

Lecture „Quantum Technology I“

Talks in WS2023/24

Date	Topic	Name
23.10.2023	Ion scattering	
	Principles of ion traps	
	Generation of high energetic ions with high power lasers	
	Accelerators with waveguide design	
	Accelerators on a chip	
06.11.2023	Lenses in ion optics	
	Liquid Metal Ion Source (LMIS)	
	Focused Ion Beam (FIB)	3769264
	Helium Ion Microscopy (HIM)	
	Secondary Ion Mass Spectrometry (SIMS)	

20.11.2023	Implantation of ions with Scanning Electron Microscopy	3783053
	Thermal spikes in heavy ion irradiation	
	Elemental analysis with synchrotron radiation (XANES, EXAFS)	3796413
	Accelerator Mass Spectrometry (AMS)	
	Production of (HTHP-)diamond with chemical vapour deposition (CVD)	
04.12.2023	Ion Beam Induced Charge Collection (IBICC)/Deep Level Transient Spectroscopy (DLTS)	
	Ion implantation for doping in semiconductor industries	3748993
	New particle and radiation detectors	3782312
	Production of thin layers with Pulsed Laser Deposition (PLD)	
	Optical lithography for integrated circuits in semiconductor physics	
18.12.2023	Ion Beam Synthesis (IBS)	
	Surface design and synthesis of thin films using ion beams	3785891
	Micromachining of Nano-/Micro-Electro-Mechanical Systems (N/MEMS)	3764271

	Elastic Recoil Detection Analysis (ERDA)	
	Microscopy and tomography with synchrotron radiation	
15.01.2024	Femto-second laser for color centre creation	3779055
	G centre in silicon	
	NV centre in diamond	3758931
	Raman spectroscopy	3733368
	Principle of quantum computers (e.g. D-WAVE)	3772022
29.01.2024	Wavelength Dispersive X-Ray (WDX) analysis using crystal spectrometers	
	3D X-Ray Fluorescence analysis (3D-XRF)	
	Ion beam therapy	
	Structure and elemental analysis by Electron Microscopy (HRTEM, EMPA)	3786291
	Analysis of defects by positron annihilation	3783142