SURFACE AND SPECTROSCOPIC PROPERTIES OF 1,8-DIAZAFLUOREN-9-ONE IN TITANIUM DIOXIDE THIN FILMS

ANETA LEWKOWICZ, ANNA SYNAK, MICHAŁ MOŃKA, PIOTR BOJARSKI, KAROL SZCZODROWSKI, *Faculty of Mathematics, Physics and Informatics/Institute of Experimental Physics, University of Gdańsk, Gdańsk, Poland*; ROBERT BOGDANOWICZ, *Faculty of ETI, Gdańsk University of Technology, Gdańsk, Poland, Poland*; JAKUB KARCZEWSKI, *Faculty of Applied Physics, Gdańsk University of Technology, Gdańsk, Poland, Poland*.

Thin films of 1,8-diazafluoren-9-one (DFO) in titanium dioxide were synthesized using the sol-gel method. Particular attention will be given towards preparation of DFO in titanium dioxide as a potential luminescent probe of amino acids. The photophysical properties of DFO in titanium dioxide thin films were identified by a variety of spectroscopic methods including: stationary absorption and emission, the fluorescence intensity decay profiles. Atomic force microscopy (AFM), scanning electron microscopy (SEM), confocal microscopy, Raman spectroscopy, and X-ray diffraction (XRD) techniques were applied to obtain structural characteristic of the prepared films.

This research has been supported by the grant NCN 2017/01/X/ST5/01541, MINIATURA 1, A. Lewkowicz.