

magnetic line bending: stabilizing

$$\delta W = \pi \iint d\psi d\chi \left\{ \boxed{\frac{JB^2}{R^2 B_p^2} |k_{\parallel} X|^2 + \frac{R^2 B_p^2}{JB^2} \left| \frac{1}{n} \frac{\partial}{\partial \psi} (JB k_{\parallel} X) \right|^2} \right.$$

ballooning  
drive

$$\boxed{-\frac{2J}{B^2} \frac{dp}{d\psi}} \left[ |X|^2 \frac{\partial}{\partial \psi} \left( p + \frac{B^2}{2} \right) - \frac{iF}{JB^2} \frac{\partial}{\partial \chi} \left( \frac{B^2}{2} \right) \frac{X^*}{n} \frac{\partial X}{\partial \psi} \right]$$

kink  
drive

$$\boxed{-\frac{X^*}{n} JB k_{\parallel} \left( X \frac{d\sigma}{d\psi} \right)} + \frac{1}{n} [P JB k_{\parallel}^* Q^* + P^* JB k_{\parallel} Q]$$

magnetic curvature: stabilizing inboard,  
destabilizing outboard

$$+ \boxed{\frac{\partial}{\partial \psi} \left[ \frac{\sigma}{n} X^* JB k_{\parallel} X \right]} \left. \vphantom{\frac{\partial}{\partial \psi}} \right\} \text{surface term: peeling drive}$$