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# P5.1021 Investigation of pedestal stability in edge plasma region of the COMPASS tokamak

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See full abstract here:
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Electron density and temperature profile measurements are important for magnetic confinement fusion research performed on tokamaks. One of the research areas these measurements help to understand is physics of edge transport barrier (pedestal) formation, which is closely related to plasma performance in the H-mode regime. Investigation of the pedestal stability can provide an important insight into the edge plasma behaviour trying to understand the magnetohydrodynamic (MHD) activity including edge localised modes (ELM) instabilities. Several experimental points for dierent COMPASS discharge scenarios were analysed using ideal MHD codes, HELENA and ELITE/MISHKA, concentrated on the H-mode performance evaluation and analysing the behaviour of the peeling-ballooning boundary in order to characterize ELMs and their triggering mechanism. Essential input for the analysis of electron density and temperature profiles is provided by the Thomson scattering (TS) diagnostics system of the COMPASS tokamak. Recent progress in the data processing of the COMPASS TS diagnostics suggested several improvements in order to optimize the data processing code and improve its reliability, thus, improving the precision of the pedestal stability analysis.

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