

Graphene and Raman spectroscopy: new instrumental developments

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In this contribution, we would like to present two latest instrumental developments particularly well adapted to the analysis of graphene and other carbon materials.

The first presented option will be the low-frequency filters which allow analysis of Raman spectra down to $< 10\text{cm}^{-1}$. Such filters allow analysis of shear and compressive modes of graphene on a single stage instrument with all the advantages of such a system in comparison with triple systems: easy of use and high throughput, making it accessible for less advanced spectroscopists.

In the second part, 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.

The two presented options, the low-frequency filters and latest developments in near-field optical probes can be combined and provide reliable solutions for academic and industrial researchers alike to easily get started with spectroscopic analysis of carbon materials.