



17th European Doctoral School on Metamaterials

Experimental Characterization of Electromagnetic Metamaterials

Hellas (Crete), Greece, December 13-17, 2010

Program:

Monday 13

Hour	Topic	Lecturer
09:00 - 09:30	Opening, introduction to the subject, school organization and goals	S. Tretyakov, M. Kafesaki
09:30 - 10:30	Introductory lecture on reflection / transmission measurements and standard parameter extraction (NRW), introduction to the extraction code to be used	S. Tretyakov
10:30 - 11:00	Coffee break	
11:00 - 12:30	Lecture on ellipsometry and its use for characterizing metamaterials (Berremann technique with magnetization and anisotropy, spatial dispersion in MM, etc.), part 1	Hingerl
12:30 - 14:00	Lunch	
14:00 - 15:00	Lecture on approaches to measurements of single electrically small resonant particles (resonator techniques, extraction of polarizabilities)	S. Tretyakov
15:00 - 16:00	Lecture on basic properties of high-impedance surfaces and approaches to measurements of reflection coefficient (amplitude and phase, oblique incidence in free space, waveguide techniques)	Alitalo
16:00 - 16:30	Coffee break	
16:30 - 17:00	Lecture on basics of THz time domain spectroscopy	Tzortzakis, Massaouti

Tuesday 14

Hour	Topic	Lecturer
09:00 - 10:30	Lecture on ellipsometry and its use for characterizing metamaterials (Berremann technique with magnetization and anisotropy, spatial dispersion in MM, etc.), part 2	Hingerl
10:30 - 11:00	Coffee break	
11:00 - 12:00	Optical spectrometry - introductory lecture	Gray
12:00 - 12:30	Introduction and instructions related to practical measurements	Gray
12:30 - 14:00	Lunch	
14:00 - 15:00	Experimental work in parallel groups	
15:00 - 16:00	Experimental work in parallel groups	
16:00 - 16:30	Coffee break	
16:30 - 17:30	Experimental work in parallel groups	
17:30 - 18:30	Experimental work in parallel groups	



Wednesday 15

Hour	Topic	Lecturer
09:00 - 10:00	Experimental work in parallel groups	
10:00 - 11:00	Experimental work in parallel groups	
11:00 - 11:30	Coffee break	
11:30 - 12:30	Experimental work in parallel groups	
12:30 - 14:00	Lunch	
14:00 - 17:00	Experimental work in parallel groups	

Thursday 16

Hour	Topic	Lecturer
09:00 - 10:00	Experimental work in parallel groups	
10:00 - 11:00	Experimental work in parallel groups	
11:00 - 11:30	Coffee break	
11:30 - 12:30	Experimental work in parallel groups	
12:30 - 14:00	Lunch	
14:00 - 16:00	Experimental work in parallel groups	
16:00 - 16:30	Coffee break	
16:30 - 17:30	Experimental work in parallel groups	
19:00	School Dinner	

Friday 17

Hour	Topic	Lecturer
09:00 - 10:00	Group work on post-processing of measured data	
10:00 - 12:30	Presentation of results from each group (seminar)	
12:30 - 14:00	Lunch break	
14:00 - 15:00	Introductory lecture on direct laser writing	
15:00 - 16:00	Demonstration of nanofabrication	
16:00 - 17:00	Final discussion: observations, conclusions, future challenges	
17:00	Concluding remarks and distribution of study certificates	