

Dottorato di Ricerca in Fisica dell'Università degli Studi di Messina

10 Luglio 2012, ore 15.00, Sala Seminari, IPCF-CNR,

V.le F. Stagno d'Alcontres 37, S. Agata, Messina

Seminar title:

Forces and torques at the nanoscale: From measurements to applications

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Abstract

The possibility of measuring microscopic forces down to the femtonewton range has opened new possibilities in fields such as biophysics and nanophotonics. In this seminar, I will review some of the techniques most often employed, namely the photonic force microscope (PFM) and the total internal reflection microscope (TIRM).

I will particularly focus on the measurement of radiation forces generated by surface plasmons, on the extension of the PFM technique to the measurement of mechanical torques, and on a new calibration method for TIRM that allows one to adopt it in front of reflective surfaces (gold coating).