# Influence of a transport current on the Abrikosov flux lattice observed with a low-temperature scanning tunneling microscope

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Using a low-temperature scanning tunneling microscope (LTSTM) we were able to image complete Abrikosov flux lattices on NbSe2 at 4.2 K. During tunneling a transport current was applied in the sample plane which affects the vortex lattice due to Lorentz forces. After increasing the current above the macroscopically determined critical current and then decreasing it to zero, the vortices largely rearrange at their original positions. At transport currents well below the macroscopic critical current the vortex lattice seems to remain undistorted. The critical current was determined microscopically by direct STM observation of the lattice motion and turns out to be the same as derived from macroscopic four-probe measurements. The examinations are considered as a first step towards the observation of the pinning behavior of individual vortices by STM.