Infrared Detectors and Arrays

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Infrared Detector Applications

Chemical spectroscopy
Medical diagnosis
Point sensors for automobile emissions

Thermal Imaging and night vision
Atmospheric applications and diagnostics
Surveillance and target discrimination

IR Ranges of Interest
MWIR: 3μm-5μm, LWIR: 8μm-14μm
Infrared photodetectors and focal plane array

Bulk  Quantum Well  Quantum Wire  Quantum Dot

Imaging  Medical  Defence
Required expertise

• Able to operate Molecular Beam Epitaxy (MBE) of III-V materials

• Comfortable with handling characterization techniques such as:
  - Photoluminescence (temperature- and power-dependence),
  - FTIR Spectral response,
  - Temperature dependent Current-Voltage (I-V-T)