CFD Analysis of Drone Blade

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Abstract: *Drone technology is seen to be rapidly advancing in various fields and applications including photography, military, transportation, sports, and many more. Therefore, each drone design requires different aerodynamic requirements, which includes different types of propeller designs. By revolving and generating airflow, the propellers give drones or unmanned aerial vehicles (UAV) a lift force or thrust. This paper presents a novel integrated study of the aerodynamic performance and acoustic signature of different propellers with a specific focus on the blade twist angle effect. Designed using CATIA V5 and computational fluid dynamic (CFD) simulations were utilized to examine and compare the aerodynamic performance, Drag and Lift between different shapes of the drone propellers. Therefore, this work falls on the study of the aerodynamic effect of different drone blades*

Keywords: Computational Fluid Dynamics(CFD),Aerodynamics, CATIA V5, UAV