

Confinement and Transport



- High power auxiliary heating will give global confinement results that will connect the ST regime to that of the conventional R/a database
 - H-modes should be easily accessible
 - Present “conservative” scalings indicate 12 MW may be needed to achieve high- objective
- Potential suppression of e-s and e-m turbulence at low R/a (Rewoldt et al., 1996)
 - Increase in orbit-averaged good curvature
 - Reduced trapped particle fraction due to magnetic well at high-
- ST configuration offers good conditions for formation of internal transport barrier
 - (growth rate) low due to magnetic configuration (high local shear on outside)
 - $E \times B$ (shearing rate) can be high due to low B ($E \times B = E_r/B$)
 $E \times B > \Rightarrow \rho$ buildup \Rightarrow internal transport barrier formation