

OVERVIEW OF THE COMPASS DIAGNOSTICS

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The COMPASS tokamak, a divertor device with clear H-mode and ITER-relevant geometry (1:10 to ITER plasma size, $R=0.56$ m, $a=0.23$ m, $I_p<400$ kA, $B_T=1.2-2.1$ T and pulse length up to 1 s), has been re-installed in IPP Prague after its transport from CCFE, Culham in UK. Many new diagnostic tools with both high temporal and spatial resolutions are under development to address the scientific program focused on H-mode physics and pedestal investigations. In the contribution, all existing and in near future installed diagnostics will be reviewed including their technical specifications and results of the first measurements, see Figure 1. A wide range of magnetic, spectroscopic, microwave, probe and beam diagnostics will be introduced, like various sets of coils, high resolution Thomson scattering, fast intelligent cameras, multi-channel tools for tomography in different spectral ranges, spectrometer for plasma rotation measurements, interferometers, radiometers, reflectometers, reciprocating manipulators with exchangeable probe heads, divertor probes, beam emission spectroscopy and atomic beam probe systems. Finally, a physical motivation for installation of individual measuring systems will be given.

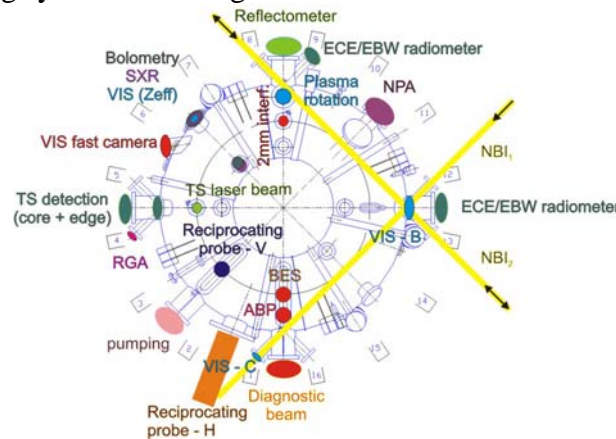


Figure 1: Overview of the COMPASS diagnostics in 2010

[1] R. Panek, et al., Czech. J. Phys. 56 (2006) B125-137