



奈米光電模擬實驗室

Nanophotonics Simulation Lab



成功大學
National Cheng Kung University



負責教授：藍永強教授 國立成功大學

成立時間：2004年

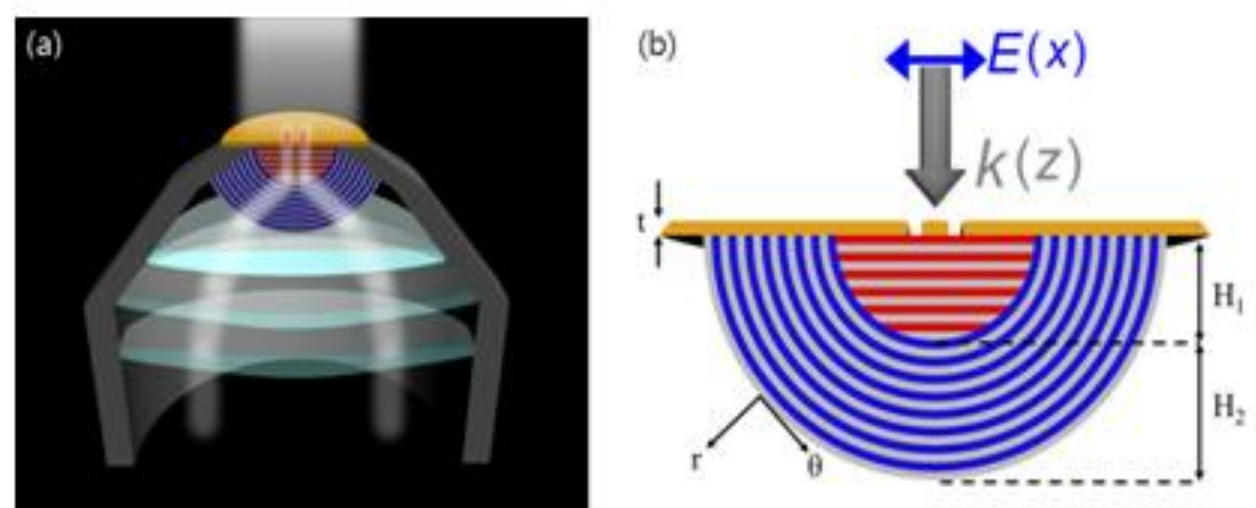
設置地點：成功校區綜合大樓48201 (B)

研究人員：博士研究生3位、碩士研究生4位

研究方向：電漿子光學元件模擬、設計與分析；超穎材料光學特性模擬與分析；轉換光學模擬與分析

研究成果：藍永強教授近年來致力於電漿子光學、超穎材料與轉換光學研究，主要研究工作內容為電腦數值模擬與理論分析，近五年的研究工作總共發表期刊論文15篇、國科會個人型研究計畫(主持人)與國家型研究計畫(共同主持人) 每年各一件。

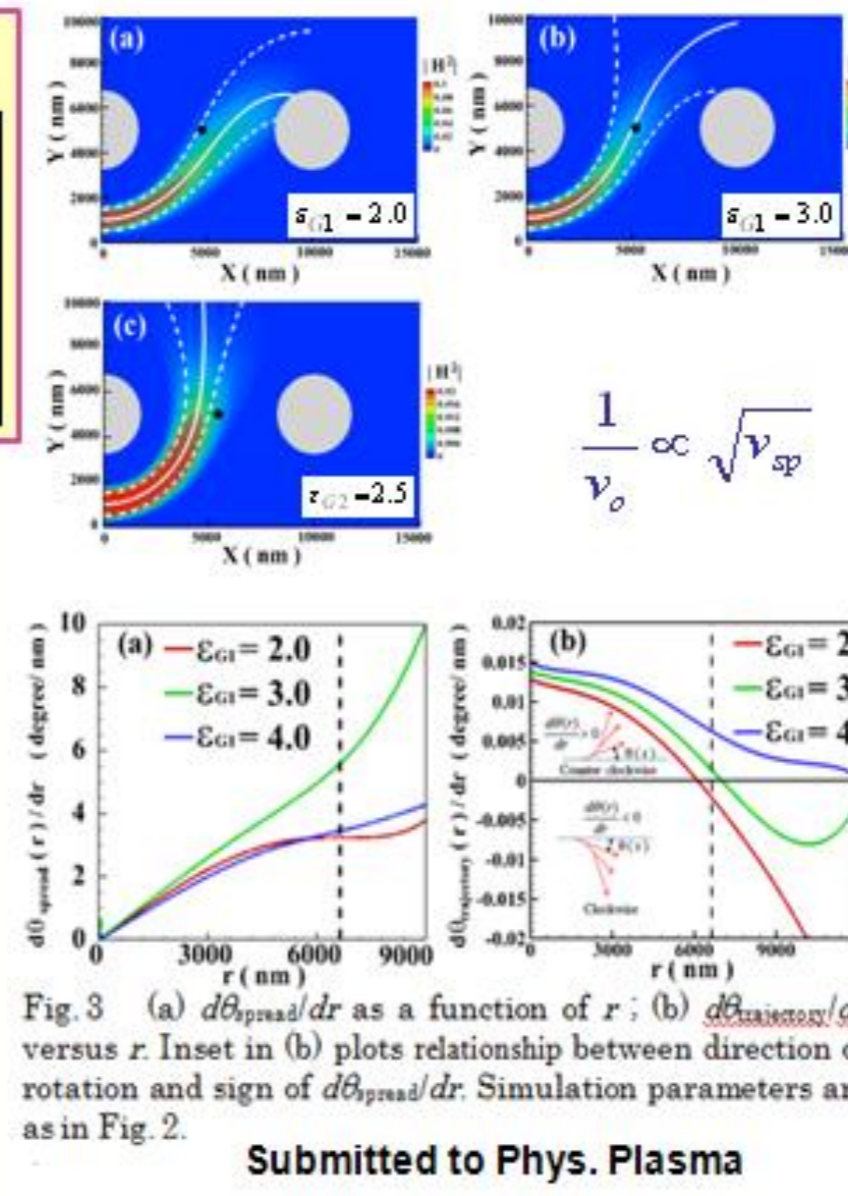
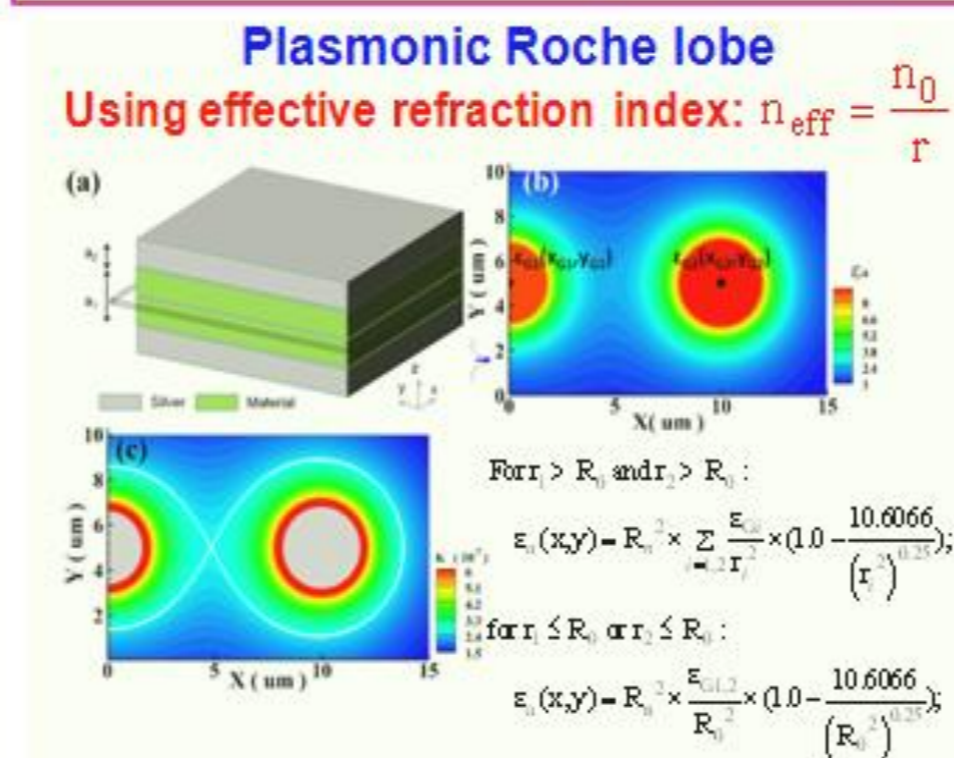
Optical hybrid-hyperlens-superlens for superresolution imaging



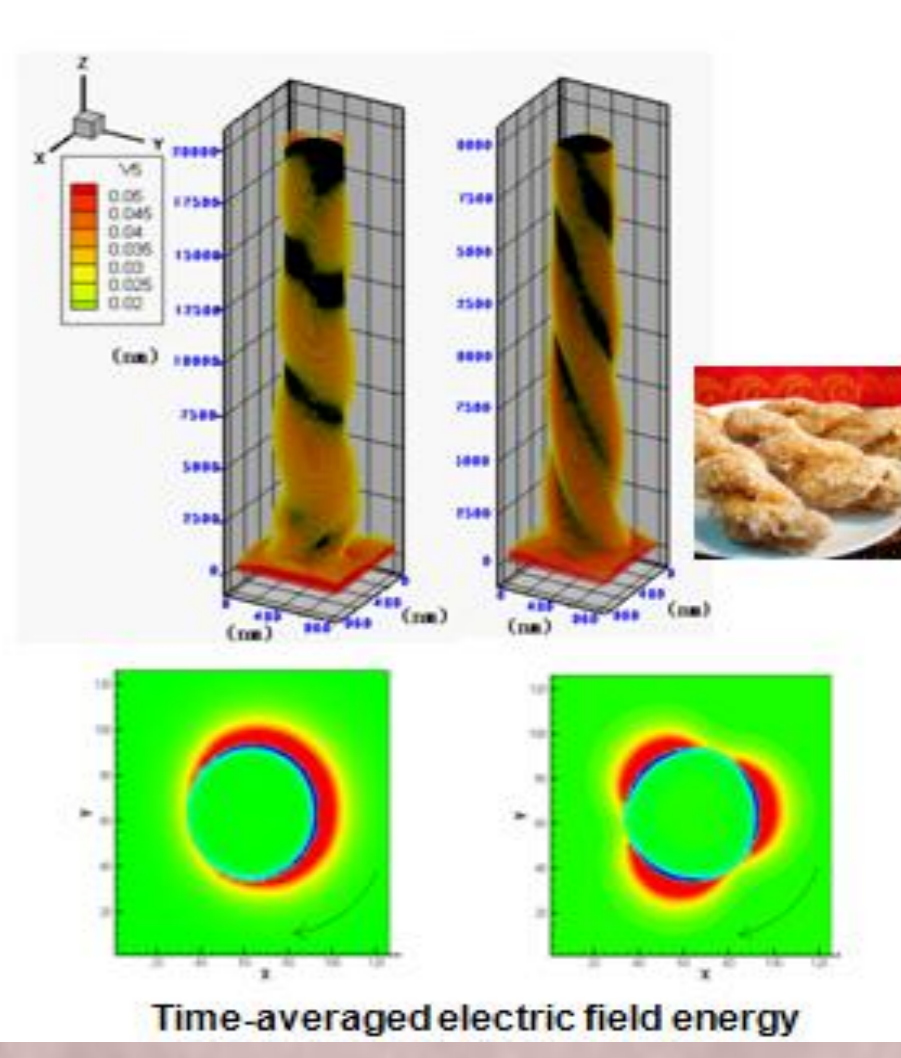
- Planar-superlens + cylindrical hyperlens
- 400 nm light with 150 nm resolution
- Can combine with the conventional lens to form a kind of novel objective lens

Cooperate with Prof. D. P. Tasi at NTU
IEEE JSTQE 19, 4601305 (2013)

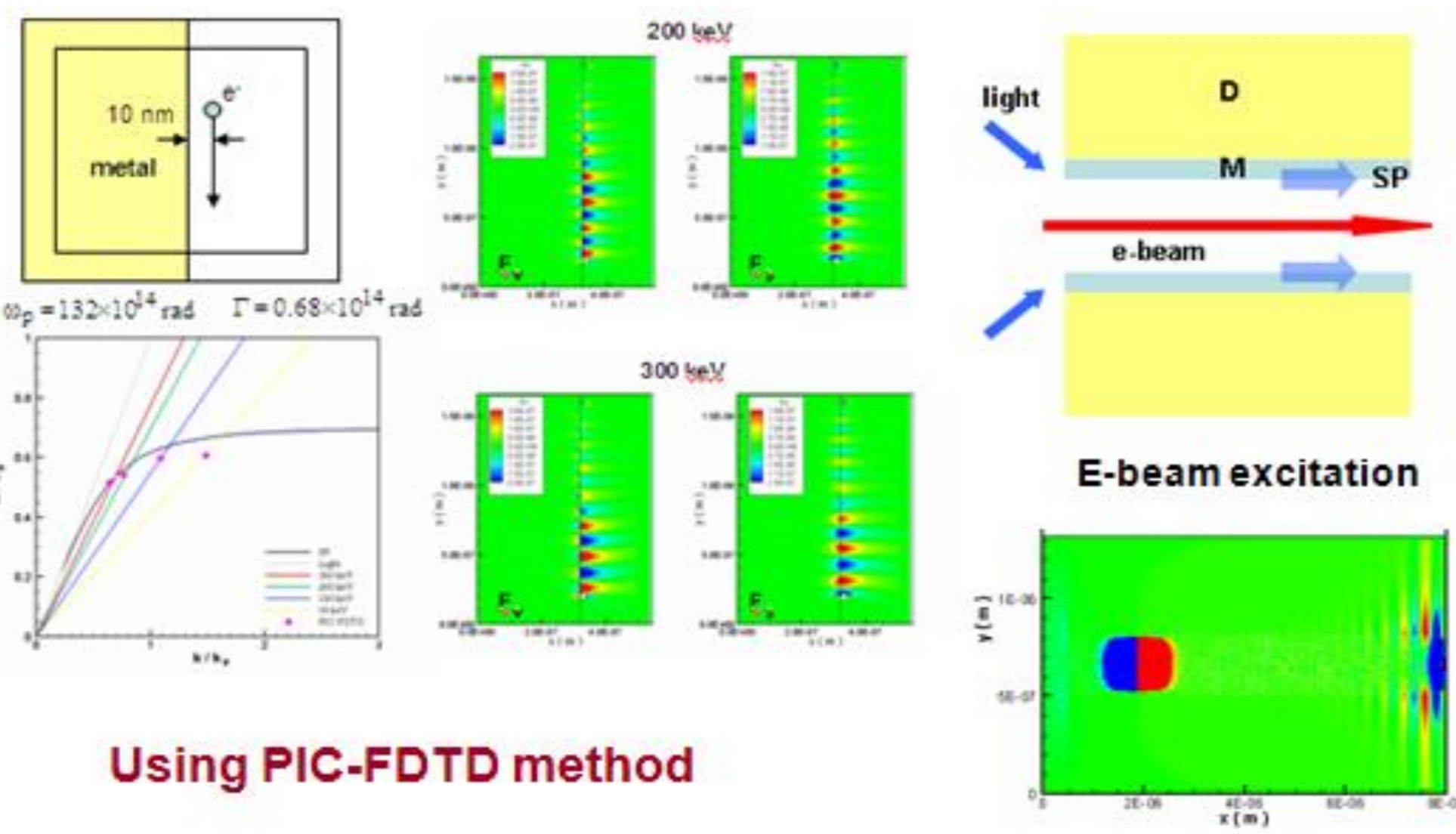
Plasmonic Roche Lobe in MDM Structure



Spiral Surface Plasmon Modes on Metal Nanorods

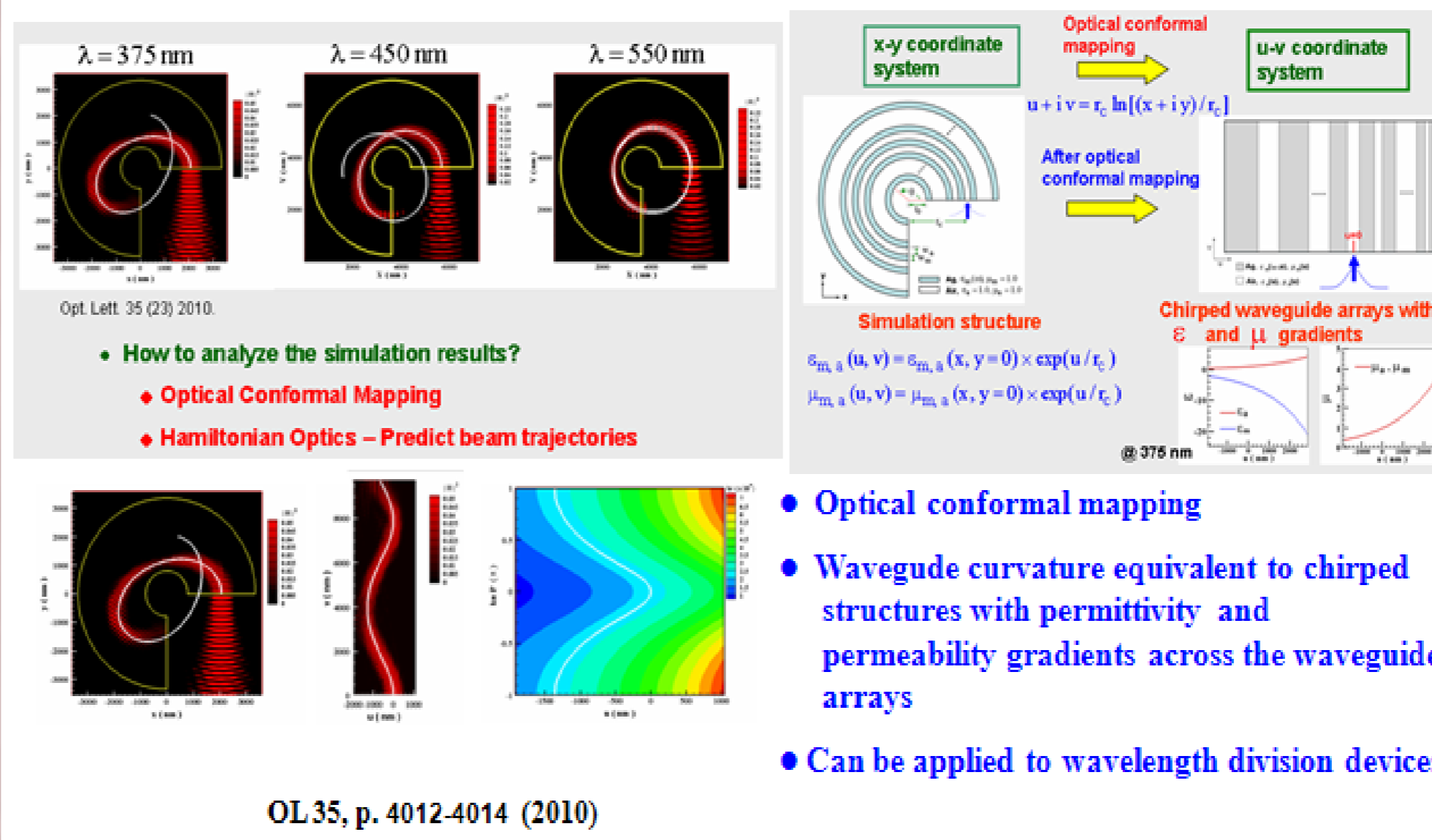


Excitation and Amplification of Surface Plasmons Using Electron Beams

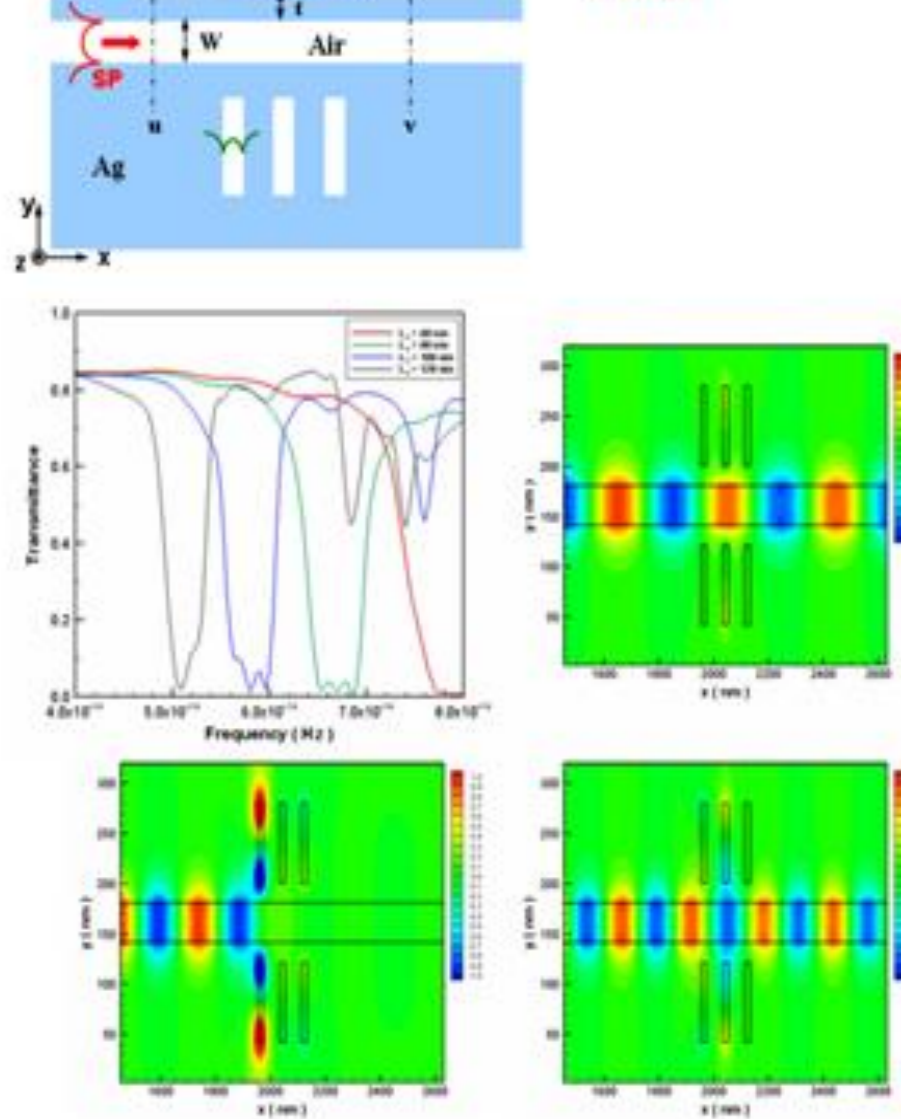


Transformation Optics

Plasmonic Bloch Oscillations in Cylindrical Metal-Dielectric Waveguide Arrays



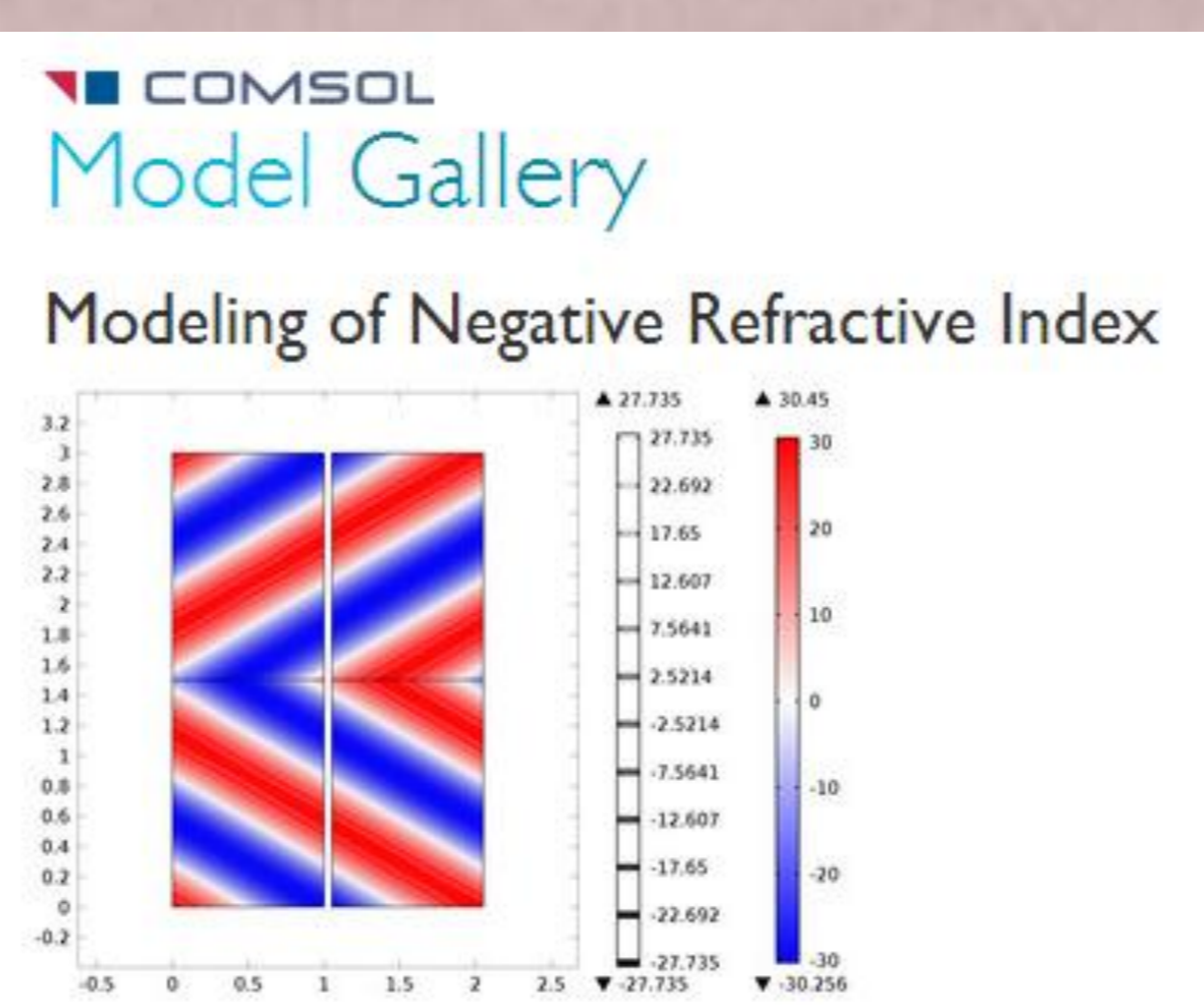
Plasmonic Filter



儀器設備:

Software

- 2-D FORTRAN FDTD code
- Rsoft Fullwave FDTD
- MEEP FDTD code (from MIT) parallel version, 1~192 CPU
- Tech-X Vorpil 5.2 PIC-FDTD code, 64 CPU
- COMSOL 4.3a FEM code



Equipments

- 64-CPU PC-cluster (64G RAM)
- ALPS at NCHC
Acer AR585 F1 Cluster
1-192 CPU
- DELL 12-CPU workstation (72G RAM) X 2

