

Interferometric studies of diffusive unstirred layers generated in graviosmotic systems

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Using the interferometric method, the effect of the force of gravity on diffusive layers formed around the membranes of a graviosmotic system was studied. The results obtained were in the form of interferograms. These give direct information about the layers, such as their thickness and solute concentration drops on them. To analyze the interferograms, theoretical models of graviosmotic systems were developed filled with solutions of density decreasing and increasing with concentration. The present work is crucial with respect to all basic problems connected with the near-membrane layers of graviosmotic systems. It solves all the basic problem pertaining to physical interpretation of the graviosmotic phenomenon, which up to now was studied mainly in its biophysical aspect.