Topic 21: Week 17 Experimental preparation

Topic 21 ST

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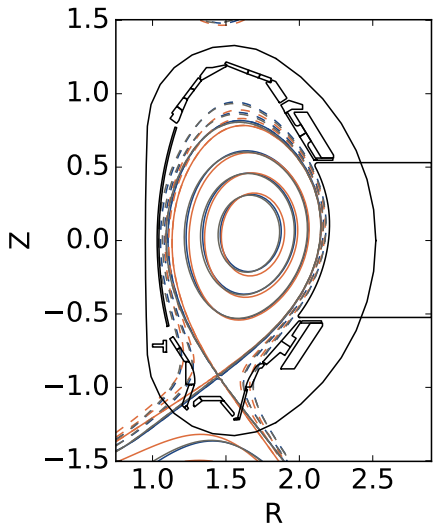
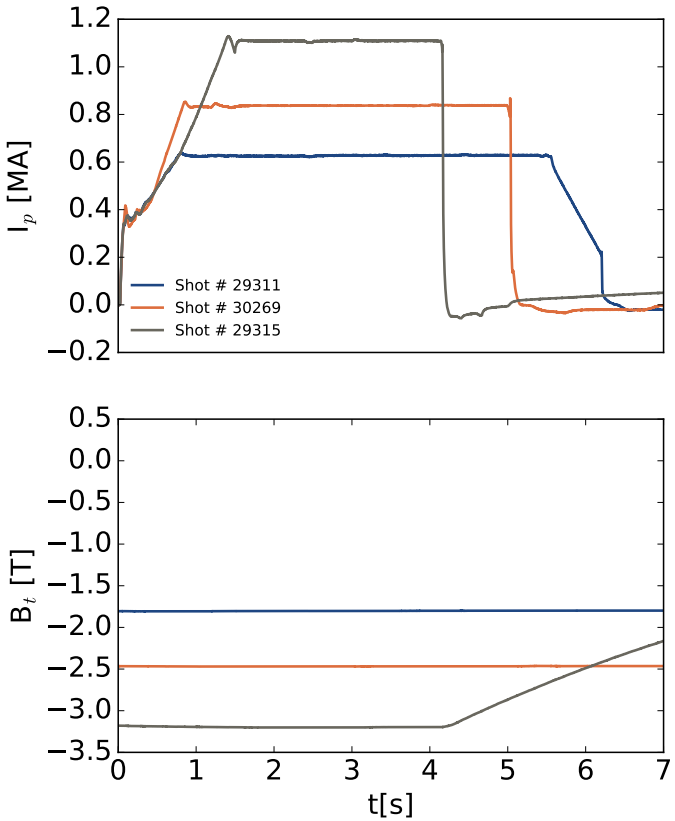
L-MODE

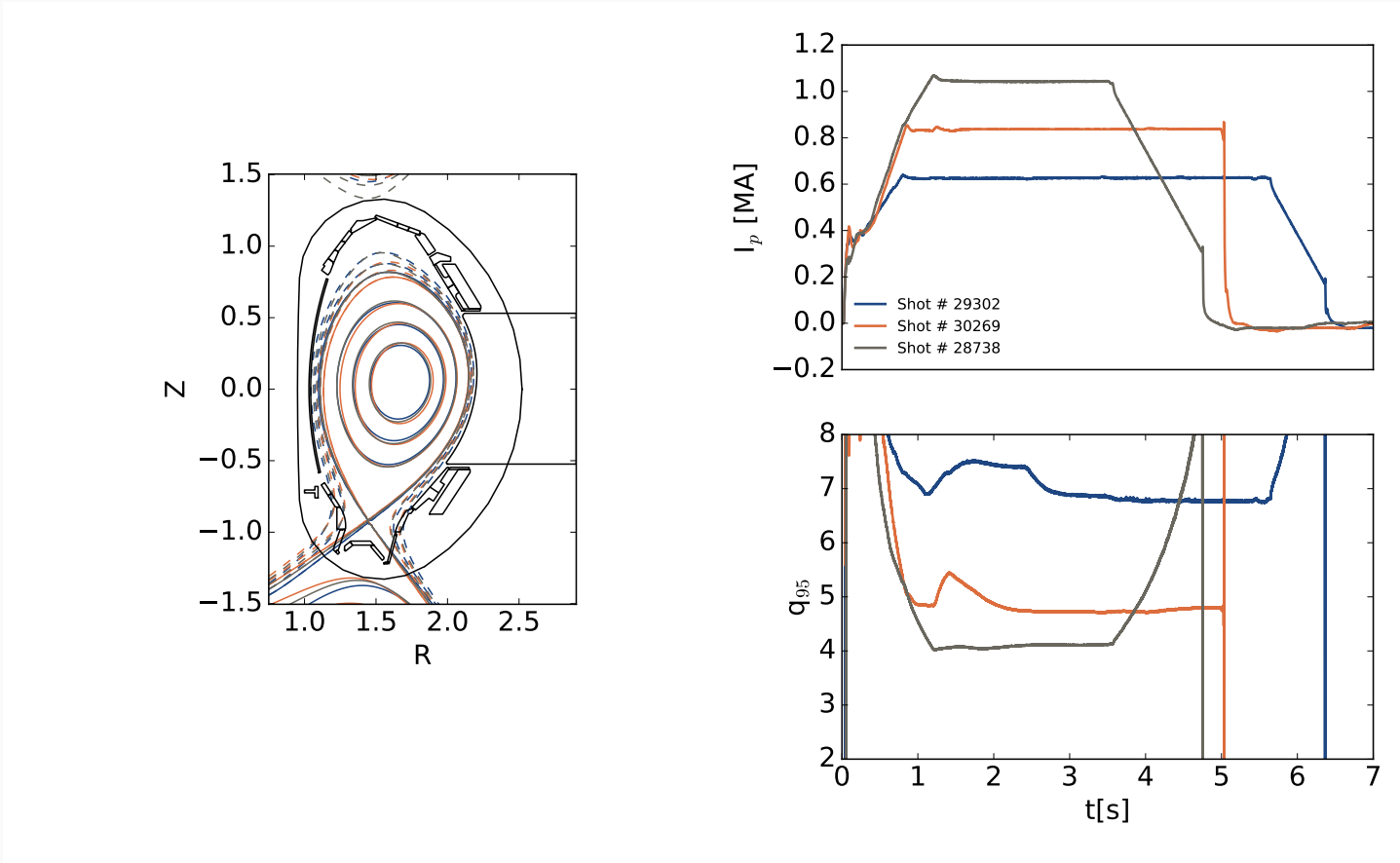
Current scan at constant q_{95}





- ✓ The shot at lower and higher current has NBI which need to be substituted with ECRH (I guess the amount used in # 30269 is sufficent)
- ✓ The fueling rate needs to be adjusted for lower current in order not to disrupt to early
- ✓ The higher current (it is the only reference I have for 1MA with this value of q_{95}) encounter an early disruption. Contact SL in order to check and avoid the reason

Current scan at constant B_t



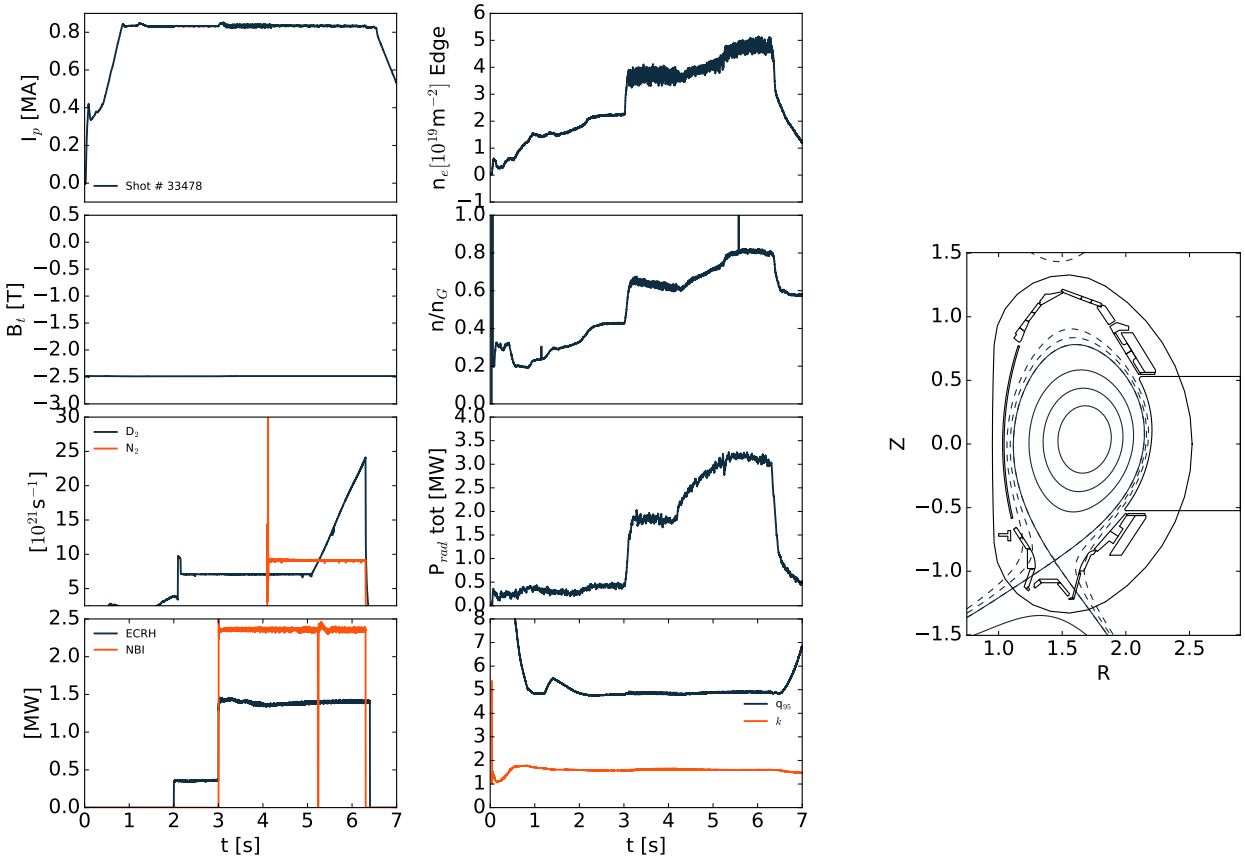
- ✓ We have a slightly different upper triangularity for the reference shot. Is this an issue?
- ✓ The fueling rate needs to be adjusted for lower current in order not to disrupt to early

Shot list: L-Mode

1. Repeat # 23902, with fuelling rate reduced with respect to # 30269 by 20%. No NBI, 300 kW (Sufficient? shall we increase?) ECRH central heating.
2. Repeat # 29311 with the same fuelling rate and heating as the previous. Should be fine for Reflectometer measurements
3. Repeat # 28738 with 300 kW ECRH central heating and same fueling as reference
4. Repeat # 29315 with correction in order to avoid disruption

H-MODE

H-Mode reference



- ✓ This should be the best reference mode we have from last year
- ✓ We should run this shot with P_{NBI} ≈4MW
- ✓ I'm not sure we can increase further the fueling since we already reach $n/n_G \approx 0.8$. Eventually we can start earlier and reduce the rate a bit

H-Mode list

1. Repeat # 33478 with P_{NBI} = 4MW and without seeding. Start D_2 puffing earlier @ 4s reaching 25×10^{21} @ 6s. Plunge of probe head at 5.2s.
2. Repeat #1 eventually with modification to fueling Add seeding in feed-forward as in reference shot. Plunge of the probe head @ 5.2 s
3. Trade off between #1 and #2. If the probe does not exhibit problem 2 plunges @4.8 and 5.6

To be done

- ☐ Contact Reference Session Leader. E. Wolfrum (?)
- ☐ Check consistency of the equilibria in term of SOL field line. seems reasonable
- ☐ Together with reference session leader check # 29315 for early disruption
- ☐ Prepare analysis tools for inter-shot evaluation
- ☐ Camera for neutral profile has been calibrated. Contact for CAD and field line tracing
- ☐ Check presence of relevant people in control room for operation of Bolometer/SXR/Langmuir/Gauges
- ☐ Prepare a task list for control room. We need people evaluating data on the fly