Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Plasmon resonance of gold nanoparticles: the effect of surfactants and solvents[1] JEREMY NEAL, PETER PALFFY-MUHORAY, Liquid Crystal Institute, Kent State University — Metallic nanoparticles dispersed in host materials have many potential applications due to their unique optical properties. These properties are determined not only by the size, shape and composition of the particles, but also by their environment. Metallic nanoparticles are typically coated with surfactants to prevent aggregation; these surfactants can also significantly affect their optical response. The role of surfactant coatings has been studied previously, but the results are incomplete. We have obtained theoretical expressions to describe and have carried out numerical simulations to determine the effects of solvents and surfactants on the optical response.

[1]This work was supported by the AFOSR under MURI grant FA9550-06-1-0337.

Michele Moreira
Liquid Crystal Institute, KSU

Date submitted: 21 Nov 2008 Electronic form version 1.4