Christian Doppler Laboratory for Model Based Control of Complex Test Bed Systems

Focus: Applied basic research in cooperation with

- Kristl, Seibt & Co GmbH
- Lam Research AG

Selected Research Activities:

- Modelling and Control of Test Beds
  - speed profile tracking on vehicle test beds
  - temperature control for hot water boilers
  - intake/exhaust back pressure control for combustion engine test beds

- Process Control for Semiconductor Processing Equipment
  - estimation of surface temperature of silicon wafers
  - control of liquid film temperature on the wafer
  - fault detection for critical mechanical components

- Robust Sliding-Mode Controller and Observer Design
  - saturated actuators
  - discrete-time realization
  - stability and performance analysis
  - multivariable and distributed parameter systems