Eckhaus instability and homoclinic snaking in plane Couette flow
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Couette channels gives rise to exact solutions of the Navier-Stokes equation which
are spatially localized. In this talk, we examine the upper limit of the snaking
branches, where the localized states resemble holes of laminar flow embedded in an
otherwise regular spatially periodic state. The termination of the snaking branches
is related to the Eckhaus instability of the spatially periodic equilibria, but also
depends sensitively on the width of the domain.