

Laser Applications

Laser properties and their influence on applications:-

Monochromaticity, coherency, intensity, directionality, the focusing properties, laser properties in different applications.

Industrial applications of lasers:-

Thermal diffusivity, laser interaction with matter, surface hardening, semiconductor laser doping laser drilling, laser welding, laser cutting, laser evaporation.

Laser applications in measurements:-

Distance measurements, thickness measurements, angular measurements, vibrations measurements, contamination measurements, angular rotation, others.

Holography:-

The hologram formation, hologram types, the holography process, Applications of holography.

laser in communications:-

Laser attenuation in atmosphere, the optical fiber, the electro-optic materials, the laser radar

Harmonic frequency generation

Medical applications

Effect of laser radiation on human body, Eye surgery, life tissue surgery, laser Safety.