-FERGIE.

Applications

Using FERGIE To Perform Spectroscopy: Overview and Examples

FERGIE for Raman Spectroscopy

FERGIE was born to do Raman!

Below is a simple example of a Raman setup using CUBES 1, 2, and 3, along with an NIR fiber port and the FERGIE 785 nm fiber-coupled laser. Note that fiber coupling or free space can be utilized.



FERGIE for Absorption/ Transmission Spectroscopy

FERGIE can easily be configured to perform absorption or transmission spectroscopy. Setup is simple with a single Sample Chamber CUBE and two fiber ports. Absorbance measurements are established in minutes.

The stabilized QTH source is ideal for absorbance measurements as well as relative intensity calibration. The QTH lamp also houses a ½ inch filter holder that allows users to insert order-sorting, long-pass, or short-pass filters in-line with the lamp.

But FERGIE doesn't stop there. By utilizing the Beam Splitter CUBE, a live reference channel can be added.



FERGIE for Microspectroscopy

FERGIE was designed with easy optical coupling in mind! The FERGIE entrance slit, which mirrors every CUBE, has a 1 inch SM1 threaded aperture that lets users couple FERGIE to imaging lenses and microscopes.

Connecting FERGIE to a microscope is easily accomplished using an "SM1 thread to C-mount" adapter and the microscope's "C-mount to side port" adapter.

FERGIE's diffraction-limited imaging performance permits high-resolution images to be collected through a microscope and high-SNR spectra to be collected for the sample.



FERGIE for Time-Resolved Spectroscopy

FERGIE has an internal timing generator (TG) with dual programmable trigger output lines, each of which can be swept in time/pulse duration to record the temporal evolution of photo-induced chemical reactions.

The FERGIE TG has separate programmable delay and width settings for each output, along with sequences (up to 1022 steps). Delay and width are programmed in 10 nsec steps, up to 42 seconds, allowing easy pump-probe spectroscopy experimental setup.

The TG works with kinetics spectral mode, permitting effective shutter times equal to the vertical shift rate multiplied by the number of rows of the horizontal binning in the kinetics window.

As shown below, FERGIE can be configured to perform flash photolysis.







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