

waves connect source and detector in a single beam

source

propagation respecting the geometry of situation

detector

amplitude

'do like me, but later'

path

absorber

trip time

frequency

speed

[2]energy is emitted and absorbed in quanta

photon

power in a beam depends on energy of each photon and number of photons in each second

resonant effects

constant fractional absorption

frequency

colour

frequency dependent absorption

energy

activity

power

threshold effects

multiple contributions introduce new effects

multiple inputs

superposition is an essential facet of radiating, unifying many phenomena

reflection

propagation

refraction

doppler effect

AM signalling

FM signalling

diffraction

interference

polarisation

beats

ionising radiation shifts energy and damages matter

source

irradiation

ionisation

models (energy only) of atoms and nuclei account for nuclear origins

energy shifted by radiation and patterns of ionisation

dose

some radiations shift enough energy to strip

damage