

Abstract Submitted
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Spontaneous vortex formation during the creation of Bose-Einstein condensates CHAD WEILER, TYLER NEELY, DAVID SCHERER, BRIAN ANDERSON, College of Optical Sciences, University of Arizona — We have experimentally observed spontaneous generation and trapping of quantized vortices in single-component Bose-Einstein condensates. The BECs were created by a standard evaporative cooling procedure in a magnetic trap, without any additional methods of intentionally imparting angular momentum to the trapped atoms. After each BEC was formed, it was expanded such that the presence or absence of a vortex was determined. By observing numerous condensates, the statistical dependence of vortex formation on trapping and cooling parameters was examined. We will describe our experimental results and our interpretation of the vortex formation mechanism.

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