LightField® Software

LightField® software offers the user complete control over all Princeton Instrument cameras and spectrographs and is able to acquire directly from LabVIEW®, MATLAB®, and Python script interfaces.

LightField software contains a smart search bar, quickly directing you to desired controls. There is also the possibility to build custom settings docks for frequently used settings.

- Complete control of all Teledyne Princeton Instruments' cameras and spectrometers
- Built-in, smart math engine
- Post-processing tools

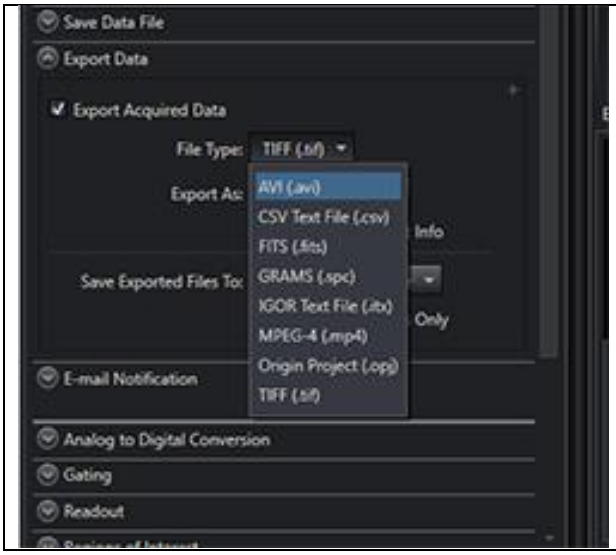
System Requirements

Before running LightField, confirm that your system meets both the hardware and the operating system requirements for this version of the software.

- Camera : Teledyne Princeton Instruments camera with internal controller and the appropriate card (USB2.0, 1394a(FireWire), Gige) installed in the host computer.
- Operating System : Windows7, 8, 8.1, 10(64bit)
- Computer
    - 2GHz dual core processor
    - 4GB RAM (minimum)
    - 1GB storage(Minimum memory required for installation. Additional memory required for image and data storage.)

Key Features

Automatic Saving



LightField automatically saves every acquisition to your chosen folder, keeping track of all experiment settings in the file header.

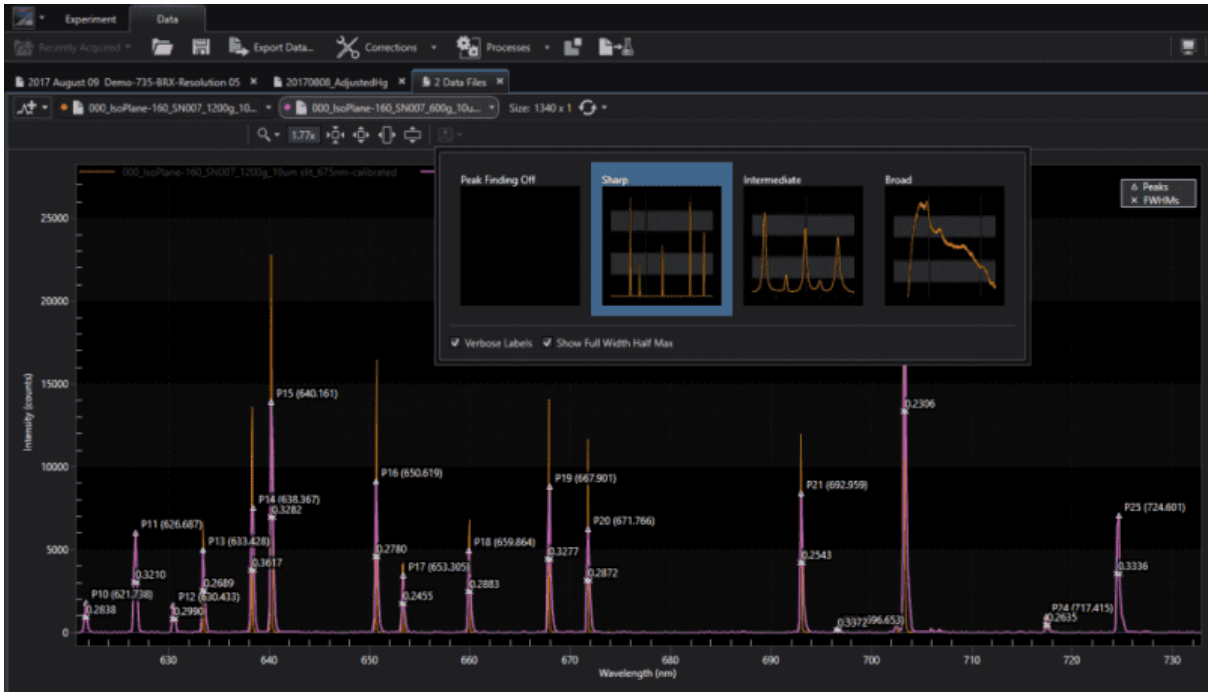
Raw data is also saved when using the post-processing feature, exporting all data into a wide variety of file formats.

Built-In Math Engine

The powerful built-in math engine analyses image and spectra data in real-time. Simple functions to complex functions, such as Fast Fourier Transform (FFT),

can be applied to live or post-acquisition data, even including out-of-the-box measurements such as absorption, reflectance, and transmission.

Post-Processing Tools



Reviewing of data is also simple with LightField, with intuitive controls for spectral overlay, peak find, view, and playback. All available readout modes are also supported: frame transfer, kinetics, spectra kinetics (microsecond time resolution), and custom chip (>10 kHz frame rates).

Technical Notes

Instruments Automation via National Instruments LabView®

While many labs use LabVIEW for instrument automation, quite often researchers find it daunting to create their own vi's if a sub-vi for a desired function is not provided by the instrument manufacturer.

Teledyne Princeton Instruments provides robust documentation and building blocks to help most users perform their desired automation without.. Link

IntelliCal-Automated wavelength and intensity calibration routines significantly improve accuracy of recorded spectra

Calibration of dispersive spectral instruments has long been problematic for researchers.

When a spectrum is plotted along a pair of axes, the x-axis usually represents wavelength or wavenumbers, while the y-axis represents intensity.

Optical spectroscopic equipment manufacturers have all but left the task of determining… Link

Fully automated wavelength calibration method optimizes data accuracy

The recent launch of Princeton Instruments' powerful LightField® 64-bit data acquisition software also heralded the arrival of a brand new, fully automated wavelength calibration method developed to achieve unprecedented accuracy for spectroscopy applications (see Figures 1–4). Currently offered as a LightField package option, patent-pending IntelliCal® technology from Princeton Instruments enables… Link

Videos

LightField5 Software Introduction

LightField – Designed for Researchers

LightField software – Setup, Acquire, Analyze and Export

LightField –The Power of Math

LightField – LabVIEW and MATLAB Integration

LightField for PI-MAX4 ICCD Cameras

Python Automation with LightField – Part1

Python Automation with LightField – Part2

Python Automation with LightField – Part3