

Raman Imaging applied to graphene characterization

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In this contribution, we would like to present the latest instrumentation developments about the Raman imaging of graphene and graphene related materials.

Raman spectroscopy is one of the most popular techniques for graphene characterization, as it produces intense and distinctive signal, giving information about the crystal lattice, the defects, or the number of layers.

We will present the latest developments in terms of Tip Enhanced Raman spectroscopy (TERS) that make possible nanoscale imaging of chemical and physical properties of graphene and other carbon species: innovative integration of technologies brings high-throughput optics and high-resolution scanning for high-speed imaging without interferences between the techniques.

With the help of fast mapping options, involving very high detector acquisition rate, amplified detector signals, synchronization of sample movements and detector readout at the millisecond scale, it is possible to image quickly graphene flakes, with high spatial resolution, for a full characterization of the samples.