

CoNi/C electrocatalysts for alkaline fuel cell.

Roberta Alvarenga Isidoro¹, Gabriel Silveira Dos Santos¹, Fabio Coral Fonseca¹

¹Instituto de Pesquisas Energéticas e Nucleares

e-mail: roisidoro@hotmail.com

Solid alkaline fuel cell (SAFC) has been studied as possible alternatives in the production of electricity for portable and stationary applications. The oxygen reduction reaction (ORR) is key electrochemical processes, because his low kinetics decreases system efficiency. The main progresses in the cathodic side have been related to the development and improvement of activity and stability. In this way, non precious material has been studied, in the last years. Cobalt oxides have been reported to exhibit good performance for ORR. However, cobalt bimetallic can be more efficient catalysts for ORR, especially for its bifunctional function. Some Ni-based electrocatalysts have shown relevant good results for ORR in four-electron pathway. Song et al. Showed, for example, that Ni addition into Ag-based electrocatalysts for ORR decreases the ORR overpotential, while an increasing in the limiting current density is observed. In this way, a bimetallic CoNi/ C was produced to be used as a cathode in alkaline fuel cell.