

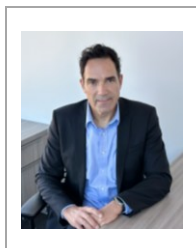
Progress on Electrochemical Interfaces for PEM Fuel Cells

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Electrochemical energy conversion and hydrogen production, such as fuel cells and electrolyzers have evolved as a prevailing option in achieving environmentally neutral energy, including transportation sector. Global deployment of these technologies dictates perpetual demand for improved functionality and performance of employed materials that are mainly based on scarce elements. Research aimed towards the design and synthesis of materials with advanced electrochemical properties, while diminishing the need for rare constituents, will be presented. Emphasis will be placed on the fundamental understanding of well-defined electrified interfaces and resolving their functionality at atomic and molecular scale and how they are related to device performance. The role of surface structure, spatial arrangement and nature of the employed elements will be presented for the cathodic reaction through the challenges that are being addressed, including technical targets and barriers for PEM fuel cells.



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