



● **HYPERION** FT-IR microscopy

HYPERION series provide the highest level of infrared microanalysis capabilities, utilizing state-of-the-art optics for optimal sample visualization and infrared data collection.

- Highest sensitivity and lateral resolution
- High performance ATR objective with internal pressure sensor
- Focal Plane Array (FPA) Detector technology for fast chemical imaging
- GIR objective for (sub-) monolayer detection on metallic surfaces

Bruker's HYPERION is an infrared microscope that can be used in various routine and advanced research applications; including life sciences, art conservation studies, forensics, polymer research, failure analysis etc. Featuring infrared chemical imaging, crystal-clear sample viewing and a wide variety of IR and visible objectives, the HYPERION provides you with everything needed to conduct the most sensitive microanalysis easily and efficiently.

The instrument can be upgraded from base configuration to do full chemical imaging utilizing the focal plane array (FPA) detector. The high quality optics and hardware components, along with Bruker's OPUS VIDEO, MAP and 3D software packages provide unmatched performance for the data acquisition and evaluation.



ATR objective with internal pressure sensor and highly accurate column guidance mechanism.



In Bruker's unique GIR objective design, IR beam passes the sample twice for better sensitivity.



HYPERION sampling stage with internal heating and cooling devices.

ATR Objective

Micro-ATR accessories are an essential part of any infrared micro-analysis system, as they are easy-to-use and require minimal sample preparation. Bruker's approved ATR objective design also enables it to be used as a 20x objective for best sample visualization. The ATR crystal positioning is very accurate, and the internal electronic sensor provides optimal contact with the sample. Using this objective even structured samples can be analyzed by automated ATR-mapping.

Grazing Angle Objective

The measurement of very thin coatings on metallic substrates often requires grazing angle incidence reflection to improve the interaction of the IR beam with the sample. Bruker's proprietary design achieves the highest level of sensitivity while retaining the polarization characteristics of the infrared beam.

Contrast enhancement

In order to increase the contrast for visible inspection of the sample, crossed polarizers in reflection and transmission can be used within the HYPERION.

Bright and dark field illuminations are implemented as a standard feature. Fluorescence channels are available for many different excitation/emission wavelength settings.

Fast Aperture Changes

In addition to the standard manual view-through knife-edge apertures, motorized and pinhole apertures are available. Changing apertures is fast and easy, where realignment is not required.

Sample Stages

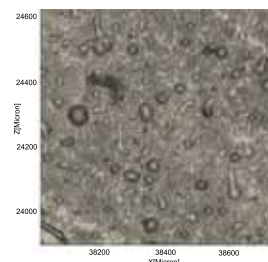
Interchangeable rotatable, heatable and computer controlled stages are available for the HYPERION.

Chemical Imaging

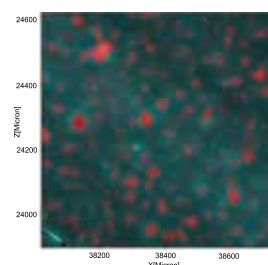
The HYPERION 3000 represents the pinnacle in infrared microspectroscopy, incorporating state-of-the-art Focal Plane Array detectors for the most demanding infrared imaging applications. High-resolution chemical images can be collected in a matter of seconds. Using this technique up to 16,384 spectra can be measured simultaneously. To cover large sampling areas with high lateral resolution, IR images can be combined by mapping.

FT-IR-Imaging

Two-component polymer mixture spotted on a silicon wafer



Visual image



Infrared chemical image revealing the distribution of the polymers PVP (red) and PMMA (blue)



HYPERION 3000 for FT-IR-imaging using modern FPA-technology

Bruker Optics
is ISO 9001 certified.

Laser class 1 product

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