

Title: Novel nanocatalysts for fuel cells II: micro-fuel cells on chip

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Abstract: The thesis examines layers of cerium oxide doped with platinum, prepared by magnetron sputtering on various types of planar substrates. The work focuses primarily on how the layers are affected by doping different amounts of platinum. The samples were studied mainly using Scanning Electron Microscopy (SEM). Using the combination of SEM and Focused Ion Beam (FIB), we have prepared thin samples (lamellae), which allow the passage of electrons. The lamellae were observed using SEM with a detector of transmitted electrons. The lamellae were prepared with the focus on parameters of the protective layer. The chemical composition of *Pt-CeO_x* samples was studied by Energy-Dispersive X-ray spectroscopy (EDX) and X-ray Photoelectron Spectroscopy (XPS).

Keywords: *Pt-CeO_x*, lamella, SEM-FIB, EDX, XPS