



1 *Highly sensitive infrared detectors are necessary for the spectroscopic analysis of gaseous, liquid and solid substances.*

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2 *Scanning electron micrograph of a four-quadrant and a round LWIR detector.*

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INFRARED DETECTORS FOR QUALITY CONTROL

In the fields of research and industry infrared and Raman spectrometers are predominantly used for material analysis and quality control. Highly sensitive IR detectors make up the core component of such measuring systems. Particularly for the long wavelength range between 8 – 12 microns, in which a variety of chemical fingerprints are located, the configurable InAs/GaSb superlattice photodiodes of the Fraunhofer IAF are an alternative to CdHgTe detectors with comparable Performance.

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Features

- Adjustable long cutoff wavelength of 3 – 12 μm
- High quantum efficiency and detectivity comparable to CdHgTe detectors
- Geometry, size and arrangement of the detector elements flexibly adaptable to the application, e. g. single element and four-quadrant detectors, linear detector row

Applications

- Infrared and Raman spectroscopy for the analysis of gaseous, liquid and solid substances
- Absorptive measurement method for determining the concentration of substances
- Polarization-sensitive detection