World Academy of Science, Engineering and Technology
International Journal of Energy and Power Engineering
Vol:9, No:03, 2015

Development of a Cathode-Type Ca1-xSrxMnO3

Authors : A. Guemache, M. Omari

Abstract : Oxides with formula Ca1-xSrx MnO3 (0≤x≤0.2) were synthesized using co-precipitation method. The identification of the obtained phase was carried out using infrared spectroscopy and X-ray diffraction. Thermogravimetric and differential analysis was permitted to characterize different transformations of precursors which take place during one heating cycle. The study of electrochemical behavior was carried out by cyclic voltammetry and impedance spectroscopy. The obtained results show that apparent catalytic activity improved when increasing the concentration of strontium. Anodic current densities varies from 1.3 to 5.9 mA/cm2 at the rate scan of 20 mV.s-1 and a potential 0.8 V for oxides with composition x=0 to 0.2.

Keywords : oxide, co-precipitation, electrochemical properties, cathode-type
Conference Title : ICPET 2015 : International Conference on Power Engineering and Technology
Conference Location : Istanbul, Türkiye
Conference Dates : March 23-24, 2015