

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Quantum theory for plasmon-assisted local field enhancement**

ILYA GRIGORENKO, New York City College of Technology — We applied quantum theory for nonlocal response and plasmon-assisted field enhancement near a small metallic nanoscale antenna in the limit of weak incoming fields. A simple asymmetric bio-inspired design of the nanoantenna for polarization-resolved measurement is proposed. The spatial field intensity distribution was calculated for different field frequencies and polarizations. We have shown that the proposed design the antenna allows us to resolve the polarization of incoming photons.

Ilya Grigorenko  
New York City College of Technology

Date submitted: 09 Nov 2015

Electronic form version 1.4