Characterisation

Auger Electron Spectroscopy

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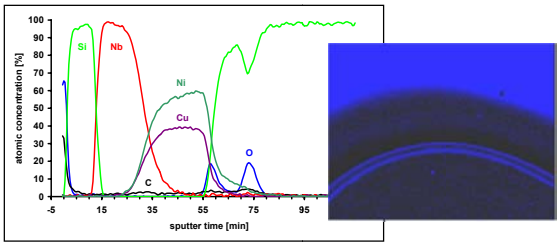
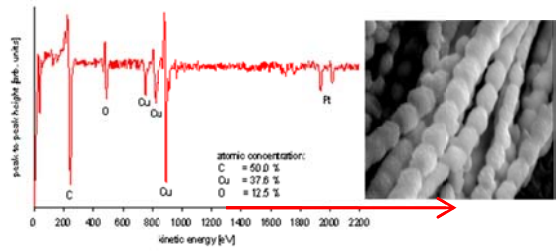
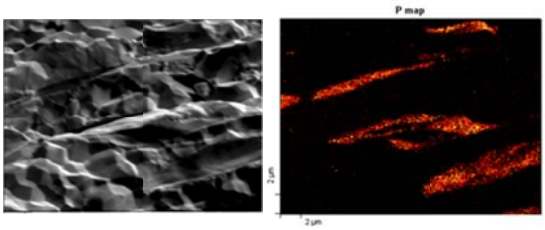
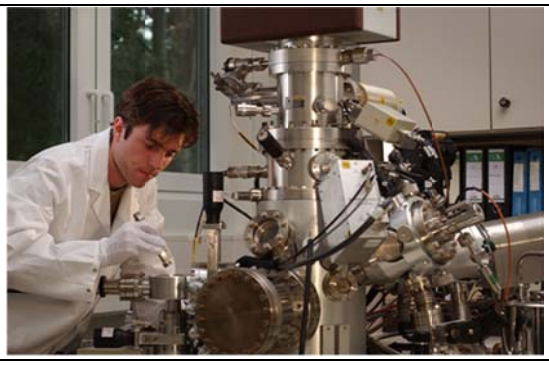
Equipment:	PHI 680 Scanning Auger Nanoprobe
Short technology description:	Augerelectron Spectrometry (AES) provides information about composition and to some extent chemical state within nanometer size of solid and vacuum stable, not insulating materials, of rough, multilayer and fracture surfaces. In combination with Ar ion sputtering depth profiles to 1000 nm are available. – Semi quantitative analysis of Li to U; quantitative analysis with standards – practical detection limit 0.1 to 1 at % – Multi point and area analysis, linescans, element maps – Resolutions: practical Auger electron analysis < 20 nm, depth analysis 0.5 – 5 nm depending on Auger electron energy – Two types of ion guns: scanning (1x1 mm) ion spot (0.1 mm) and low energy ion gun – Zalar Rotation™ for better interface resolution – In situ fracture of samples with liquid N2 cooling for grain boundary analysis – Maximum sample size Ø 60 mm
Typical samples:	 **Auger sputter depth profile** and **O map of superconducting layers**
	 **SEM image of Cu nanowire** and **Auger point analysis**
	 **SEM image of a W fracture surface (in situ)** and **Auger map of P enriched grain boundaries**
	 **PHI 680 Field Emission Scanning Auger Nanoprobe**