

Determination of the energy of a photon

It is always a good idea to create a tool that calculates automatically the values asked in a problem.

Using this Excel file, you can get the energy of a photon by introducing the corresponding wavelength in nanometres.

Wavelength (nm)	Wavelength (Å)	Wavelength (m)	Period (s)	Frequency (Hz)	Energy (J)	Energy (eV)
400	4000	4,00E-07	1,33E-15	7,49E+14	4,97E-19	3,10
750	7500	7,50E-07	2,50E-15	4,00E+14	2,65E-19	1,65

You can use this file in order to

- calculate the energy of a photon (waves, the Bohr model of the atom)
- calculate if the wavelength of a photon is short enough to extract an electron of a metal plate (photoelectric effect)