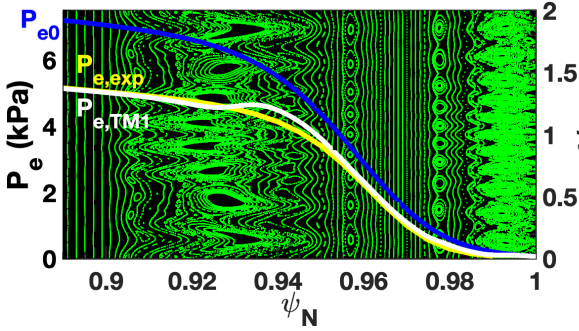
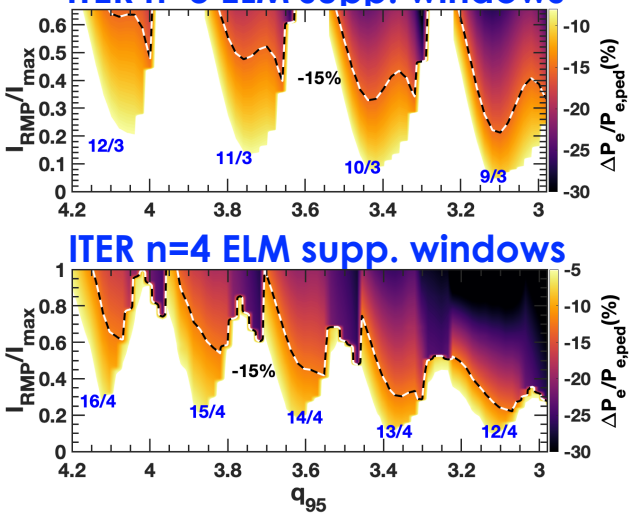
Nonlinear MHD Model Reproduces RMP ELM Suppression Conditions in DIII-D and Predicts ELM Suppression for ITER

- **Demonstrates that pedestal top islands formation limit height and width of the pedestal to suppress ELM**
  - Explains dependence on rotation and density
  - Pedestal-foot islands cause pump-out
- **Reproduces narrow q_{95} windows of ELM suppression at n=3 in DIII-D**
  - Lowering density expand q_{95} windows
- **Predicts ELM suppression in ITER within its 3D coil capability (90kAt)**
  - n=3 q_{95} windows similar to DIII-D
  - wide q_{95} windows for n=4





Q. Hu, R. Nazikian et al., NF **60**, 076001 (2020)
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DIII-D NATIONAL FUSION FACILITY

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