A New Device for Tissue Imaging: Phasor-Based S-FLIM-SHG

Tech ID: 33742 / UC Case 2023-797-0

BRIEF DESCRIPTION

An innovative microscope integrating HSI, FLIM, and SHG for advanced optical metabolic imaging.

FULL DESCRIPTION

Researchers at UC Irvine have developed a technology introducing a Phasor-based S-FLIM-SHG microscope, capable of simultaneous Hyperspectral Imaging (HSI), Fluorescence Lifetime Imaging Microscopy (FLIM), and Second Harmonic Generation imaging (SHG). It is designed to efficiently detect scattered photons in complex samples and excels in SHG signal detection. A novel 5D-snapshot metabolic imaging method significantly reduces acquisition times and enhances measurement accuracy, demonstrating versatility across various sample types.

SUGGESTED USES

- Cancer detection and research.
- Analysis of live tissue samples for biomedical research.
- Quality control for anti-cancer drugs.
- Surgical margin assessment.
- Advanced research in scattering media imaging.

ADVANTAGES

- Simultaneous acquisition of HSI, FLIM, and SHG imaging.
- Efficient detection of scattered photons in complex samples.
- Significant reduction in acquisition times.
- Enhanced measurement accuracy.
- Cost-affordable compared to similar devices.
- Applicable to a wide range of sample types, including live tissues.

PATENT STATUS

Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- **Imaging**
  - Medical
  - Other
- **Medical**
  - Imaging
  - Research Tools

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