

SYSTEM-ON-CHIP-BASED MAGNET CONTROL IN A MICRO TCA SYSTEM.

Speed Talk -

13th MT ARD ST3 Meeting 2025 Zeuthen

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26.06.2025

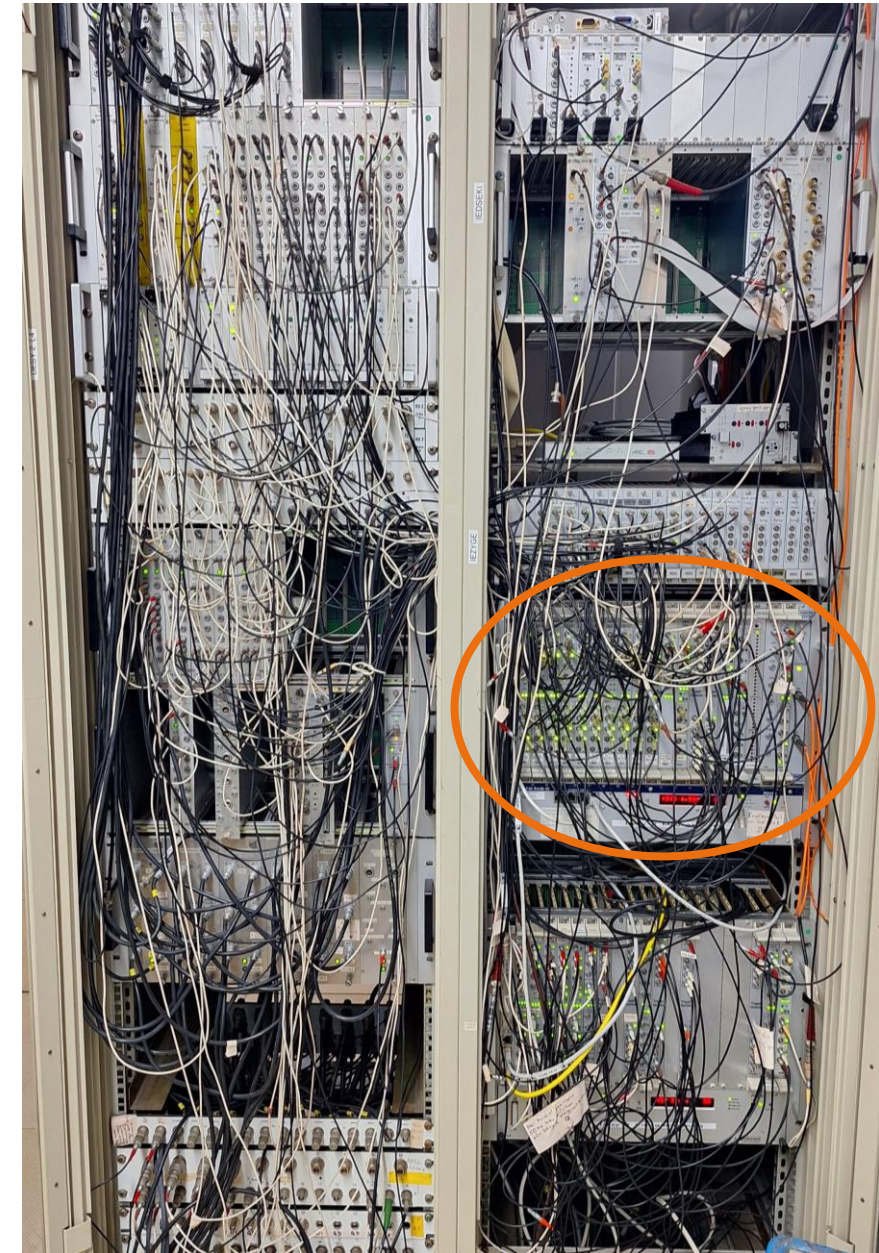
HELMHOLTZ



Current DESY II magnet control

Using VMEbus

- DESY II → pre-accelerator of PETRA III
- Ramps up energy from 450 MeV to 6 GeV for extraction into PETRA III
- DESY II is old → VMEbus standard → fading expertise
- Upgrade → Migration to MicroTCA



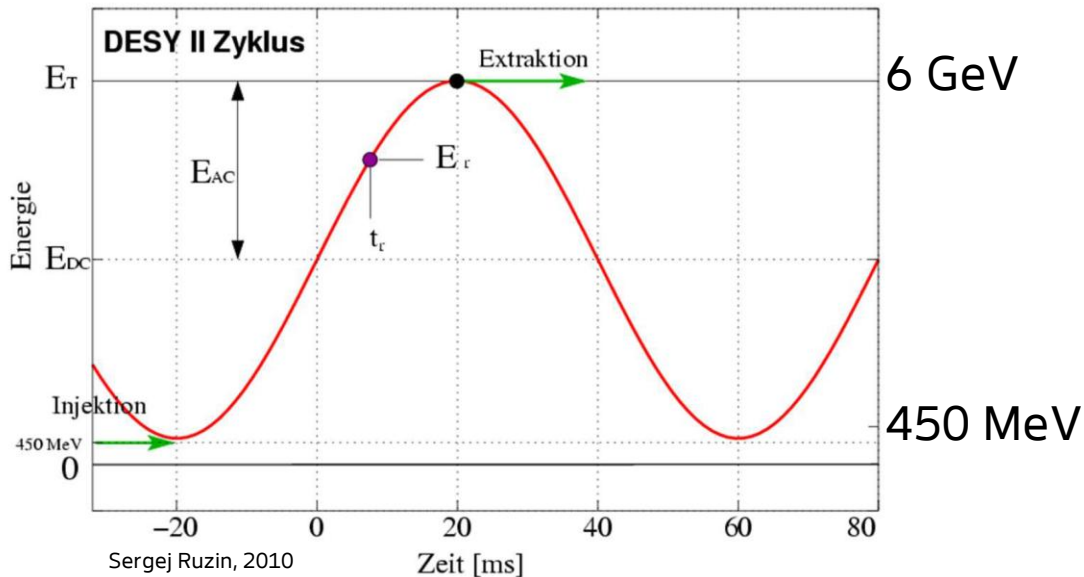
Migration to MicroTCA

Master's Thesis

Current system:

Real-time requirement **80 ms**

→ Real-time operating system **VxWorks**

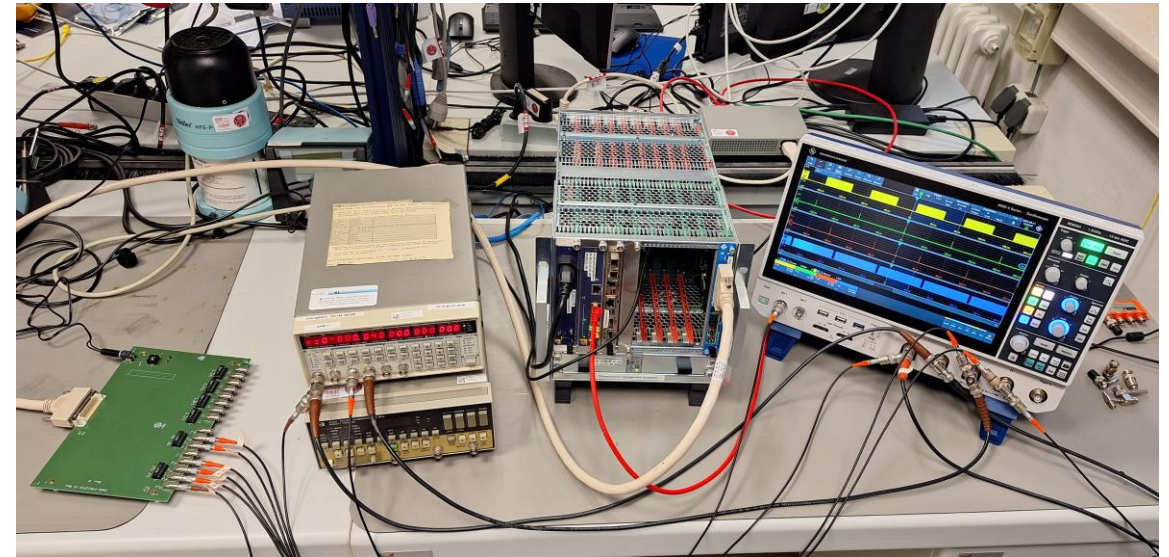


How do we use MTCA for
DESY II magnet control?

Is it possible without VxWorks?

Thesis:

- Implemented full functionality on MicroTCA
- Real-time requirement is met without the use of VxWorks



→ Details on my poster!