Computer Graphics

Imagining, Radiometry, Photometry

What is Light?

Behaves like both a particle and wave in different situations

It also kind of does and doesn’t travel in straight lines.

Light Energy

The light energy is measured in joules, its power is in joules per second or watts (note it only has real meaning in with respect to time). Power per unit area is W/m2 this is also called irradiance or the total light energy per second over an area and power per unit area per direction is W/m2/Sr (watt per meter squared per steradian (unit of a solid angle)) this is also known as radiance which is irradiance concerned with direction, the radiance over all direction for an area is equal to the irradiance of that area. Radiance depends on the point being considered, the direction but also the wavelength of light being considered.

The study of light energy in a scene is known as radiometry.

The study of radiometry across wavelengths is known as spectrometry

The study of how we perceive the light is known as photometry