

HARPIA | MM

Microscopy Module

FEATURES

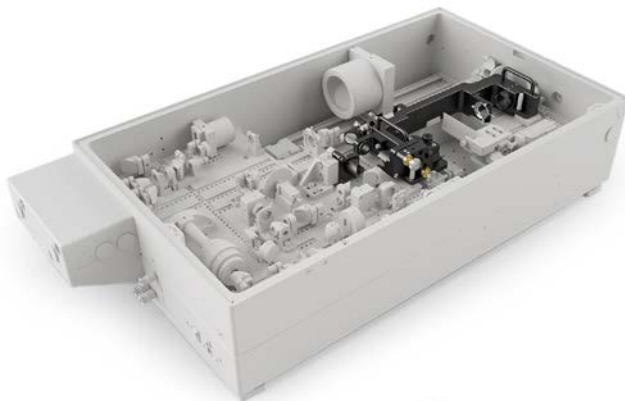
- Down to 2 μm spatial resolution
- Broadband and monochromatic probe options
- Motorized XYZ sample stage
- Transmission, specular and diffuse reflection geometry

SPECIFICATIONS

| Model | HARPIA-MM | |
|--|-------------------|--------------------|
| Spatial resolution ¹⁾ | monochromatic | polychromatic |
| | < 2 μm | < 10 μm |
| Full spectral range | 460 – 900 nm | |
| Temporal resolution | 500 fs | |
| Maximum working distance ²⁾ | 13 mm | |
| Sample motion range | 13 × 13 × 13 mm | |

¹⁾ Depends on the spectral range and the objective used; provided values represent best-effort cases.

²⁾ Depends on the objective used; contact sales@lightcon.com for details.

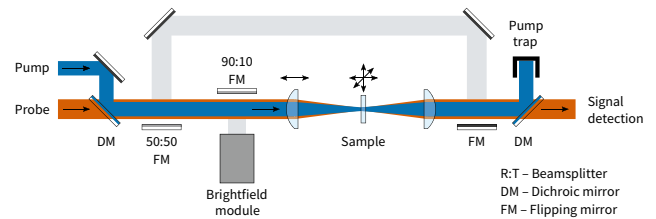


HARPIA with bulk (top) and microscopy (bottom) modules installed

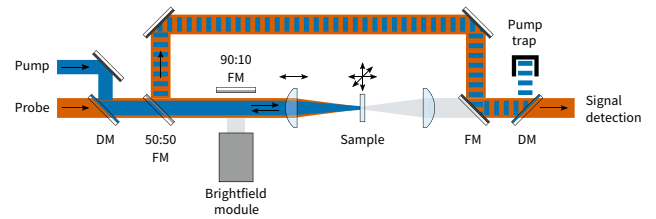
HARPIA-MM is a microscopy module add-on to the HARPIA spectrometer, which enables spatially-resolved pump-probe measurements with a spatial resolution down to 2 μm . The sample can be positioned and scanned in a 13 mm range along XYZ axes using a motorized stage. Microscopic transient transmission and reflection signals can be measured using a broadband or a monochromatic probe.

HARPIA-MM allows the acquisition of time-resolved spectra at a fixed position, difference absorption images at a fixed probe delay, and other types of data. Switching between bulk and microscopic pump-probe modes is implemented using self-contained modules, allowing experiment reconfiguration without disturbing the sample. The microscopy module features a brightfield mode to observe the sample and to determine the pump-probe spot location.

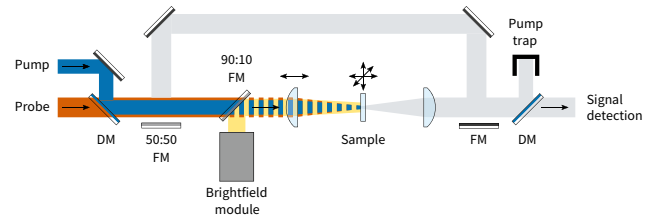
TRANSMISSION MODE



REFLECTION MODE



BRIGHTFIELD MODE



HARPIA Service App

System control and data acquisition software

A single software solution for all measurement modes, featuring:

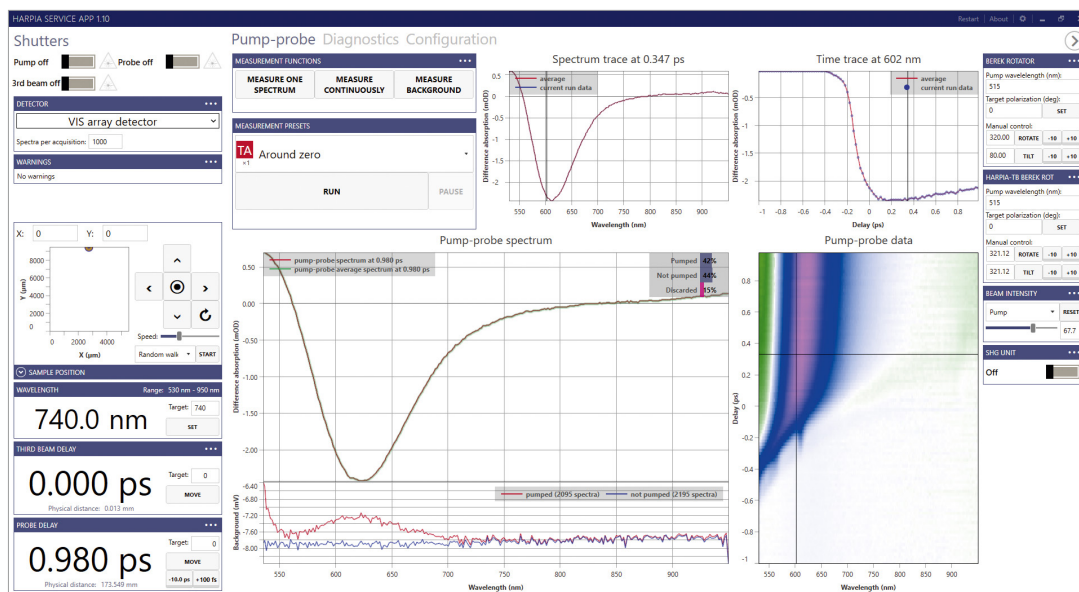
- User-friendly interface
- Measurement presets
- Measurement noise suppression
- Diagnostics and data export
- Continuous support and updates
- API for remote experiment control using third-party software (LabVIEW, Python, MATLAB)

CarpetView

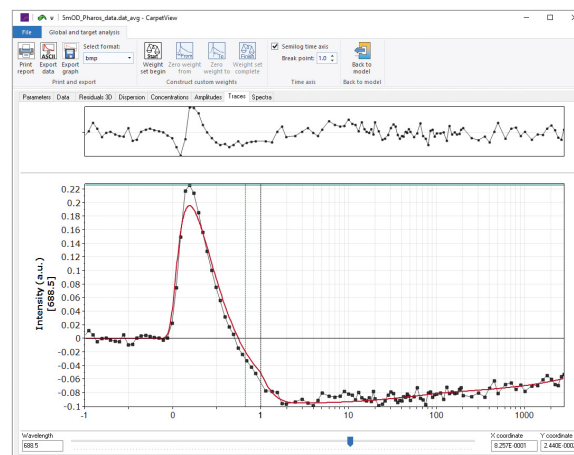
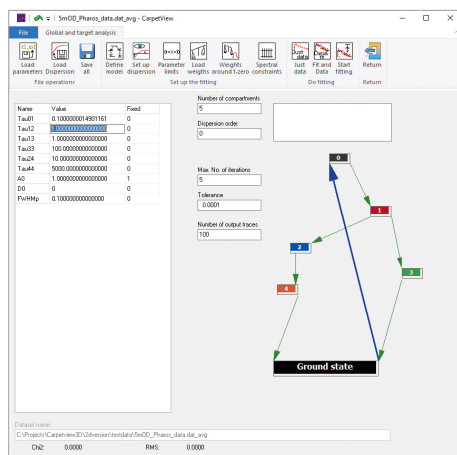
Data analysis software

An ultrafast spectroscopy data analysis software, featuring:

- Advanced data wrangling: slicing, merging, cropping, smoothing, fitting, etc.
- Advanced global and target analysis
- Probe spectral chirp correction, calibration and deconvolution
- Support for 3D data sets (2D electronic spectroscopy, fluorescence lifetime imaging)
- Publication-ready figure preparation and data export



HARPIA Service App main window



Global and target analysis windows of CarpetView