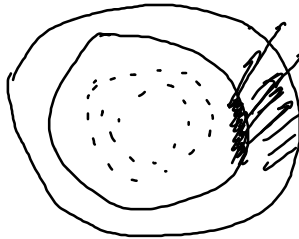


$$\frac{\delta E}{B}$$

$$\delta \nu_D = \frac{\delta E \times B}{B^2}$$

Greenwald limit

$$n_{20} \leq n_G = \frac{I_H}{\pi R^2}$$



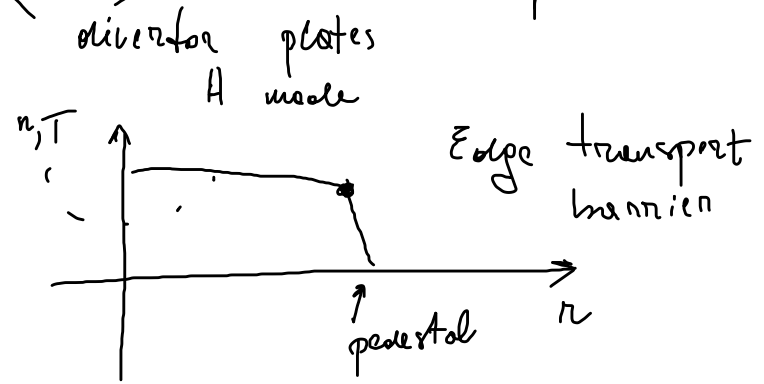
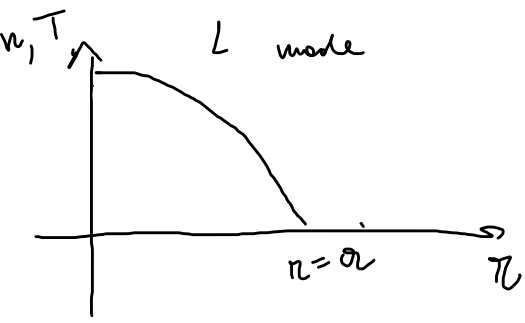
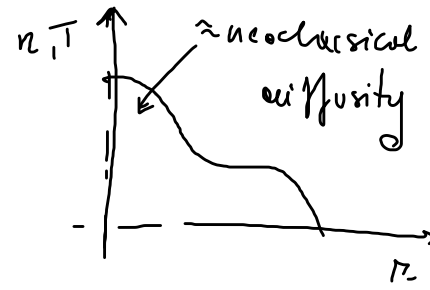
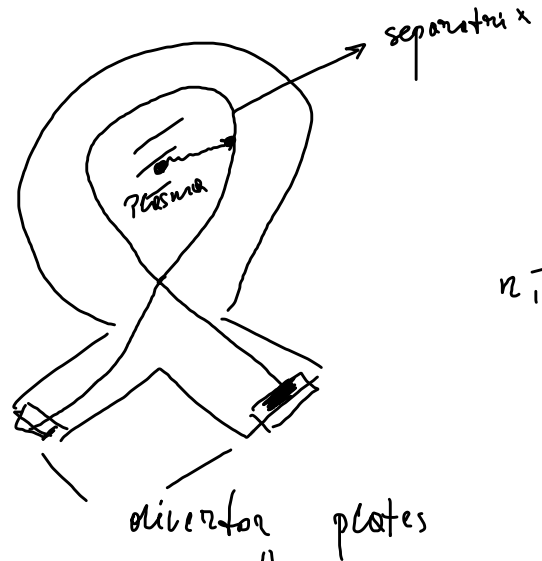
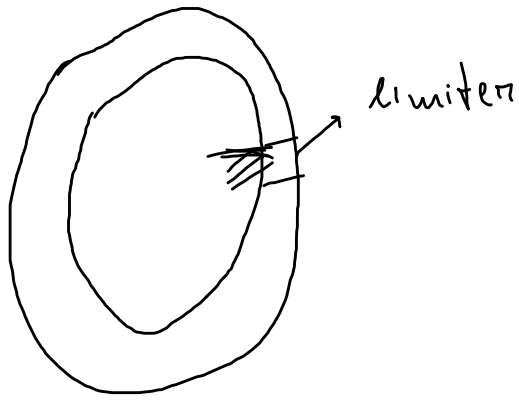
Plasma wall interaction

L-H transition

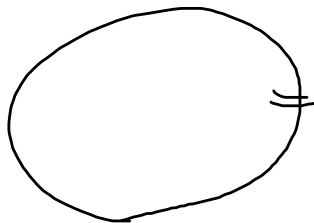
L: low conf. mode  
H: high conf. mode

$$\tau_{E,H} \approx 2 \tau_{E,L}$$

$$P_{L-H} = 1.38 \bar{n}_{20}^{0.77} B_0^{0.82} P_0^{1.23} a^{0.76} \text{ MW}$$



Edge localized modes



$$\tau_E \sim \frac{a^2}{\kappa}$$

$\tau_L$

$$\tau_A = \frac{0.125 I_H^{0.93} R_0^{1.39} \alpha^{0.58} k^{0.78} \bar{n}_{20}^{0.41} B_0^{0.15} A^{0.19}}{P_H^{0.69}} S$$

Classical diffusion theory

$$\tau_E \propto \frac{1}{\kappa}$$

$$\tau_E \propto \frac{1}{T^{1/2}}$$

Exp.  $\tau_E \propto \frac{1}{T^{2.28}}$  1H mode  
 $\tau_E \propto \frac{1}{T}$  1L mode