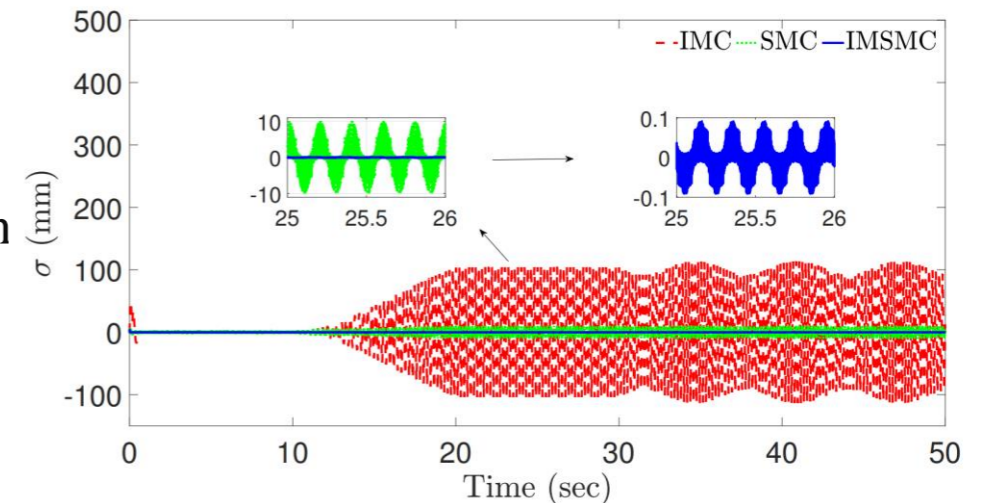# Robust Internal model-based control

One of the major challenges in controlling dynamic systems is dealing with external disturbances and uncertainties. Following the so-called Internal Model-Based control (IMC) concept, a dynamic model, the so-called exosystem, could be used to approximate the time behavior of the external disturbances. Within this project, a robust version of the IMC concept will be developed. It will consider structured and unstructured uncertainties in the model of the external signal as well as in the plant dynamics. For the purpose of designing practically relevant algorithms also the discrete-time domain case will be taken into account. The main tasks of this project are:

- Enhance robustness to exosystem uncertainty

- Develop an observer-based robust control for output regulation

- Investigate Discrete-Time Control Strategies for Robust IMC

- Ensure stability and performance

Tracking error for different control approaches

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