

List of possible advisors: Vojtěch Svoboda, Ondřej Ficker, Marek Tunkl, Lukáš Lobko, Štěpán Malec, Jan Buryanec, Sara Abasi, Jakub Chlum... (all faculty PhD students should be involved)

List of topics

Magnetics

- Measurement of poloidal flux at multiple ex-vessel locations (multiple flux loops)
- Characterisation of Vessel and “Kožuch” properties by measurement using in-vessel and ex-vessel coils (Bpol, Bt if available)
- Measurement of error fields from TF coils and iron core
- Modelling of part of the tokamak circuits in Ansys Maxwell or equivalent software and matching the results with experimental data
- B-H curve characteristics of the iron core of the tokamak

Wall conditioning

- role of pressure and duration of glow discharge
- role of temperature in plasma parameters of discharges after the baking
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Breakdown

- Breakdown studies/optimisation
- Breakdown modelling/calculation

Runaway electrons

- RE discharge optimisation
- RE discharge flagging + relative runaway electron contribution/real temperature

Diagnostics - Radiation

- Why does the tokamak plasma usually look blue? - analysis of spectroscopic and camera data
- Camera tomography and Cherab modelling
- Synthesis of “fast” and “slow” spectroscopy

Diagnostics - interferometry

- flagging of discharges with faulty density signal, correction of errors, etc.

Discharge post processing

Transport barrier/probe measurements

