

Modeling Technical and Physical Systems

Contents

This lab course will deal with different modes with which technical and respectively physical systems can be modeled:

- Object-oriented physical models (e.g. Modelica)
- Signal flow graphs (e.g. Simulink)
- State machines
- (Hybrid) automata
- Petri nets
- ...

The main focus will be on how to achieve a model that fits the application purpose. For this, the participants will model systems using various examples, implement and simulate these models in the respective environments and thus acquire experience in the design and application of models.

Preliminary Knowledge

As we will deepen and enhance some topics that have been introduced in the lecture [Dynamic Systems for Computer Scientists](#), having participated in this lecture successfully will be of great advantage for you. Additionally, knowledge in automata theory, differential equations, physics or engineering sciences are a plus.

Dates

The lab course will take place Mondays from 1pm until 4pm in room 2323.

I²p

We have arranged a virtual learning room in the [I²p](#) where you will have access to current news, exercise sheets, slides and further material concerning the lab course. On the I²p platform, you will also have the possibility to discuss lecture and exercise content with the respective tutors and other students.

Contact

- [Dr. rer. nat. Jacob Palczynski](#)

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