

Abstract Submitted
for the DFD20 Meeting of
The American Physical Society

The odd flows of a colloidal chiral fluid¹ EPHRAIM BILILIGN, VISHAL SONI, University of Chicago, SOFIA MAGKIRIADOU, cole Polytechnique Fdrale de Lausanne (EPFL), STEFANO SACANNA, New York University, DENIS BARTOLO, cole Normale Suprieure de Lyon, MICHAEL SHELLEY, New York University, WILLIAM IRVINE, University of Chicago — We report the assembly of a chiral fluid composed of millions of spinning colloidal magnets. By activating the fluid at the single unit level, we observe macroscopic flows with no counterpart in conventional fluids. Odd viscous stresses drive the propagation of unidirectional free-surface waves damped by odd (or Hall) viscosity. Further, the competition between odd stress and cohesive forces results in intermittent bulk flows, blurring the distinction between solid and liquid.

¹NSF MRSEC Program at The University of Chicago (DMR-1420709), NSF EFRI NewLAW grant 1741685, NSF DMR-1905974, a NSF Graduate Research Fellowship, and a Packard Fellowship

Ephraim Bililign
University of Chicago

Date submitted: 10 Aug 2020

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