

Abstract Submitted
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Studies of the nonlinear turbulence stress response to arbitrary flows KLAUS HALLATSCHEK, Max-Planck-Institut fuer Plasmaphysik, KIMITAKA ITOH, National Institute for Fusion Science — To understand the nonlinear behavior of flows and Reynolds stress, the response of tokamak turbulence to a variety of zonal flow patterns has been measured in a series of computational experiments. Despite the seemingly erratic pattern, the Reynolds stress is surprisingly well described by a nonlinear functional, depending only on the turbulence level and the ambient zonal flows. The contributing terms can be understood qualitatively in terms of analytical models.

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