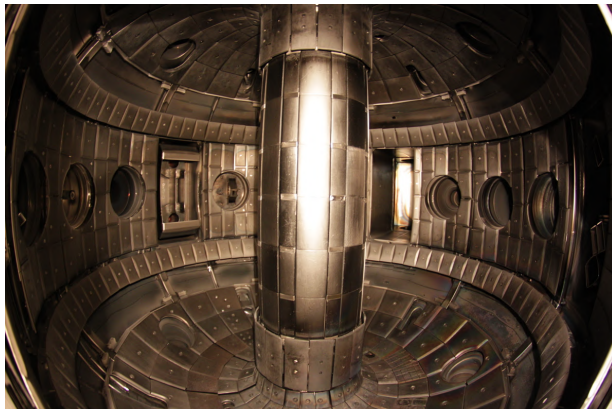
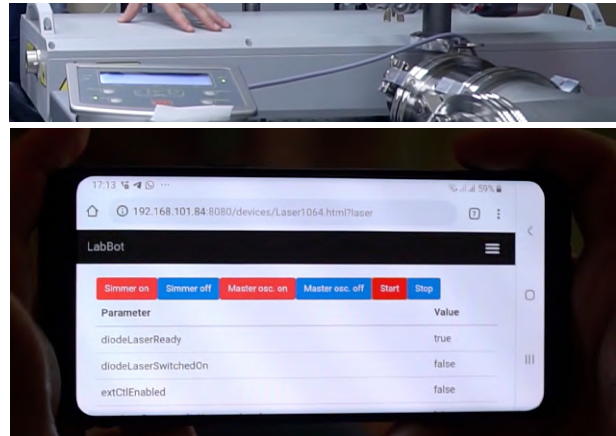


THOMSON SCATTERING IN GLOBUS-M2

This video illustrates all key aspects of Thomson scattering diagnostics in the Globus-M2 tokamak. Firstly, the machine is introduced, secondly, core pieces of diagnostics are covered. Explanation of their work as well as the main parameters are given.



Picture 1 Spherical tokamak Globus-M2.



Picture 2 TS laser, control is based on LabBot framework.

The Globus-M2 is a spherical tokamak with the following parameters: $R = 0,36$ m, $r = 0.24$ m, $I_p < 500$ kA, $B_t = 0,8$ T [1], (pic 1).

Thomson scattering diagnostics is based on 2 Joule laser, with pulse width 3 ns (pic 2). This laser can work in quasi-stationary mode in frequency range from 1 Hz to 100 Hz [2]. This laser control is relies on LabBot framework [3].

Optical Digital Polychromator for Thomson Scattering (pic.3) is a brand-new device, 2019 year of production. It has optical module and digitizer 5 GHz ADC 8 channels 12 bit. Each polychromator is equipped with onboard ARM running Linux OS and can be accessed by web interface via optical Ethernet. The bench-mark tests of the prototype were published [4], however routine operation performance will be presented soon.



Picture 3 Digital Polychromator for Thomson Scattering. 1 - handles, 2 - notch filter for Rayleigh calibration, 3 - optical input, 4 - trigger, 5 - optical Ethernet, 6 - power switch

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