Yisi Liu

Gender: Male
Age: 21
Academic Interest: Mathematical Physics

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Education

•School of Physics and Astronomy, Sun Yat-sen University *2020.9-2024.7*

Major in Physics, Minor in Mathematics and Applied Mathematics GPA/Ranking: 4.147/4.7%

Scientific Research Experience

•The Gamma Ray Integrated Detectors(GRID) team of Sun Yat-sen University *2021.9-2023.1*

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

– My Duty: Leader of Theory Group
– My Work: Studying the theoretical models, Simulating 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

– My Duty: Leader of the team
– My Work: Simulating the motion of solar wind particles via Geant4, Designing the detector(GAGG scintillator)

Summer School

•GRID Summer Camp 2022 *2022.8-2022.9*

Summer Camp for GRID members, organized by TsingHua University

– What I Learned: The method of processing RGB data to get energy spectrum and light curve

Awards

•2021 Asia and Pacific Mathematical Contesst in Modeling(APMCM), 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

•2021 Fourth National College Student Mathematics Competition Online Challenge, First 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 Field I am most interested in.**

Up to now, **I have acquired enough physics and mathematics for future learning**. I got great scores in Quantum Mechanics(95/100) and General Gravity(99/100), which are the fundamental physical knowledge for quantum gravity. **I also engaged in some mini academic programs, where I trained my paper writing skill, interdisciplinary thinking ability and research ability**. I also join a seminar with quantum gravity as the theme which is held by a professor in my college. **My dual degree background will also provide unique advantages for further learning.**

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 related 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.