

Kian Orr | Curriculum Vitae

(949) 456-3409 | kianorr@g.ucla.edu | kianorr.com | github.com/kianorr

Research interests: Fusion | Plasma astrophysics | Plasma simulations

Last updated: February 24th, 2023

Education

University of California, Los Angeles (UCLA)

2020 - 2022

- Bachelors of Science in Physics; 3.53 GPA

Irvine Valley College (IVC)

2018 - 2020

Research and Work Experience

TAE Technologies | Jr. Scientist for Dr. Marcel Nations

June 2022 - present

- Spectroscopic measurements of plasma in TAE's fusion device (C-2W)
- Theoretical and experimental investigation of particle confinement times
- Calculation of local main ion temperatures and rotational velocities through charge exchange
- Fully calibrated and redeployed a high-resolution spectrometer diagnostic after years of inactivity
- Taking lead for x-ray spectrometer diagnostic for the first measurements of x-rays from C-2W

UCLA Large Plasma Device (LAPD) | Student Researcher for Professor Troy Carter

August 2021 - October 2022

- Implemented survey spectrometer on LAPD
- Modeled observed data with synthetic spectra, resulting in confirmation of impurities in LAPD
- Created a server and client, along with a graphical user interface for the control room

Particle in Cell (PIC) Simulation

May 2022 - June 2022

- Created a 1D electrostatic particle in cell code from scratch
- Demonstrated two stream instability

Acoustics Simulation

Sept 2019 - Nov 2019

- Simulated sound distribution in search of the optimal concert hall
- Presented at IVC Symposium and selected for UCI's transfer conference

Teaching

IVC | Tutor

Oct 2019 - Dec 2021

- Tutor for math and physics; requires succinct and clear communication
- Passionate about helping and connecting with students struggling over concepts

Awards

Best Abstract Award | UCI Honors Transfer Council of California

May 2020

Conferences

APS Division of Plasma Physics 2022 | Poster presenter

October 2022

- *Survey Spectroscopy in the Large Plasma Device*

UCI Honors Transfer Council of California | Selected talk

May 2022

- Selected but canceled due to COVID-19

IVC Symposium | Selected talk

November 2019

- *Acoustics of Concert Halls*

Skills

Programming

- Python, Julia, Matlab, C++, Mathematica, ROOT
- Knowledge of numerical methods

Languages

- English: fluent
- Swedish: intermediate