

OptoSplit II

The OptoSplit II emission splitter from Cairn Research allows a single camera to record images simultaneously at two different optical wavelengths.



The OptoSplit was designed as a convenient, inexpensive solution to simultaneous dual wavelength imaging. It has the unique feature of a rotating mirror cradle, which allows adjustable spatial separation, to facilitate pixel-to-pixel image registration.

The OptoSplit can be used with any image capture software and the processing carried out manually off-line. However device drivers are included in many commercial software packages to assist image registration and to allow real-time or off-line ratioing and fluorescence overlays. The simple and accessible design makes the OptoSplit II an excellent platform for such demanding applications as dual polarization imaging. While optimized for coupling to a scientific microscope, the OptoSplit can also be used with camera lenses or any other system of lenses which produce an image plane of suitable size.

Why use an emission splitting system?

To do two channel imaging, a filter wheel has traditionally been used. The time it takes for the filter wheel to switch positions means that the two images are not acquired at the same time. In applications where the resulting images need to be ratiometrically analyzed, such as FRET, the delay between acquisitions can introduce temporal artifacts in your analysis. An emission splitting system like the OptoSplit II ensures that the two images are acquired at exactly the same point in time, eliminating temporal artifacts and resulting in more accurate results.

APPLICATIONS

- Ratio calcium & pH imaging
- Dual probe imaging
- Fluorescence resonance energy transfer (FRET)
- Total internal reflectance fluorescence (TIRF)
- Fluorescence polarization

FEATURES

- Compact design with integral C-mount input and output ports
- Simple & precise controls for image registration
- Interchangeable filter cubes with user replaceable dichroic mirrors
- Choice of magnification



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