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"Nanoscale materials characterization by combined Raman spectroscopy and scanning probe microscopies"

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Résumé :

Characterization methods offering sub-diffraction limited (< 100 nm) spatial resolution are required for the understanding of the unique properties of materials at the nanoscale

and for further advancements in the domain of nanotechnologies. Coupling scanning probe microscopies (AFM, STM) with optical techniques give simultaneous access to topographical and detailed structural information at the same scale. In particular, examples of both classical and near-field (tip enhanced) Raman spectroscopy employed for strain determination in semiconducting nanostructures, determination of molecular excited states, chemical imaging of self-assembled monolayers are presented.