Yingyue ZHU

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Summary

Solid background in physics
GPA 3.86/4.0 at Stony Brook University, State University of New York (SBU)
GPA 87.1/100 at Xi'an Jiaotong University (XJTU)
TOEFL: 108, GRE: 320+3.5
Research experience in **High Energy Physics**, **Condensed Matter Physics** and **Electronics**
Skilled in programming and data analysis

Education

Sep. 2014 ~ Jun. 2018
Undergraduate, Physics Honors Program, XJTU, China
Aug. 2016 ~ Dec. 2017
International exchange program, Physics, SBU, U.S.A.

Research Experience

Stony Brook University, High Energy Experimental Group ATLAS   Jan. 2017 ~ Present
Analysis of exotic Higgs decay H->bb$\mu\mu$ based on particle flow jet
Research Advisor: John Hobbs, Ph.D.
- Developed analysis codes based on PF Jet and Calo Jet separately in C++ searching for signal events
  - Applied calibration and basic cuts on both jets and muons
  - Applied muon isolation tool on mouns to removed non-isolated muons and jet vertex tool on jets to remove pileup jets
  - Applied jet/muon overlap removal to remove muons reconstructed as jets
- Ran the code over Monte-Carlo samples in both signal and background (tt-bar and drell-yan) regions
  - Produced histograms using ROOT
  - Produced cut flow tables and yields tables for different control regions
- Compared results with known results from Calo Jet.
- Designed and conducted further experiments and found out that the discrepancies between results comes from the incompatibility between the jet vertex tool and PF Jet.
- Presented the work by giving a talk over the topic "Analysis of H->bb$\mu\mu$ based on particle flow jet" in high energy group meeting

Stony Brook University, High Energy Experimental Group   Sep.2016 ~ April. 2017
Electronics for ATLAS Phase-I upgrade of the calorimeter trigger system
Research Advisor: John Hobbs, Ph.D.
- Web-based "eyescan" test for ATCA carrier board
  - Designed and built up an interface between the testing web page and the eyescan

> testing code in C in Xilinx SDK to allow eyescan to be carried out through the web page
> - o Tested data transmitting and receiving abilities of 33 GbE, XAUI and GBT channels on the ATCA carrier board
> - o Plotted eye diagram of each channel
- Ran "Eyescan" test in Xilinx Vivado

Frontier Institute of Science and Technology, XJTU   **Mar.2016 ~ Aug. 2016**
Strain glass state and second order phase transition in ferroelastic material
Research Advisor: Yuanchao Ji, Ph.D.
- Fabricated ferroelastic Co-Cu-Cr-O samples from raw materials through standard fabrication process
- Tested samples with XRD, DSC, DMA and analyzed the results to prove the existence of a second order phase transition and a short-term ordered strain glass state

Skills

- C, C++
- Fortran, Python, MATLAB, LaTeX
- ROOT, Linux

Honors

- MCM/ICM : the Mathematical Contest in Modeling 2017 -- Meritorious Winner
- Siyuan Scholarship, Xi'an Jiaotong University, Oct. 2016
- Pengkang Scholarship, Xi'an Jiaotong University, Oct. 2015
- University-level Outstanding Student Cadres, Xi'an Jiaotong University, Oct. 2015

Extra-Curricular Activities

- Member | Society of Physics Students Stony Brook University   Sep.2017~Present