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Dipartimento di Fisica



Seminar

Tuesday, 14 July 2015 - h. 14:30

Sala Struttura della Materia (Dipartimento di Fisica)

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“Two-dimensional turbulence with polymer additives”

Abstract

We present results from the extensive direct numerical simulations, attempted so far, of statistically steady, homogeneous, isotropic turbulence in two-dimensional turbulence with polymer additives. Our study reveals that the polymers (a) reduce the total fluid energy, enstrophy, and palinstrophy, (b) modify the fluid energy spectrum both in inverse- and forward-cascade regimes, (c) reduce small-scale intermittency, (d) suppress regions of large vorticity and strain rate, and (e) stretch in strain-dominated regions. We compare our results with earlier experimental studies.

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