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Recent Development of Materials for Proton Exchange Membrane Fuel Cell (PEMFC)

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Abstract : Proton exchange membrane fuel cells (PEMFCs) have been developed as a promising power source for transportation and stationary applications, and power devices for computers and mobile telephones. This paper discusses and summarizes the latest developments of materials and remaining challenges of PEMFC. The different contributions to the material of all components and the efficiencies are analyzed. Many technical advances are introduced to increase the PEMFC fuel cell efficiency and life time for transportation, stationary and portable utilization. By the last years the total cost of this system is decreasing. However, the remaining challenges that need to be overcome mean that it will be several years before full commercialization can take place.

Keywords : PEMFC fuel cell, materials, recent development, efficiency, life time, commercialization possibility
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