CCMX Advanced Course
“Combining Structural & Analytical Investigations of Matter at the Micro-, Nano and Atomic Scale”
5.-8. 11. 2018 ETH Zürich

Station 1        WiTec CRM 200        (Location: HCI E528)

Confocal Raman Spectroscopy demo (60 minutes)

Raman Spectroscopy detects and analyses the interaction of monochromatic light with matter. It is sensitive to vibrational, rotational and other low-frequency modes of atomic motion and is employed to provide chemical, structural and mechanical information about the material. The technique is complementary to infrared spectroscopy and is limited to Raman-active materials (non-metals).

Dr. Micha Calvo

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Introduction:
✓ Concept of Raman microscopy
✓ Overview of Raman spectroscopy applications
✓ Sample preparation

Raman Spectroscopy:
✓ Confocal optics
✓ Optimization of experimental set-up
✓ Raman spectroscopy on semiconductors
✓ Artifacts
✓ Wavelength-dependent effects
✓ Line scans and mapping