

XP Idea for Initial Ops Period: Low Density Startup Optimization

- Traditional startup has low density limit set by MHD activity
 - Can we improve density control by reducing dependence on HFS puff valves for H-mode access and LFS valves for early density?
- Strategy for 2011 run would be revisited (ASC / Macro)
 - Evaluate efficacy of EFC during I_p ramp
 - Change EF using different OH precharge levels (same for NSTX-U?)
 - Optimize timing of P_{inj} (β_N) ramp
 - Ramp at higher V_{loop} , bigger plasma for low li
 - Ramp at lower V_{loop} with lower dI_p/dt
- Additionally, optimize early fueling for H-mode access
 - Unmatched HFS puff valves gives more knobs to optimize HFS gas
 - Revisit LFS-only gas with SGI