



**EUROfusion**

## Topic 2I: AUG experiment Week 17 Summary

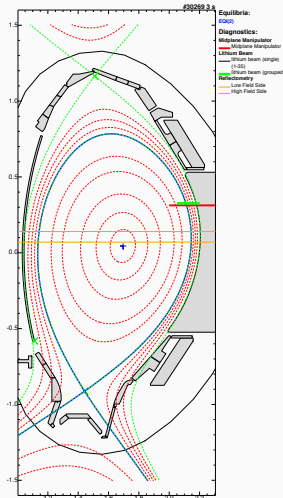
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Topic 2I Scientific Team

28 April 2017

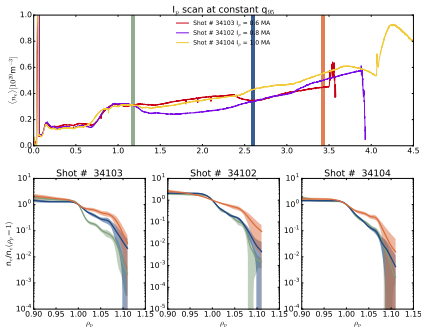


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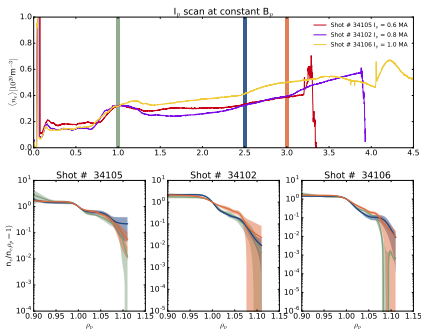
- # 1 **EOC** Shape, 0.8MA,  $B_\phi = -2.5$  T, 0.5MW NBI heating, fueling as reference 30269, heating starting together with fueling
- # 2 Same density ramp and heating with  $I_p = 0.61$  MA,  $B_\phi = -1.9$ T (reduced current with the same  $q_{95}$ )
- # 3 Same density ramp and heating with  $I_p = 0.99$  MA,  $B_\phi = -3.1$ T (increased current with the same  $q_{95}$ )
- # 4 Same density ramp and heating  $B_\phi = -2.5$ T and  $I_p = 0.99$  MA
- # 5 Same density ramp and heating  $B_\phi = -2.5$ T and  $I_p = 0.61$  MA

# Current scan at constant $q_{95}$



- ✓ Successful plasma current scan at constant  $q_{95}$  (# 34102, 34103, 34104).
- ✓ Actually at higher current  $\bar{n}_e$  too high?
- ✓ It is true the flattening occurs earlier in density at lower current?

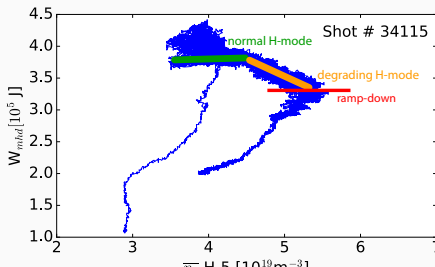
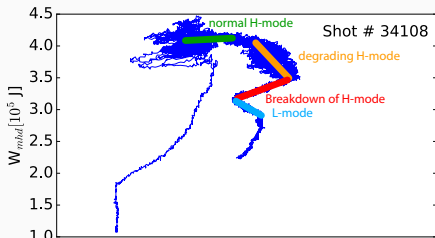
# Current scan at constant $q_5$



- ✓ At constant  $B_t$  the flattening is less robust? Compare for example higher current at same density



- # 7 Repeat 6 adding N in feed-forward. Keep similar value as reference (since we are already increasing the fueling)



- ✓ 3 Shots obtained (1 not in our budget?) # 34107 (3.4MW), 34108 (5.4MW), 34115(5.4MW)
- ✓ The last two shots encountered at the end a phase of degraded H-Mode.
- ✓ Reducing the N seeding in # 34115 allows to skip part of the phases. Can we try to reduce further? *Keep in mind we need to readjust all considering the lack of cryopumps*



- ✓ Blob size, velocity, collisionality scaling (D. Carralero). Proper calculation of  $L_{||}$  (N. Vianello)
- ✓ Limiter probe analysis (S. Costea)
- ✓ Profile and  $\lambda_n$  evolution also in inter-ELM phases Li-Beam (F. Laggner)
- ✓ Reflectometry. Profile evolution and Fluctuations (IST)
- ✓ Fast ions (K. McClements and J. Galdon-Quiroga)
- ✓ Divertor evolution and rollover time (W. Zhang)
- ✓ Radiation (M. Bernert and N.Vianello)
- ✓ Further statistical analysis (structure function, increments PDF scaling) (M.Spolaore)
- ✓ Others??