

High κ , δ long pulse scenarios

Presented by D. A. Gates

At the NSTX Research Forum

Princeton Plasma Physics Laboratory, Princeton NJ

9/23/2004

New capability opens opportunity



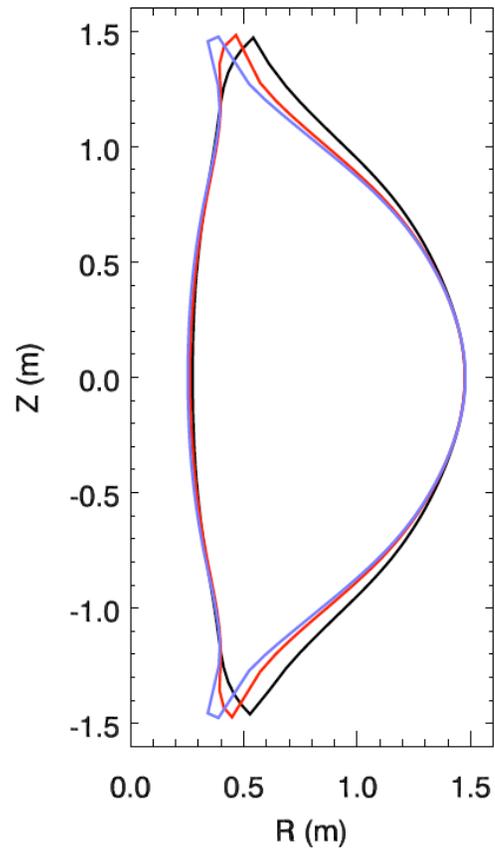
- New plasma shaping capability - more flexible control of triangularity
- Shape flexibility will allow investigation of suitability of different ELM regimes
- Equilibria identified with varying δ , fixed κ

Shapes identified

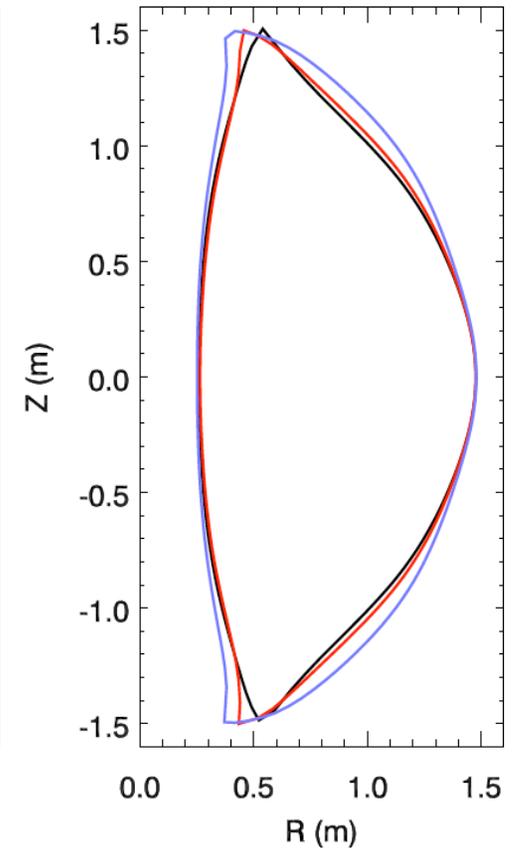


- $\kappa = 2.40$
- $0.6 < \delta < 0.8$
- Scan in κ also performed
- High δ shape very similar to 5 year plan
- Squareness variation opposite old PF1A coil

Old PF1A



New PF1A



Run plan



- Develop elongated plasma - divert during current ramp
- Optimize beam timing - vary total power to optimize pulse length and β
- Attempt early H-mode to reduce flux consumption
- Toroidal field scan
- δ scan at fixed TF
- Total run time - 2-3 days