

Thin layer deposition through Ink Jet technology, for application in SOFC

Hermano Augusto Bonicio¹, Daniel de Florio¹, Fábio Coral Fonseca²

¹Universidade Federal do ABC, ²Instituto de Pesquisas Energéticas e Nucleares

e-mail: hermano.bonicio@aluno.ufabc.edu.br

In the present work, the objective is to develop a film deposition technique with micrometric thickness. For this, the adaptation of a commercial inkjet printer was done by designing and constructing a base with rails so that it runs over the sample. At the same time, a study of rheological characterization of the commercial inks, contained in original ink jet cartridges, was carried out for the development and deposition of a ceramic suspension, which contains the precursors of the desired material for the formation of the thin layer. Finally, some depositions of SOFC electrolytes were performed, and after the densification step, the cells were characterized by the impedance spectroscopy and also scanning electron microscopy. It was observed the formation of a dense and uniform layer, with thickness of the order of 10 μm .