

Catalytic Study of Natural Gas Based Solid Oxide Fuel Cell

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Abstract : Solid oxide fuel cell (SOFC) is the promising technology now days. SOFC can be operated with different types of fuels available. In this work catalytic anode is prepared with metal oxides i.e. Li, Ni, Zn and Sn and tested for catalytic activity with natural gas as a fuel. The operating temperature range is 170-750°C as observed with the help of TGA. Electrical conductivity and fuel cell performance has been observed for four different samples with varying composition of Sn and Zn. It is concluded that the sample having greater concentration of Zn shows better conductivity and power density results. All the results are promising and verified with different characterizations.

Keywords : catalytic activity, solid oxide fuel cell, energy material, natural gas

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