

2013 I : Q3 MHD

a.) A flux surface is a surface created by following magnetic field lines. I.e. $\hat{n} \cdot \vec{B} = 0$. Field lines don't cross magnetic surfaces.

b.) RMP: an externally-induced, small magnetic perturbation of the equilibrium field that has the same helicity (is resonant with) the equilibrium field at a target flux surface.

Goal: to stabilize ELMs.

c.) RMPs lead to ergodization of the magnetic flux surface, which leads to different transport properties. The stochastic zone has a mitigating effect on the instability, because it causes ELMs to happen more frequently and thus causes smaller ELMs. I.e. RMPs let you avoid large ELMs.