

Lecture „Quantum Technology I“

Talks in WS2022/23

Date	Topic	Name
17.10.2022	Ion scattering	3729152
	Principles of ion traps	
	Generation of high energetic ions with high power lasers	
	Accelerators with waveguide design	3750664
	Accelerators on a chip	
07.11.2022	Lenses in ion optics	
	Liquid Metal Ion Source (LMIS)	3743135
	Focused Ion Beam (FIB)	3793945
	Helium Ion Microscopy (HIM)	3741478
	Secondary Ion Mass Spectrometry (SIMS)	3729823

14.11.2022	Implantation of ions with Scanning Electron Microscopy	3756839
	Thermal spikes in heavy ion irradiation	3738998
	Elemental analysis with synchrotron radiation (XANES, EXAFS)	
	Accelerator Mass Spectrometry (AMS)	
	Production of (HTHP-)diamond with chemical vapour deposition (CVD)	
28.11.2022	Ion Beam Induced Charge Collection (IBICC)/Deep Level Transient Spectroscopy (DLTS)	
	Ion implantation for doping in semiconductor industries	3757322
	New particle and radiation detectors	3786399
	Production of thin layers with Pulsed Laser Deposition (PLD)	3749584
	Optical lithography for integrated circuits in semiconductor physics	
12.12.2022 ↓ 19.12.2022	Ion Beam Synthesis (IBS)	
	Surface design and synthesis of thin films using ion beams	
	Micromachining of Nano-/Micro-Electro-Mechanical Systems (N/MEMS)	

	Elastic Recoil Detection Analysis (ERDA)	
	Microscopy and tomography with synchrotron radiation	1234567
09.01.2023	Femto-second laser for color centre creation	3726465
	G centre in silicon	
	NV centre in diamond	
	Raman spectroscopy	3704257
	Principle of quantum computers (e.g. D-WAVE)	3719639
23.01.2023	Wavelength Dispersive X-Ray (WDX) analysis using crystal spectrometers	
	3D X-Ray Fluorescence analysis (3D-XRF)	
	Ion beam therapy	3714313
	Structure and elemental analysis by Electron Microscopy (HRTEM, EMPA)	
	Analysis of defects by positron annihilation	