

FACULTY OF ELECTRONICS, TELECOMMUNICATION AND INFORMATICS
DEPARTMENT OF METROLOGY AND OPTOELECTRONICS
SPEC-OCT TEAM

RESEARCH AREA

Optical coherence tomography (OCT), optical measurement techniques, esp. low-coherence techniques, polarimetry, polarization interferometry, ceramic materials for optoelectronics, applications of liquid crystals, crystalline polymers and reactive mesogens, propagation of optical radiation in highly-scattering materials.

DESCRIPTION

Conducted research on optical coherence tomography is mainly focused on new OCT applications include thin sub-micrometer films measurements, nanocomposite materials evaluation and smart biocompatible coatings testing. For this purpose the new algorithms for polarization sensitive and spectroscopic measurements have been developed and tested.

SAMPLE PROJECTS

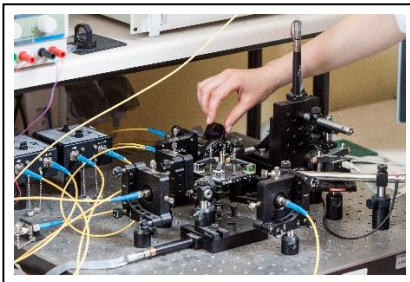
1. Polarization sensitive optical coherence tomography with spectroscopic analysis for technical materials inspection.
2. Nanocomposite materials examination with polarization sensitive optical coherence tomography.

SAMPLE PUBLICATIONS

1. M. Kraszewski M. Trojanowski, and M.R. Strąkowski: MR Comment on "Quantitative comparison of analysis methods for spectroscopic optical coherence tomography", Biomedical Optics Express, 5 (9), 3023-3033, (2014).
2. M. R. Strąkowski, M. Kraszewski, M. Trojanowski and J. Pluciński: Time-frequency analysis in optical coherence tomography for technical objects examination, Proc. of SPIE, 9132, Optical Micro- and Nanometrology V, 91320N, (2014)

Research area for prospective doctoral or master students:

Photonics, optoelectronics, optical measurement techniques, esp. low-coherence techniques, optical coherence tomography, polarimetry, polarization interferometry, optical fiber sensors and optical fiber components.



CONTACT

Faculty of Electronics, Telecommunication and Informatics,
Department of Metrology and Optoelectronics
Optoelectronics Group
tel: +48 58 347 2642, email: pluc@eti.pg.gda.pl