Orion-ESM Hydraulic Model (HM) Analysis Enhancement, NB10352794

Vertragsart (Praktikum/Abschlussarbeit)
Abschlussarbeit (Bachelor)

Aufgabe und Aktivitäten:
ORION-ESM is a NASA-ESA service module for the ORION crew capsule vehicle designed to support crewed long-duration deep space missions. ORION will be launched by the Space Launch System (SLS). Airbus DS was awarded to design the ORION propulsion subsystem (PSS) which provides translation thrust and 3-axis roll-control. The propulsion subsystem is operated with pressure-fed storable propellants. This means that the liquid propellants (MMH and MON) are pressurized in the propellant tanks by means of pressure-regulated helium.
For the PSS fluidic performance correlations (thrust, mixture ratio, propellant consumption...) Airbus DS has set up a hydraulic model test bench (HM1) and developed a simulation tool (based on EcosimPro). In the frame of the project, the tool needs to be enhanced, meaning the pressure wave amplitude and frequency needs to be aligned in order to give more realistic results. The student therefore would need to adapt the layout of the model and the coding of some components.

Detaillierte Kompetenzen
- Fluent in English
- Programming experience, preferable worked with object-orientation
- Good knowledge of fluid mechanics
- Team Player
- Pro-active
- Communicative

Erfahrung IT Tools
- Good knowledge of EcosimPro, MATLAB Simulink or similar and preferable worked with object-orientation

Voraussichtlicher Zeitraum
6 months, start 1st quarter of 2017

Kontakt
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