Curriculum Vitae

WangLiang
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Address: Shanghai

1 Education

Shanghai Jiao Tong University *2021.09 - 2025.06*

- B.S(Physics,Tsung-Dao Lee Class)
- Grades: Freshman(80.1/100), Sophomore (88.3/100), Junior(88.9/100)

University of New South Wales *2023.09 - 2023.12*

- Exchange(Physics)
- Grades: Term 3 (87.3/100)

2 Experience

- Attending Joint TDLI and INPAC summer school in particle physics *2023 7.16-7.20*
- Attending the 3rd Frontier Summer Seminar on String Theory, Field Theory, and Holography organized by Southeast University *2023 8.20-8.27*

3 Project Experience

1.(hep-ex)Muons Source study based on SHINE facility *2023.02 - 2024.03*

- Using GEANT4 based simulation software simulating particle interacting process and optimize the target and estimate Muon production on it.

2.(gr-qc)Cosmology and Inflation study *2023.09 - 2024.12*

- Focusing on quantum fluctuation in early universe and trying to recalculate the its connection with CMB temperature spectrum through analytical calculation under professor Yvonne's (UNSW) guidance.

3.(gr-qc)Black hole study *2023.12 - 2024.03*

- Working with Professor Tower Wang (ECNU) to study the duality relationship between the $SL(2,\mathbb{R})_{PR}$ from photon ring and $SL(2,\mathbb{R})_{QM}$ from Quasi Normal Modes around classic Schwarzschild black hole, and extending this relationship to Kiselev metric with perfect fluid perturbation .

4 Self-Learned knowledge

- QFT
  Due to missing the course registration period during the semester exchange, I primarily self-studied Quantum Field Theory by referring to books by A. Zee's "Quantum Field Theory in a Nutshell" and Schwartz's "Quantum Field Theory and the Standard Model", as well as a series of lecture notes.

- Gauge Field
  This is a doctoral-level course, and I could only audit it. However, I attended the entire course and, due to my active participation and positive performance in class, received recognition from the professor.

- Differential Geometry
  While studying general relativity, I developed a keen interest in its mathematical description. As a result, I self-studied the Differential Geometry section of "Differential Geometry and General Relativity" by Canbin Liang.

- Cosmology and Inflation
  During my research on cosmology, I thoroughly read Baumann's lecture notes "Cosmology" as well as his TASI's notes on inflation.

- String
  I have an interest in string theory and have read the bosonic string section of Kevin Wray's "An Introduction to String Theory".

5 Personal Statement

I have an active and unconventional mind. I enjoy engaging in challenging tasks and seeking the essence of problems.I have a deep passion for physics since childhood,which motivates me to gain knowledge in various fields of theoretical physics at college. I have attained a good theoretical physics basis and good mathematical basis in my college, particularly in geometry and algebra.

Additionally,I possess good computing skills, including Python ,LaTeXand Mathematica. I am familiar with Linux, C++, and have some understanding of machine learning. All of these are helpful tools prepares me well and it really thrills me to set sail on a brand new research journey.

RECORDS FOR UNDERGRADUATE

上海交通大学 SHANGHAI JIAO TONG UNIVERSITY

COLLEGE: School of Physics and Astronomy MAJOR: Physics (including International Class) CLASS: F2107204

STUID: 521070910038 NAME: Wang Liang

ACADEMIC YEAR: 2021-2022

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
FL3201	College English III	1	3.0	80
KE1201	Physical Education I	1	1.0	89
MARX1205	Circumstance and Policy	1	0.5	B+
MARX1208	Ideology and Morality and Rule of Law	1	3	81
MATH1203	Mathematical Analysis I	1	6.0	67
MATH1405	Advanced Algebra I	1	5.0	70
MIL1201	Military Theory	1	2.0	83
MIL1202	Military Training	1	2.0	P
PHY1402	Introduction to Physics Laboratory	1	2	82
PHY1621	Mechanics	1	3	79
PHY1622	Thermal Physics	1	2	76.50
PHY1900	Physics Seminar	1	2	84.00
PSY1201	University Student's Mental Health	1	1.0	86
CL002	Introduction to Christian culture	2	2.0	84
FL4201	College English IV	2	3.0	80

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
KE1202	Physical Education II	2	1.0	92
MARX1202	Modern Chinese History	2	3.0	77
MARX1205	Circumstance and Policy	2	0.5	88
MARX1206	Social Cognitive Practice in the New Era	2	2.0	P
MATH1406	Advanced Algebra II	2	3.0	81
MATH1608H	Mathematical Analysis (H) II	2	4.0	77
MATH1802	Numerical Analysis and Scientific Computing	2	3.0	82
ME912	Flying into the Future: Aerodynamics and Flight	2	2.0	86
PHY1404	Physics Laboratory I	2	2	81
PHY1623	Electromagnetism	2	3	82
PHY1624	Optics	2	2	77
PHY1950	Introduction to Physics Research	2	2.0	90.35
CH926	Selected Classics of Chinese Literature	3	3.0	91
PHY1625	Atomic Physics	3	2	86.50
PHY1750	Application of Simulation Software	3	2	86

ACADEMIC YEAR: 2022-2023

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AST2601	Introduction to Astrophysics	1	3	90
CS902	Thinking and Approach of Programming	1	3.0	81
IP021	Summer Research Internship Program	1	1	P
KE2201	Physical Education III	1	1.0	99
MARX1203	Introduction to Mao Zedong's Thoughts and Theoretical System of Socialism with Chinese Characteristics	1	3.0	90
MARX1205	Circumstance and Policy	1	0.5	84
MATH2402	Elementary Number Theory	1	3	91
PH445	Quantum Field Theory	1	3	W
PHY2402	Physics Laboratory II	1	3	81
PHY2501	Equations of Mathematical Physics	1	4.0	85
PHY2508	Functions of a complex variable	1	2	85
PHY2510	Probability and Statistics	1	2	82
PHY2601	Analytical Mechanics	1	4.0	87
PHY2902	Physics Research Practice I	1	1	92

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
AI002	AI Algorithm and Practices on Intel Platforms	2	2.0	B+
AST1601	Modern Astronomy	2	3	91
KE2202	Physical Education IV	2	1.0	93
MARX1204	Basic Theory of Marxism	2	3.0	87.00
MARX1205	Circumstance and Policy	2	0.5	90.00
PHY2404	Physics Laboratory III	2	3	85
PHY2505	Computational Physics	2	3.0	100.00
PHY2608	Electrodynamics	2	4	87
PHY2612	Quantum Mechanics I	2	4	92.49
PHY2903	Physics Research Practice II	2	1.0	A+
PHY3651	Advanced Optics	2	3	92.99
PHY4752	Methods of Experimental Nuclear and Particle Physics	2	3	86
MATH1111	Selected Topics in Mathematical Analysis and Advanced Algebra	3	2.0	P

ACADEMIC YEAR: 2023-2024

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
MATH3613	Basic Topology	1	3	93
PHY2604	Thermodynamics and Statistical Physics	1	4	W
PHY3652	Fluid Mechanics	1	3.0	87

CODE	COURSES	SEMESTER	CREDIT	GRADECODE
PHY3653	Introduction to Econophysics	1	3.0	83
PHY3702	Quantum Mechanics II	1	4	A
PHY3901	Physics Research Practice III	1	1.0	A+

2023-2024(1) The University of New South Wales one semester [semester exchange]

NOTE1-MARK"△"Means the Course Failed NOTE2-MARK"↗"Means Credit Transfer Course NOTE3-P(Pass)F(Fail) NOTE4-MARK"W"Means The course has been withdrawn NOTE5-The sheet should be stamped to be official

Semester 1 means fall semester Semester 2 means spring semester

Semester 3 means summer semester

Registar:

Registration & Students'Affairs Center

Shanghai Jiao Tong University

http://jwc.sjtu.edu.cn

2024/01/25

上海交通大学教务处 学生成绩证明专用章

Academic Statement

The University of New South Wales

Name: Liang Wang
Student ID: 5523305

Academic Career 1 of 1: Non-Award
Print Date: 02/01/2024

Beginning of Non-Award Record

Term 3 2023

Program: 6021 Exchange Program
Plan: NAPPL-NAWD Not Applicable

Session: Teaching Period Three

Course		Title	Attempted	Passed	Mark	Grade
MATH	2701	Algebra and Analysis	6.00	6.00	75	DN
PHYS	1200	Step into Research	6.00	6.00	91	HD
PHYS	3115	Particle Physics	6.00	6.00	96	HD

Term WAM: 87.333 Term Totals 18.00 18.00

6021 Exchange Program Totals

WAM: 87.333 Units: 18.00 18.00

This is the last academic career for Liang Wang

End of Academic Statement