



Appunti di Fisica '19 & Dottorato di Ricerca in Fisica

9 aprile ore 15:00
Sala seminari, CNR-IPCF

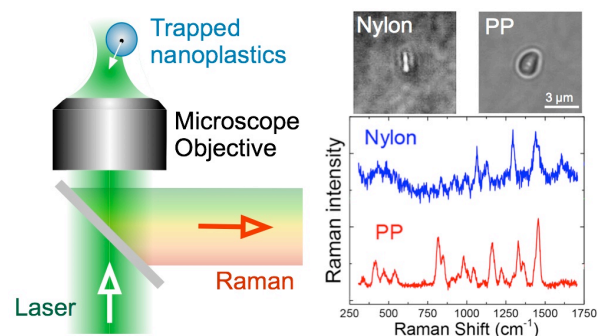
Plasmonics for molecular detection and Raman tweezers coupled with thermo-plasmonics for micro- and nano-plastics detection

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In a first part the near-field and far-field plasmonic properties of a new family of hybrid substrates designed to combine surface plasmon resonance imaging (SPRi) and Surface Enhanced Raman Scattering (SERS) consisting of gold nanoparticles deposited on a gold film will be presented. Pico-molar SERS sensing will be demonstrated using an aptamer.

Raman tweezers will be proposed as a new analytical method for nano and microplastics detection. Nano-plastic detection and identification will be demonstrated in sea water as well as differentiation from naturally occurring sediments.

Thermoplasmonic-enhanced trapping will then be used to improve the particle detection using nanostructured surfaces.



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