

# Measurements and investigations on Helium-FET

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We present an investigation on the transport of electrons on liquid helium films through narrow channels using suitable substrate structures, micro-fabricated on a silicon wafer which resembles Field Effect Transistors. The sample has a Source and Drain regions, separated by a Gate structure, which consists of 2 gold electrodes with a narrow gap (channel) through which the electron transport takes place. We also present investigations on the potential distribution across the silicon wafer. Pulsing the gate for a short time can be used for a determination of the mobility of the electrons through the channel. Results for a wide range of electron densities are reported.

Section: Superfluid <sup>3</sup>He and <sup>4</sup>He

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