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

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 - interferometery

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

Discharge post postcessing

Transport barrier/probe measurements