



第172回触媒化学研究センター－談話会

演 題 : Fuel Cell – Challenges and Opportunities

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日 時 : 2004年7月6日(火)
14:00 - 15:30

会 場 : 北海道大学創成科学研究棟
4階 セミナー室 215号室

要 旨 : The lecture will briefly review the various types of fuel cells but focus on Proton Exchange Membrane Fuel Cell (PEMFC). PEMFC is generally used for small stationary applications e.g. distributed power generation system and automotive applications.

The various features of a fuel cell and fuel processor as an integrated unit, used for the conversion of commercially available gas or liquid fuel to H_2 suitable for fuel cell will be discussed. A fuel processor is a combination of a few reactors to generate hydrogen required for a fuel cell. The lecture will deal with the production of hydrogen suitable for PEMFC for household application using LPG as the fuel. The challenge is to energy integrate the five reactors in a fuel processor i.e. desulphurizer, steam reformer, high temperature shift reactor, low temperature shift reactor, preferential oxidation reactor and various heat exchangers. The fuel processor for PEMFC should be small in size and volume for portable applications so that it occupies less space. The fuel processor should also exhibit high-energy efficiency.

《連絡先》 北大触媒化学研究センター 触媒設計化学分野

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