

# Simulation of the wind tunnel mounting of a delta wing

## *Studienarbeit*

### **Background:**

The leading edge of a delta wing without a side slip angle forms two symmetric longitudinal vortex systems, which are being investigated towards their dynamic behaviour. For this, an experimental campaign, as well as several numerical investigations are conducted.

The proposed student thesis is supposed to numerically investigate the effect of the wind tunnel mounting on the pressure distribution of the lower surface of the delta wing. Additionally, possible interaction of the wake of the mounting with the longitudinal vortices formed on the upper surface of the delta wing is of interest.

### **Tools:**

- DLR TAU-Code
- Pointwise
- Matlab or Python

### **Requirements:**

- Advanced knowledge in (unsteady) Aerodynamics
- Preferably: first experience in numerical simulations and data evaluation

### Literature:

- François, Daniela G., et al. "Numerical Simulation of the Streamwise Transport of a Delta Wing Leading-Edge Vortex." *Journal of Aircraft* (2021)
- Landa, Tim, et al. "Experimental and Numerical Analysis of a Streamwise Vortex Downstream of a Delta Wing." *AIAA*

