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** (Water Enchanced Turbofan) engine is a revolutionary propulsion concept that recovers the exhaust heat, and thus improves thermal efficiency and reduces energy consumption.

![WET engine architecture](image)

One of the WET engine components (Figure no.1) is the **Water Recovery Unit (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:
Universität Stuttgart
INSTITUT FÜR THERMODYNAMIK DER LUFT- UND RAUMFAHRT
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Pfaffenwaldring 31, 70569 Stuttgart, Germany - http://www.itlr.uni-stuttgart.de

- phase separation concepts
- prior bended pipes and swirlers pressure drop investigations
- two-phase flow models

• Work documentation

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