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Effects of polymer additives on bulk turbulent energy transfer ALEXANDRE DE CHAUMONT QUITRY, DOUGLAS H. KELLEY, NICHOLAS T. OUELLETTE, Yale University — We study the effect of long-chain polymer additives on fully developed bulk turbulence in an experimental von Karman swirling flow. Counterrotating impellers inject turbulent kinetic energy inertially in a cylindrical tank 0.6m wide, whose central region is studied using particle tracking. This experiment emphasizes bulk effects over drag reduction, which allows us to quantitatively compare energy dissipation in dilute polymer solutions with that of pure water. This work is supported by the National Science Foundation.

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