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Spatially localized solutions of plane Couette flow JOHN GIBSON, EVAN BRAND, University of New Hampshire — We present several new spatially localized solutions of plane Couette flow, each with finite spanwise extent and periodic streamwise structure, and with several different symmetry groups. One new solution is a localized version of the "hairpin vortex" solution of plane Couette flow discovered independently by Itano and Generalis (PRL 2009) and Gibson et al (JFM 2009). The new solutions notably do not exhibit the homoclinic snaking seen in the localized solutions of Schneider et. al (PRL 2010). We also show that the exponential decay rate of the tails of the localized solutions is governed by the wavenumber of the solution's streamwise periodicity.

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