

Abstract Submitted
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Study of the Incident Angles and SPP(Surface Plasmon Polaritons) in the Nano Scaled Materials RICHARD KYUNG, JAY-YOUNG CHO, Choice Research Group — In this study, SPP(Surface Plasmon Polaritons) in multi-layered nano structures, which consist of metals and dielectrics, have been analyzed using numerical and computational simulation. The purpose of this research is to find incident angles, and observe dispersions and plasmon polaritons occurring inside the materials when a laser beam is absorbed by the structure. The setup of the models consisted of air, metal oxide, metal, and prism. Numerical computer programs such as COMSOL and Matlab are used to analyze the phenomenon. Modes of SPP(Surface Plasmon Polaritons) have been observed and calculated for the multi-layered metals and metal oxides. The accurate incident angle, dispersion, magnetic field inside the material and the effective index are found to be different for each model.

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