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Dynamic Modeling of an Unmanned Aerial Vehicle with Petro-Engine

Authors : Khaled A. Alsaif, Mosaad A. Foda

Abstract : In the following article, we present the dynamic simulation of an unmanned aerial vehicle with main fuel engine in the middle to carry most of the weight. This configuration will increase the flight time of the vehicle for a given payload size as opposed to the traditional quad rotor, where only DC motors are used. A parametric study to investigate the effect of the propellers ratio (main rotor propeller diameter to secondary rotor propeller diameter), the angle of incidence of the main rotor and the twist angle of the main rotor blades on selected performance criteria is presented.

Keywords : unmanned aerial vehicle (UAV), quadrotor, petrol quadcopter, flying robot
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