LUKE runaway modelling of non-disruptive scenarios

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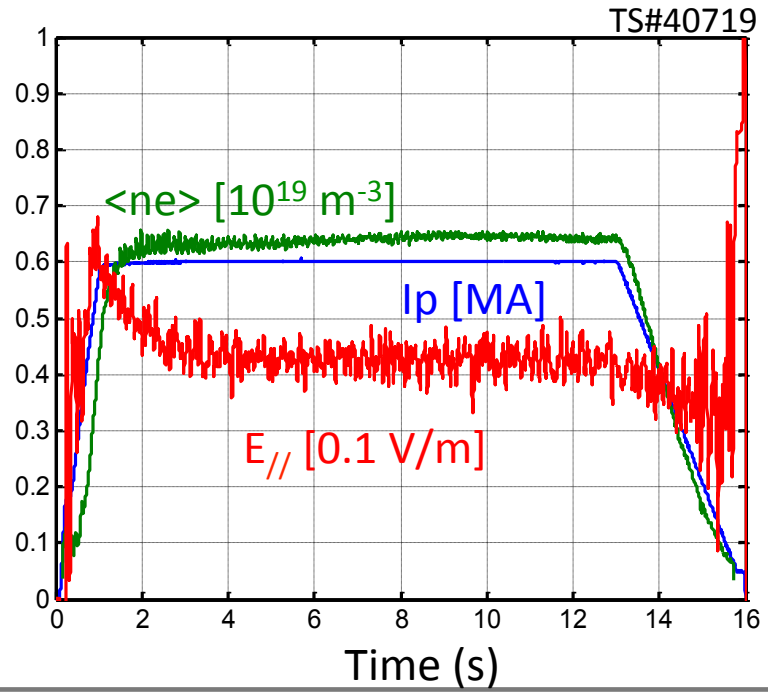
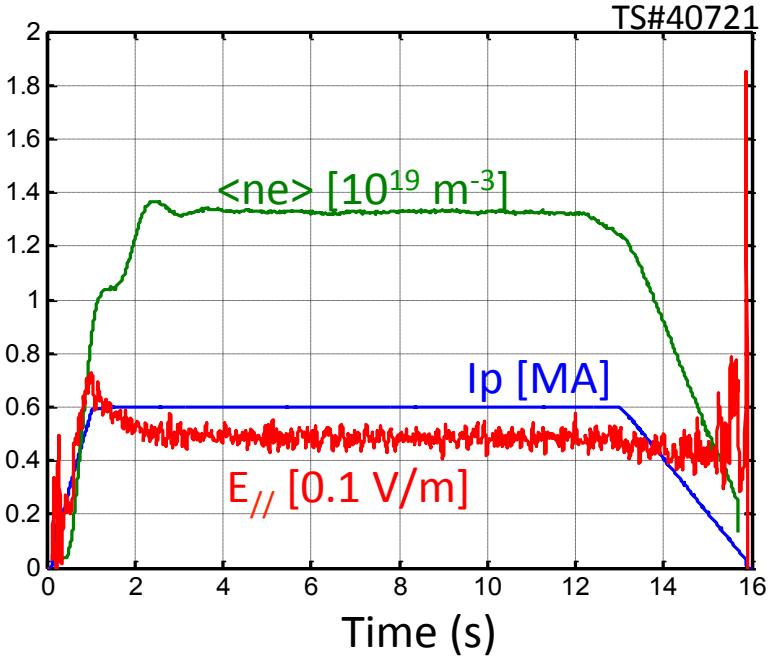


E/E_c ~4 in flattop

<ne> = 0.64 10^{19} m^{-3}, and $E_{//}$ = 0.043 V/m

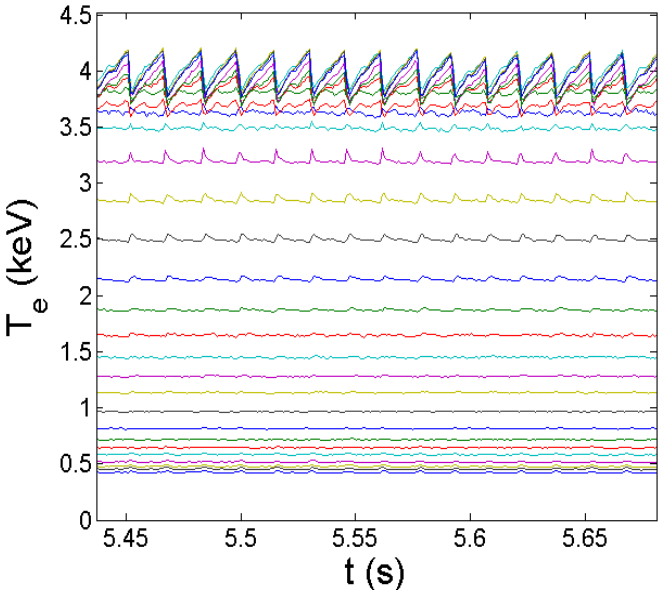
$Te_{central}$ = 4.0 keV

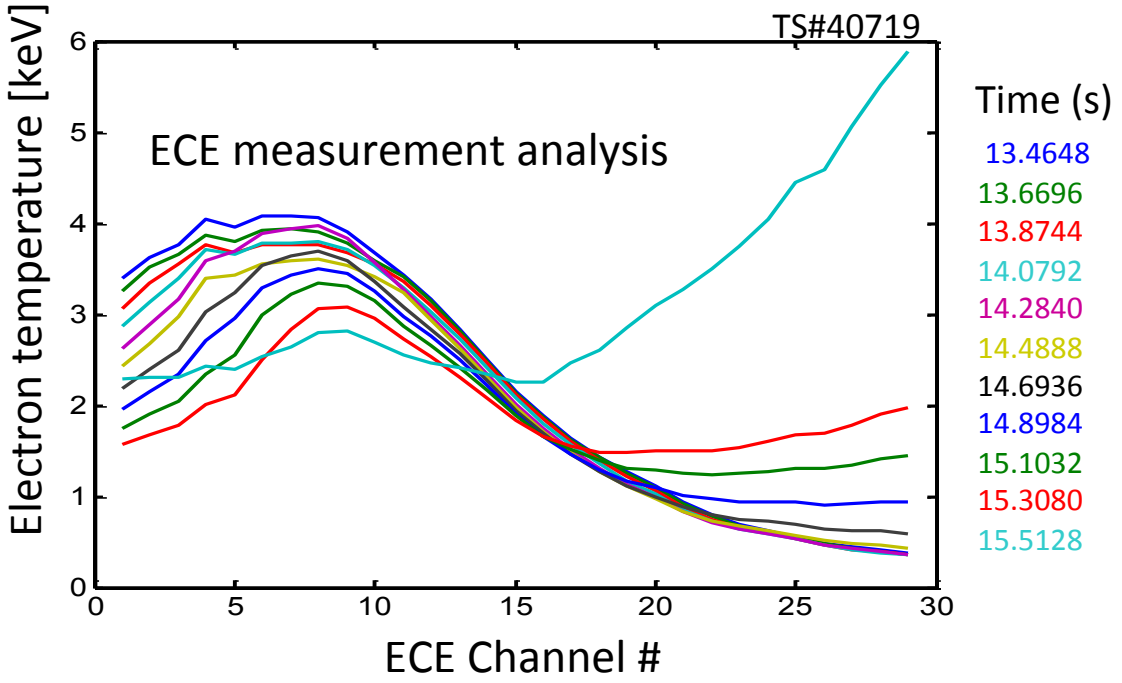


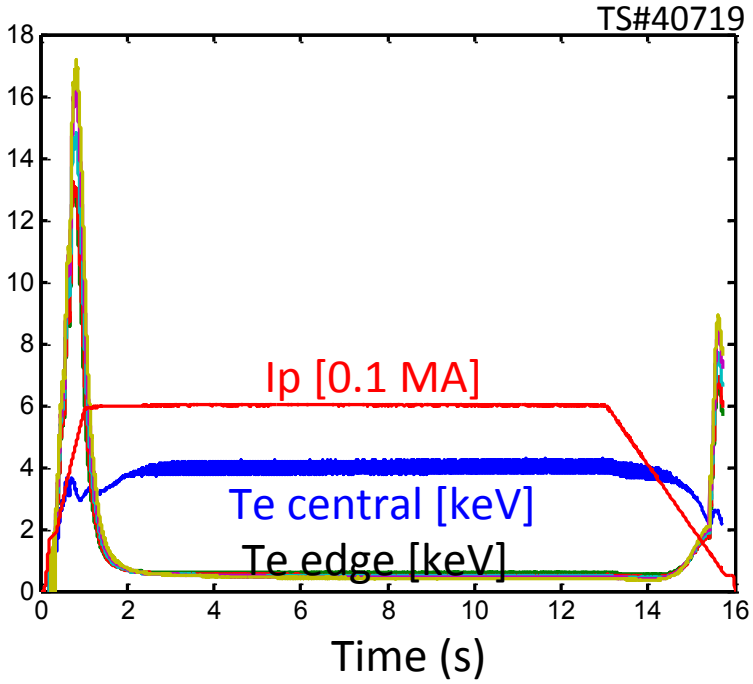
E/E_c ~2 in flattop

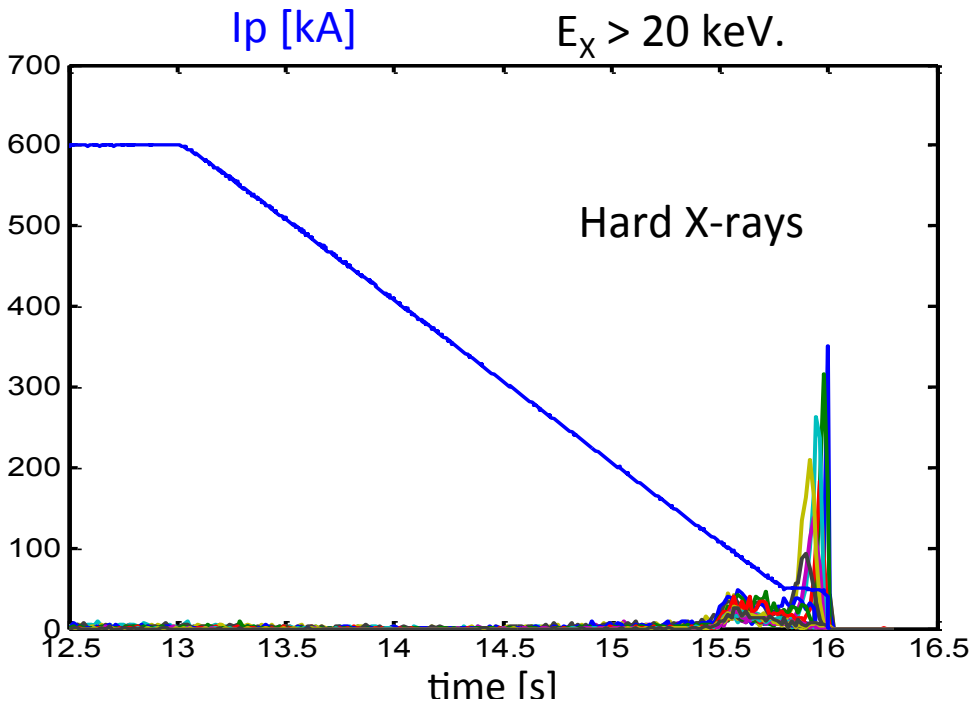
<ne> = 1.33 10^{19} m^{-3}, and $E_{//}$ = 0.0485 V/m

$Te_{central}$ = 2.7 keV


T_e (keV)
t (s)

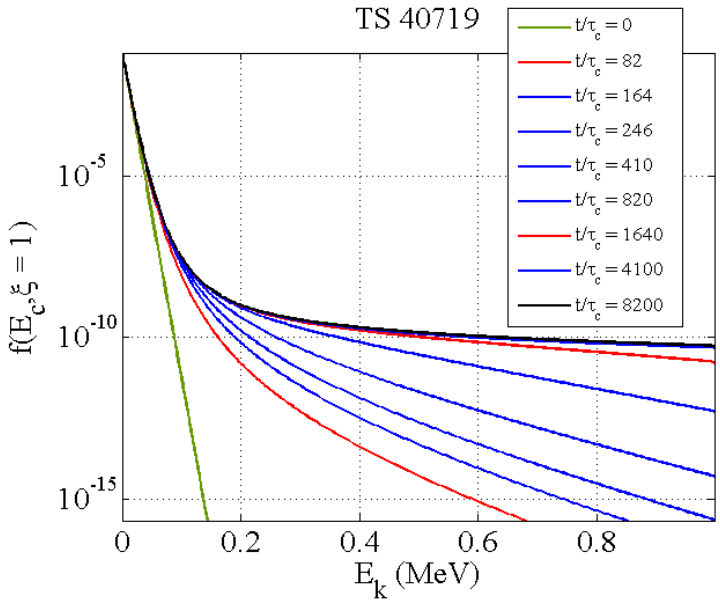

TS#40719
ECE measurement analysis
Electron temperature [keV]
ECE Channel #
Time (s)
13.4648
13.6696
13.8744
14.0792
14.2840
14.4888
14.6936
14.8984
15.1032
15.3080
15.5128

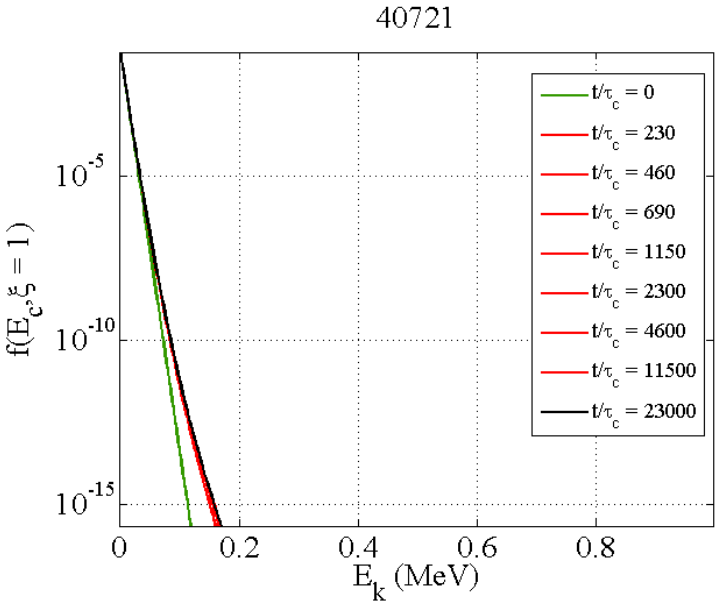

TS#40719
Ip [0.1 MA]
Te central [keV]
Te edge [keV]
Time (s)


Ip [kA]
E_X > 20 keV.
Hard X-rays
time [s]

Status and Plan

- Model these two pulses in LUKE with equil (E-field, Te, B, ne…) from METIS/CRONOS
- Preliminary results consistent with what we see in experiments. I.e. no REs in 21. E/Ec 2 and 4 in flattops.





- How to handle sawteeth?
- Sawteeth producing runaway seed?

- COMPASS scenarios