عنوان مقاله:

Technology of Hydrocarbon Based Fuel Cells

محل انتشار:

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خلاصه مقاله:

Persian Gulf region has plenty of hydrocarbon sources such as oil and gas. These hydrocarbons presently are being used as a source of energy to provide power such as in automobiles and buses etc. With increasing population the number of these vehicles on the road are also increasing in big cities such as Tehran and causing environmental concerns and affecting society. So, the development of clean vehicles with reduced emission of pollutants is one of the major challenges of this century. In this context fuel cell came into picture as a clean source of energy, which can operate on many fuels. Fuel cells are promising candidates for transportation and potable power source applications. These applications include battery replacement for potable telephones and computers, power sources in remote areas etc. There has been tremendous effort for the development of fuel cell based on hydrogen. Fuel cells can also work using other fuels such as hydrocarbons including methanol either directly or indirectly (after reforming hydrocarbons to hydrogen). There have been attempts to develop methanol fuel cells using directly methanol or after reforming. Since there is plenty of hydrocarbons available in the region such as gasoline, naphtha, and methane/natural gas etc, they can be utilized in the fuel cell to produce clean power without combustion. In this communication the possibility of developing hydrocarbon-based fuel cell will be explore so that the oil and gas resources can be utilized to efficiently produce cleaner energy.

کلمات کلیدی:

Fuel cell, hydrocarbon, methanol fuel cell, polymer electrolyte, clean energy