**Electrolyte Hydrodynamics in Anodic Alumina Pores**

**V.A. Sokol**

**V.A. Yakovtseva**

Belarusian State University of Informatics and Radioelectronics

**Abstract.** The electrolyte movement mechanism in the pores of porous anodic alumina under the electric field action during the oxide formation is discussed. A qualitative model for the electrolyte exchange in the growing pore of porous anodic alumina, taking into account the electric field direction and diffuse layer charge, is presented. Since the anodic alumina surface is charged negatively and the electrolyte layer at the pore walls has a positive charge, the electrolyte at the pore walls moves out of the pore under the field. Therefore a reduced-pressure region arises at the pore bottom, resulting in the electrolyte’s movement into the pore through the pore core.

Published in Russian in Mikroelektronika, 2014, Vol. 43, No. 5, pp. 370–372.

**Keywords:** porous anodic alumina, electrolyte, hydrodynamics, electrohydrodynamic effect.

DOI: 10.1134/S1063739714040118

<http://link.springer.com/article/10.1134/S1063739714040118>