

Analysis of the Sulfur damage factor in Solid Oxide Fuel Cells

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Solid oxide fuel cells are expected to be the next generations distributed power generator due to their high efficiency and especially flexibility in their fuels. However, high-temperature electrochemical devices can experience degradation in their electrochemical performance due to sulfur poisoning. In this study, SOFC degradation mechanisms were evaluated, and the computational fluid dynamics (CFDs) electrochemical model for 2D sulfur damage model was presented to described the performance of SOFCs due to damage or degradation in the SOFC electrodes by the commercial CFD code FLUENT.

Acknowledgment: This work was supported by Solid oxide fuel cell of New & Renewable Energy R&D program (20093021030010) under the Korea Ministry of Knowledge Economy (MKE). This work is the outcome of a Manpower Development Program for Energy supported by the Ministry of Knowledge and Economy (MKE). This work was supported by “The development of a residential green-home SOFC m-CHP system and its field test (MKE-2011-600810-2011T100200205)” under the Korea Ministry of Knowledge Economy (MKE).