

Progress (and steps back) on development edge Thomson scattering diagnostics

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Edge TS operation: SA-SE.OP.DO.04-T002-D001

“Elaborate the required commissioning activities based on ENEA experience and potentially other European facilities and start drafting a commissioning plan for the JT-60SA TS system.”

2 objectives:

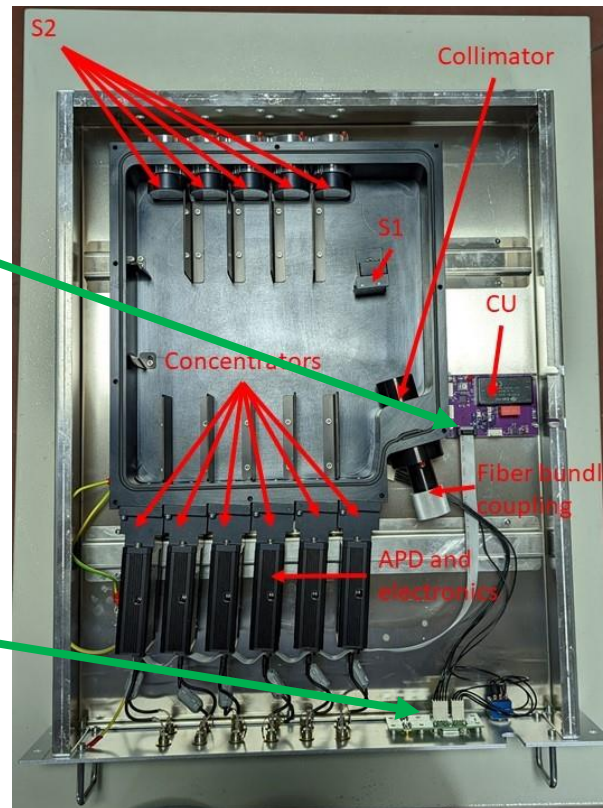
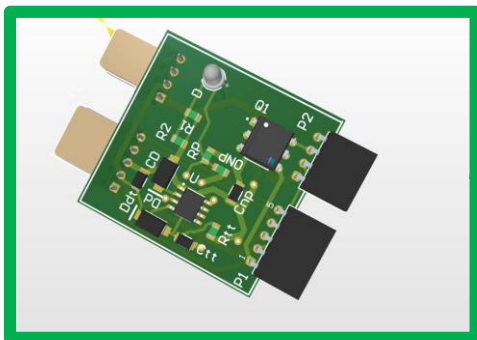
- Keep the system components installed (laser and polychromators) operational
- Prepare the system calibration and commissioning

Currently, we are mostly dealing with issues that arose in the LASER and Polychromators. Discussions on the calibration procedure are not carried out at the moment.

Revision of the installation procedure will start with the TCM41 and continue during the second half of the year. Ideally, a visit to QST with ICSI to discuss the installation procedure will occur in November.

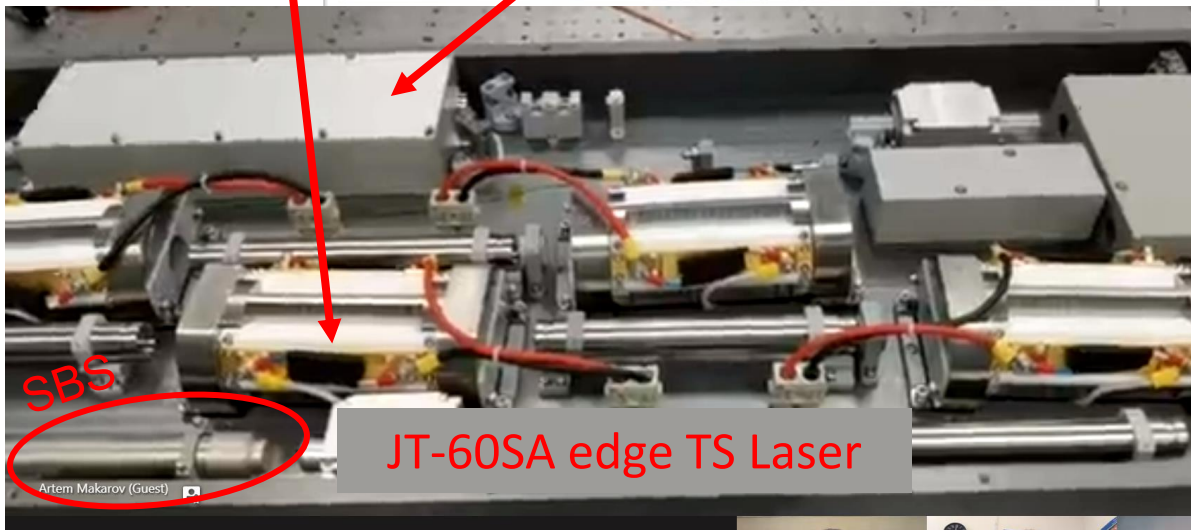
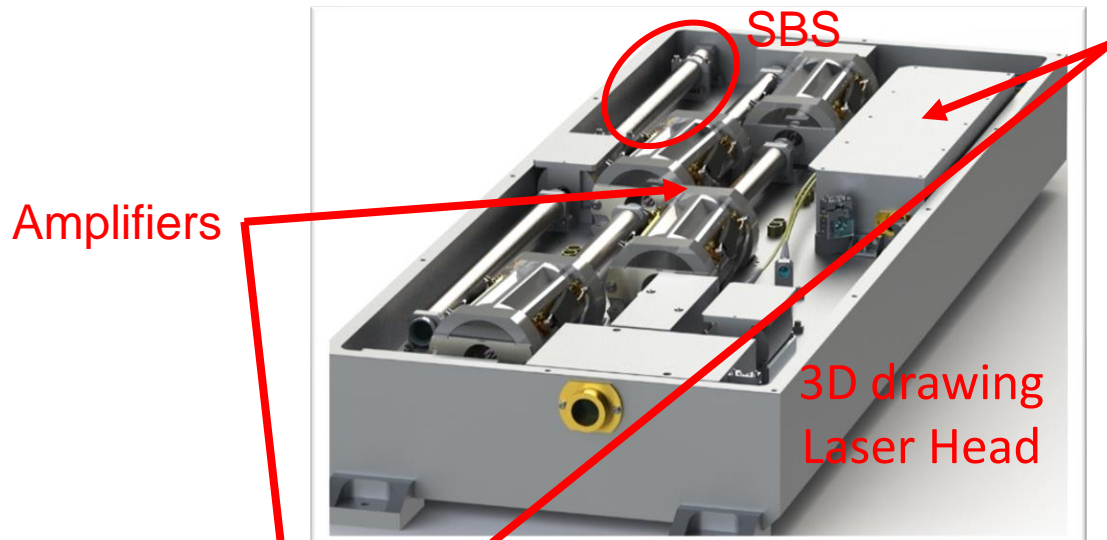
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Polychromators communication issue. Design faults can cause damage to the polychromator's I2C communication system (not strictly needed for operation). Repairs are ongoing, and manufacturing of a new printed circuit board is required (control switch on and off):



- prototype ready and tested.
- manufacturing of 10 PCB for further testing (mid May)
- manufacturing of 100 PCB final product (end of June)
- installation expected in August/September, still to be discussed with QST.

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Laser issue: currently experiencing a delay in the start of the laser.

- LOS (manufacturer) is interacting directly with QST to identify the issue (step-by-step instructions)
- The problem seems to be caused by the Master Oscillator/Master oscillator electronics.
- likely a visit from LOS to work on MO will be necessary.

Status of edge TS components procurement

Components procurement: SA-EN.IM.02-T002-D001



The first round of acceptance tests for the edge TS mechanical structure was completed on 24 February 2024.

No functional issues, but several components need further work.

Tasks are being quickly completed and a new visit from QST is expected in July (after EPS conference).

An open task needs the procurement of a new metal O-rings, but it is delayed (earthquake), and delivery is expected in September. Under discussion if:

- Ship the components to QST and complete there the job
- Complete the job at ICSI and ship to QST