

Investigation of Cylindrical Multi-Layer Hybrid Plasmonic Waveguides

Authors : Prateeksha Sharma, V. Dinesh Kumar

Abstract : Performances of cylindrical multilayer hybrid plasmonic waveguides have been investigated in detail considering their structural and material aspects. Characteristics of hybrid metal insulator metal (HMIM) and hybrid insulator metal insulator (HIMI) waveguides have been compared on the basis of propagation length and confinement factor. Necessity of this study is to understand newer kind of waveguides that overcome the limitations of conventional waveguides. Investigation reveals that sub wavelength confinement can be obtained in two low dielectric spacer layers. This study provides gateway for many applications such as nano lasers, interconnects, bio sensors and optical trapping etc.

Keywords : hybrid insulator metal insulator, hybrid metal insulator metal, nano laser, surface plasmon polariton

Conference Title : ICNOP 2015 : International Conference on Nanotechnology, Optoelectronics and Photonics

Conference Location : Kyoto, Japan

Conference Dates : November 12-13, 2015