



Raman Spectroscopy and Microscopy

Technical Work Area 42

Project 1 Raman Shift Calibration

Objectives

The project will aim to develop a methodology for Raman shift (wavenumber) calibration with traceability to SI and dissemination through reference materials.

Background

Raman spectroscopy is a technique that has grown in the scientific community and is increasingly adopted by industry and end users searching for a reliable and rapid tool in the characterization of materials, especially after the rise of carbon nanotubes and, more recently, graphene.

The technique however demands a deeper knowledge of both the instrumentation and science behind it, in order to avoid misinterpretation and have confidence in the data generated.

The primary aspect to be addressed is the instrument calibration.

Standardization Needs

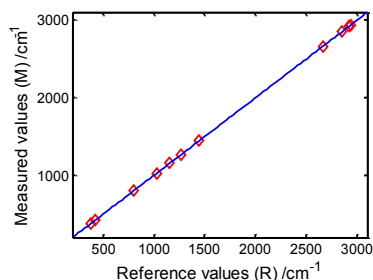
There is so far only one documentary standard dealing with wavenumber (or Raman shift calibration), published by ASTM (E1840: Standard Guide for Raman Shift Standards for Spectrometer Calibration).

This standard does not deal with the traceability nor indicate how to evaluate the measurement uncertainties. These parameters are very important if the Raman spectroscopy is to be used in quality control or in applications such as forensic science.

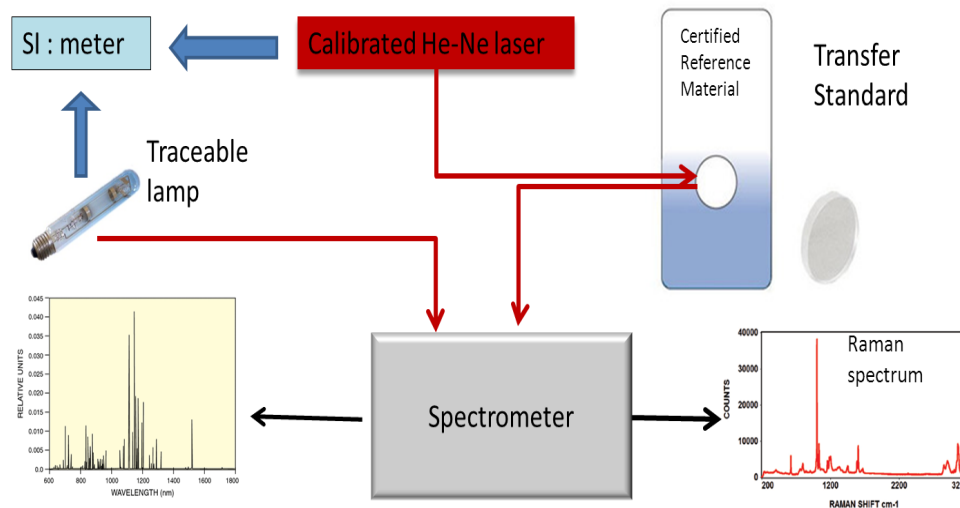
Work Programme

- Develop a calibration procedure with traceability
- Evaluate measurement uncertainty.
- Reference materials development

Each participant may need up to 5 days' effort to complete the exercise.



Call for Participation



Duration

Two years beginning January 2017.

International Participation

Current participants represent Brazil, Canada, China, France, Germany, India, Italy, Korea, Mexico, Singapore, UK and the USA. More volunteers welcome.

Deliverables and Dissemination

Documentary and physical standards, scientific articles and metrology session in the International Conference on Raman Spectroscopy (ICORS).

Funding

Participants fund their own involvement.

Status

Approved for startup by the VAMAS Steering Committee in August 2016.

For more information on participation, please contact:

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