S1-P.52

Problem Formula of the Giant Impressed Electric Field Strength to Single Transmembrane With Nanopore Structures

M. Ignat¹ and L. Florescu²

¹National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucuresti, Romania

²Excellency Centre on the Scientific Research of the Young, INCDIE ICPE CA, Informatics International High School, Bucuresti, Romania

A new model and a new experiment which describes the fabrication and use of hierarchical nanofluidic device made of a boron nitride nanotube that pierches an ultrathin membrane and connects two fluid reservoirs, is emphasized, very large, osmotically induced electric currents generated by salinity gradients, exceeding by two orders of magnetude their pressure driven counterpart. The results may have application in renewable-energy harvesting. It allows fluid transport in the nanopipe to be probed electric, pressure and chemical forcings, and their under combinations. In the paper is propose a general formula of the research problem of the impressed electric field, on the nanotubes of very thin membranes, because the osmotic harvesting energy sources are not only possible impressed electric field sources in the nanopore fluid transport, and very thin membranes. So, I propose to formulation a general formula for this effects.

We distinguish the followings divisions or partitions of the fundamental problema:

I. The problem of the nanofluid running on the nanopores network

II. The problem of the chemical gradients .

III. The problem of electric circuits of the impressed electric field nanosources. And separated ;

IV. Tehnological problem of the achievement of the matrix nanopores.