

“Light Guidance in the Nanoscale: Enhanced Spectroscopy”

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Considerable progress has been made in achieving dramatic localization of light below the diffraction limit. This localization has broad impacts on sensing, spectroscopy, and molecular electronics. We utilize the Finite Difference Time Domain Method (FDTD) to simulate the interaction of electromagnetic energy with metal nanostructures. The resulting enhanced fields can lead to detection of down to single molecules. I will present results on the use of metallic tips for focusing with applications for Raman spectroscopy.