

Lecture Experimental Physics 3 - Winterterm 2010/11

Mo		Th	
11-Oct	Organisation	14-Oct	Time variable fields Faraday's law of induction Lenz's rules
18-Oct	Selfinduction Energy of magnetic fields Displacement currents	21-Oct	Maxwell equations Generator and engines
25-Oct	Minisymposium: Physics of Cancer	28-Oct	ac current rotary current complex resistances
1-Nov	High-pass/low-pass filter frequency filter transformers	4-Nov	Impedance current rectification electron tube
8-Nov	oscillating circuit coupled oscillating circuits	11-Nov	generation of undamped oscillations Hertzian dipol
15-Nov	Dipol radiation wave equations	18-Nov	plane electromagnetic waves periodic waves polarization of em waves
22-Nov	magnetic field of em waves transport of energy and momentum measuring the velocity of light	25-Nov	standing em waves wave guides em frequency spectrum
29-Nov	em waves in matter refractive index Absorption, dispersion	2-Dec	wave equations for waves in matter Waves at interfaces
6-Dec	Birefringence generation of polarized light	9-Dec	Geometrical optics optical imaging concave mirrors
13-Dec	Prisms Lenses	16-Dec	lens errors matrix methods
3-Jan	Interference/Coherence Generation and interference of coherent waves	6-Jan	multi ray optics Diffraction
10-Jan	Fraunhofen/Fresnel diffraction general description of diffraction	13-Jan	Fourier description of diffraction Dispersion
17-Jan	Optical instruments, the eye amplifying optical instruments	20-Jan	Role of diffraction for opt. instruments Spectrograph, monochromator
24-Jan	Confocal microscopy Near field microscopy Active and adaptive optics	27-Jan	Fourier optics wave guides
31-Jan	Optical Traps	3-Feb	Special Theory of Relativity