

HIRO

515 nm, 343 nm, 258 nm



ORPHEUS

210 nm – 16 μm



TOPAS

189 nm – 20 μm



Tunable wavelength source

Pump laser source

PHAROS

190 – 300 fs

< 1 MHz

1030 nm



CARBIDE

290 fs – 10 ps

< 1 MHz

1030 nm



Other ultrafast laser

Probe beam delay configuration

DLC1	DLC2	DLC6	DLC3	DLC5
2 ns	4 ns	6 ns	8 ns	12 ns *

* restrictions apply

Aerotech PRO115SL **DL2**
Ball-screw, 300 mm/s speed.

Physik Instrumente VT-80 **DL1**
Linear lead screw, 20 mm/s speed.

Delay range	Delay resolution
4 ns	4 fs
6 ns	6 fs
8 ns	8 fs
12 ns	13 fs

Delay line

Single-channel InGaAs NIR/mid-IR detector

1.2 – 2.6 μm	DS3
0.7 – 1.8 μm	DS2

Multi-channel InGaAs NIR/mid-IR detector

0.9 – 1.7 μm	DM3
1.1 – 2.6 μm	DM2

Single-channel Si NMOS UV/VIS/NIR detector

0.2 – 1.1 μm	DS1
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Multi-channel Si NMOS UV/VIS/NIR detector

0.2 – 1.1 μm	DM1
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Detectors

Integrated spectrometer **SP3**
VIS-to-NIR fiber spectrometer with a fixed spectral range.

External spectrometers

Andor Kymera 328i	SP5
Andor Shamrock 163i	SP2
Andor Kymera 193i	SP1

Spectrometer

Polarization control

BC2

Motorized Berek compensator
Automated setting of any pump polarization state at the sample for any UV-to-NIR pump wavelength.

BC1

Manual Berek compensator

Manual sample holding unit **SH1**

Sample mover **SH2**
Sample translation in the focal plane to avoid local overexposure. Precise positioning of an inhomogeneous sample.

Sample translation

Intensity control

Manual neutral density filters **NDF1**

Motorized neutral density filters **NDF2**
Remote light intensity adjustment and intensity-dependent measurements.

Extensions

Microscopy module

MM1



Pump-probe microspectroscopy in transmission and reflection modes.

	Resolution
Spatial	5 μm
Temporal	500 fs

TB1

HARPIA | TB

Third beam delivery module

Delay range	Delay resolution
2 ns	4 fs
4 ns	6 fs



Multi-dimensional spectroscopic measurements: pump-dump-probe, pump-repump-probe or prepump-pump-probe, time-resolved femtosecond stimulated Raman scattering, etc.

TF1

TF2

HARPIA | TF

Femtosecond fluorescence upconversion & TCSPC module

Option	Resolution
TF1 Universal	<150 ps
TF2 High-speed	37 ps



Additional options

- AD1** Measurement in reflection mode
Additional mounts and optics for collecting the reflected probe signal.
- AD2** Glan-Taylor polarizer
Miniature polarizer for verifying the polarization orientation inside HARPIA.
- AD3** Reference photodiode
Measurement of probe signal level for elimination of long-term signal fluctuations.
- AD4** Crystal rotator
Moves the probe supercontinuum crystal in a circle to allow the use of materials with a lower damage threshold, e.g. CaF₂ and MgF₂.
- AD5** Beam profiler
- AD6** Motorized pump mirror
- AD7** External beam stabilization
- AD8** Internal beam position tracking
- AD9** Cryostat adapter
Sample compartment adapter for a user-supplied cryostat. Integration of peristaltic pumps and nitrogen purging.
- AD10** Sample stirrer
- AD11** Flash photolysis extension