



Yisi Liu

Gender & Age: Male, 21

Area of interest: Mathematical Physics

School of Physics and Astronomy, Sun Yat-sen University

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🌐 <https://liuyisi238.github.io/>

EDUCATION

•Sun Yat-sen University

2020.9-2024.7

Major in Physics, Minor in Mathematics and Applied Mathematics

GPA/Percentage: 4.147/4.7%

SCIENTIFIC RESEARCH EXPERIENCE

•The Gamma Ray Integrated Detectors(GRID) team of Sun Yat-sen University

2021.9-2023.1

A student project on studying gamma ray burst(GRB), launched by Tsinghua University in 2015.

- Duty & Work: Leader of Theoretical Group & Study theoretical models, Simulate the motion of photons via Geant4, Data processing

•The Feasibility Analysis of Solar Wind Measurement Using GRID Satellite

2021.12-2022.12

An innovation program for college students

- Duty & Work: Leader & Simulate the motion of solar wind particles via Geant4

•GRID Summer Camp 2022

2022.8-2022.9

Summer Camp for GRID members, organized by Tsinghua University

- Duty & Work: Member & Data processing of GRB(energy spectrum, light curve)

AWARDS

•2021 Asia and Pacific Mathematical Contest in Modeling, Second Prize

•2021 The 11th MathorCup College Mathematical Modeling Challenge , First Prize

•2020-2021 Sun Yat sen University Outstanding Scholarship, First Prize

•2021-2022 Sun Yat sen University Outstanding Scholarship, Second Prize

PERSONAL STATEMENT

I am Liu Yisi from School of Physics and Astronomy, Sun Yat-Sen University. I major in Physics and minor in Mathematics and Applied Mathematics. In the undergraduate studies, I have got the GPA of 4.147/5.0 in my major and 4.0/5.0 in my minor, with the rank of 6/126 in my major.

Using mathematics and physics to study and comprehend our world is what I am interested in and what I want to study in the graduate career. Both mathematics and physics are used to study the world, with the difference that mathematics is used to study all possible world but physics is used to study the universe we live in. One has to learn physics and mathematics well to have a better understanding of our world. **Quantum Gravity is the domain I am most interested in.** Mathematics and Physics is the preponderant discipline of Department of Mathematical Science and Yau Mathematical Science Center. I really hope I can study and grow here.

Up to now, **I have acquired enough physics for future studies** and I am learning real function, complex function, differential geometry and functional analysis these days. I got great scores in Quantum Mechanics(95/100) and General Gravity(99/100), which are the fundamental knowledge for quantum gravity. **I also engaged in some mini academic programs**, such as Gamma Ray Integrated Detectors(GRID) and an innovation program for college students entitled “The Feasibility Analysis of Solar Wind Measurement Using GRID Satellite”, **where I trained my paper writing skill, interdisciplinary thinking ability and research ability.** I also join a seminar with quantum gravity as theme which is held by professor Sun Jia-Rui. **My dual degree background will also provide unique advantages for the further studies.**

In the approaching graduate career, I make some plans as follows:

1. I will continue to accumulate mathematical and physical knowledge in my last undergraduate career. Quantum field theory, mathematics for classical mechanics and mathematics for quantum field will be primarily considered.
2. During the first year of graduate school, I plan to continue to learn mathematical theory and physical theory for quantum field with different aspects(algebra and topology). The next year I schedule to learn string theory.
3. Keep concerning the news of quantum gravity and attending seminars with respect to it before graduate career. Start reading papers with respect to quantum gravity after becoming a graduate student.
4. Do English reading and writing exercises persistently in order to assist in the development of research work.