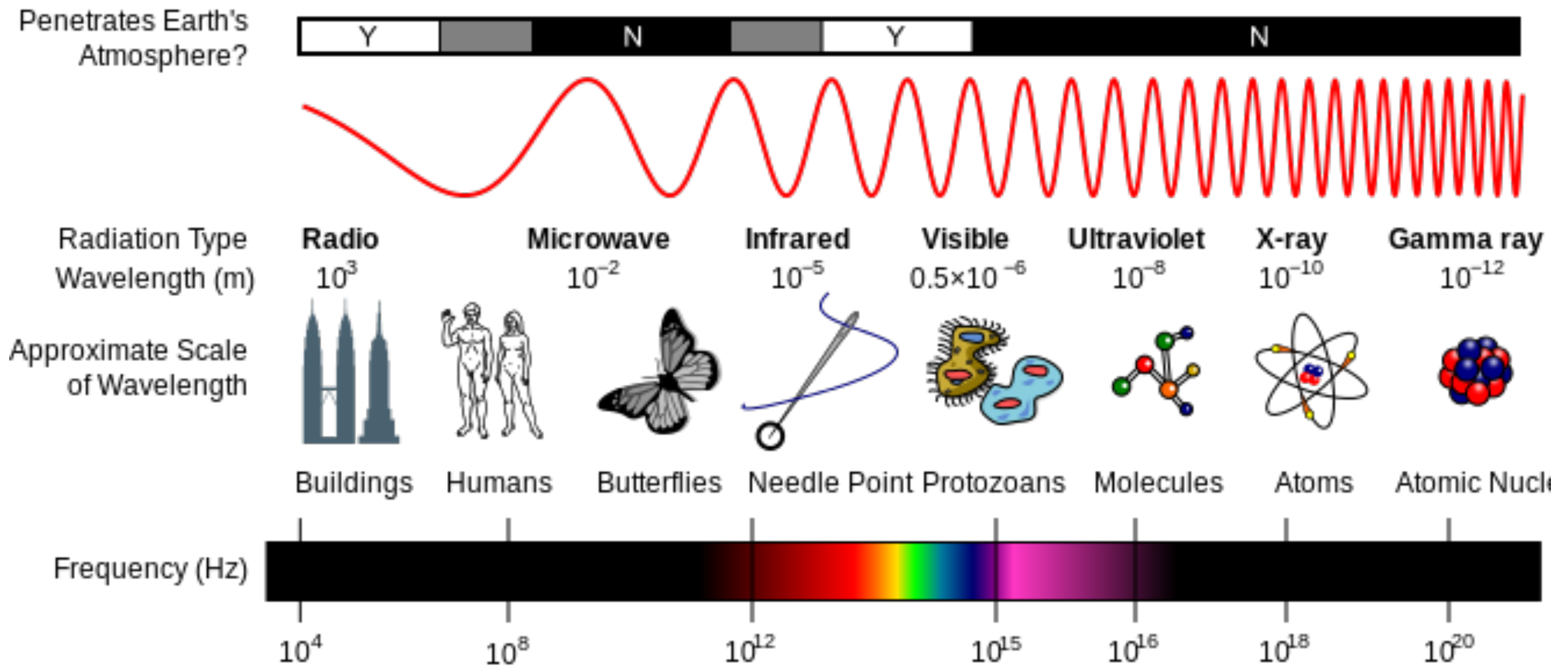


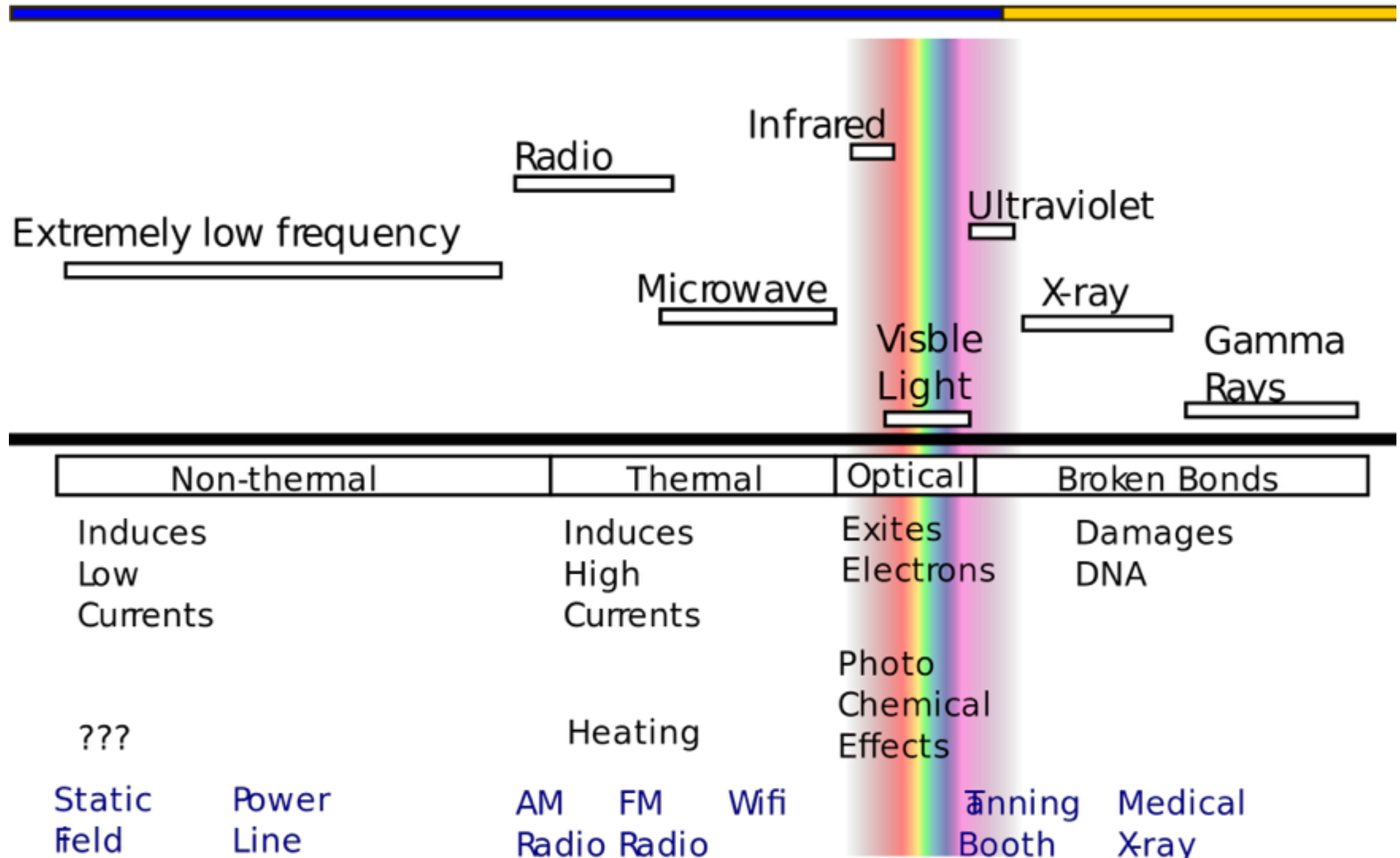
Electromagnetic Spectrum



Effects of Radiation

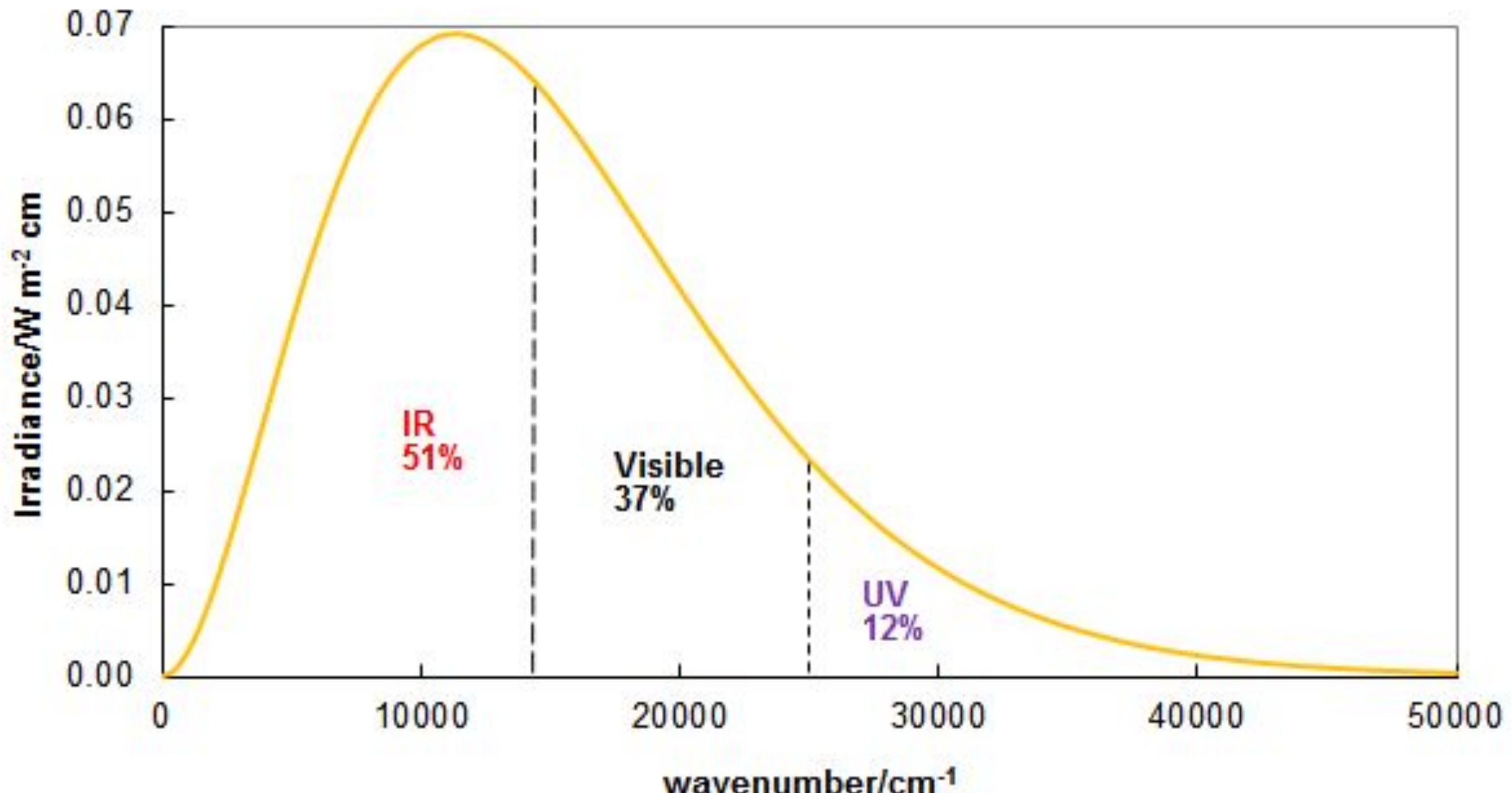
Non-ionising

ionising

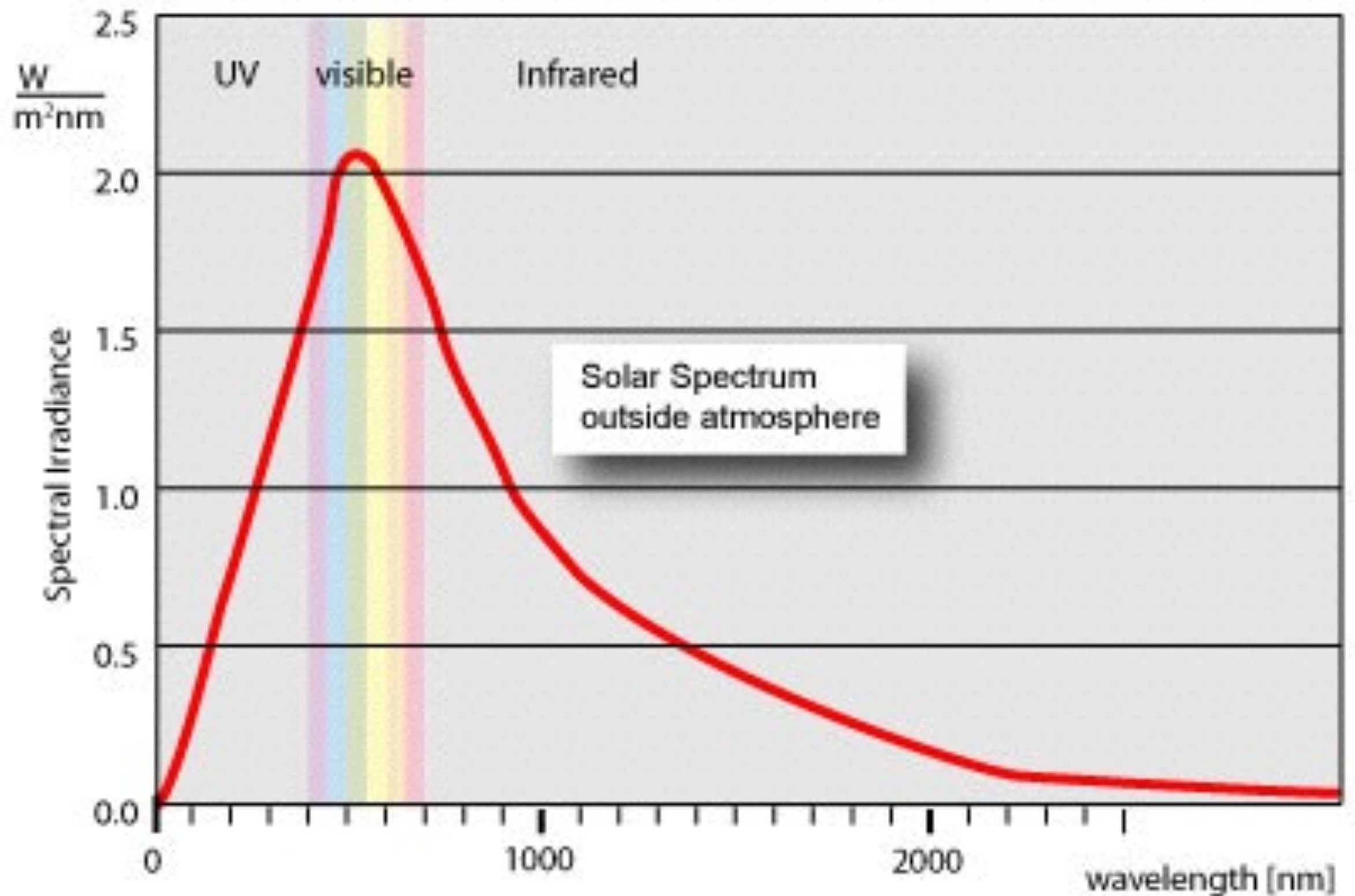


Solar Output

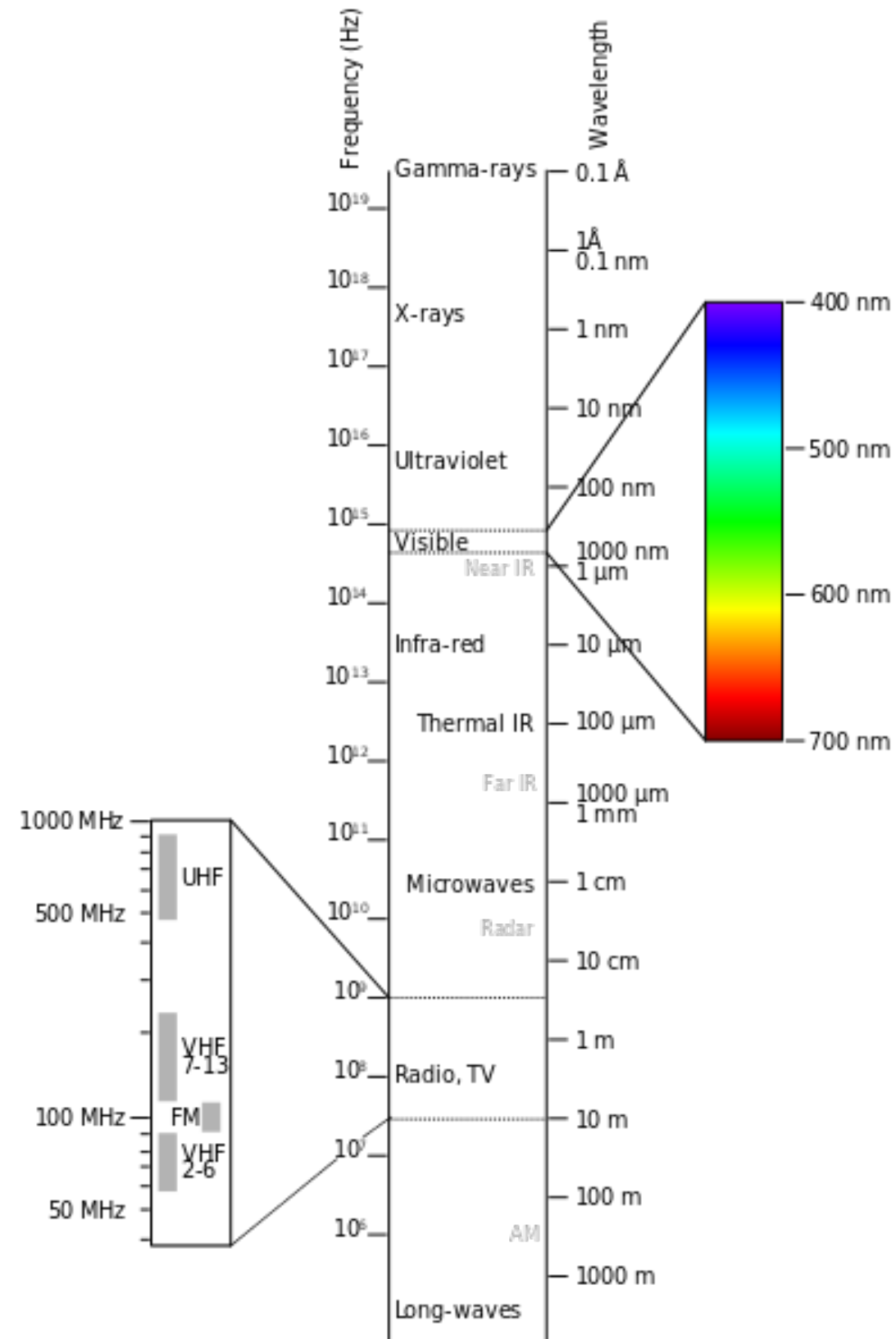
Solar irradiance outside the Earth's Atmosphere



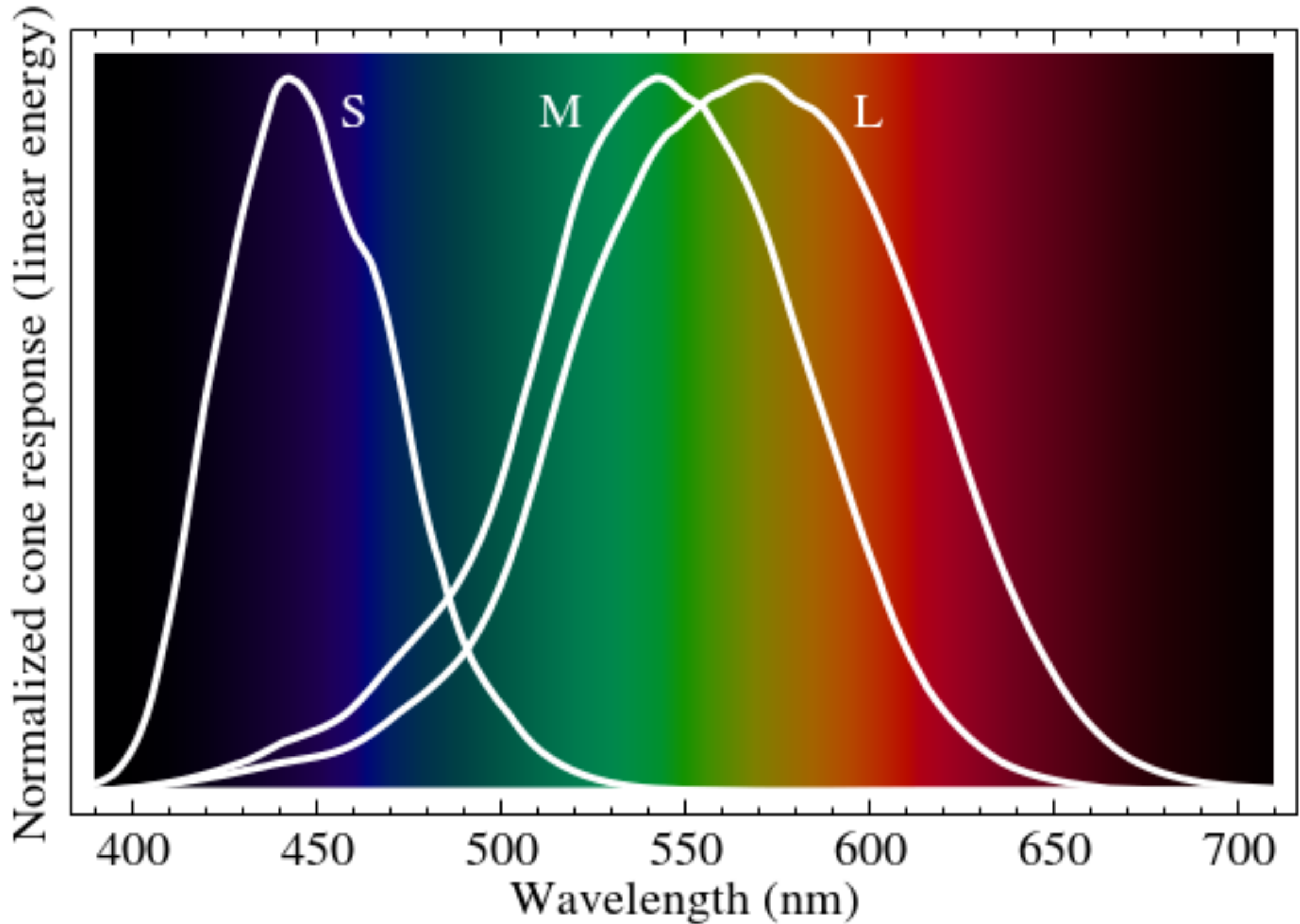
Solar Spectrum



Visible Spectrum



Color Vision



Simulations

<https://phet.colorado.edu/en/simulation/legacy/radio-waves>

<https://phet.colorado.edu/en/simulation/legacy/microwaves>

https://phet.colorado.edu/sims/html/wave-on-a-string/latest/wave-on-a-string_en.html

EM Spectrum

Name	Frequency	Wavelength	Energy	lightening
ELF	3 Hz - 30 Hz	10^5 km - 10^4 km		power grid
SLF	30 Hz - 300 Hz	10^4 km - 10^3 km		mines
ULF	300 Hz - 3 kHz	10^3 km - 10^2 km		radio clock
VLF	3 kHz - 30 kHz	10^2 km - 10 km		
LF	30 kHz - 300 kHz	10 km - 1 km		AM radio
MF	300 kHz - 3 MHz	1 km - 100 m		shortwave
HF	3 MHz - 30 MHz	100 m - 10 m		FM radio, TV
VHF	30 MHz - 300 MHz	10 m - 1 m		
UHF	300 MHz - 3 GHz	1 m - 10 cm		cell phones, ovens
SHF	3 GHz - 30 GHz	10 cm - 1 cm		
EHF	30 GHz - 300 GHz	1 cm - 1 mm		
FIR	300 GHz - 3 THz	1 mm - 100 μ m		
MIR	3 THz - 30 THz	100 μ m - 10 μ m		
NIR	30 THz - 300 THz	10 μ m - 1 μ m		molecular absorption
NUV	300 THz - 3 PHz	1 μ m - 100 nm	1 eV - 10 eV	chemical reactions
EUV	3 PHz - 30 PHz	100 nm - 10 nm	10 eV - 100 eV	ionizing
SX	30 PHz - 3 EHz	10 nm - 0.1 nm	100 eV - 10 keV	
HX	3 EHz - 30 EHz	0.1 nm - 0.01 nm	10 keV - 100 keV	medical imaging
Y	30 EHz -	0.01 nm -	100 keV -	