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The Edge of Chaos for Plane Couette Flow in Long Channels LINA KIM, TOBIAS SCHNEIDER, JEFF MOEHLIS, BRUNO ECKHARDT — For plane Couette flow, classical linear stability theory predicts that the laminar state is asymptotically stable for all Reynolds numbers, yet turbulence may be achieved both experimentally and numerically via finite amplitude perturbations. We study the boundary which separates laminar and turbulent dynamics in phase space, called the *edge of chaos*. We implement an iterative edge tracking algorithm to find solutions near the boundary from arbitrarily chosen initial conditions. We study the *edge of chaos* for fixed wall-normal and spanwise lengths but variable streamwise lengths, and determine how the edge evolves as a function of channel length.

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