

mIRage™ IR microscope

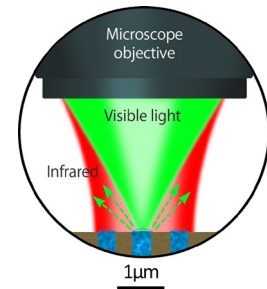
The field of IR spectroscopy just changed!

Sub-micron spatial resolution
Nondispersive spectra on thick samples
Non-contact measurements



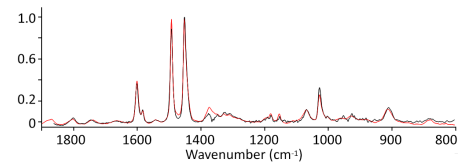
Sub-micron IR spectroscopy and imaging

Mirage overcomes the IR diffraction limit using Optical Photothermal Infrared (O-PTIR) Spectroscopy, in which a tunable pulsed mid-IR laser induces photothermal effects into a sample surface. The thermal expansions are measured using a visible probe laser focused on the sample.



Transmission FTIR quality spectra in non-contact reflection mode

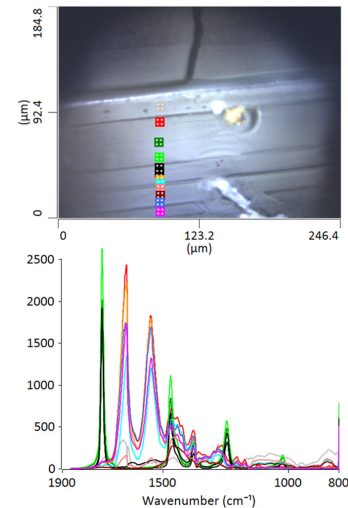
Measurements are collected quickly and easily without need for sample contact, unlike ATR spectroscopy. Additionally, O-PTIR provides spectra comparable to FTIR, without the dispersive artifacts observed in ATR. By operating in reflection mode, the need for thin samples is also eliminated.



Polystyrene spectra (red) collected on Mirage compared against the KnowItAll™ spectral database (black).

Wavelength independent spatial resolution

Spatial resolution is determined by the diffraction limited spot size of the visible laser (around 500 nm), independent of the IR wavenumber.



Seven layer commercial food packaging film. The spectra, collected directly off the epoxy-embedded stub, show distinct layers within the sample.

Wide range of applications

Mirage provides unique data for numerous material types, including:

- Polymers
- Cells
- Micro-electronics
- Bone
- Pharmaceutical
- Cosmetics

PHOTOTHERMAL

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