

## 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** **Jan. 2017 ~ Present**

*Analysis of exotic Higgs decay  $H \rightarrow b\bar{b}\mu\mu$  based on particle flow jet*

- Developing analysis codes in C++ capable of dealing with large scale LHC data analysis
- Running the code over Monte-Carlo samples in both signal and background regions (mainly  $t\bar{t}$  and drell-yan events)
  - Selecting signal-like collision events
  - Producing histograms with ROOT
  - Producing cut flow tables and yields table for signal,  $t\bar{t}$  and drell-yan samples
- Comparing results with known results from Calorimeter jet.
- Designing and conducting further experiments and tests, including truth tagging and jet matching, to interpret the discrepancies shown and gain a better understanding of the characteristics of particle flow jet.
- Presenting the work by giving a talk in high energy group meeting with the title of “Analysis of  $H \rightarrow b\bar{b}\mu\mu$  based on particle flow jet”

**Stony Brook University, High Energy Experimental Group** **Sep.2016 ~ April. 2017**

*Electronics for ATLAS Phase-I upgrade of the calorimeter trigger system*

- Web-based “eyescan” test for ATCA carrier board
  - Designing and building 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
  - Testing data transmitting and receiving abilities of 33 GbE, XAUI and GBT channels on the ATCA carrier board
  - Plotting eye diagram of each channel
- Running “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*

- Fabricating ferroelastic Co-Cu-Cr-O samples from raw materials through standard fabrication process
- Testing samples with XRD, DSC, DMA and analyzing the results to prove the existence of a second order phase transition and a short-term ordered strain glass state

## Skills

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

## Honors

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- 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

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