

Biospectra, Plenary Lecture

OPTICAL NON-INVASIVE DIAGNOSTICS OF MICROCIRCULATORY-TISSUE SYSTEMS OF THE HUMAN BODY: QUESTIONS OF METROLOGICAL AND INSTRUMENTATION PROVISION, METHODS AND RESULTS

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ABSTRACT

Optical techniques are one of the most promising non-invasive technologies for the diagnosis of medical conditions. This talk is devoted to the current state of the optical non-invasive diagnostics (OND) and especially about instrumentation, methodological and metrological provision for this technology. In the relationship to the study of microcirculatory-tissue systems of the human body, consider the following OND techniques in more detail – Laser Doppler Flowmetry (LDF), Tissue Reflectance Oximetry (TRO), Fluorescence Spectroscopy (FS) and Diffuse Reflectance Spectroscopy (DRS).

The main conclusion is that it is necessary to solve the problems of metrological support of OND devices. It is also important to develop a methodology based on diagnostic criteria obtained on the basis the relationship a few OND methods and others (for example, thermographic, etc.).

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