Benjamin Thomas Loseth

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EDUCATION

Summer 2011

Taking graduate courses in Beam Physics, Preparing for two remaining Physics Ph.D. subject exams

Since Fall 2010

Took graduate courses in Mathematical Methods of Theoretical Physics, Quantum Mechanics, and Classical Mechanics. Passed two graduate subject tests as an undergraduate, fulfilling half of the exam requirements for graduate study.

Bachelor of Science, Physics **May 2011**

Michigan State University, East Lansing, MI

- Member of Honors College; GPA: 3.52/4.0
- Member of Society of Physics Students (SPS)

EXPERIENCE

Research Assistant **August 2010 – Present**

Michigan State University, East Lansing, MI

- Analyzed the behavior of multi-particle and map methods for chaotic dynamical systems
- Gained experience in the application of self-verified numerical integrators and simulation of many-body problems
- Research is ongoing and expected to yield several publications

Teaching Assistant **August 2009 – May 2011**

Michigan State University, East Lansing, MI

- Supervised classes of 20 students in an introductory physics laboratory class
- Assisted students with homework in basic physics courses

Research Assistant **June 2010 – August 2010**

Los Alamos National Laboratory, Los Alamos, NM

- Designed, constructed and applied a moveable flange support for a magnetic probe array
- Reconstructed the vacuum vessel for the Reconnection Scaling Experiment (RSX)
- Learned the intricacies of vessel sealing using o-rings and conflat flanges
- Hardened data acquisition crate (Hoffman Box) and diagnostic lines against EMP for the Field Reversed Configuration plasma injector (FRX-L)
- Evaluated methods for sensitive hardware shielding in a pulsed power experiment

Research Assistant **June 2009 – August 2009**

Argonne National Laboratory, Argonne, IL

- Aided in finalizing construction processes and techniques for four hundred (400) Resistive Plate Chambers (RPCs) for a Digital Hadron Calorimeter (DHCAL)
- Attained experience in quality control methods and subtle assembly techniques

SKILLS

- Programming experience in Fortran and COSY [http://cosy.pa.msu.edu] including rigorous numerical integration, molecular dynamics and Monte Carlo methods
- Proficient in Windows and Unix based operating systems and accompanying software

AWARDS AND PRESENTATIONS

- Awarded the National Undergraduate Fellowship (NUF) Program in Plasma Physics and Fusion Energy Sciences in 2010
- Presented research poster at the 2010 SHINE Conference in Santa Fe, NM and the 2010 APS Division of Plasma Physics Conference in Chicago, IL.