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Real-Time Dynamics of Vortex Clusters in Trapped Bose-Einstein Condensates[1] DAVID HALL, EMINE ALTUNTAS, AFTAAB DEWAN, THOMAS LANGIN, Amherst College — Quantum turbulence consists of intriguing phenomena intimately connected with the behavior of vortex lines in a superfluid. While much recent work has focused on superfluid helium, it has recently become possible to observe aspects of these dynamics in trapped Bose-Einstein condensates. We report here on the experimental generation, observation, and dynamics of small numbers of vortex lines in co-rotating and counter-rotating configurations. We also demonstrate that a rotating thermal cloud can be used to manipulate the vortex lines.

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