Power Threshold Scaling of L-H Transition

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Objective: understanding power threshold scaling and its minimum as a function of density - **priority question for ITER operation**

Hypothesis: On low-density branch of Pth(n) *electrons* absorb heat and as they transfer it to ions more efficiently with growing density, Pth(n) decreases on this branch. On high-density branch *ions* are heated and as the ZF damping is growing with n, P(n) also grows.

Method: Extending numerical 1D model of Miki&Diamond 2012 to evolve electron and ion heat fluxes separately and use heating mix as a control parameter

Result: Scans of power threshold in density and e-i heating mix show **minimum in Pth(n)** for broad class of relations between these parameters