OptoSplit III

The OptoSplit III triple image splitter from Cairn Research is a device for dividing an image into either one, two or three separate, spatially equivalent components which can be displayed side by side on a single camera chip.

Emission splitting is usually performed on the basis of wavelength or polarization, allowing applications where there is a requirement for simultaneous acquisition of multiple emission bands or polarization states. The simultaneous acquisition of up to three images offers a major benefit over manual or electronic filter changers, as there is no longer a need to pause acquisition while the filter position is changed. This allows the camera to be operated at the very fastest capture rates it is capable of achieving.

Why use an emission splitting system?

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

APPLICATIONS

Polarization fluorescence Resonance energy transfer (pFRET)

Ratiometric ion imaging

Triple fluorescence probe imaging

Polarization studies

Simultaneous phase contrast and fluorescence

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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