

CV

Personal Information

- Name: Antonios
 - Last name: Kavroulakis
 - Date of birth: 25 May 1993
 - Place of birth: Chania, Crete
 - Father & mother's name: Ilias & Elisavet
 - Military obligations: Fulfilled, November 2017 - May 2018
 - Home address: Apostolaki 41, Rethymno, P.C. 74100
 - Telephone: +30 6984528328
 - E-mail: akavroulakis@hmu.gr
-

Education

BSc in Physics

Department of Physics, Faculty of Sciences, National and Kapodistrian University of Athens
2011 – 2019

- Bachelor's Thesis: *“Study of dense plasma produced by pulsed power devices”*

Research on X-pinch configuration plasma and X-ray generation.

MSc in “Lasers, Plasma and Applications”

Department of Electronic Engineering, Faculty of Engineering, Hellenic Mediterranean University
2019 – 2024

- Master's Thesis: *“Plasma dynamics studies in a Z-pinch device with coated single-wire loads”*
- Focus: Plasma instabilities, pulsed power devices, and diagnostics.

PhD Candidate

Department of Electronic Engineering, Faculty of Engineering, Hellenic Mediterranean University
2025 – Present

- Research Focus: Numerical modeling of graphite and tungsten failure under Runaway Electron impact in nuclear fusion reactors.
- Simulation tools: LS-DYNA, FEM, ALE methods

Research Interests

- High-energy-density plasma physics
 - Pulsed power devices (X-pinch, Z-pinch)
 - Plasma-material interactions
 - Runaway electrons and nuclear fusion
 - Computational modeling and simulation (FEM/ALE)
 - High-temperature material failure and phase change phenomena
-

Experimental and Computational Experience

- Plasma instabilities and dynamics in Z-pinch devices
 - X-ray and secondary emission diagnostics
 - MHD phenomena and current-driven plasma formation
 - LS-DYNA for material modeling
 - MATLAB & Mathematica for data analysis and modeling
-

Teaching Experience

- **2020 – 2021:** Teaching Assistant
Circuit Theory and Analysis of Electrical Networks,
Department of Electronic Engineering, EL.ME.PA
 - Conducted teaching projects for undergraduate students
- **2019 – Present:** Tutor in General Physics
 - Provided tutorial support in physics for both secondary and higher education students