

Bachelor Thesis / Master Thesis

Investigation of Simulation Scenarios in NVIDIA IsaacSim

Subject matter and motivation

Isaac Sim¹ is a high-performance simulation environment for calculating physical processes.² However, in order to achieve a faster computation time, simplifications are made during the calculation of the physical processes. Hence, it shall be investigated, how much the computations in Isaac Sim differ from the computation of classical MBS programs such as Adams³ or RecurDyn⁴.

Tasks

The task of the thesis is to perform simple simulation scenarios in the programs Isaac Sim and Adams/RecurDyn and to compare the results. Depending on the preferences of the student, the subfields can be defined differently.

Structure and subtasks of the thesis

- Literature research and familiarization 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://git.openlogisticsfoundation.org/silicon-economy/simulation-model/o3dynamicsmodel>

2 s. https://www.youtube.com/watch?v=VW-dOMBFj7o&ab_channel=NVIDIA

3 s. <https://hexagon.com/de/products/product-groups/computer-aided-engineering-software/adams>

4 s. <https://www.enginsoft.com/solutions/recurdyn.html>