

# Full wafer Raman and photoluminescence imaging for 2D materials

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Raman and Photoluminescence microscopies are now recognized as a standard technique to characterize 2D materials. The current needs of the R&D labs working on the deployment of 2D materials in future nanoelectronics devices are assessment of the crystalline quality at the wafer scale with throughputs approaching quality control ones as well as investigation of defects at the micro scale.

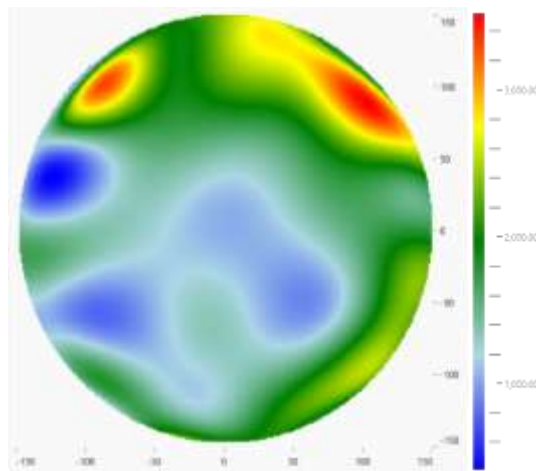
In this talk, we will present a solution capable of providing such dual scale data, with an instrument allowing large spectral detection range and multiple laser excitations for measuring Raman and PL maps. Both full wafer 2D materials maps and higher spatial resolution defect maps will be shown.

We will also introduce the current development of a new Raman/PL automated wafer inspection system dedicated to the Fab, where these spectroscopic techniques are upscaled to allow the characterization of a large number of 2D materials wafers, at different steps of the process, in order to drastically reduce the qualification time of 2D materials.

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## Figures

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**Figure 1:** Raman image of a 12" Graphene wafer obtained in less than 3 min.