

Abstract Submitted
for the TSF12 Meeting of
The American Physical Society

Surface plasmon excitations at *well-defined* and *not-so-well-defined* interfaces KUNAL TIWARI, ANKIT SINGH, SURESH SHARMA, University of Texas at Arlington — It is well known that travelling wave surface plasmon excitations (SPEs) can be generated by using well-defined Kretschmann geometry, in which a sample is sandwiched between a thin noble-metal film coating on the base of a high-index prism and glass slide. The onset of SPEs is evidenced by loss in the intensity of totally reflected light at a certain angle greater than the critical angle for total reflection. We have investigated the onset of SPEs in several samples, having both *well-defined* and *not-so-well-defined* metal/dielectric interfaces. Whereas SPEs at the first type of interfaces is understood, their occurrence at not-so-well-defined interfaces is hardly known. We have investigated the onset of SPEs at both types of interfaces in a series of samples prepared by using mixtures of nematic liquid crystal and 14 nm diameter Au NPs dispersions. In this presentation, we will show results from a series of measurements and simulations.

Suresh Sharma
University of Texas at Arlington

Date submitted: 21 Sep 2012

Electronic form version 1.4