

Abstract Submitted
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Recurrent dynamics in turbulent boundary layers¹ DIVAKAR VISWANATH, University of Michigan — Recurrences, in which structures break-up, re-form and advect, are an important aspect of the fine scale motions in boundary layers. These recurrences can be captured using certain exact solutions of the Navier-Stokes equation, which are periodic in time but may or may not advect in space. We will use these solutions to demonstrate that spanwise advection is essential for the bursting phenomenon recorded in hotwire measurements near the wall. The importance of spanwise variation in the velocity field is well known. The new element in our work has to do with spanwise advection, not spanwise variation.

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