

Approaches of Flight Level Selection for an Unmanned Aerial Vehicle Round-Trip in Order to Reach Best Range Using Changes in Flight Level Winds

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Abstract : The ultimate success of unmanned aerial vehicles (UAVs) depends largely on the effective control of their flight, especially in variable wind conditions. This paper investigates different approaches to selecting the optimal flight level to maximize the range of UAVs. We propose to consider methods based on mathematical models of atmospheric conditions, as well as the use of sensor data and machine learning algorithms to automatically optimize the flight level in real-time. The proposed approaches promise to improve the efficiency and range of UAVs in various wind conditions, which may have significant implications for the application of these systems in various fields, including geodesy, environmental surveillance, and search and rescue operations.

Keywords : drone, UAV, flight trajectory, wind-searching, efficiency

Conference Title : ICB 2024 : International Conference on Bioleaching

Conference Location : Riga, Latvia

Conference Dates : June 20-21, 2024