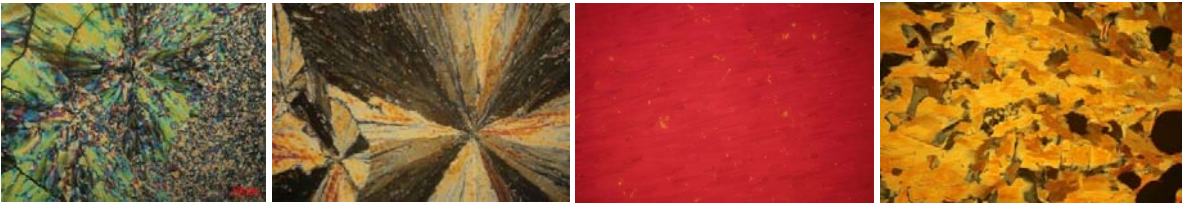
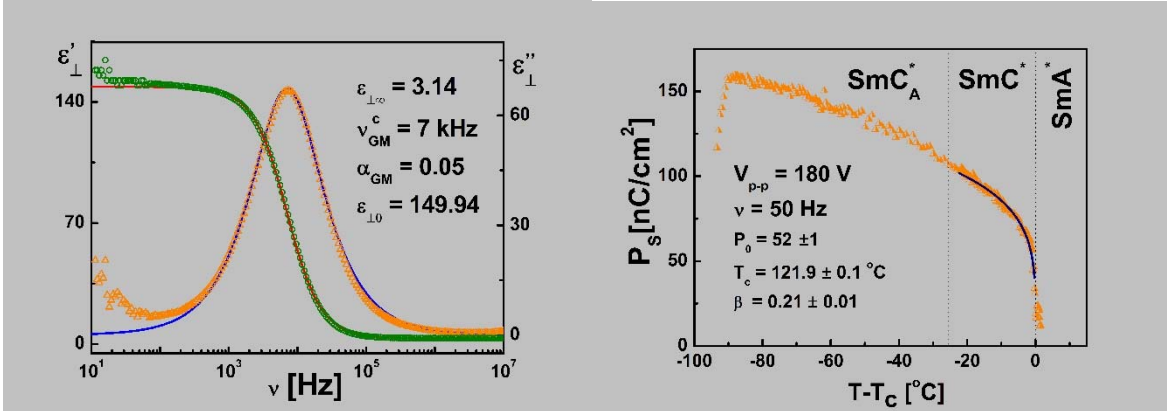


Scientific supervisor	
Name	Dr hab Monika Marzec
E-mail	monika.marzec@uj.edu.pl
Department	Department of Advanced Materials Engineering
Laboratory	Calorimetric Laboratory, Electrooptic Laboratory, Thin Film Dielectric Laboratory
Group webpage	http://www.zinm.if.uj.edu.pl/liquid-crystals
Proposed research topic	
<i>Liquid crystalline materials for application in optoelectronic device</i>	
Short description (< 1000 characters)	
<p>The constantly growing demand of modern industry for materials with precisely defined parameters is an increasing challenge for modern chemistry and physics. Hence, the creation and study of the properties of new materials is so important. The aim of the practicum is to familiarize the student with the methods of studying chiral liquid crystalline materials showing rich phase polymorphism, in terms of their application in optoelectronic devices. The student will learn to prepare material for research, conduct measurements and analyze the obtained results. She/he will learn typical research methods used for the study of this type of materials: polarizing microscopy, electro-optical methods (measurement of spontaneous polarization, tilt angle of molecule, light transmission), differential scanning calorimetry and dielectric spectroscopy. We are also open to other research topics that will use the above-mentioned methods.</p>	
	
<i>Optical textures registered under polarizing microscope</i>	
	
<i>Spectrum registered by impedance spectrometer and the temperature dependence of spontaneous polarization.</i>	
Main research tool	
Polarizing microscope, scanning calorimeter, impedance analyzer, fume cupboard.	
Additional requirements to the candidate	
2 persons for this topic possible	
Possibility to continue student internship in the form of:	
Diploma thesis (master's or bachelor's degree)	X
PhD study	X