Operation-oriented tools and conditioning

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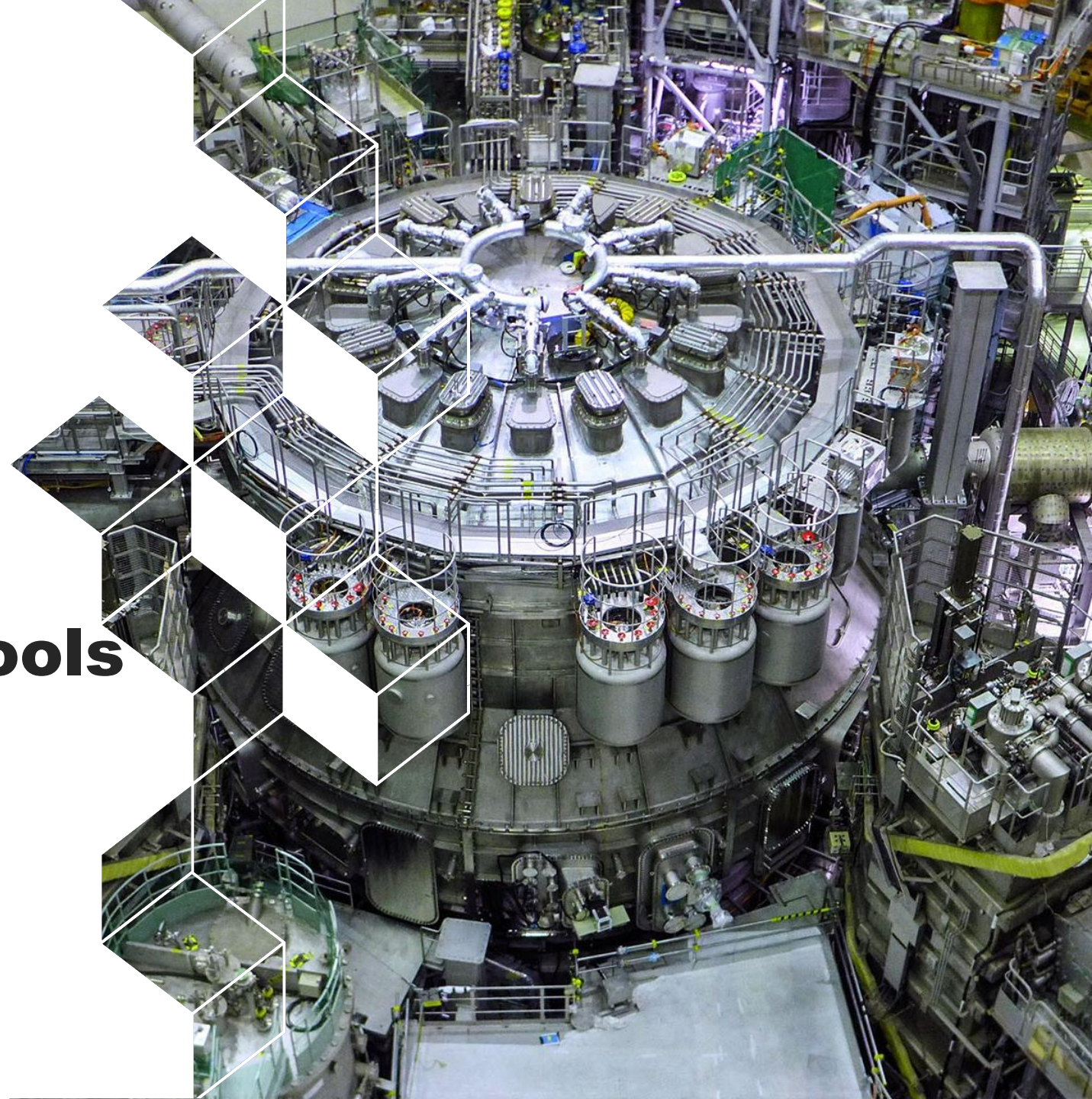
31/05/2024



Outline – Operation-oriented tools and conditioning

1. Conditioning

2. Operation-oriented tools

- Initiated/performed in 2023
- Continuation and further developments for 2024

Conditioning

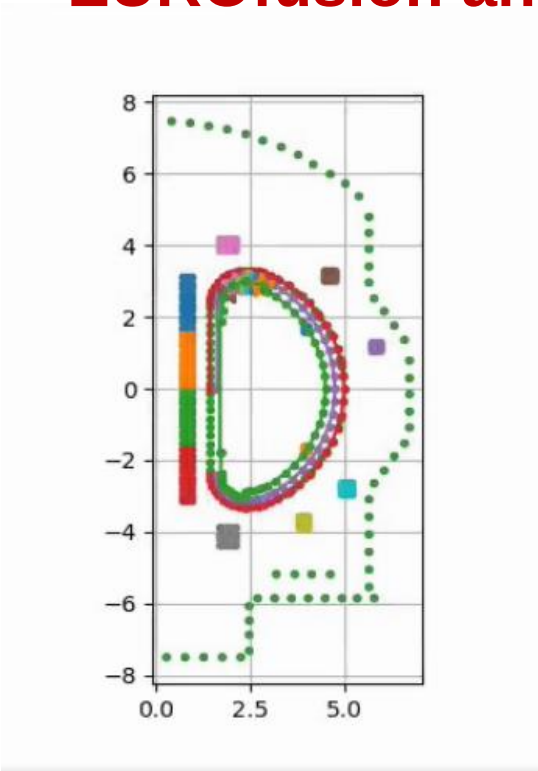
No more resources allocated in 2024 on JT-60SA conditioning

Although, still possible (at reduced amount of work < 0.05 ppy):

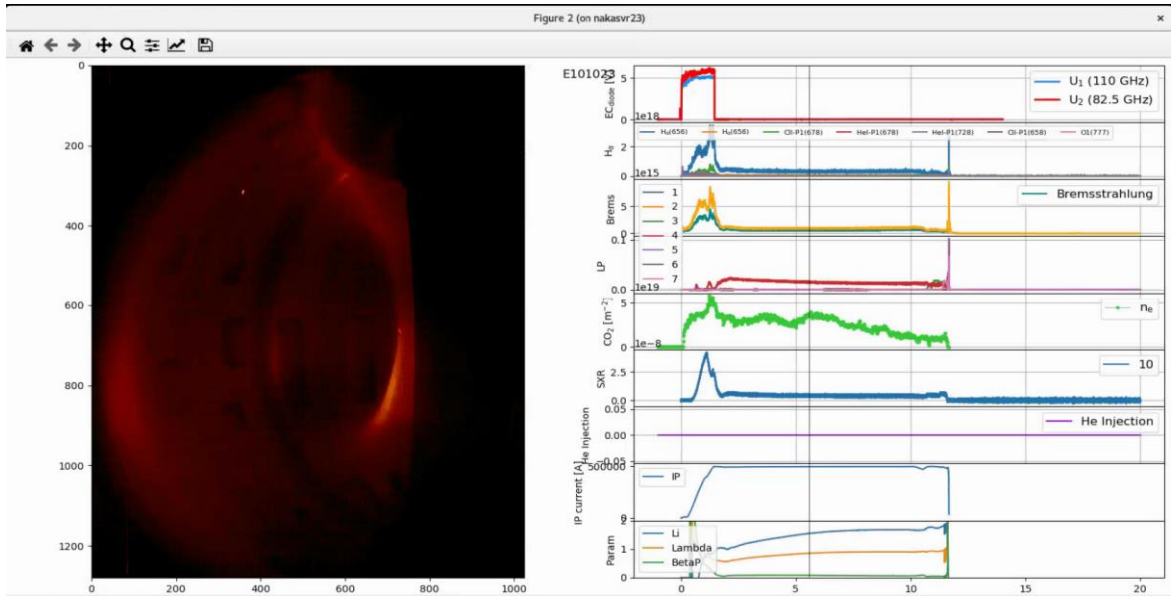
- Share experience, expertise
- Participate to specific meetings
- Review design and documents

Operation-oriented tools – performed in 2023

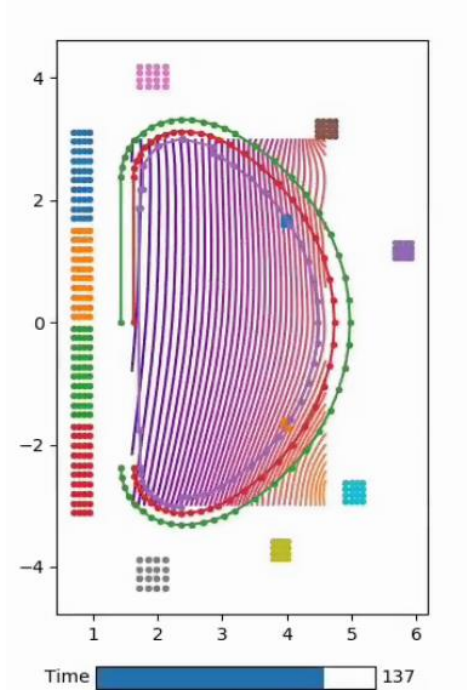
Several tools already developed mostly on site (see talk M. Iafrati et al. EUROfusion and Ph. Moreau et al. EUROfusion report)



JT-60SA geometry



Visualisation tool developed by M. Iafrati



MECS code 1st application

Tools are available on the JT-60SA GitLab

Operation-oriented tools – plans for 2024

Allocated resource is 1.0 pm

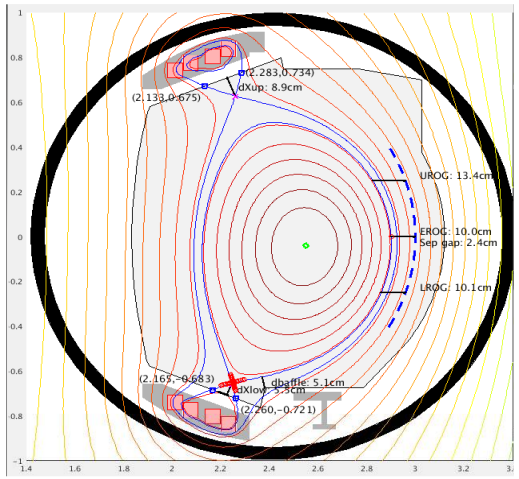
Purpose:

- Prepare the restart by developing fast tools to prepare plasma scenarios and perform control room shot to shot analysis

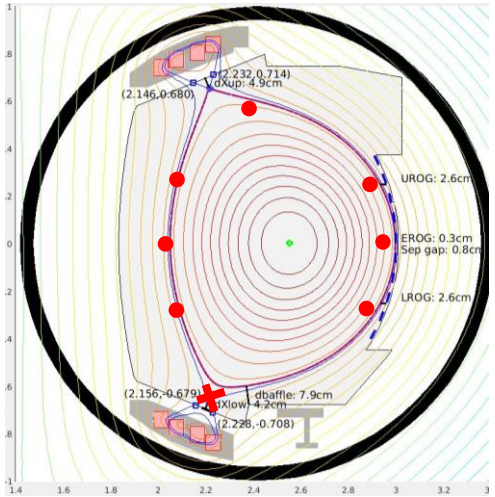
Activity:

- Pursue MECS activities by developing simplified interfaces to perform simulation and data visualization. Training on MECS by QST would be extremely helpful.
- Develop interfaces and configure free boundary equilibrium code in order to perform direct and inverse magnetic reconstructions. Use FEEQS code (configured for JT-60SA) and CREATE+FAME tools

Direct mode
PF, CS currents
→ plasma boudary



Inverse mode
Plasma boundary
→ PF, CS currents



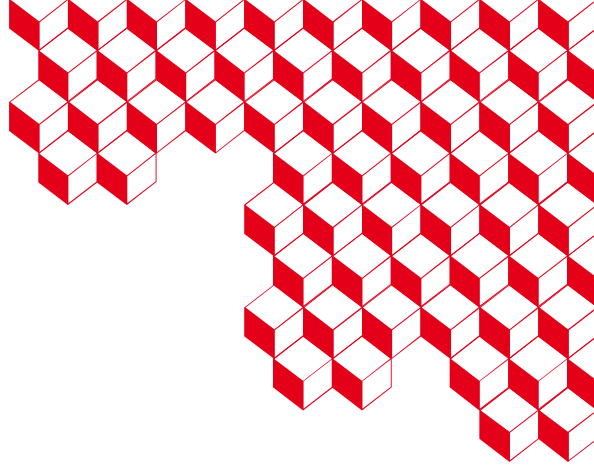
Operational tools

Summary of the 2024 activities

- At present: Nothing done / on-going for the moment
- Scheduled see previous slides

Critical issues and advices

- Training on MECS by QST should be agreed and planned
- Tools should be agreed, shared and used by QST and EU operation team members



Thank you for your attention