

Bachelor thesis / Master thesis

System simulation of a tracked vehicle

Subject matter and motivation

System-level simulation (SLS) is a collection of practical methods used in the field of systems engineering, in order to simulate the global behaviour of large systems, such as Tracked Vehicles. Using a Modelica-based software (such as SimX, Simcenter Amesim, Dymola, ...) the physical behavior can be represented realistically.¹

Tasks

The aim of this work is to create a system simulation that realistically represents the physical behaviour of a tracked vehicle. The software can be freely chosen by the student (SimX, Amesim, Dymola, ...). The following link provides an insight to the simulation possibilities of the Amesim software.²

Structure and subtasks of the thesis

- Literature research and familiarisation with the topic
- Creating an experimental plan ("How to proceed")
- Development of an analytical model
- Development of the simulation model
- Documentation

Contact

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¹ s. https://en.wikipedia.org/wiki/System-level_simulation

² s. <https://www.plm.automation.siemens.com/global/en/products/simulation-test/mechanical-system-simulation.html>