Interdisciplinary Project (IDP) at the Institute of Helicopter Technology

WAVE – Wide Augmentation & Visualization for Helicopter Shipdeck Operations

Background:
One of the most challenging aspects of helicopter operations is to land on a moving ship deck, because of –
1. Influence of landing zone on pilot performance.
2. Limited field of view during landing maneuver.
3. Degraded visual environment.

Pilot-in-the-Loop simulations at the Institute of Helicopter Technology are designed and executed in an original cockpit of a modern helicopter integrated to a dome projection scenery. The Rotorcraft Simulation Environment (ROSIE) offers Pilot-in-the-Loop simulations based on a realistic environment. This project aims to integrate visualization of waves and/ or texture methods like Gerstmer waves for Helicopter Shipdeck Operations to the simulation environment. For integrating waves and texture methods an existing ship model in OSG can be used. Design and integration may lead to a flight test campaign situated at the Rotorcraft Simulator Environment.

Skills:
Basic Knowledge of C++
Knowledge in OpenGL or OSG is an advantage

Tools:
C++, Flight Simulator ROSIE and Helmet Mounted Display

Possible attendant lectures:
Helicopter Systems
Helicopter Safety and Certification
Remark: Other attendant lectures are of course accepted.

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