

Brian Bostwick

Obere Beintstrasse 6
69221 Dossenheim, Germany

☎ (+1) 310 924 0536

✉ brian.bostwick@kip.uni-heidelberg.de

Github: [BrianBostwick](#)

Education

- 2023–Present **University Heidelberg**, (*Heidelberg, Germany*),
Physics, Doctoral Candidate.
- 2021–2023 **University of Cambridge**, (*Cambridge, UK*),
Physics, Master's of Philosophy.
- 2018–2021 **University of California Los Angeles**, (*UCLA*) (*Los Angeles, CA*),
Physics, Bachelor of Science with College Honors, Minor in Mathematics.
GPA – 3.825/4.0

Experience

- Summer 2021 **Graduate Researcher**, Advisor *Prof. Markus Oberthaler*, SYNTHETIC QUANTUM SYSTEMS,
– Present Atomic, Mesoscopic, and Optical Laboratory, Cambridge.
◦ Developing a dual species Sodium-Potassium mixture experiment.
- Summer 2021 **Graduate Researcher**, Advisor *Prof. Ulrich Schneider*, MANY BODY QUANTUM DYNAMICS,
– Summer Atomic, mesoscopic, and optical laboratory, Cambridge.
2023 ◦ Developing an Atom interferometer using Strontium for gravitational wave detection.
◦ Developing a cold atom simulation software package for experimental optimization.
◦ Physics outreach with programs
- Fall 2018 – **Undergraduate Researcher**, Advisor *Prof. Eric Hudson*, HUDSON GROUP, Atomic, molecular,
Summer and optical laboratory, UCLA .
2021 ◦ Research using Barium for trapped ion quantum computing.
◦ Ion trap design and simulations using SIMION. Construction and design of external cavity diode lasers.
- Summer 2017 **Physics Intern**, NASA's *JET PROPULSION LABORATORY*, (Pasadena, CA).
– Fall 2018 ◦ Constructed and simulated Quadrupole Ion Trap Mass Spectrometer (QITMS). Developed a probability distribution for the spread of an electron within the QITMS using SIMION.
◦ Designing and simulated the geometry of the electron detector for a miniature Environmental Scanning Electron Microscope.
- Fall 2015 – **Tutor at the learning disabilities center**, *SANTA MONICA COLLEGE* , (Santa Monica, CA).
Fall 2017 ◦ Tutored 6 - 12 hours weekly in one-on-one sessions in the learning disabilities department. Topics ranged from algebra to calculus, chemistry, physics, and computer science.

Publications

- “**Low-Drift-Rate External Cavity Diode Laser**”, *Review of Scientific Instruments.*,
<https://arxiv.org/abs/2205.14149>.
- “**Centralised Design and Production of the Ultra-High Vacuum and Laser-Stabilisation Systems for the AION Ultra-Cold Strontium Laboratories**”, *AVS Quantum Science.*
(under review), <http://arxiv.org/abs/2305.20060>.
- “**Experimental Realization of a Two-Dimensional Sodium Potassium Mixture**”, *DPG Conference Freiburg (2024) - Poster Session.*