

Abstract Submitted  
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**Intermittency in 2D Turbulence** WALTER GOLDBURG, RORY CERBUS, Department of Physics and Astronomy, University of Pittsburgh — The existence of intermittency in three-dimensional turbulence is generally accepted, although with a variety of interpretations. However, the issue of intermittency in two-dimensional turbulence is unresolved. By measuring the velocity in a flowing soap film, we show that there is significant intermittency in both the enstrophy and energy cascades. The intermittency is characterized by the scaling exponents of velocity structure functions  $S_n(r)$  as well as the flatness  $F$  of velocity derivatives. Both show a strong Reynolds number dependence. However, unlike turbulence in three dimensions, the intermittency decreases with increasing Reynolds number. This work is supported by NSF grant No. 1044105, a Mellon fellowship, and the Okinawa Institute of Science and Technology.

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