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Metody fototermiczne w biofizyce i medycynie – Application of photothermal methods in biophysics and medicine

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The applications of steady state photoacoustic spectroscopy (PAS) as well as time resolved photothermal method (Laser Induced Optoacoustic Spectroscopy - LIOAS) in the investigations carried out in our laboratory are described. These investigations concern following problems: (1) the possibility of the application of various dyes in photodynamic therapy (PDT) of cancer; (2) the processes of the excitation energy transfer between antenna complexes of photosynthetic organisms; (3) the conversion of the light energy into the electrical energy in electrochemical cells containing the elements of photosynthetic organisms; (4) various paths of excitation deactivation in the bacteria producing hydrogen.