"Nanotechnologies: from basic research to innovation"

## Plasmomechanics: triggering and controlling the plasmonic coupling at the nanoscale through macroscale applied strains

<u>Roberto Caputo</u><sup>1</sup>, Ugo Cataldi<sup>1,2</sup>, Yuriy Kurylyak<sup>1</sup>, Gérard Klein<sup>2</sup>, Mahshid Chekini<sup>2</sup>, Thomas Bürgi<sup>2</sup> and Cesare Umeton<sup>1</sup>

<sup>1</sup>Department of Physics, Centre of Excellence for the Study of Innovative Functional Materials CEMIF-CAL, University of Calabria and LICRYL - IPCF (Liquid Crystals Laboratory, Institute for Chemical Physics Processes) CNR – UOS Cosenza, 87036 Arcavacata di Rende, Italy E-mail: roberto.caputo@fis.unical.it

<sup>2</sup> Department of Physical Chemistry, University of Geneva, 30 Quai Ernest-Ansermet, 1211 Geneva 4, Switzerland

"Plasmomechanics" has been emerging in the last years as a promising field for technological applications in the next future. Here we present a preliminary study paving the way for a future fabrication of plasmonic strain sensors based on plasmonic coupling of gold nanoparticles deposited onto elastomeric films [1].

1. U. Cataldi, R. Caputo, Y. Kurylyak, G. Klein, M. Chekini, C. Umeton and T. Bürgi, ", J. Mat. Chem. C (submitted)