

## P7 Solid-state physics

### **P 7.1 Properties of crystals**

- P 7.1.1 Structure of crystals
- P 7.1.2 X-ray structural analysis
- P 7.1.3 X-ray structural analysis with the x-ray apparatus
- P 7.1. Elastic and plastic deformation

### **P 7.2 Conduction phenomena**

- P 7.2.1 Hall effect
- P 7.2.2 Electrical conduction in solid bodies
- P 7.2.3 Photoconductivity
- P 7.2.4 Luminescence
- P 7.2.5 Thermoelectricity
- P 7.2.6 Superconductivity

### **P 7.3 Magnetism**

- P 7.3.1 Dia-, para- und ferromagnetism
- P 7.3.2 Ferromagnetic hysteresis

### **P 7.4 Scanning probe microscopy**

- P 7.4.1 Scanning tunneling microscope

### **P7.5 Applied Solid-State analysis**

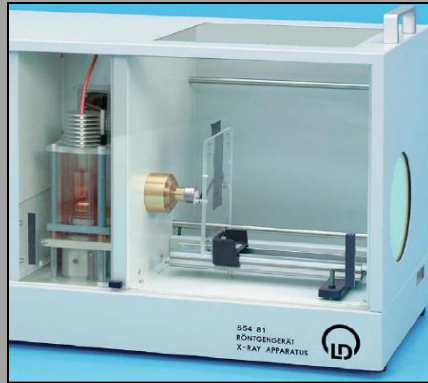
- P 7.4.1 X-ray fluorescence analysis

## P7 Solid-State Physics

### P 7.1 Properties of Crystals

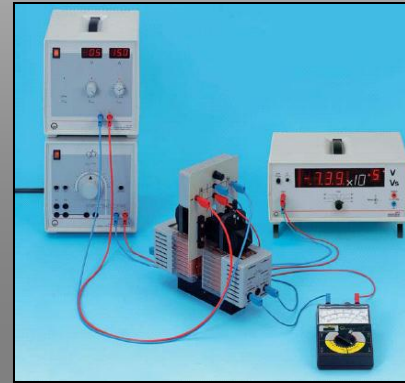


Investigating the crystal structures of tungsten using a field emission microscope



Laue diagrams : Investigating the lattice structure of monocrystal

### P 7.2 Conduction Phenomena

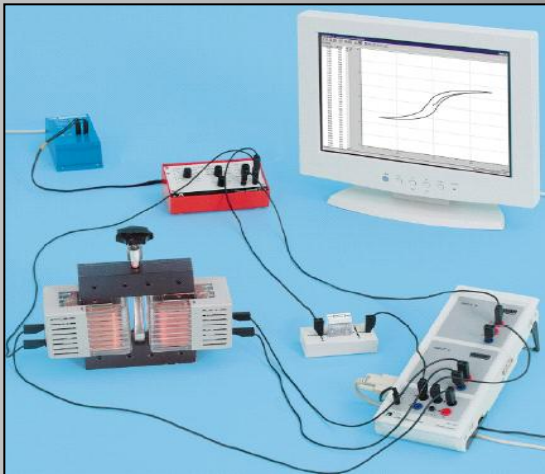


Investigating Hall effect



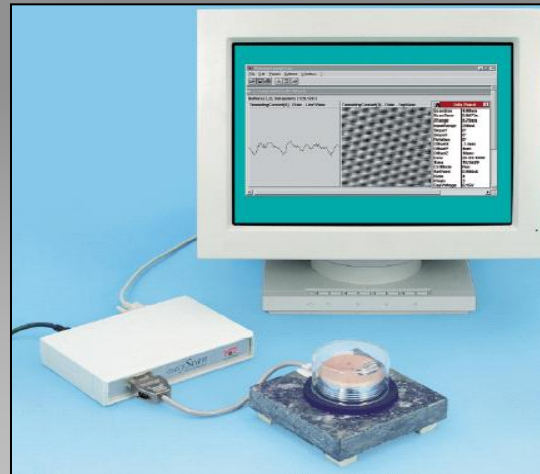
Recording the current-voltage characteristic of a CdS photoresistor

### P 7.3 Magnetism



Ferromagnetic hysteresis

### P 7.4 Scanning Probe Microscopy



Investigating a graphite surface using a scanning tunneling microscope

### P 7.5 Applied Solid-State analysis



Recording X-ray fluorescence