

**Application of photothermal methods in biophysics and in medicine**

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The application 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. The investigations concern following problems: (1) the possibility of the application of various dyes in photodynamic therapy (PTD) of cancer; (2) the process of excitation energy transfer between antenna complexes of photosynthetic organisms; (3) the conversion of 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.