

Adaptive, discrete-time Sliding-Mode-Techniques

Sliding-Mode-Systems have advantages in control theory, but show significant difficulties after discretization. In order to overcome these and to take unknown bounded disturbances into account the following tasks are being worked on:

- Application and evaluation of different discretization methods
- Minimizing discretization chattering
- Formulating requirements to the continuous-time system
- Adaptation of the controller gain to optimize disturbance rejection while ensuring appropriate small discretization chattering
- Stability proof by Lyapunov's direct method

