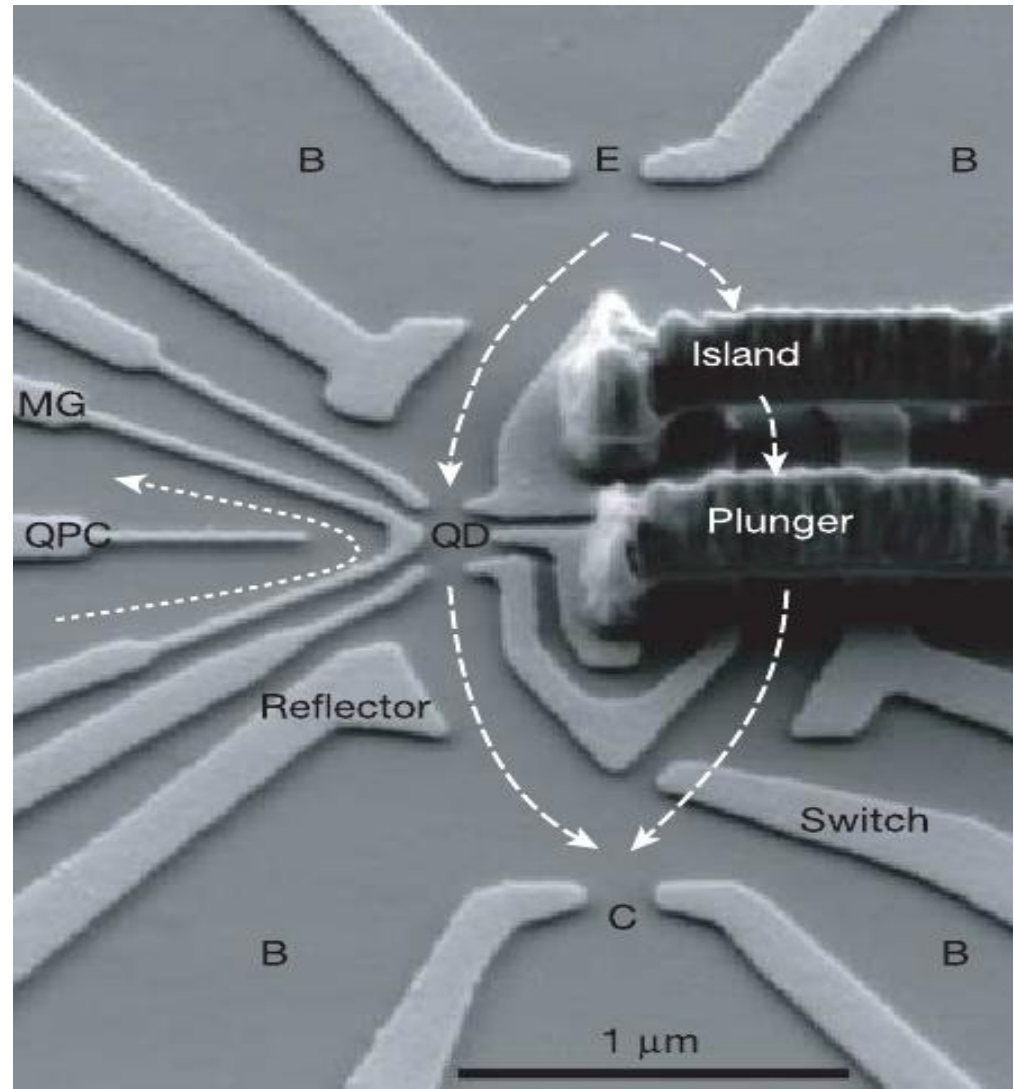


Quantum transport through an Aharonov-Bohm interferometer

Measurement of transmission phase of quantum dot based on AB-interferometer [Heiblum group, PRL '95 ; Nature '97 ; Nature '05]

Analytical study with 1D branches : additional terminals seem crucial for the interpretation of the raw data [Aharony et al., PRB '02]

This project : Numerical study within a more realistic model



Quantum transport through an Aharonov-Bohm interferometer

Physical concepts :

Landauer formalism for quantum transport

Scattering matrix formulation

Tight-binding models

Recursive Green function algorithm

Numerical skills :

Programming in Python

Understanding and using the KWANT package

Writing the program from scratch

Running the program and data analysis