INTEGRATION OF THE HYDROGEN-POWERED FUEL CELL INTO THE UNMANNED AERIAL VEHICLE (UAV)

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Abstract: Nowadays, fossil fuel resources decrease and the use of these fuels gives damage to the environment. For these reasons, the orientation to new energy sources increases. One preferred energy source is hydrogen (H_2). In result of synthesis of hydrogen and oxygen (O_2), electricity is generated. Showing the aircraft designed by using electricity to take off with all necessary equipment might be accepted as it opens the way for renewable energy in aviation. In this study, the properties of hydrogen, the application areas of hydrogen, the storage of hydrogen, safety in use of hydrogen and the integration of the hydrogen-powered fuel cell into the unmanned aerial vehicle (UAV) is presented. In addition, the conceptual design and the manufacturing stages of UAV fueled by hydrogen for maximum endurance were presented.

Keywords: Hydrogen, UAV, Fuel cell