

PETER TATUM

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EDUCATION

University of Colorado, Boulder	Overall GPA: 3.87/4.00
M.S. Astrophysical & Planetary Sciences	Aug 2021 - Dec 2023
University of California, Berkeley	Overall GPA: 3.79/4.00
B.S. Engineering Physics, Honors	Aug 2019 - May 2021
Laney College, Oakland, CA	Overall GPA: 3.96/4.00
A.S. Math and A.S. Physics, Highest Honors	Aug 2017 - May 2019
A.S. Machine Technology	May 2015 - May 2017
A.S. Welding Technology	Jan 2014 - May 2015

SKILLS

Software: Python, MATLAB, and Interactive Data Language for data analysis and hardware interfacing; Vivado and VHDL for FPGA ; Fusion 360 and Solidworks CAD modeling

Hardware: In-situ electric field, magnetic field, and thermal particle (electrostatic analysers) detectors for space plasmas; vacuum chambers, oscilloscopes, function generators, power supplies, logic analyzers, etc

Physical: Waves, instabilities, and turbulence in space plasmas; fluid dynamics, fluid and kinetic plasma physics, electricity and magnetism; Solar wind, Solar physics, planetary magnetospheres, ionospheric physics

Mathematical: Differential equations (analytical and numerical methods), signal processing, statistics

Manufacturing: Welding and machining (manual and CNC) of mild steel, stainless steel, and Aluminum

EXPERIENCE

Laboratory for Atmospheric and Space Physics	Boulder, CO
<i>Graduate Research Assistant</i>	Jan 2022 - Current

- Dynamics of plasma waves and turbulence in the Solar wind as a part of NASA's Parker Solar Probe Mission
- Lead graduate student developing Rapid Active Plasma Sounder instrument to study Auroral plasma density

Space Sciences Laboratory, UC Berkeley	Berkeley, CA
<i>Undergraduate Researcher</i>	Sept 2019 - Aug 2021

- Magnetic topology and atmospheric escape in Martian magnetosphere as a part of NASA's MAVEN mission
- Magnetohydrodynamic model comparisons with particle and fields data

University of Rochester, Laboratory for Laser Energetics	Rochester, NY
<i>National Science Foundation REU Researcher</i>	June 2019 - Aug 2019

- Experimental investigation of high-efficiency hybrid evaporative-conductive cooling system using novel laser processed aluminum surface

Lawrence Berkeley National Laboratory	Berkeley, CA
<i>Affiliate Researcher</i>	June 2018 - Aug 2018

- Explored the spray application of nanoparticle solutions to develop flexible thermal insulation
- Built water cooled microscope temperature control stage for -35°C sample observation

AWARDS

NASA Group Achievement Award to Parker Solar Probe Team	Mar 2023
John T. Gosling Endowed Fellowship Recipient	Fall 2022
Finalist Team in National Science Foundation Community College Innovation Challenge	May 2018
MVP of 1st place team in NASA's Community College Aerospace Robotics Challenge	Sep 2017