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**Response of a turbulent von Karman swirling flow to anisotropy at the molecular scale** TIM GRUENBERG, THOMAS ROESGEN, ETH Zurich — We ask if and how the large-scale structure of a turbulent von Karman swirling flow depends on anisotropies introduced at the smallest scales. We generate such anisotropy at the viscous scale in a paramagnetic colloid whose rheology is modified by an external, uniform magnetic field. We report measurements in a high Reynolds number turbulence experiment ($R_\lambda = 120$). Ultrasound velocimetry provides records of tracer particle velocity. Distinct changes in the velocity statistics can be observed extending from the dissipative scales up to the mean flow topology.

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