

**New Cathodes for Solid Oxide Fuel Cells studied by Powder Diffraction: the System  $(A_{1-x}A'_x)FeO_3$**

Karmele Vidal<sup>a</sup>, Lide M. Rodríguez-Martínez, María Luisa Nó, Teófilo Rojo, Ander Laresgoiti, María Isabel Arriortua, <sup>a</sup>*Facultad de Ciencia y Tecnología, Universidad del País Vasco/EHU, Apdo. 644, E-48080 Spain.* <sup>b</sup>*Ikerlan, Centro Tecnológico, Spain, Juan de la Cierva 1, Miñano 01510, Álava.* E-mail: qibvigak@lg.ehu.es.

A new family of iron oxide perovskites  $A_{1-x}A'_xFeO_3$  ( $A = Nd, Pr, La$ ;  $A' = Ca, Sr$ ) has been studied for its potential use as cathodes in solid oxide fuel cells (SOFC). This is part of a collaboration between Basque Country University and Ikerlan Technological Research Centre (MCC Group) towards the development of metal supported intermediate temperature SOFC. Samples with a systematic change in doping level were prepared by the ceramic and combustion methods and characterised by laboratory X-ray powder diffraction and SEM. Electrochemical measurements were performed in the 600-850°C temperature range on bulk and as electrodes in YSZ supported half-cells. A summary of these results will be presented in this work.

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