

# Effect of Controlled Lithium Introduction on Pedestal Characteristics

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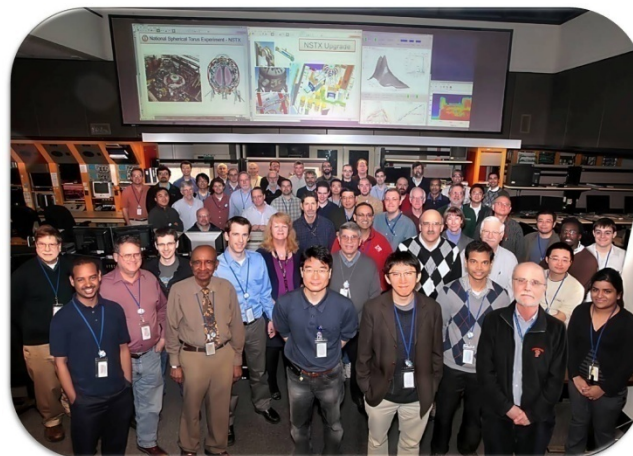
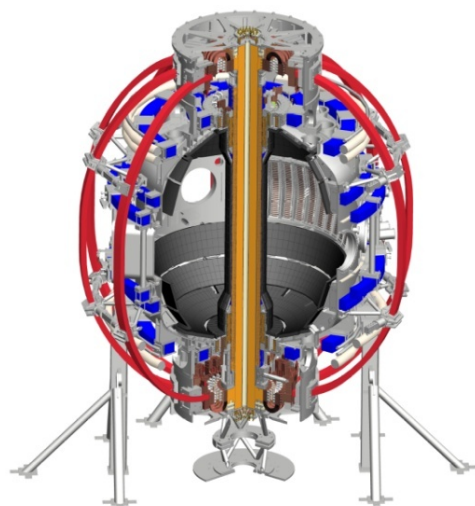
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# Goals and Background

- Goal: re-introduce lithium in the CY2015 run in a controlled manner. Ideally this would be at medium triangularity with OSP close to MAPP, but we may have to use high delta and document the behavior as the lithium coating is gradually increased.
- A slow, controlled lithium introduction was done in the FY08 and FY09 campaigns
  - The FY08 data contributed to a large number of papers and new insights on ELM physics
  - The FY09 data (high delta) showed nearly identical global trends to mid delta data from FY08
  - In FY10, such a controlled/slow lithium introduction was untenable because of the LLD
- The idea here is to revert to a controlled introduction as in FY2009 (2 days)

## Experimental Plan (2-3 run days; requested time from pedestal group is 0.5 run days)

- Attempt high triangularity fiducial with no lithium
- Add in low amounts of lithium: 50 mg/discharge, and optimize the fueling and discharge timing to improve performance
- After ~ 5 discharges, increase lithium amount to 100 mg/discharge, and repeat
- After ~ 5-10 discharges, increase lithium amount to 150-200 mg/discharge
- After ~ 5-10 discharges, increase lithium to ~ 300 mg/discharge;
- Continue to higher lithium: 500 mg, 750 mg, 1g (20-30 shots)
- Document pedestal and divertor characteristics during this controlled re-introduction

# 2008 run – re-introduction made in 1 (not quite optimized) run day

