

TwinCam

The TwinCam 2-channel image splitter from Cairn Research is a device that enables the simultaneous acquisition of two emission channels, each on a separate CCD.

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 two emission channels 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 cameras to be operated at high speed, at the fastest capture rates they are 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 resulting images need to be ratiometrically analyzed, such as FRET, the delay between acquisitions can introduce temporal artifacts. An emission splitting system like the TwinCam ensures that the images are acquired at exactly the same point in time if the cameras are synchronized, eliminating temporal artifacts and producing accurate results.



APPLICATIONS

Polarization fluorescence resonance energy transfer (pFRET)

Ratiometric ion 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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