

MASTER PROJECT GROUP PRE-MEETING

SUMMER TERM 2021, WEB CONFERENCE

WEDNESDAY, 2021-04-14, 1-2 P.M.



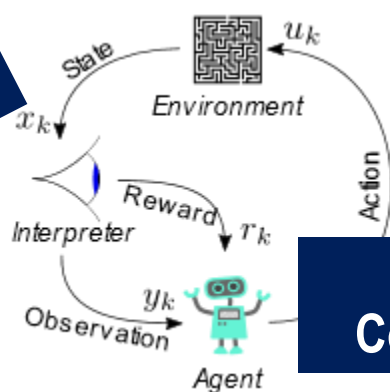
QR-code for MS Teams meeting
(alternative: lea.upb.de → news)

Agenda

- Short presentations on the offered project topics
- Introduction to mandatory pre-tests
- Q&A

Topic #1: Reinforcement Learning for Electric Power Systems (Drives, Microgrids)

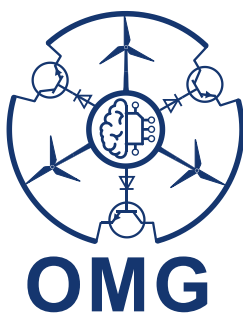
**Collaborative
software engineering**



**Data-driven
Control design**

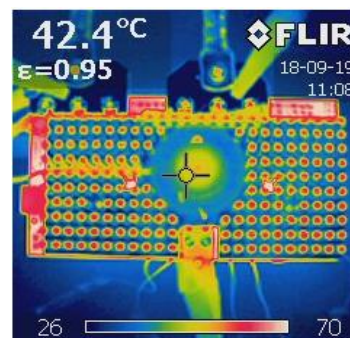
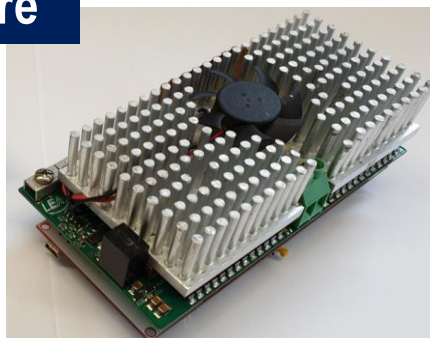


**Open-source
programming**



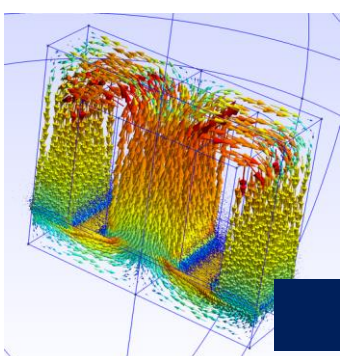
Topic #2: A Highly Compact Interleaved 48-12V DC-DC-Converter for Vehicle Systems

Work on real hardware



**Microcontroller
programming**

Topic #3: Automated Open-Source FEM Simulation with OneLAB for power electronics inductors



ONELAB

**Python
programming**

```
def f_mln_ill(m_lambda, m_n, mln_phi, mln_ib_il0, v1, v2):
    # generate matrix
    mln_ib_ill = np.ones_like(m_lambda)

    # fill all NaN's in the original matrix also in the copy with NaN's
    (mln_ib_il0) = np.nan

    # data points
    (mln_ib_il0) = mln_ib_il0[~np.isnan(mln_ib_il0)]
```



GitHUB

