

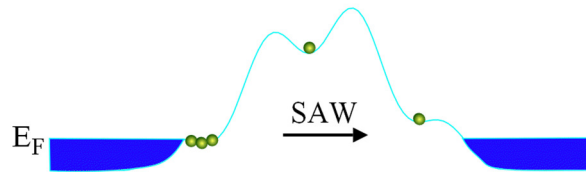
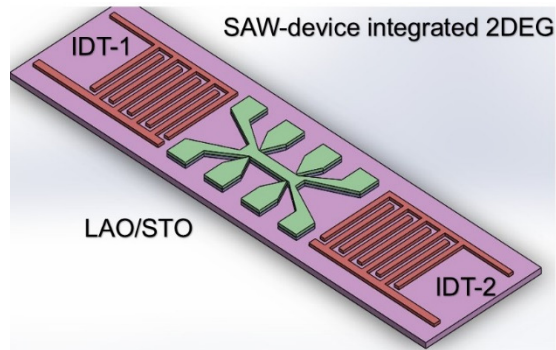
BSc/MSc project



NanoElectronics Group www.nano-electronics.nl

Title: Complex-oxide Acousto-Electronics

Supervisor: Yigitcan Uzun (PhD student)



*Charge transport in an acoustic field.
(Semiconductor physics group – University of Cambridge)*

Goal and motivation

Acousto-electronic transport by surface acoustic waves (SAWs) plays a central role in the rapidly emerging field of quantum acoustics. So far, acoustic charge transportation has been demonstrated with remarkable results in AlGaAs/GaAs heterostructures. Here, we aim to integrate SAW-device technology with complex-oxide multilayers, in particular with the 2DEG which is formed at the LAO/STO interface. In particular, we are interested in the interplay of SAWs with the rich physics of these systems, like magnetic effects and superconductivity.

The assignment

- Thin film deposition by using Pulsed Laser Deposition (PLD) in collaboration with the ICE and IMS groups.
- Device fabrication in the NanoLab, using state-of-the art nanofabrication.
- Ultrahigh frequency experiments down to millikelvin temperatures.

Profile

Students with preferential background in physics, material science, electrical engineering and nanotechnology are encouraged to apply.

Graduating in NE

As a student in NE you are a full group member and expected to give an active contribution to ongoing research. Your work is likely to be part of a scientific publication. Besides you are also encouraged to participate in the regular scientific and social activities.

Contact

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