09/2014 - 12/2014 Winterthur, Switzerland

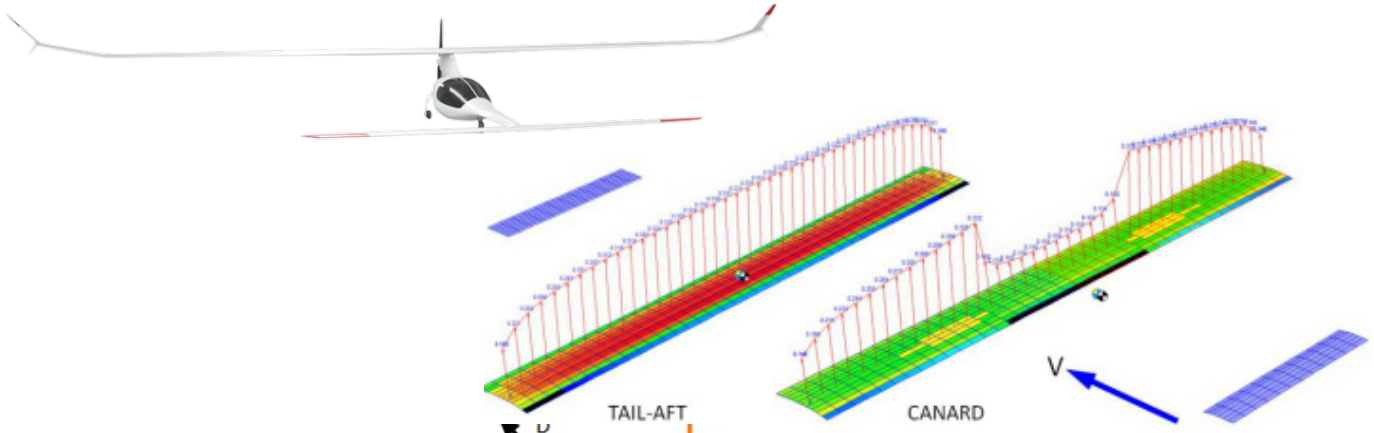
CENTER FOR AVIATION (ZHAW) & SILENTFLIGHT DESIE E.V.

Project Thesis

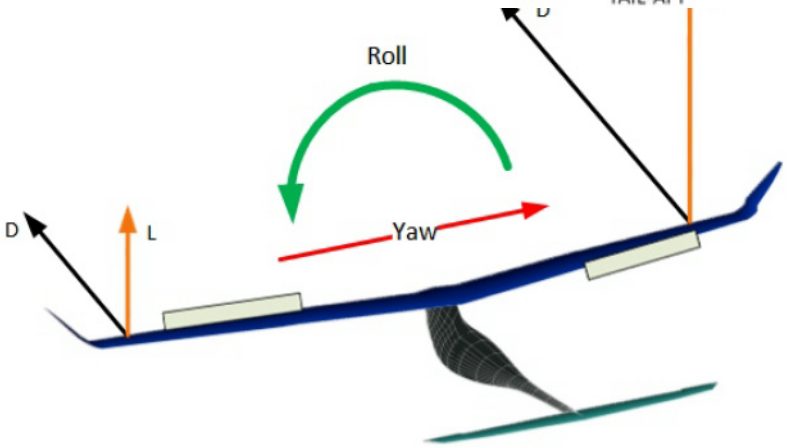
Design of Control Surfaces for a Light Aircraft in Canard Configuration

GOAL	Investigate roll authority and lateral-directional behaviour of an unconventional light aircraft design

DUTIES	• Model a virtual mock-up from raw aircraft data (XLFR5) • Compute stability and control derivatives with VLM (XFOIL-AVL) • Investigate dynamic modes with a flight mechanic model (Simulink) • Make recommendations on the dimension and position of surfaces



15.: Auftriebsverteilung Haupflügel



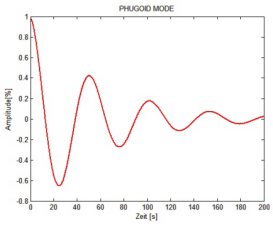


Abbildung 4.4.: Phugoid

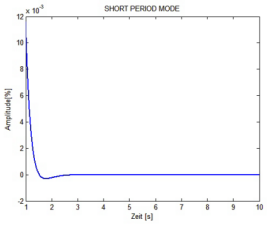


Abbildung 4.5.: Short Period

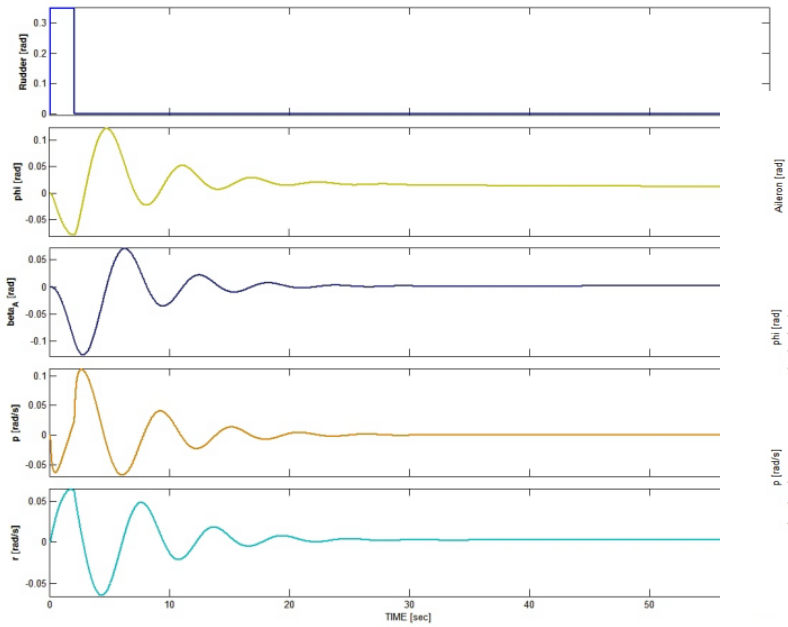


Abbildung 4.23.: Spoiler Antwort - mit $\delta_s = 20$ř - Zeitbereich 60 Sek

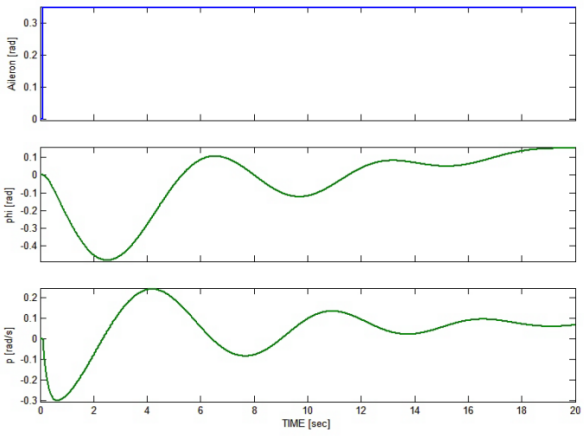


Abbildung 4.35.: Aileron Reversal Untersuchung