

## Direct Observation of Superconducting Vortices under an Applied Supercurrent

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We report on STM/S experiments to study at an atomic scale the response of a superconducting condensate to an applied current. Our setup is mounted in a dilution refrigerator, which can be operated down to 7 mK, under magnetic fields up to 9 T. Here we describe the technique, and we present our first experiments on aluminum and  $NbSe_2$ . Perspectives and applications of this new local imaging method include local vortex motion experiments or Doppler shift local density of states studies.