A multi-axis load cell was designed to measure the aerodynamic forces and moments in the wind tunnel at different AOA.

LIBRA Project

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Purpose
LIBRA hopes to prove the failure of control surfaces at stall and to implement a novel augmented rolling system invented using the Lie Bracket. This mechanism will enhance control authority at high angles of attack and during turbulent flow.

The 5 plane models are designed with 5 different wing shapes, while maintaining the same area.

The LIBRA Mechanism will oscillate the ailerons and the elevators with a phase shift at high frequencies. This will theoretically produce a powerful rolling moment.

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This system casts a laser field over the aircraft models so the air flow around the wings can be observed.