Lecture 3: Photometric Image Formation
Part 1

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1 Types of Sensor

There are many different types of sensors used in computer vision:

- Optical
    - CCD, Photodiodes, Photomultipliers
- Infra-red (thermal imaging cameras)
    - CCD (Cooled), Photodiodes
- Synthetic Aperture Radaaar (SAR)
    - Radar, Antenna
- Range Sensors
    - Laser & Photodiode
- MRI
    - Magnetic field gradients applied causing production of rotating magnetic field which can be measured.
- PET/CAT
    - Simulated radiation emission via magnetic field or radio isotope.

2 From Light to Images

2.1 Definitions

- **_Irradiance_**: power incident on a surface (power per unit area).
- **_Radiance_**: power travelling from a source (power per unit solid angle per unit projected source area).