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**Local and global states in a reduced model for shear flows**

MATTHEW CHANTRY, RICH KERSWELL, University of Bristol — A large body of work in shear flow turbulence has involved finding fixed point, travelling wave or periodic orbits, whose manifolds shape the phase space of turbulence. Most of the solutions found fill their periodic domains and are therefore not helpful in understanding localized turbulence. Recent work has pointed to connections between these spatially periodic solutions and versions of these solutions localized in at least one spatial dimension. In this work we consider a nine mode PDE model for shear flow turbulence, which depends on one spatial direction, and attempt to understand this connection between localized and periodic solutions.

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