Control Part
of Course on Power Electronic Devices and Circuits

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Tutor: Benjamin Stickan

General aim: familiarize attendants with control concepts in state space and enable them to design state space controllers on a computer

Topics:
- State Space Control for Linear Time Invariant (LTI) Systems
- Linear Quadratic Regulator (LQR)
- State Estimation and Kalman Filter (KF)
- Model Predictive Control (MPC)
- Exercises in MATLAB

Schedule:
- Thu, June 1, 2017, Lecture Slot 1
    - Introduction
    - Linear time invariant (LTI) systems in state space
    - Controllability
- Fri, June 2, 2017, Lecture Slot 2
    - Linear Quadratic Regulator (LQR)
    - Explanation of Exercise 1 (homework)

- Seven weeks to rehearse background material and to work on Exercise 1

- Thu, July 20, 2017, Lecture Slot 3
    - Discussion and Solution of Exercise 1
    - Observers, Kalman Filter and Output Feedback
- Fri, July 21, 2017, Lecture Slot 4
    - Discrete Time Systems
    - Explanation of Exercise 2 (homework)

- Thu, July 27, 2017, Lecture Slot 5
    - Model Predictive Control (MPC)
- Fri, July 28, 2017, Lecture Slot 6
    - Discussion and Solution of Exercise 2
    - Lecture Summary

All info can be found on https://www.syscop.de/ → Teaching
→ Power Electronics Devices and Circuits - Control Part