

Fuel Cell Power Trains

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Abstract

The world is facing severe challenges due to the limitation of fossil energy resources and rising green-house-gas concentration in the atmosphere. Hence the automotive industry is searching for new concepts to fulfil the requirements of the transport sector for the future. One of the most promising approaches for future road transport is the electric vehicle featuring the fuel cell system technology in combination with an electric engine. With this technology most disadvantages of vehicles with an internal combustion engine can be solved without bigger disadvantages concerning driving performance, range and price. Therefore this technology has medium- and long-term the potential to achieve a significant market share. After several decades of developing prototypes and test vehicles of fuel cell vehicles, the automotive manufacturers are now on the verge of commercialize this seminal technology. In the last years a couple of OEMs introduced new generations of fuel cell vehicles, produced in small series, with the aim to validate the technology and to improve the customer acceptance. The aim of the article "Fuel Cell Power Trains" is to describe the layout and functionality of the fuel cell hybrid power train as well as to overview the involved OEMs with their current fuel cell vehicles. Thereby is shown the application of the fuel cell technology not only in passenger cars but also in buses and delivery vehicles.

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