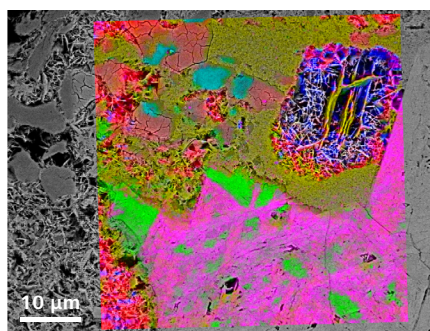


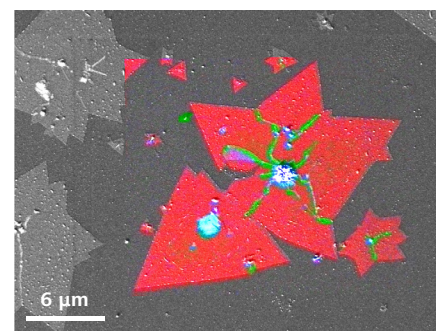


ZEISS Sigma 300 with RISE

Extend your ZEISS Sigma 300 with Fully Integrated Raman Imaging and Scanning Electron Microscopy (RISE)



Iron mineralogy: Raman identification of iron ore minerals shows different orientations of crystals, hematite in red, green, orange, and pink; goethite in light blue.

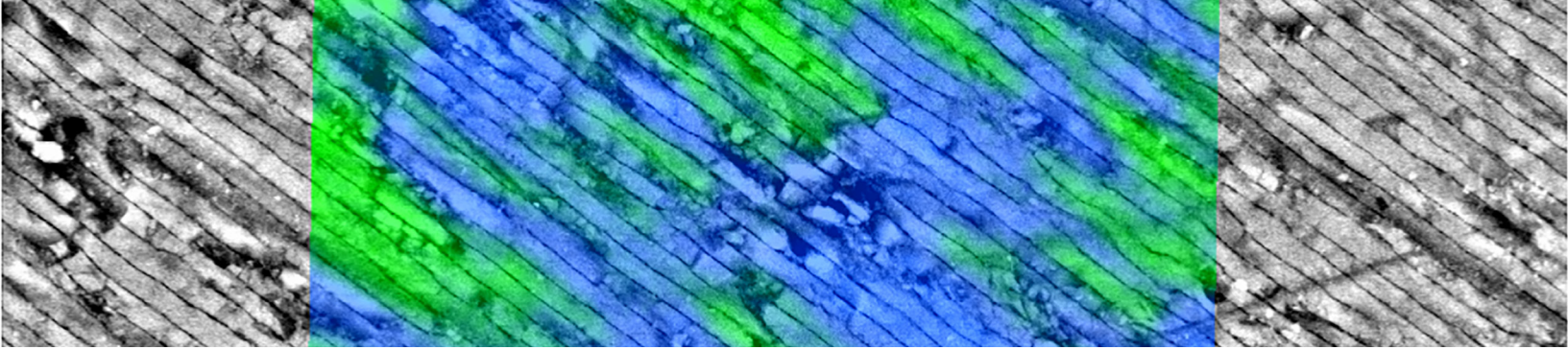


CVD-grown MoS₂ 2D crystals on Si/SiO₂ substrate: The RISE image demonstrates wrinkles and overlapping parts of the MoS₂ crystals (green), multilayers (blue) and single layers (red).

Highlights

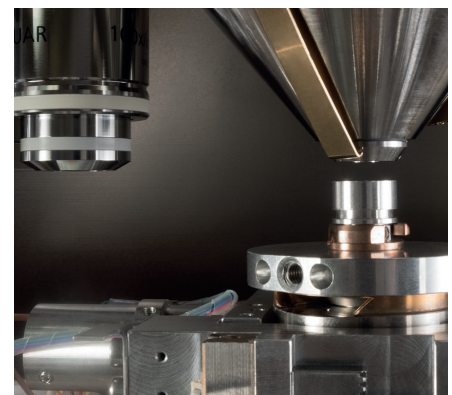
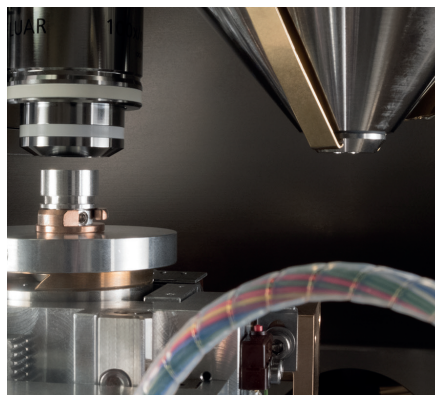
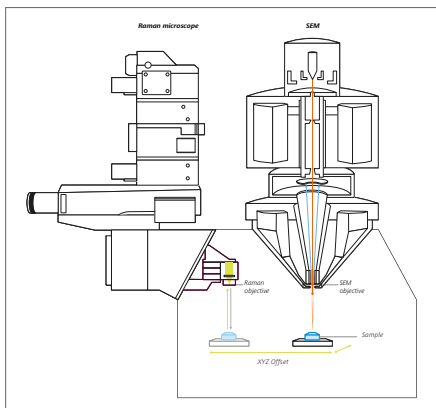
Get a chemical and structural fingerprint from your sample: Maximize your ZEISS Sigma 300 with 3D confocal Raman imaging capability. Recognize molecular and crystallographic information. Perform 3D analysis and correlate SEM imaging with Raman mapping and EDS data if appropriate. Fully integrated RISE lets you take advantage of both best-in-class surface sensitive SEM imaging and Raman analysis capabilities.

- Reap the benefits of fully integrated RISE
- Make no compromise on SEM performance: as geometries are optimized when adapting the Raman system onto the SEM chamber ZEISS Sigma 300 does not need to be modified at all.
- Achieve excellent quality Raman and SEM results by a streamlined SEM-Raman workflow as the sample only has to move the short distance from the Raman objective to the SEM objective.
- Correlate SEM imaging and Raman analytics fast and precisely. The integration of the Raman system into the SEM chamber enables an automated seamless sample transfer.
- Your confocal images will have the best field flattening image properties, thanks to the long working distance objectives (ZEISS Objective LD EC Epiplan-Neofluar 100x/0.75).



ZEISS Sigma 300 with RISE

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RISE configurable on ZEISS Sigma 300 / ZEISS Sigma VP 300

Basic Requirements

- Raman confocal microscope set-up (532 nm with 75 mW or 30 mW laser)
- Adapter flange, CCD and software for navigation, laser safety interlock for laser class 1M

Upgrades and Options

CCD camera upgrade	Back-illuminated CCD
Spectrometer upgrade	Broadband spectrometer
Premium upgrade	Optimized detection system (2 spectrometers and back-illuminated deep depletion CCD)
	478 nm with 75 mW
	633 nm with 35 mW
	785 nm with 120 mW

Database	Database management software and spectral database
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How it works

The ROI is automatically transferred from one objective to the other. The sample stays inside the vacuum throughout the measurement. In a typical workflow, the sample will be imaged with the SEM first. Then the stage is moved automatically to the position of the Raman objective for subsequent Raman imaging.

Suitable Applications

- Characterization of 2D materials and polymers
- Investigation of ageing effects in batteries
- Research on biomaterials, e.g. bone
- Characterization of minerals and rocks



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