Contribution ID: **41** Type: **Poster**

Strain engineering in two-dimensional materials

Saturday 7 November 2020 14:00 (1 hour)

Two-dimensional (2D) carrier systems in semiconductors are popular in industrial device applications as well as in fundamental research to study quantum effects at low temperatures. The advent of van-der-Waals (vdW) materials, i.e., 2D materials that can be separated into individual atomic layers by breaking the vdW-bonds, are promising candidates towards using mechanical methods to control the electronic properties.

Elastic strain applied to a 2D material directly affects the atomic lattice of a material by changing the distance of the chemical bonds and the lattice symmetry. Different approaches can be used to introduce strain to a 2D vdW system. These approaches can be divided into two main categories: The first category is using a static strain induced through a patterned substrate, for example. A more advantageous approach, however, is continuously modifying the strain during the measurement, e.g. through the deformation of a substrate in situ.

I will present and introduce possible methods to induce strain and show preliminary measurements on graphene.

Author: MEYER, Jana (Center for Hybrid Nanostructures, Universität Hamburg)

Co-authors: RIEMANN, Jan Leonard (Center for Hybrid Nanostructures, Universität Hamburg); TIEMANN, Lars (Center for Hybrid Nanostructures, Universität Hamburg); Prof. BLICK, Robert (Center for Hybrid Nanostructures, Universität Hamburg)

Presenter: MEYER, Jana (Center for Hybrid Nanostructures, Universität Hamburg)

Session Classification: Postersession