

## **Sensitivity of System Stability of UAVs to Variation of Vehicle Aerodynamic Characteristics**

Ira Walker, David Torain and Morris Morgan

Exploring the controllability of unmanned aerial vehicle (UAVs) flight formation, where the behavior of each vehicle is represented by a set of nonlinear state-space equations. The entire collection of vehicles comprises the system, whereas each individual UAV is a subsystem element. The lead vehicle is the driver while the remaining vehicles operate under the control of the driver. The overall effectiveness of the mission is predicated on the synchronization or coupling of the system among its constituent subsystems. One paramount question that is to be addressed is: what is the impact of the functional form of the state equations and controller structure on overall system stability?

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