

Design of subsystems for the integration of a quantum gas microscope

Gabriel Seigneur

Centrale Supélec, Paris

During my nine-month stay as a visiting student in the lithium-7 lab of Prof. Wolfgang Ketterle's group at the MIT Center for Ultracold Atoms, I engaged in the installation project of a quantum gas microscope. This work included optimizing a 1064 nm light sheet, the full-stack design of a DMD illumination system, and additional technical projects such as testing vacuum components and offset-locking lasers to achieve high-field, spin-resolved Raman sideband cooling. I would be very happy to share my experience and engage in discussions. I feel fortunate to have gained a broad overview of the technical skills used in cold-atom experiments, and I am truly excited to further nurture my scientific curiosity through a PhD at Heidelberg University.