



UNIVERSITY of NORTH TEXAS HEALTH SCIENCE CENTER

Technology Transfer & Commercialization

SPCE Microscope

Learn more!

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Technology Case
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Our Inventors

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Patent Status

US Application filed

Publications

"Application of surface plasmon coupled emission to study of muscle" Biophys J. 91(7): 2626 (2006)

"Minimization of detection volume by surface-plasmon-coupled emission" Anal Biochem. 356(1): 125 (2006)

"Fluorescence Correlation Spectroscopy in Surface Plasmon Coupled Emission Microscopy" Optic Express 14 (17), 7878-7888 (2006)

"Fluorescence correlation spectroscopy in a reverse Kretschmann surface Plasmon assisted microscope" Optic Express 16(17):13381-90 (2008)

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Discovery

- Detection techniques based on surface plasmon-coupled emission (SPCE) phenomena decrease observation volumes by as much as 100-fold over conventional confocal microscopy methods.

Features

- Reduced excitation and observation volumes
- Custom-made, semi-transparent metal slides reflect over 90% of unwanted signal and background light
- Analysis of phenomena at depths up to 100 nm from analyte surface

Benefits

- Allows for observation of surface, or near surface phenomena with
 - Enhanced resolution
 - Significant background reduction
- Enables enhanced single-molecule studies

Opportunities

- Widely applicable to biological studies, polymer research, and semi-conductor manufacturing
- Exceptionally suited to studying opening and closing of ion channels
- Effective detection technique for high throughput screening (HTS)
- This discovery arises from the UNTHSC Center for the Commercialization of Fluorescence Technologies, funded in part by a \$2.3 million award from the Texas Emerging Technologies Fund.