



TECHNOLOGY

Quantification of birefringence by single mode fiber based PS-OCT

OVERVIEW

Background:

Optical Coherence Tomography (OCT) is a technique used to obtain detailed (comparable to a low power microscope) three-dimensional images of biological tissues or other optically scattering media with the use of light. OCT device collects light reflections from within tissues to provide cross-sectional high-resolution (micrometer range) images. The use of interferometry allows for OCT to build 3D images of samples by rejecting scattered signals from other layers while collecting light directly reflected from a specific depth of interest.

Innovation:

Researchers at the University of Maryland have developed a simple and effective method to quantitatively measure the birefringence of tissue by an all single mode fiber (SMF) based polarization sensitive optical coherence tomography (PS-OCT) with single input polarization state. This method can convert an SMF-based OCT system to a PS-OCT system. PS-OCT is particularly useful for imaging the nano-scale organization of tissue that are difficult to be observed in the intensity images of a regular OCT.

APPLICATIONS

Imaging biological tissues

ADVANTAGES

Improved contrast over regular OCT

CONTACT INFO

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Additional Information

INSTITUTION

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PATENT STATUS

Pending

EXTERNAL RESOURCES

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