Joint NSTX/DIII-D poloidal rotation experiment

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- **Test aspect ratio dependence of neoclassical theory of poloidal rotation**
- **Measured poloidal velocities differ from neoclassical expectation**
  - NSTX: H-mode plasmas at or below neoclassical expectation
  - DIII-D: QH-mode, sign and magnitude of measured poloidal velocity differ from neoclassical theory
  - JET: Measured poloidal velocity in ITB an order of magnitude large than neoclassical
  - JT-60: Poloidal flow consistent with neoclassical in ITB, within experimental error
  - MAST: Poloidal flow consistent with neoclassical in L and H mode plasmas, within expt. error
- **Compare similar discharges at DIII-D and NSTX**
  - Low magnetic field (B=0.55 T), eliminate systematic errors due to gyro orbit finite lifetime effects.
  - Match B_T, I_p, Shape, Temperature, Density, Toroidal Rotation
- **Approved in FY2009 on NSTX, no run-time in FY2009 on DIII-D**
- **Scheduled in Jan. 2010 on DIII-D**
- **Initial experiment on DIII-D to match NSTX plasma**
- **Need ~ 1 day, (0.25 day minimum) for follow up on NSTX pending DIII-D ability to improve match between machines**