

Damage and material analysis

Material analysis

Analysis and characterisation of all kinds of materials in the macro and micro range: metals, ceramics and composites as well as their corrosion, oxidation and reaction products. Qualitative and quantitative characterization and assessment

The group "Damage and Materials Analysis" has one of the largest and most modern laboratories for materials testing in Switzerland. Our equipment includes a total of more than 30 analytical characterization procedures.

Chemical and structural analyses of materials

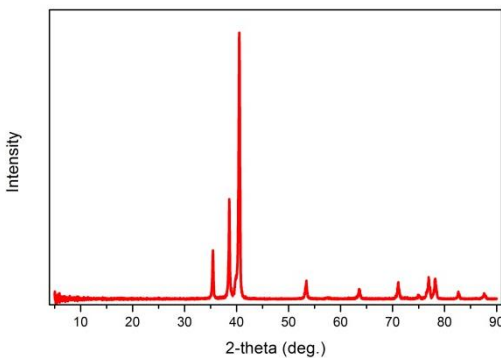
- X-ray fluorescence analysis (metals, ceramics)
- Gas analyses (O, N, H)
- Combustion analyses (C, S)
- X-ray phase analysis XRD (phases, compounds, corrosion products), qualitative and quantitative

Analyses and investigations in the micro and nano range

- Scanning electron microscopy with EDX detector
- Electron beam microprobe WDX for quantitative micro-area analyses and element distribution images

Other methods of investigation

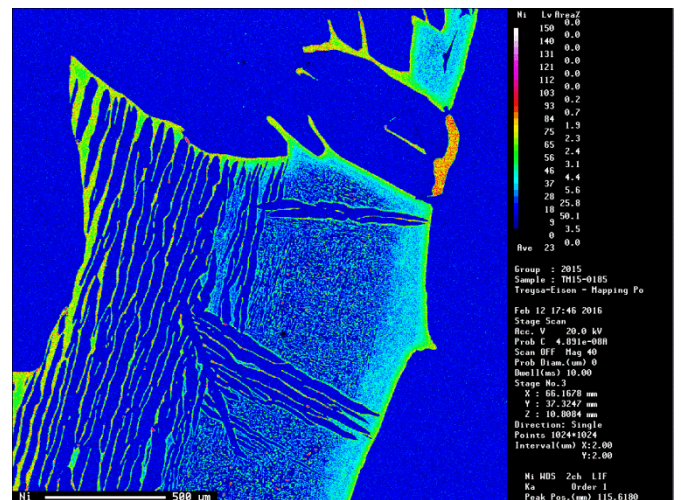
- Quantitative image analysis (inclusions, porosity, structures, phase analysis, etc.)
- Particle size analysis (quantity and size distribution)
- Determination of expansion coefficients (TMA)
- Analysis of plastics (DSC, TGA, FTIR, micro-FTIR)



XRD diffractogram of a Ti alloy



X-ray fluorescence analysis: Automatic sample changer



Electron beam microprobe: Ni-element distribution image of the structure of a meteorite

Delivery time

The delivery time for analytical samples is usually 1-3 days from sample receipt. For more demanding tests a delivery date is agreed upon in consultation.

