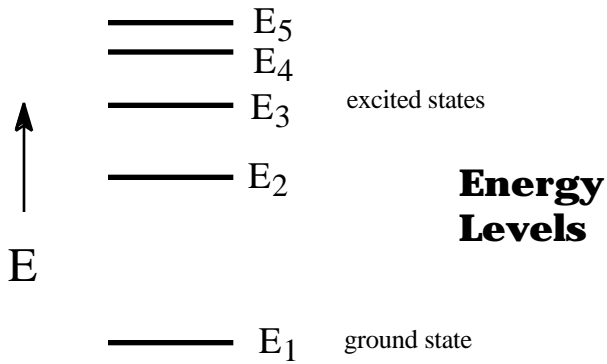


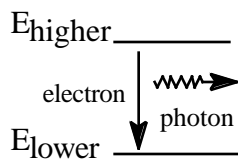
Energy Levels and Electromagnetic Radiation Interactions



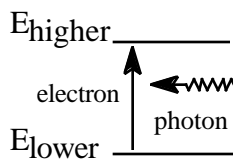
Electrons in atoms, ions, and molecules may exist in different discrete, *quantized* energy levels.

Molecules also have *quantized* energy levels for bond vibration and molecule rotation.

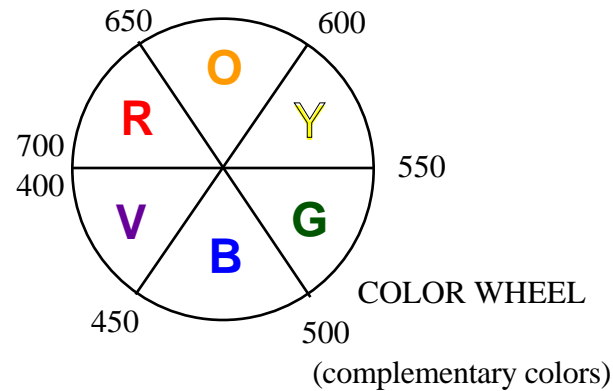
They are *quantized* because of the wave properties of the electrons or the oscillations in vibrating or rotating.



Emission (radiation source)

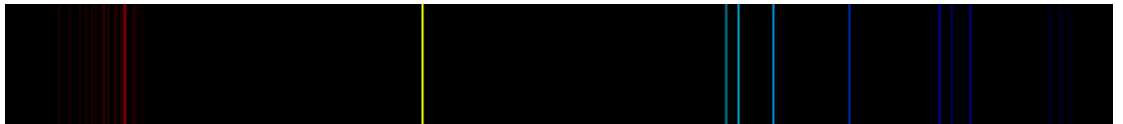


Absorbance



visible line spectra
(emission)

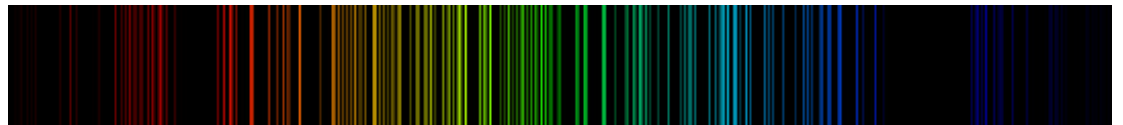
He



Na



C



infrared spectrum
(absorbance)
(bond vibrations)

