

Anthony Cortez

Education:

- Ph.D. Mechanical Engineering, University of California, Riverside, 2021
- M.S. Mechanical Engineering, University of California, Riverside, 2018
- B.S. Physics, University of California, San Diego, 2017

Academic Experience

- Assistant Professor* (2021- present)
Point Loma Nazarene University
- Teaching Assistant* (2020 - 2021)
University of California, Riverside

Non-Academic Experience

- Intern* (June 2020 – August 2020)
California Institute of Technology NASA Jet Propulsion Laboratory
Developed a Python program for simulation of superconducting Josephson junction properties
- Intern* (June 2019 – August 2019)
California Institute of Technology NASA Jet Propulsion Laboratory
Characterized Josephson junction mixer performance from 90 GHz – 2.5 THz
- Visiting Student Researcher* (December 2017 – June 2018)
California Institute of Technology NASA Jet Propulsion Laboratory
Modified existing Atomic Layer Deposition System for thin film growth of MgB₂

Professional Organizations

- National Society of Collegiate Scholars (NSCS) 2014

Honors and Awards

- Dean's Distinguished Fellowship Award, 2017
- Provost Honors, 2013-2017

Service

Professional

- Assisted with organization of the IEEE International Superconductive Electronics Conference (2019)

Institutional

- Faculty Governance Committee (2022 – present)

Publications

- Cortez, Anthony. "THz Mixing Using Y-Ba-Cu-O Josephson Junctions Fabricated With Focused Helium Ion Beam Irradiation". Diss. University of California, Riverside, 2021.
- Cortez, Anthony T., Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "Tuning Y-Ba-Cu-O Focused Helium Ion Beam Josephson Junctions for Use as THz Mixers" *IEEE Transactions on Applied Superconductivity*, 29, no. 5 (2019).

Cortez, Anthony, Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "High Frequency Properties of Y-Ba-Cu-O Josephson Junctions" *2019 IEEE International Superconductive Electronics Conference (ISEC)*, pp. 1-3, (2019).

Presentations

Anthony Cortez, Ethan Y. Cho, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "YBCO Focused Helium Ion Beam Josephson Junction Mixers" *2020 Applied Superconductivity Conference (ASC)*, Virtual, (2020).

Anthony Cortez, Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "Mixing with Y-Ba-Cu-O Josephson Junctions Fabricated with Focused Helium Ion Beam Irradiation" *2020 IEEE International Symposium on Space Terahertz Technology (ISSTT)*, Tempe, AZ, USA, (2020).

Anthony Cortez, Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "HTS Josephson Mixers for THz Frequencies" *NASA JPL Summer Internship Program (JPLSIP)*, Pasadena, CA, USA, (2019).

Anthony Cortez, Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "High Frequency Properties of Y-Ba-Cu-O Josephson Junctions Fabricated with Helium Ion Beam Irradiation" *2019 IEEE International Superconductive Electronics Conference (ISEC)*, Riverside, CA, USA, (2019).

Anthony Cortez, Ethan Y. Cho, Hao Li, Daniel Cunnane, Boris Karasik, and Shane A. Cybart. "MgB₂ and YBCO Josephson Junction THz Mixers" *2018 Applied Superconductivity Conference (ASC)*, Seattle, WA, USA (2018).

Daniel Cunnane, Anthony Cortez, Shane Cybart, and Frank Greer. "Magnesium Diboride Thin Films by Thermal Evaporation Enhanced Atomic Layer Deposition" *2018 Applied Superconductivity Conference (ASC)*, Seattle, WA, USA (2018).

Professional Development Activities

Living Vocationally Reading Group (2022)

Science Faculty Learning Community (2021 and 2022)

Institute of Electrical and Electronics Engineers (IEEE) Applied Superconductivity Conference (ASC) (October, 2018, 2020)

IEEE International Symposium on Space Terahertz Technology (ISSTT) Conference (March 2020)

IEEE International Superconductive Electronics Conference (ISEC) (August 2019)