

AVIATION ENGINES BASED ON SOLID OXIDE FUEL CELLS FOR NEXT GENERATION TRANSPORT AIRCRAFT

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Abstract

The systematic account estimations of main parameters and comparison of traditional aviation engines and aviation engines based on battery of solid oxide fuel cells are represented at the report. The cause of using solid oxide fuel cells operates on synthesis - gas, produced from liquid fuel is discussed. The direct current electric motor is represented as electric load for fuel cell battery. The fuel efficiency (fuel consumption for transportation of 1 ton of useful load per 1 km) is selected as efficiency criterion.

Keywords: Turbofan engine; Hybrid turbofan engine; Solid oxide fuel cell; Fuel cell battery; fuel efficiency