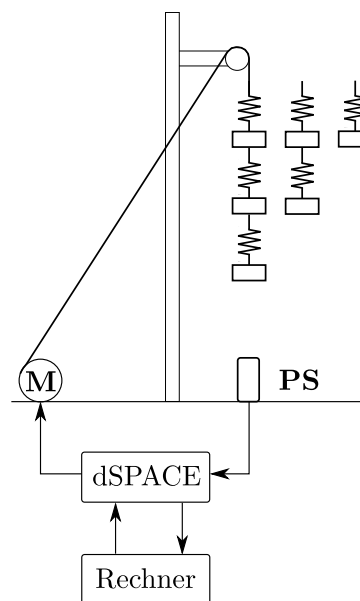


## **Development and implementation of a lab-demonstrator for an actuated multi-mass oscillating system**

This Student Research Thesis deals with the development, moulding, simulation and realisation of a lab-demonstrator for a motor-controlled multi-mass oscillating system. With this demonstrator several characteristics and operating principals should be displayed.

After a structured analysis the required components are set and the demonstrator can be put together. In Simulink a simulation with actuator, sensors and controlled system is build. The demonstrator is navigated by the real-time computer dSPACE, which uses code input via a similar Simulink-model. The control unit designs for an unsprung mass and a one-mass oscillating system are created in MATLAB. Finally the Simulink-model and the lab-demonstrator are used to verify the control unit designs.



**Abbildung 2:** Layout of the lab-demonstrator

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