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Experimental study of airfoil separation control using synthetic jets XI XIA, KAMRAN MOHSENI, CU Boulder — The flow control over an airfoil is studied experimentally in a wind tunnel. Synthetic jets are placed on the top surface of the airfoil as flow actuators. The position and the angle of the jet orifice, together with the frequency and jet strength could be varied in order to adjust the separation or reattachment points on the surface. An Array of hot-film sensors are located on the surface in order to detect the location of the reattachment point. The airfoil is mounted on a 6 d.o.f force balance system to dynamically measure the drag and lift forces on the airfoil. Results from the hot-film sensor array measurement are correlated to the measured drag and lift forces.

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