

Polarized fluorescence spectra of oriented cyanobacteria cells

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The polarized absorption and fluorescence spectra of whole cells of cyanobacteria *Synechocystis* embedded in stretched polymer film were measured. The spectral properties of “native” samples and the samples in which part of chromophores of given orientation were bleached by illumination with strong polarized light with an electric vector parallel to the sample orientation axis were compared. The changes of the anisotropy of absorption and emission as well as in the paths of excitation energy transfer between antenna pigments of the cyanobacteria were observed. It was shown that in complex biological samples the photoreaction occurring as a result of illumination by polarized light provides information about interactions between various chromophores and their role in the process of excitation energy transfer.