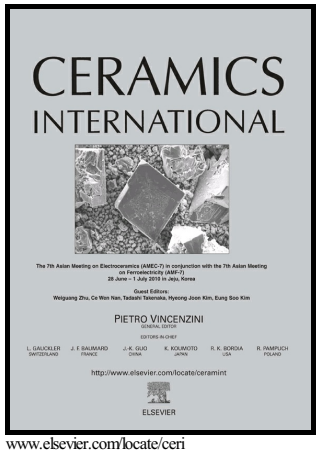

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Hydrogen production through dry reforming of biogas using a porous electrochemical cell: Effects of a cobalt catalyst in the electrode and mixing of air with biogas

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Abstract

This paper reports the performance of porous Gd-doped ceria (GDC) electrochemical cells with Co metal in both electrodes (cell No. 1) and with Ni metal in the cathode and Co metal in the anode (cell No. 2) for CO_2 decomposition, CH_4 decomposition, and the dry reforming reaction of a biogas with CO_2 gas ($CH_4 + CO_2 \rightarrow 2H_2 + 2CO$) or with O_2