

This thesis is focused on the study of catalyst layers for direct methanol fuel cell anode prepared by a new method using magnetron sputtering. Homemade as well as commercial supports were used. The study of properties of prepared layers was carried out in fuel cell using methods of electrochemical analysis, such as electrochemical impedance spectroscopy and cyclic voltametry for examination of conductivity, catalyst activity and resistance to poisoning by residual carbon species. Polarization curves were used to investigate power and diffusion properties. A reference cell composed of commercially-available electrodes was chosen for comparison.