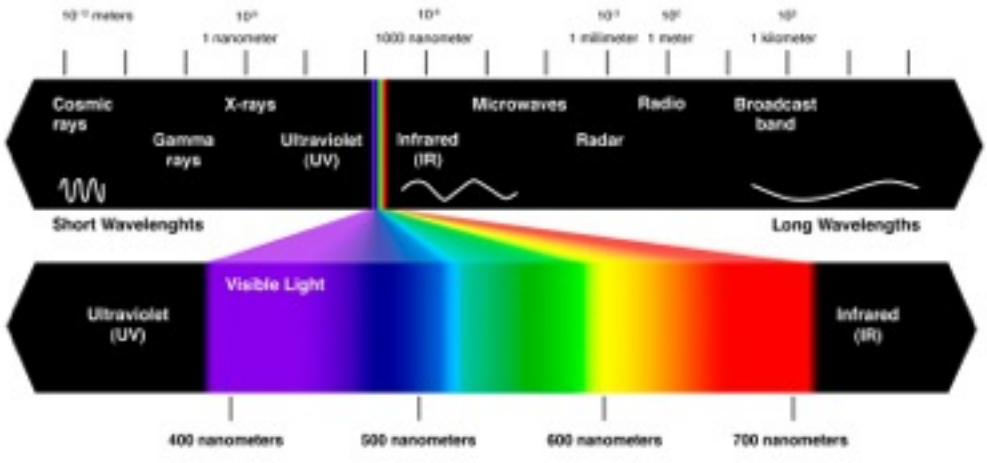
Week 1. The Relationship between Wavelength, Visibility and Temperature



[http://blog.berlinlasers.com/wp-content/uploads/2013/11/invisible-laser-spectrum.jpg]

The Electromagnetic Spectrum can be categorized into several regions by the wavelength, which varies about from 10^{-12} m to 10^{3} km. Depending on the length of the waves, each region has different properties. As an simple example, the wavelength determines how far the waves can penetrate Earth's Atmosphere and other materials.

The visibility of wave is one of the most recognizable aspect of the waves. Only the certain waves, approximately between 400 nm and 700 nm, can be detected by human visual system. This region would brings different colors according to the length of waves; purple has the shortest wavelength and red does the longest.

Once the waves are a kind of media delivering energy toward, the temperature can be determined by the wavelength. Objects that emits radiation most intensely with shorter waves would have lower temperature, and those with longer waves would have higher temperature.