Charles (Charlie) Sowerby

Phone: (773)-698-1449
email: charlie.sowerby@gmail.com
website: charlie.sowerby.com

Education

June 2021 (Expected)	University of California, Los Angeles - Bachelor of Science Majors: Physics (B.S.) & Mathematics (B.S.) GPA: 3.64/4.00
June 2017	University of Chicago, Laboratory Schools (High School)

Relevant Coursework

Physics	Analytic (Classical) Mechanics (105A) Electricity and Magnetism (110A/B) Quantum and Mechanics (115A/B/C) Thermodynamics (112) Mathematical Methods of Physics (131A) Solid State Physics (140A) Modern Physics Lab (18L)
Mathematics	Multivariable Calculus (32A/B) Linear Algebra (115AH) Abstract Algebra (110AH/BH/C) Real Analysis (131AH/BH) Differential Geometry (120A) (Point-Set) Topology (121)

Work Experience and Projects

For more information on my projects visit my website

Aug-Now 2020	Undergraduate Researcher - Eigenmode Solver *Basic Plasma Science Facility, UCLA* Working on modifying an existing linear eigenmode solver to incorporate a fully electromagnetic version of the set of two-fluid equations in cylindrical geometry for the study of turbulence in high-beta plasmas.
Mar-Aug 2020	Undergraduate Researcher - Camera Module *Basic Plasma Science Facility, UCLA* Worked on designing and implementing a low latency, inexpensive camera module alternative for rapid plasma imaging.
Mar-Oct 2020	Independent Study in Smooth Manifolds *UCLA Mathematics* Studied graduate-level Smooth/Riemannian Manifolds with the help of UCLA graduate student Nicholas Boschert, using texts by John Lee: *Smooth Manifolds* and *Riemannian Manifolds* as reference.
Winter 2020	Undergraduate Grader *Physics 131A* Graded homework assignments for upper-division class Physics 131A: Mathematical Methods in Physics.
Mar-Jun 2019	Undergraduate Researcher - Relay Circuit *Basic Plasma Science Facility, UCLA* Used soldering and other basic circuit building skills to build and program a Raspberry Pi controlled relay circuit to be used for plasma diagnostics.

Useful Skills

Programming Languages	Python, C++, LaTeX, HTML/CSS, Mathematica, Altium CircuitMaker (PCB Design)
Spoken Languages	German

Awards & Honors

Undergrad	College Honors Program	2017 - Present
	Deans Honors List	Fall 2017, Winter 2020, Spring 2020