

Optimization of Bank Angle And its Analytical Validation for Unmaned Air Vehicles

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In this paper, optimization is performed for the computation of optimum bank angle for coordinated turning flight condition using sequential programming method (SQP). The optimization was carried out for two types of aircraft which categories as microlight Air vehicle(MAV) and unmanned air vehicle(UAV). Simulation results were validated analytically for both microlight air vehicle and unmanned air vehicle for the variation of bank angle with the velocity for a given turn radius. The validation was performed for fixed turn radii varying from twenty meters to hundred meters including infinite turn radius in straight and steady level flight using standard level turn methods. Throughout the analysis, the optimization results are closely following the analytical results for microlight air vehicle (MAV) as well as unmanned air vehicle (UAV).

Biography

Salahudden completed his Bachelor of Technology in 2016 and Master of Technology in 2018 from SRM University Chennai and Indian Institute of Technology respectively in Aerospace Engineering. He has been awarded for his outstanding academic performance by Amul Pvt.Ltd., for best B.Tech Aerospace project by Aman Aviation Pvt.Ltd., two-time gold medal by NPTEL and Academic performance scholarship by SRM University. During his masters, he was nominated for Shankar Dayal Sharma Gold Medal by IIT Kanpur. He has presented three conference papers. He worked in Technical fest AARUSH as an event coordinator at SRM University Chennai and as an orientation team member for counseling service at IIT Kanpur.

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