Low-Z Pellet Injection

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Preparations in Progress to Install a Low-Z Pellet Injector

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- The capability to inject small solid and micro pellet ensembles of either Lithium, Boron, LiD, Li_2C_2, B_4C, C, or other low-Z impurities at precise velocities from very low to high allows:
  - Wall conditioning
  - Measuring edge impurity transport
  - Inducing edge transport barriers
    - edge poloidal velocity shear and edge electric field shear
  - Measuring q(r) profiles
  - Measuring edge flows and rotation
  - Enhancing charge exchange signals
  - Controlling Disruption decay
  - Liquid limiter simulation

Initial Boron and Lithium Pellet Injection

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- **FY03 Research Plan**
  - **1) Condition surfaces with extensive He Discharge Conditioning**
  - **2) Compare B vs velocity with TMB fuelling**
  - **3) Measure B and Li pellet transport**
  - **4) Measure effect of B and Li pellets on confinement time**

TMB Next Step

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- **FY03 Research Plan**

  1) Condition surfaces to Pumping State with He Discharge Conditioning

  2) Paint Limiter surfaces with TMB (BC_3+)

  3) Compare with results using pure B via Pellet Injection