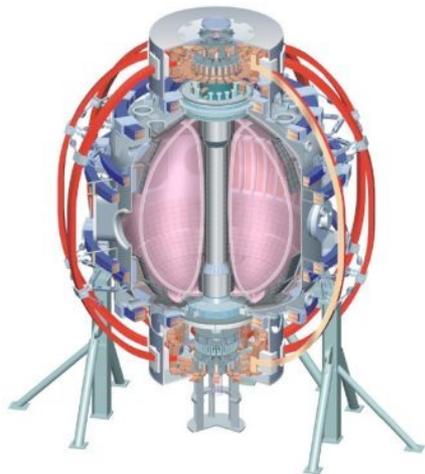


Scaling of Turbulence Properties with ρ^*

G. McKee, R. Fonck, D. Smith
UW-Madison

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Scaling of Turbulence Properties with ρ^*

- Goal: Determine how turbulence properties (L_{cr} , \tilde{n}/n , decorrelation time, $S(k)$ spectra) scale with ρ^* in the ST; compare simulations as well as standard tokamak scaling
- Gyrokinetics predicts that as ρ^* is varied:
 - $\tilde{n}/n \sim \rho^*$, $L_{c,r}$ & $L_{c,\theta} \sim \rho I$, $\tau_c \sim a/c_s$
- Establish two matching plasmas with varying ρ^* while other dimensionless parameters held fixed (q_{95} , β , ν , T_e/T_i ...)
 - Measure turbulence across profile with BES and other fluct. diags.
- R(11-1), FY12 JRT

Low-k Turbulence in Tokamak found to scale with Gyrokinetic Predictions

- NSTX not in a small ρ^* regime, unique condition
 - Initial BES measurements suggest large correlation lengths (~ 10 cm) (D. Smith)
- Turbulence scaling with ρ^* (BES on DIII-D):

