

Honors Undergraduate Travel Report

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Event Overview

- **Conference:** 2025 Fall Meeting of the APS Division of Nuclear Physics (DNP)
- **Location:** Chicago, IL
- **Presentation Title:** Simulating the β^+ Decay Spectrum of ^{22}Na [$3^+ \rightarrow 2^+$]

During this conference, I had the privilege of delivering a 10-minute, APS-style presentation regarding my research into the computational modeling of positron emission. My talk focused specifically on the nuclear structure transitions involved in the ^{22}Na [$3^+ \rightarrow 2^+$] decay.

The session was well-received by the nuclear physics community. The subsequent Q&A period was particularly rewarding, as it allowed me to engage with experts in the field to discuss the nuances of my simulation parameters and the theoretical implications of my findings. This dialogue provided invaluable feedback that I will use to refine my current project and future research methodologies.

The DNP meeting provided a comprehensive look at the forefront of nuclear science. I attended several high-level technical sessions, most notably those led by experimentalist Dr. Ronald Garcia Ruiz (MIT) and theorist Zohreh Davoudi (UMD). Their insights into precision measurements and many-body theory provided a broader context for my own simulation work. I also attended a documentary screening on CERN to learn about the massive scale of international collaboration required for modern breakthroughs in physics.

Beyond the formal sessions, I also built a professional network. I had meaningful discussions with researchers from several premier institutions and national laboratories, including Brookhaven National Laboratory, Facility for Rare Isotope Beams.

This experience has been a definitive turning point in my undergraduate career. Interacting with the professional physics community and seeing the real-world of nuclear physics has solidified my goal to pursue graduate school in physics.

Acknowledgements

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