Jason Bane
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Dear Hiring Manager,

I write to apply for the physical scientist position working for the DOE. I successfully defended my dissertation "The EMC Effect in A=3 Nuclei" under the direction of Nadia Fomin, at the University of Tennessee. My dissertation research brought me to Thomas Jefferson National Laboratory in Newport News, VA. My time at the lab has been devoted to honing my skills and knowledge in the complete process of being an experimental physicist. I experienced constructing spectrometers, refurbishing detectors, building electrical systems for data acquisition, analyzing large data sets, and collaborating with a diverse community while working with three electron scattering experimental groups.

My research at Jefferson Lab has allowed me to work on many aspects of an experiment. I collaborated with a diverse group of scientists to construct, maintain, and operate three electron spectrometers to extract the electron-nucleus inclusive cross section. A large portion of my research as consisted of extracting the experimental measured cross section from electron scattering data. Using this data, I measured the performance of the individual detectors by controlling data sampling through signal cuts. I have had to remove background events using fits and comparisons. I used Monte Carlo simulations to study the acceptance probability of the spectrometer. These experiences in data analysis have allowed me to learn many different coding techniques and languages like Python, C++, Fortran, ROOT, and Java. All of these analysis task have required me to think critical about the task at hand, and I have had to adapt my problem solving skills to deal with solving algorithms, studying uncertainties, and debugging my code and the code of others.

The knowledge and skills I have gained working at Jefferson Lab would make me a great fit to work has a physical scientist. My mixture of problem solving and software skills will allow me to quickly step into the roles needed.

Thank you for your time and attention,
Jason Bane