

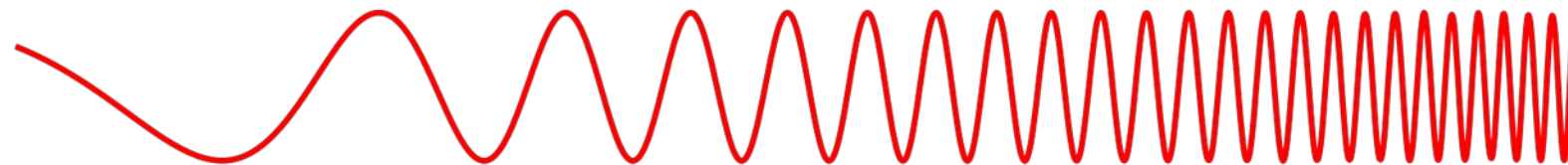
OPA 22 – Vežbe 5

Spektri

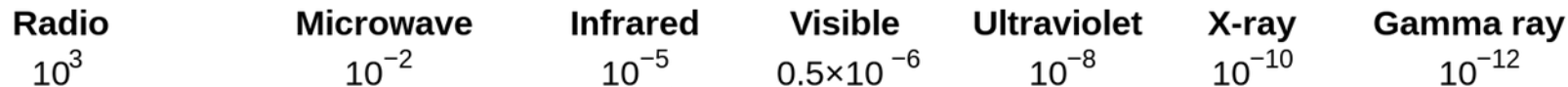
Nataša Pavlov
natasa_pavlov@matf.bg.ac.rs



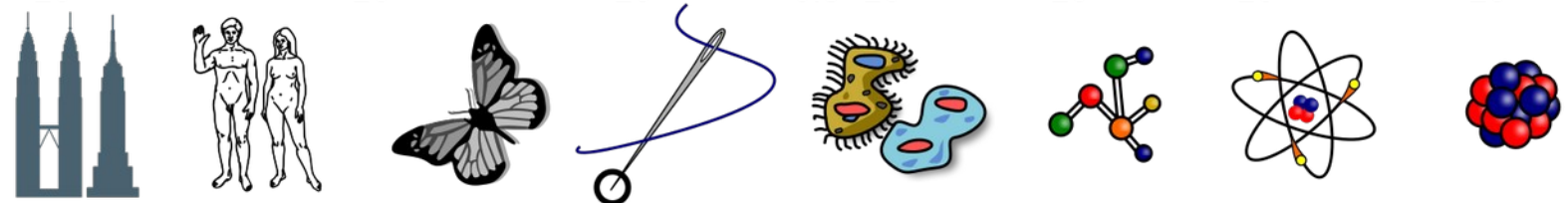
Penetrates Earth's Atmosphere?



Radiation Type
Wavelength (m)

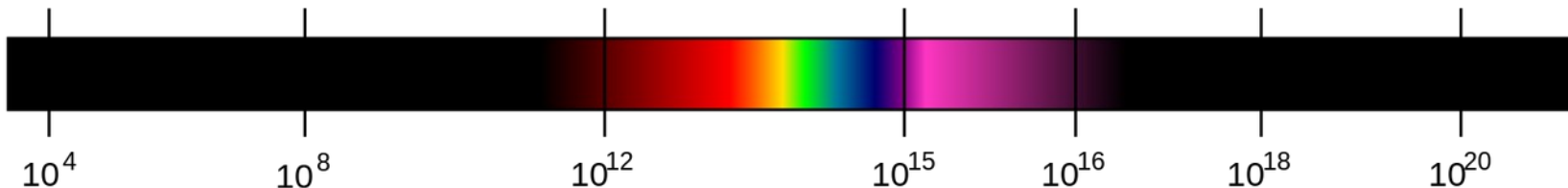


Approximate Scale
of Wavelength

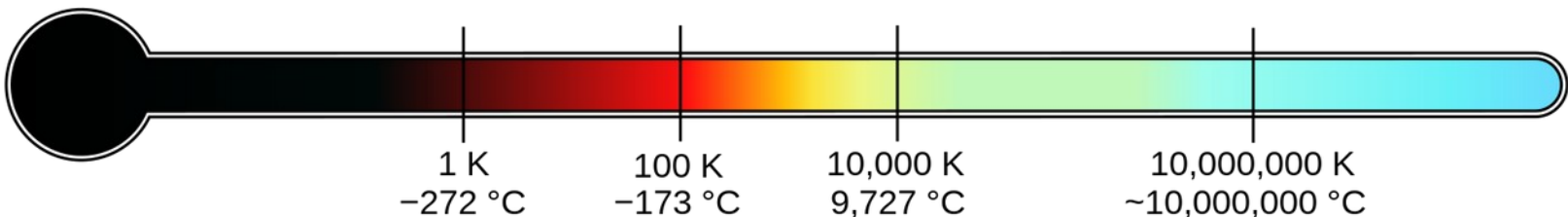


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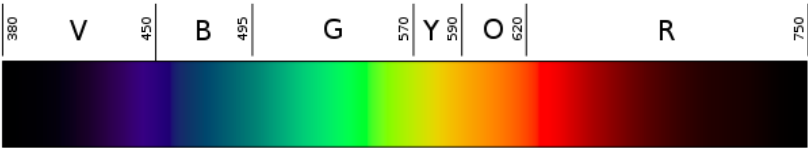







Frequency (Hz)



Temperature of
objects at which
this radiation is the
most intense
wavelength emitted

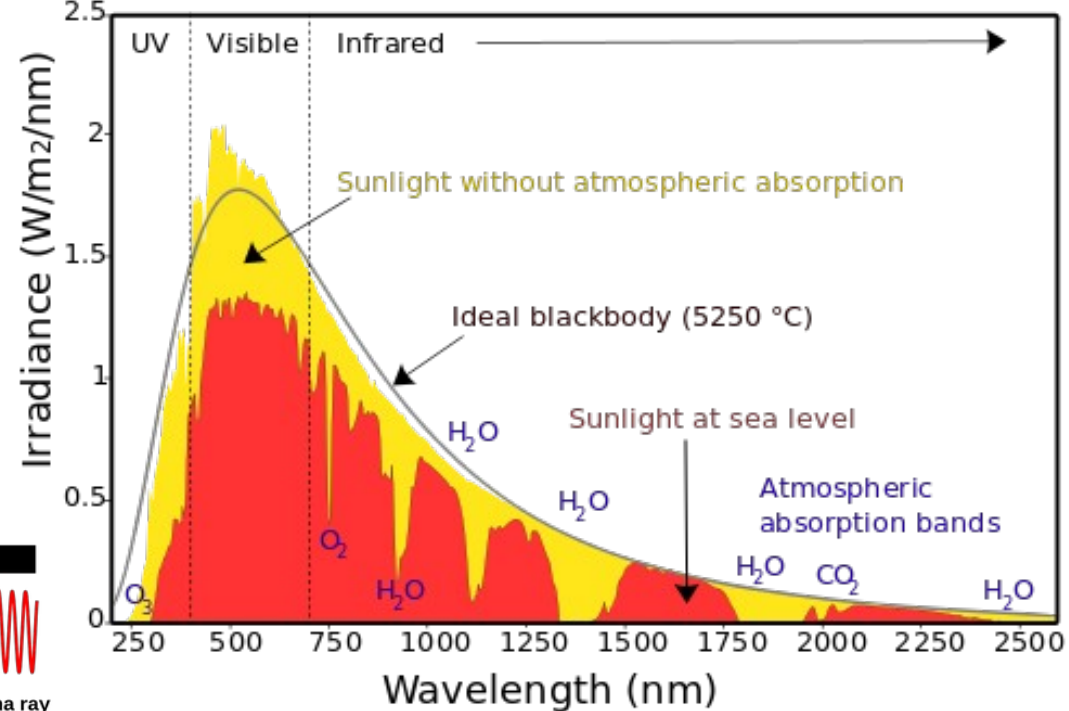
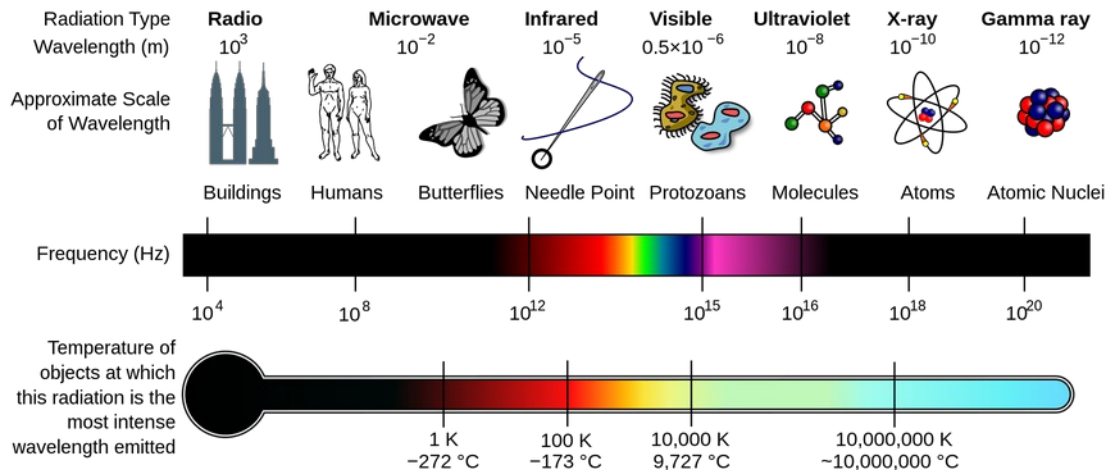
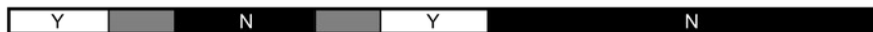


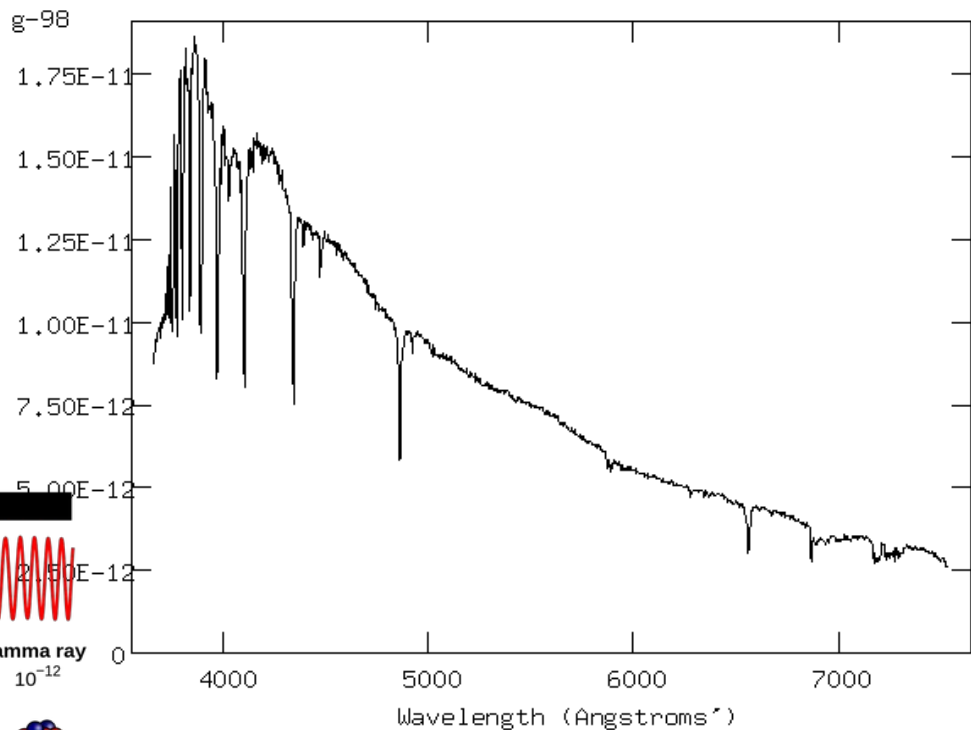
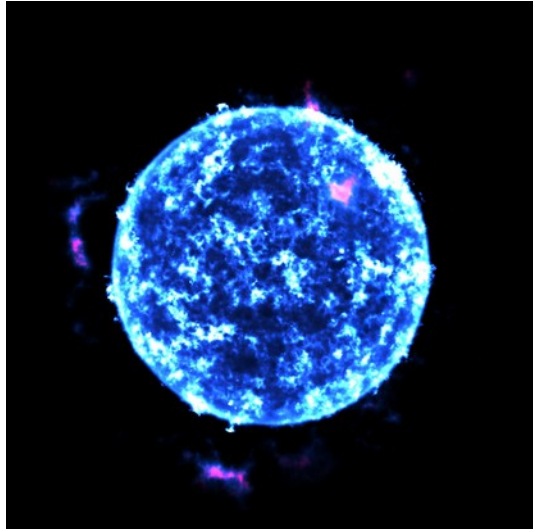
Vidljiva svetlost

			
Color	Wavelength (nm)	Frequency (THz)	Photon energy (eV)
 violet	380–450	670–790	2.75–3.26
 blue	450–485	620–670	2.56–2.75
 cyan	485–500	600–620	2.48–2.56
 green	500–565	530–600	2.19–2.48
 yellow	565–590	510–530	2.10–2.19
 orange	590–625	480–510	1.98–2.10
 red	625–750	400–480	1.65–1.98

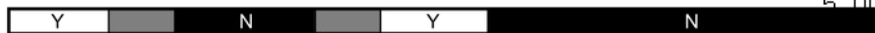


Penetrates Earth's Atmosphere?

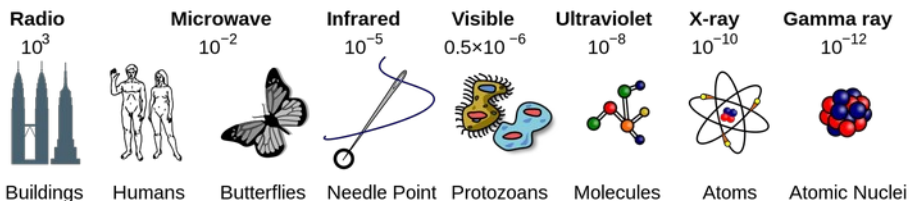




Penetrates Earth's Atmosphere?



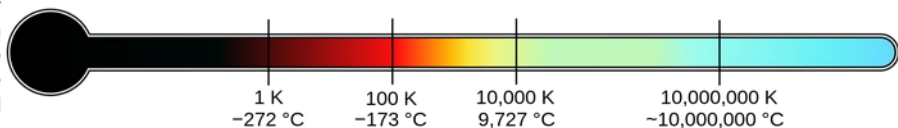
Radiation Type
Wavelength (m)



Frequency (Hz)

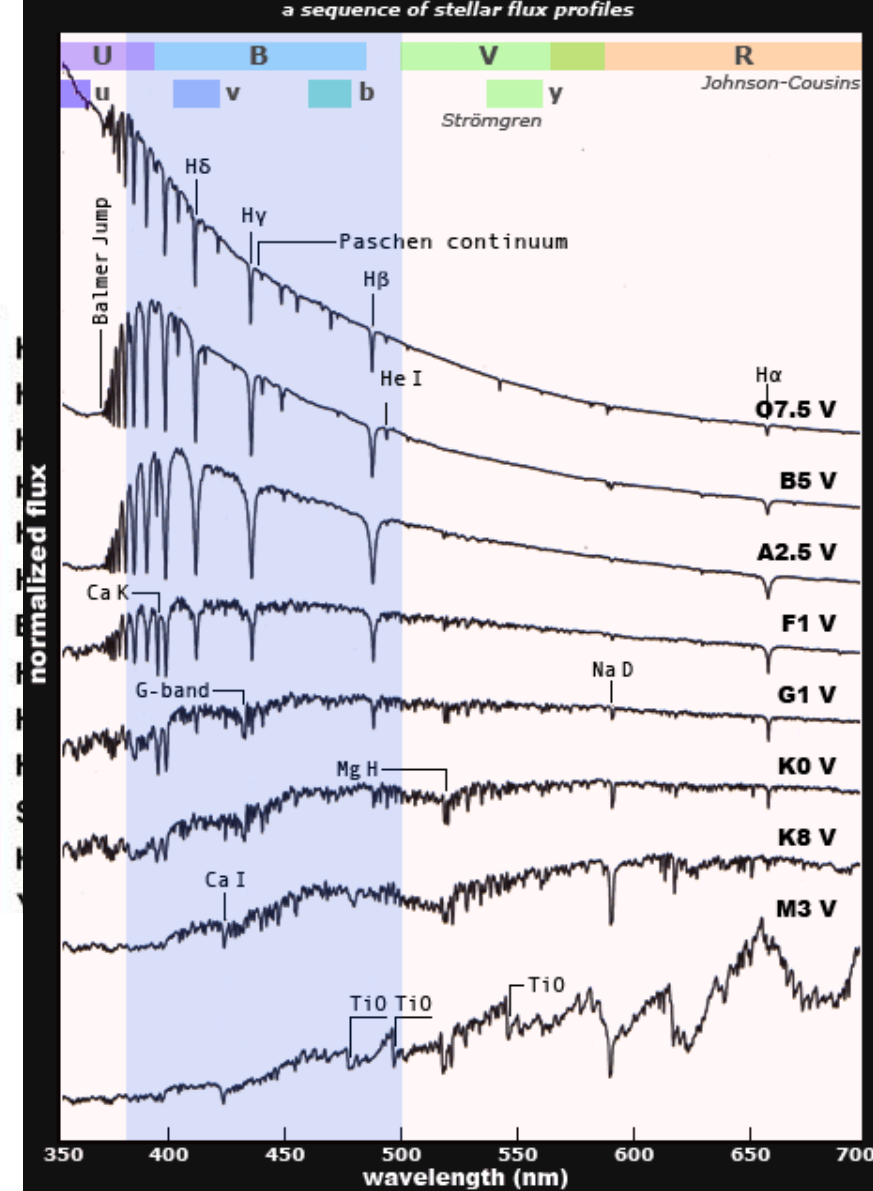
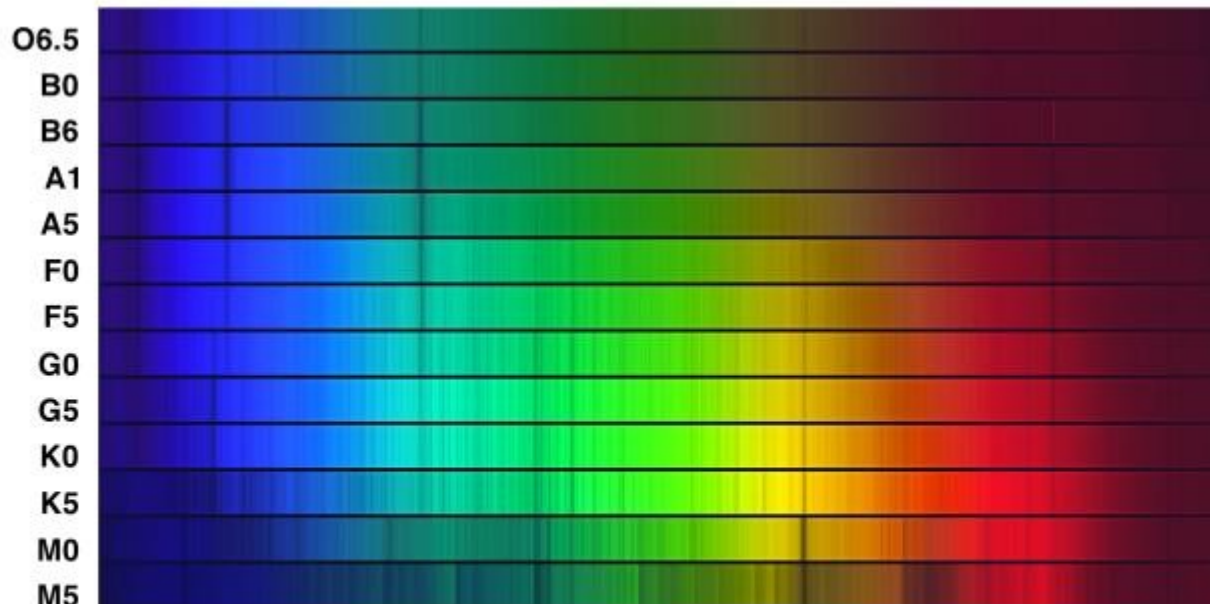


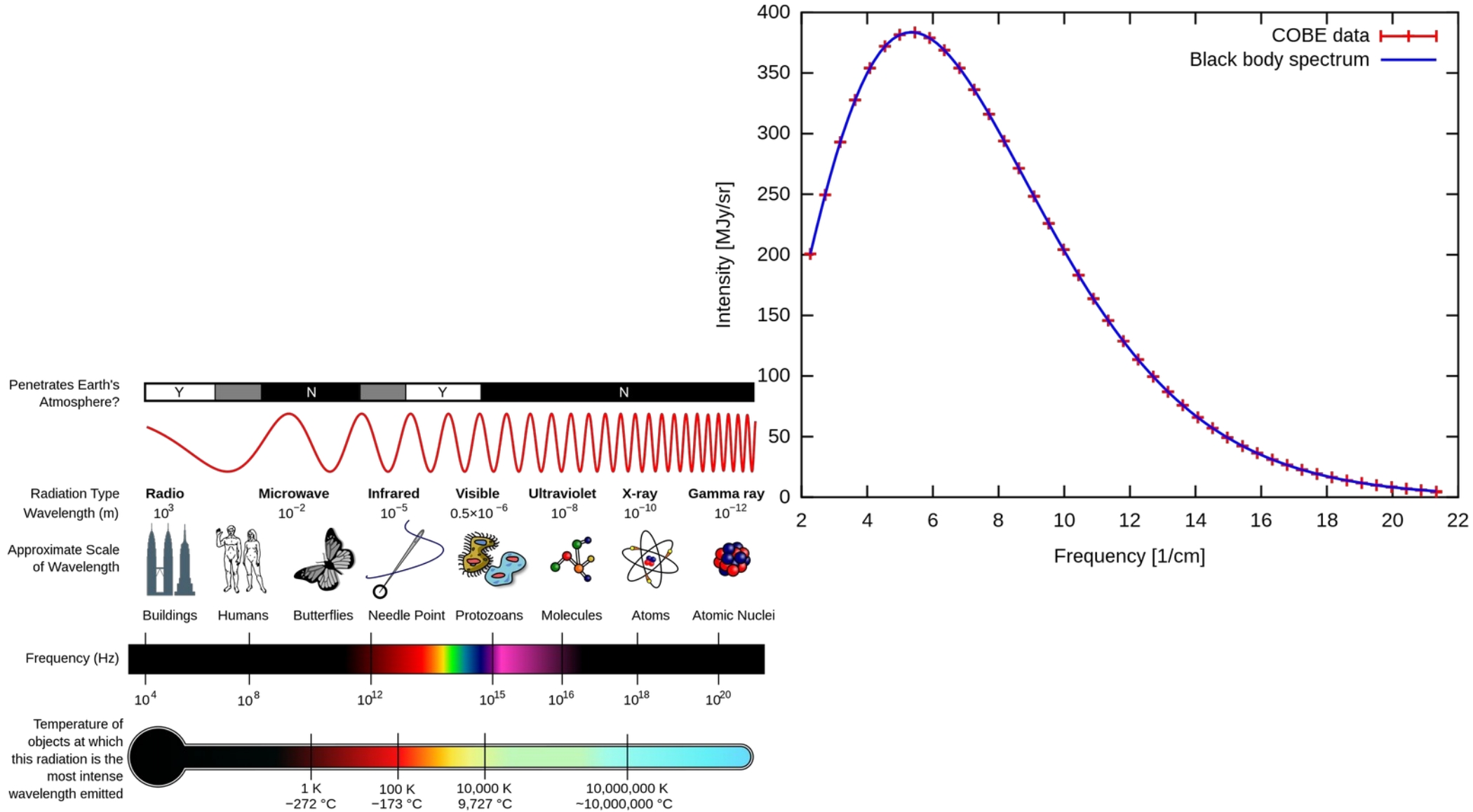
Temperature of objects at which this radiation is the most intense wavelength emitted

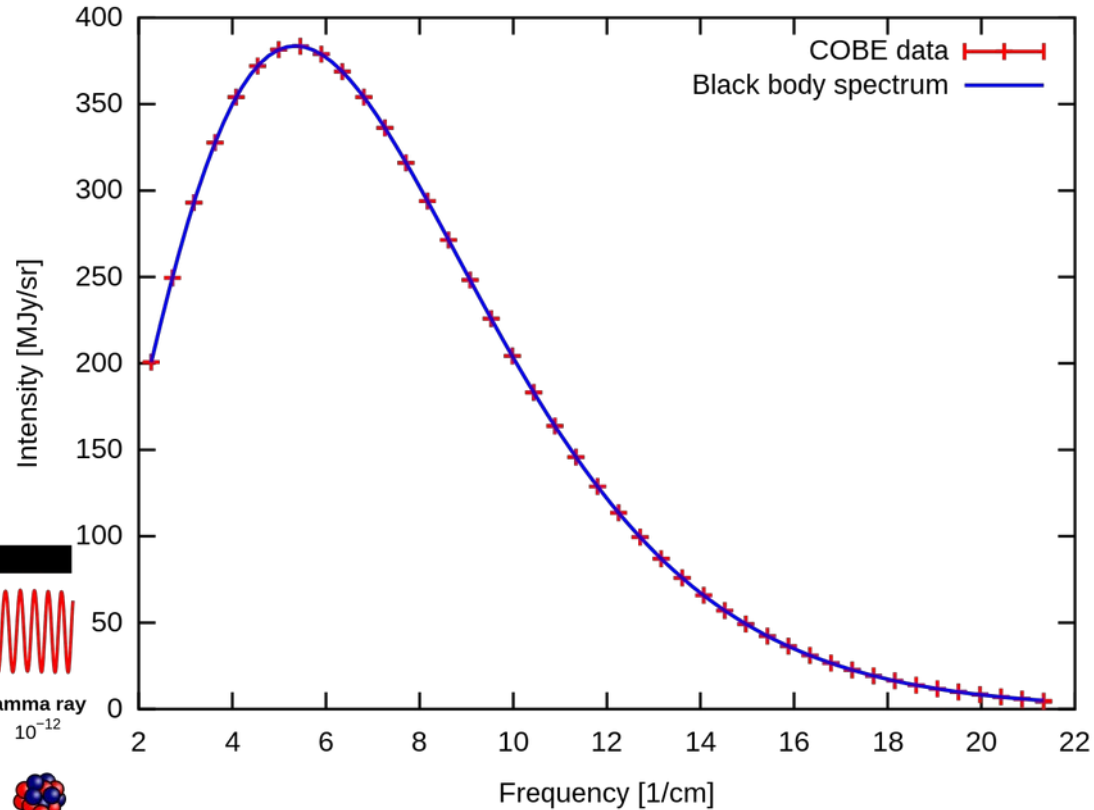
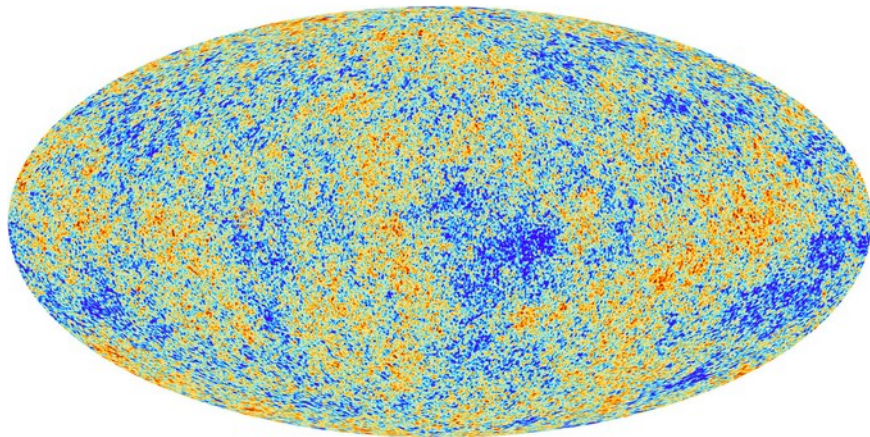


Zvezda B klase

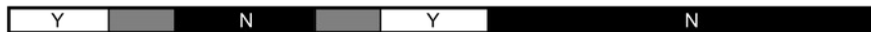
Spektri zvezda



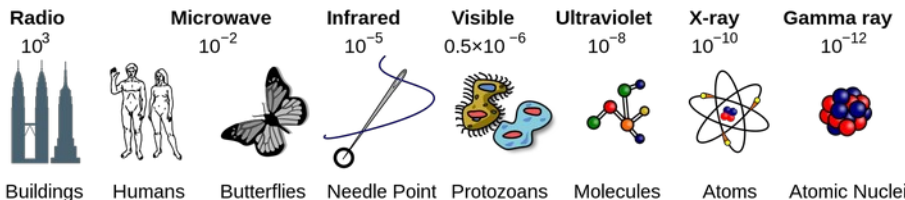




Penetrates Earth's Atmosphere?



Radiation Type
Wavelength (m)

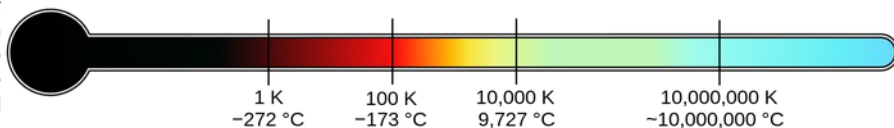


Approximate Scale
of Wavelength

Frequency (Hz)

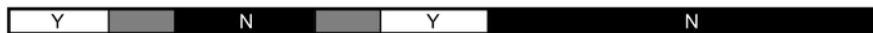


Temperature of
objects at which
this radiation is the
most intense
wavelength emitted

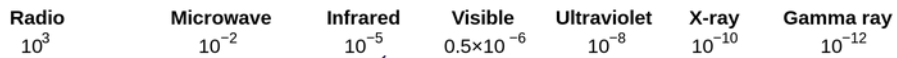


Kosmičko mikrotalasno
pozadinsko zračenje

Penetrates Earth's Atmosphere?



Radiation Type
Wavelength (m)

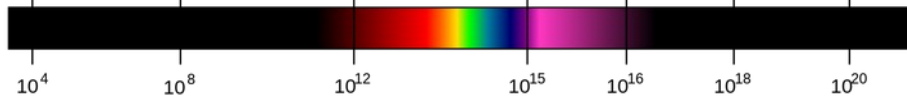


Approximate Scale
of Wavelength



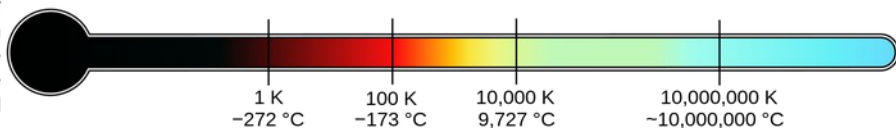
Buildings Humans Butterflies Needle Point Protozoans Molecules Atoms Atomic Nuclei

Frequency (Hz)



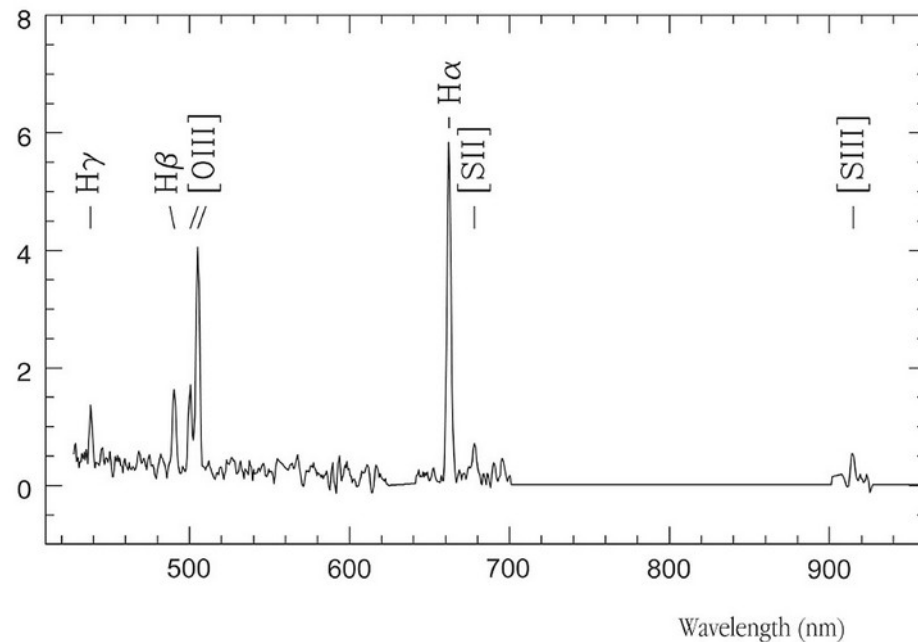
10^4 10^8 10^{12} 10^{15} 10^{16} 10^{18} 10^{20}

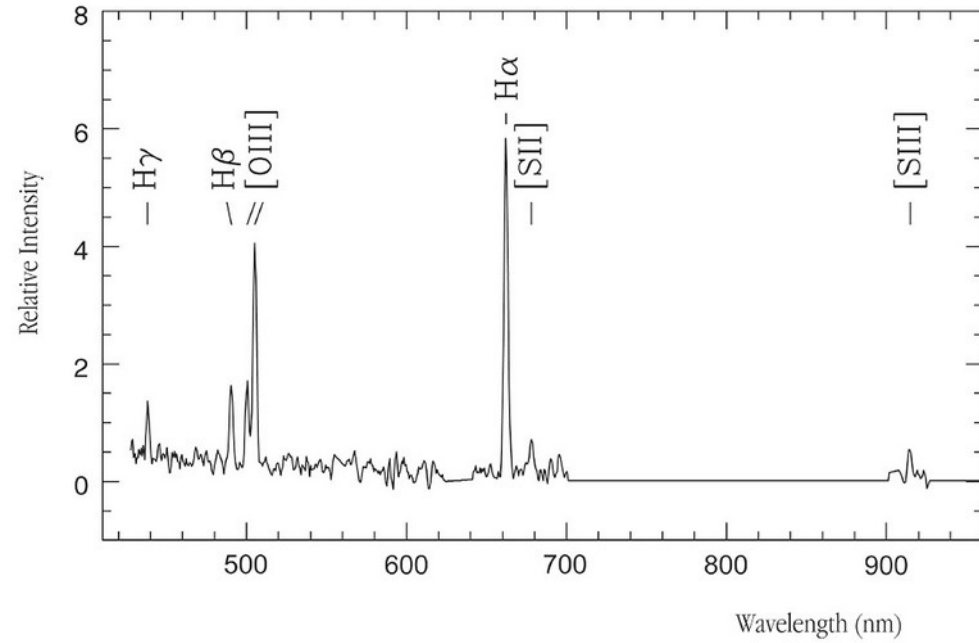
Temperature of
objects at which
this radiation is the
most intense
wavelength emitted



1 K -272°C 100 K -173°C 10,000 K 9,727 $^\circ\text{C}$ 10,000,000 K $\sim 10,000,000^\circ\text{C}$

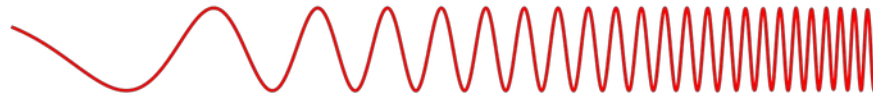
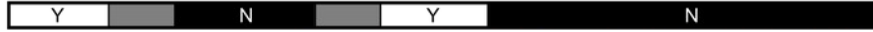
Relative Intensity



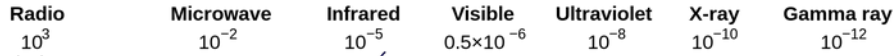


Orionova maglina (M42)

Penetrates Earth's Atmosphere?



Radiation Type
Wavelength (m)

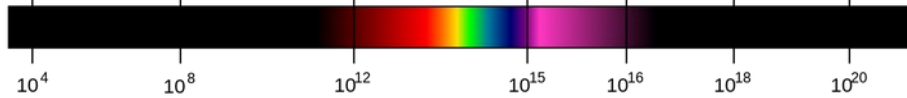


Approximate Scale
of Wavelength

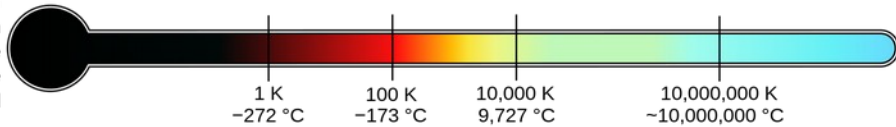


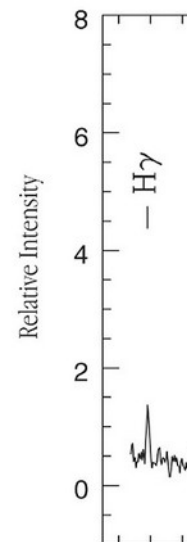
Buildings Humans Butterflies Needle Point Protozoans Molecules Atoms Atomic Nuclei

Frequency (Hz)

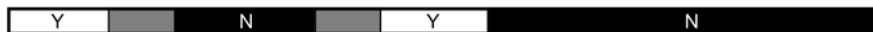


Temperature of
objects at which
this radiation is the
most intense
wavelength emitted

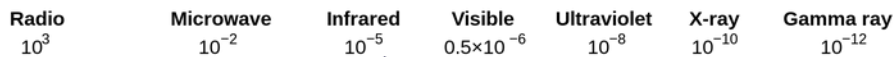




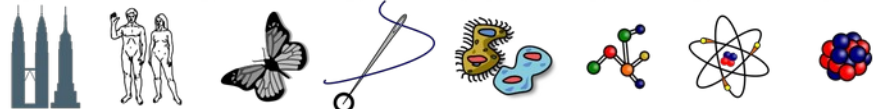
Penetrates Earth's Atmosphere?



Radiation Type
Wavelength (m)



Approximate Scale
of Wavelength

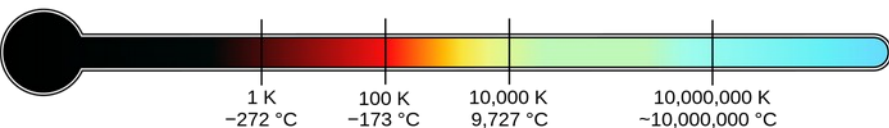


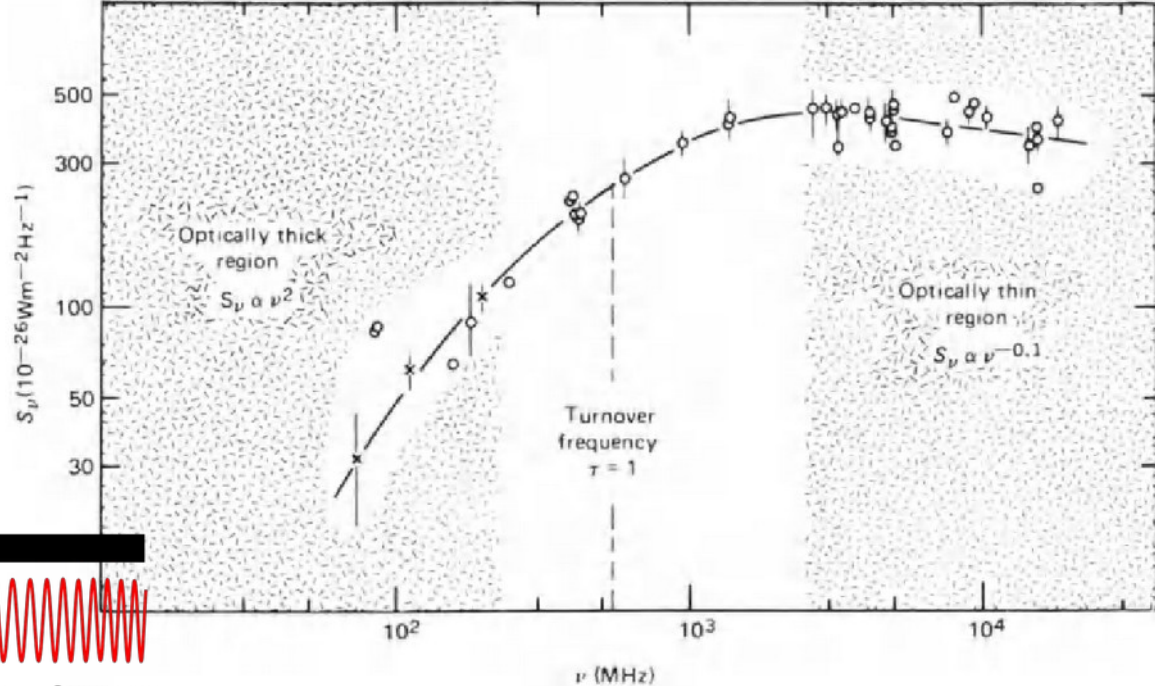
Buildings Humans Butterflies Needle Point Protozoans Molecules Atoms Atomic Nuclei

Frequency (Hz)

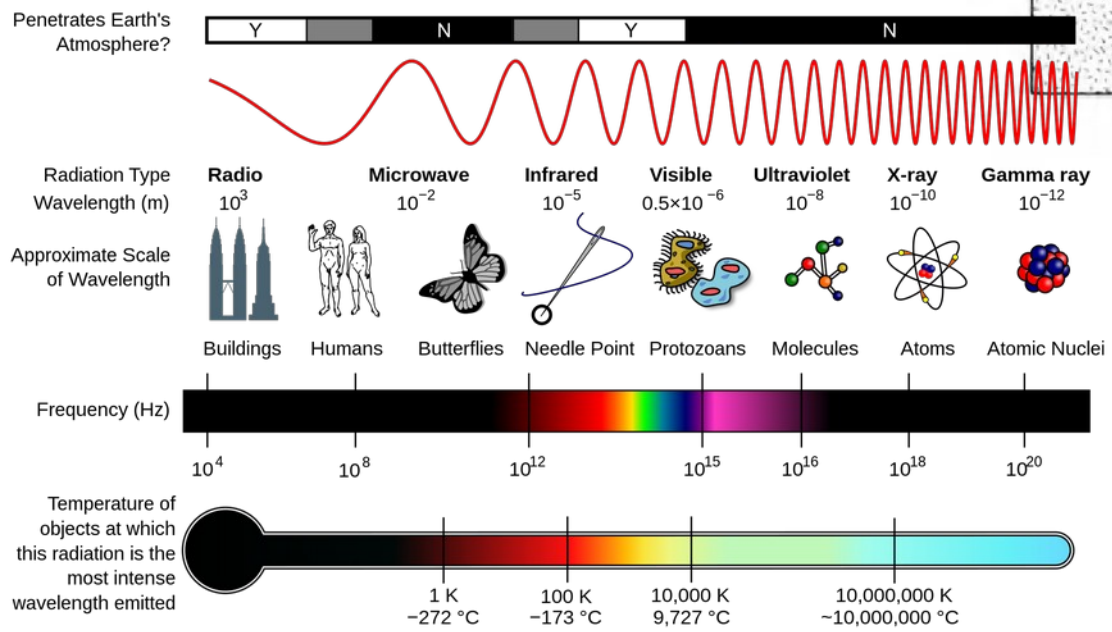


Temperature of
objects at which
this radiation is the
most intense
wavelength emitted

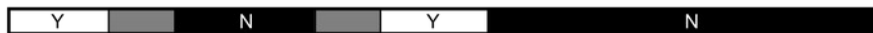




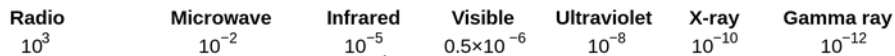
Orionova maglina (M42)



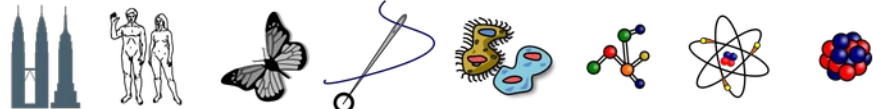
Penetrates Earth's Atmosphere?



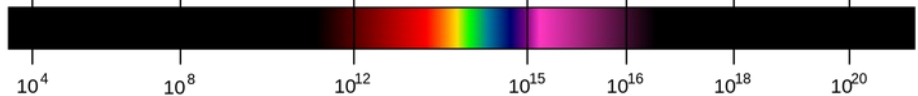
Radiation Type
Wavelength (m)



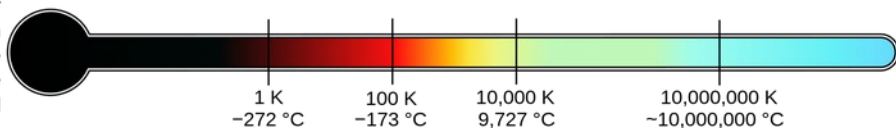
Approximate Scale
of Wavelength



Frequency (Hz)



Temperature of
objects at which
this radiation is the
most intense
wavelength emitted



SN 1987A

