**Squeezing of edge magnetoplasmon states in Quantum Hall edge channels**

In quantum Hall conductors, charge excitations propagate ballistically along chiral one dimensional waveguide at the edge of the sample. These edge channels have been used to propagate non-classical fermionic states of matter by manipulating electron wavefunctions in electronic interferometers for example. However, one dimensional charge propagation can also be described in terms of bosonic collective excitations called edge magneto-plasmon (EMP).

So far, most of the works have focused on the classical description of these waves. The tools of quantum electronics, such as the quantum point contact (QPC), allow for the generation of non-classical EMP states such as squeezed states. In that study, we show that the partitioning of a high frequency (few GHz) AC signal on top of a DC voltage can be used to generate squeezed EMP states, in analogy with a previous experiment performed on tunnel junctions [1].

This technique opens the possibility to generate non-classical bosonic states in a very high impedance transmission line, with a strong coupling to the mesoscopic systems.

[1] Observation of Squeezing in the Electron Quantum Shot Noise of a Tunnel Junction G. Gasse, C. Lupien, and B. Reulet PRL 111, 136601