INSTITUT FÜR THERMODYNAMIK DER LUFT- UND RAUMFAHRT

Direktor: Professor Dr.-Ing. B. Weigand





HiWi Stelle

Literature research on a future propulsion watery recovery system

Today's demand for climate-neutral aviation has turned the research focus towards innovative propulsion systems. The **WET** (**W**ater **E**nchanced **T**urbofan) engine is a revolutionary propulsion concept that recovers the exhaust heat, and thus improves thermal efficiency and reduces energy consumption.

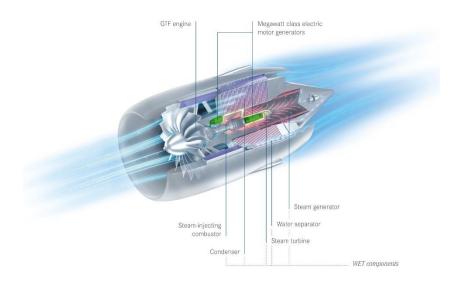


Figure 1: WET engine architecture

One of the WET engine components (Figure no.1) is the **W**ater **R**ecovery **U**nit (**WRU**) which role is to collect the droplets from the supersaturated flow, with the minimum pressure drop possible. In the frame of this HiWi position, literature research on the **WRU** concept will be carried out.

Qualifications:

- Basic knowledge of thermodynamics and fluid dynamics
- Analytical thinking
- Motivation

Tasks:

Literature research on:



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- phase seperation concepts
- o prior bended pipes and swirlers pressure drop investigations
- o two-phase flow models
- Work documentation

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