

Postgraduate Application Form



Wei, Miss Zixin

Course

MASt in Astrophysics (MASAS)

Department

Institute of Astronomy

Course start date

01 Oct 2024 (MT 2024)

Date submitted

20 Oct 2023

Mode of study

Full Time

PUF

No

Academic History

Sep 2020 - Jun 2024  
(Not yet obtained)

Bachelor of Science in Astronomy  
(Astronomy and space science de)  
- All or mostly full-time

Unknown

Nanjing University (China)

Immigration

Nationality

China (1st)

Country of birth

China

Currently ordinarily resident

China

Country of birth is ordinary residence since birth

Yes

Estimated fee status

Overseas

Visa

Required

Visa type

I do not currently have a UK visa

Language

Type

IELTS (Taken on 20 Aug 2022)

Reference No

22CN029587WEIZ172A

Score

L: 7.0 R: 9.0 W: 6.5 S: 6.5  
T: 7.5

Document

Scholarships

Apply for funding

Yes

Apply for Cambridge Trust

Yes

Apply for Gates Cambridge

No

\* Document not uploaded at the point of submission  
\*\* Other university

Curriculum Vitae

Uploaded

Career Goals

320/1000 chars

My research lies in high-energy astronomy, especially, supernovae and supernova remnants. After completing my Master's course, I will apply for a PhD position focusing on my interested field. After obtaining PhD degree, I may do a postdoctoral fellowship and continue astronomy research related to high-energy astronomy

Additional Information to Support Application

933/1000 chars

I have a strong interest in astronomy, and enrolled at Nanjing University's esteemed Astronomy and Space Science Department, renowned for its excellence in the field. Throughout my undergraduate degree, I consistently maintained a robust academic performance, securing a commendable GPA of 88, which positioned me among the top 20% of students in my major. In the face of challenging courses such as Astrophysics, Spherical Astronomy, and Fundamental Astronomy Experiments, I earned marks exceeding 90, a testament to my unwavering dedication to the subject, which awarded me numerous scholarships annually. Beyond academic excellence, I have meticulously honed my critical thinking skills and cultivated a rigorous analytical approach to assimilating new knowledge. My education, characterized by diverse coursework, combined with two research experiences ultimately aligns with the high standards of this Astrophysics MASt program.

Course Specific Questions

Core - statement of interest

I major in astronomy during my undergraduate life and have received rigorous training in data analysis and foundation knowledge of astronomy research, which makes my background quite interdisciplinary. Exploring a supernova's radiation process and progenitor and its remnant to study SN activities has always been my goal. Combining explosion simulation with data analysis to explore more about the interaction with the interstellar medium and the progenitor of a supernova is one of the plans in my MSc and later PhD. study. The emission figures will be compared to clarify a clear purpose and a proposal may be written if the public data cannot satisfy my research demands. Then, with data analysis to roughly determine the type and surroundings of a supernova and its remnant, further study will use simulation to reproduce different stages of the explosion of a supernova how the remnant interacts with the interstellar medium, and how shock excites it. Besides, well-studied targets having similar properties to my research candidates can be compared with my results to refine them. Further study can be done with supernovas. Cambridge speaks to my interest as it offers an inspirational and wide range of faculty and projectss andI am particularly drawn to the prospect of participating in seminars and benefiting from one-to-one interaction with a supervisor to help guide my research, both of which are offered at Cambridge, it also provides a platform to communicate with famous scholars.

Core - reasons for applying

My previous is about the multi-band study of SNR Braun 101 in M31 and studied its pre-SN activity and evolution parameters. Another one is about star formation history in galaxies. They developed my ability of critical thinking and data analysis with literature reading. My scientific research experiences have provided me invaluable insights into the world of astronomical research, honing my data analysis and literature research abilities. However, I have come to recognize that my current knowledge base, acquired during my bachelor's degree, requires further refinement and specialization. Undoubtedly, Cambridge University is among the most prestigious higher education institutions globally, providing students with a platform to absorb more specialized knowledge. I am eager to build upon my current knowledge

foundation by enrolling in specific courses such as Structure and Evolution of Stars and Modern Stellar Dynamics, as they closely align with my research interests.

Astronomy - Extra Materials WP    Uploaded

Application Information

Academic Awards			
People Scholarship	Good grade and volunteer	31 Oct 2021	£224.00
People Scholarship	Good grade and volunteer	31 Oct 2022	£112.00
Yang Yong-Man Scholarship	Good grades	31 Oct 2021	£224.00
Nanjing University Talent Training for Basic Science Scholarship ( Second Class)	Excellent academic work	31 Oct 2021	£448.00
National Astronomical Observatories Chinese Academy of Sciences Scholarship	Good Grade and academic work	31 Oct 2021	£336.00

Employment History	
No employment history entered	

Other Applications Made

Astrophysics MSc	University College London ( <i>United Kingdom</i> )
Physics and Astronomy Msc	University of Amsterdam ( <i>Netherlands</i> )
Astronomy PhD	University of Virginia ( <i>United States</i> )
Astronomy PhD	University of Masschusetts ( <i>United States</i> )

Personal Information

Identifying Information

Full name

Wei, Miss Zixin

Date of birth

06 May 2002

Previous name

Legal gender

Female

Contact

Email

wzxkk@smail.nju.edu.cn

Phone

+86 15881601316 (1st)  
+86 13350996373 (2nd)

Skype address

Home address

Aolin spring, Yuquan rd, Fucheng district, Mianyang, Sichuan, 621000, China

Contact address

Nanjing university, Xianlin avenue, Qixia district, Nanjing, Jiangsu, 210013, China

Valid until

30 Jun 2024

Dependants

Partner

WILL NOT bring partner

Child

WILL NOT bring children

Disability

Disability

No

Further information

Adjustment for Interview

Adjustment required

No

Details

College Preferences

College

No College preference

Current Membership

College

Not College member

Visa Requirement

Visa type

I do not currently have a UK visa

Study Visas

Applicant previously

HAS NOT STUDIED in the UK

Visa not entered

Funding Application	
Cambridge Trust	
You will automatically be considered by the Trust for any awards for which you are eligible.	
No identified awards.	
Gates Cambridge Scholarships (Overseas)	
Apply for Gates Cambridge   No	
Personal Statement	0/3000 chars
Harding Scholarship	
Mastercard Foundation	
UKRI	
Department Funding	
College Funding	
Your Funding	

Funding Sources

No funding sources entered

Declaration

The information you have provided forms the legal basis of your application to the University of Cambridge. We reserve the right to refuse admission in the event of any misrepresentation by you. Submission of an application does not imply an offer of admission.

- The University of Cambridge, the Cambridge Colleges, the Gates Cambridge Trust and the Cambridge Commonwealth, European and International Trust (and their collaborators) will use your personal information for the purpose of processing your applications for admission and funding and deciding whether to offer you a place for the course you have applied for. For further information on the use of your personal information during the application process, please see [How we use your personal information \(for applicants\)](#).
- I certify that all the information given in this application is complete and accurate. I also understand that if I have given false or misleading information, the University of Cambridge will not admit me as a Postgraduate student and may take legal action against me.
- I certify that I am the original and sole author of all work submitted as part of this application, except where clearly indicated otherwise.
- I understand that if my application is unsuccessful, the papers relating to it will be destroyed and cannot be returned.

**I confirm that I have read, understand and agree to the above declarations.**



南京大学

NANJING UNIVERSITY



Undergraduate Academic Transcript of Nanjing University

No. 201840337 Name: wei xixin ID Card No. 510703200205060028 Gender: Female  
College: School of Astronomy and Space Science Major: Astronomy Length of Schooling: 4

Code	Course	Credit	Grade	Remark	Code	Course	Credit	Grade	Remark
2020-2021-1					2022-2023-1				
00000020	Cultivation of Ideological Morality and Introduction to Law	3	84		00300000	Classics Reading Program	2	91	
00000080A	Situation and Policy	0	85		Compulsory courses' GPA 4.32 Overall GPA of Year 4.40				
00020042A	College English: Reading and Writing I (Tier 2)	2	91		2022-2023-1				
00020052A	College English: Listening And Speaking I (Tier 2)	2	87		00000080E	Situation and Policy	0	96	
00040190	Women's self defense	1	94		21000110	Electrodynamics	3	95	
00050020	Military Skills Practice	1	85		12000110	Quantum Mechanics	4	67	
11100140A	Calculus I (Band One)	5	90		21000050	Observational Astrophysics	4	78.5	
12000010A	Experiments in College Physics (I)	2	91		21000060	Observational Astrophysics Experiment	2	93	
00202350	Topics in Global Change	2	76		21010030	*Fluid Mechanics	3	90	
00399030	Technology of Microstructure Photonics	1	92		78005320	*College German I	2	91.5	
21010330	*Essential Astronomy and Astrophysics	2	90		2022-2023-2				
2020-2021-2					00000080F	Situation and Policy	0	94	
00000010	Basic Principles of Marxism	3	82		21000040	Spherical Astronomy	3	92	
00000080B	Situation and Policy	0	93		21000070	Theoretical Astrophysics	4	87	
00020042B	College English: Reading and Writing II (Tier 2)	2	94		21010310I	*An Introduction to X-ray Astronomy	2	82	
00020052B	College English: Listening and Speaking II (Tier 2)	2	95		21010320	*Hot Spots in Astronomy and Astrophysics	2	89	
00040100A	Badminton (Basic)	1	90		Compulsory courses' GPA 4.19 Overall GPA of Year 4.25				
00050010	Military Theory	2	91		Total Credit: 136				
11100140B	Calculus II (Band One)	5	87		Overall GPA: 4.39 Compulsory Course GPA: 4.35				
22000010	Basics of Programming	3	90		Graduation Certification Number: —				
12000010B	Experiments in College Physics(II)	2	87		Graduation Date: —				
24020010A	University Physics I	4	96		Degree: — Degree Certificate Number: —				
00360090	Appreciation of Chinese Painting and Calligraphy	2	94		* is added before option courses.				
21010290	*Quest for Astronomy	2	87						
37100250	*Identification of Chinese Jade Wares	2	92						
37100890	*About the Forbidden City (MOOC)	1	96						
Compulsory courses' GPA 4.47 Overall GPA of Year 4.47									
2021-2022-1									
00000041	Chinese Modern History Outline	3	83.6						
00000080C	Situation and Policy	0	95						
00040280A	Yoga (Basic)	1	87						
11100140C	Linear Algebra (Band One)	3	83						
21000120	Classical Mechanics	4	88						
24020010B	University Physics II	4	83						
21000010A	General Astronomy	4	88						
21000020	Experiments in General Astronomy	1	93						
21000090	Atomic physics	2	96						
00321460	A History of World Architecture	2	92						
00372030	The British Novel	1	99						
21010550	*Probability and Mathematical Statistics	3	99						
24000010	*Course Guided by Famous Teachers	2	89						
37100900	*The Art of Dunhuang (MOOC)	1	98						
2021-2022-2									
00000030A	Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	3	83						
00000030B	Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	2	84						
00000080D	Situation and Policy	0	91						
00040230A	Sports Dance (Basic)	1	92						
12000050	Optics	3	84						
24000070	Mathematical Methods for Physics	3	99						
21000010B	General Astronomy	3	76						
21000030	Fundamental Celestial Mechanics	3	87						
21000100	Statistical Physics	4	86						

北京工业大学

校 印

成续学历审核专用章



page 1 of 1

print date: 2023-9-25

地址: 中国江苏省南京市栖霞区仙林大道163号 邮编: 210023 电话: 86-25-89683186  
Address: 163 Xianlin Avenue, Qixia District, Nanjing, China, 210023 Tel: 86-25-89683186





南京大学

NANJING UNIVERSITY

南京大学本科学生成绩单



学号: 201840337

姓名: 魏子欣

身份证号: 510703200205060028

性别: 女

院系: 天文与空间科学学院

专业: 天文学

学制: 4

课程号	课程	学分	成绩	备注	课程号	课程	学分	成绩	备注
2020-2021-1									
00000020	思想道德修养与法律基础	3	84		00000080F	形势与政策	0	94	
00000080A	形势与政策	0	85		21000040	球面天文	3	92	
00020042A	大学英语读写(第二层次)(一)	2	91		21000070	理论天体物理	4	87	
00020052A	大学英语视听听说(第二层次)(一)	2	87		210103101	X射线天文学导论	2	82	
00040190	女子防身术	1	94		21010320	天文与天体物理学中的热点问题	2	89	
00050020	军训	1	85		学位课程学年平均学分绩 4.19 所有课程学年平均学分绩 4.26				
11100140A	微积分I(第一层次)	5	90		总学分数: 136				
12000010A	大学物理实验(一)	2	91		全部课程平均学分绩: 4.39 学位课程平均学分绩: 4.35				
00202350	全球变化	2	76		全国英语统考成绩: —— 江苏省计算机统考成绩: ——				
00399030	“科学之光”——微结构光子技术	1	92		毕业审查结果: —— 毕业证书号码: ——				
21010330	初等数理天文	2	90		授予学位: —— 学位证书号码: ——				
2020-2021-2									
00000010	马克思主义基本原理概论	3	82						
00000080B	形势与政策	0	93						
00020042B	大学英语读写(第二层次)(二)	2	94						
00020052B	大学英语视听听说(第二层次)(二)	2	95						
00040100A	羽毛球初级	1	90						
00050010	军事理论与军事高科技	2	91						
11100140B	微积分II(第一层次)	5	87						
22000010	程序设计基础	3	90						
12000010B	大学物理实验(二)	2	87						
24020010A	大学物理(上)	4	96						
00360090	中国书画鉴赏	2	94						
21010290	天文探秘	2	87						
37100250	中华玉器鉴赏	2	92						
37100890	智慧树在线课程: 走进故宫	1	96						
学位课程学年平均学分绩 4.47 所有课程学年平均学分绩 4.47									
2021-2022-1									
00000041	中国近现代史纲要	3	83.6						
00000080C	形势与政策	0	95						
00040280A	瑜伽初级	1	87						
11100140C	线性代数(第一层次)	3	83						
21000120	理论力学	4	88						
24020010B	大学物理(下)	4	83						
21000010A	普通天文学	4	88						
21000020	普通天文学实习	1	93						
21000090	原子物理	2	96						
00321460	世界建筑史	2	92						
00372030	在线课程: 英国小说	1	99						
21010550	概率论与数理统计	3	99						
24000010	名师导学	2	89						
37100990	智慧树在线课程: 敦煌的艺术	1	98						
2021-2022-2									
00000030A	毛泽东思想和中国特色社会主义理论体系概论(理论部分)	3	83						
00000030B	毛泽东思想和中国特色社会主义理论体系概论(实践部分)	2	84						
00000080D	形势与政策	0	91						
00040230A	体育舞蹈初级	1	92						
12000050	光学	3	84						
24000070	数学物理方法	3	99						
21000010B	普通天文学(下)	3	76						
21000030	天体力学基础	3	87						
21000100	统计物理	4	86						
00300000	悦读经典计划	2	91						
学位课程学年平均学分绩 4.32 所有课程学年平均学分绩 4.40									
2022-2023-1									
00000080E	形势与政策	0	96						
21000110	电动力学	3	95						
12000110	量子力学	4	67						
21000050	实测天体物理	4	78.5						
21000060	实测天体物理实验	2	93						
21010030	流体力学	3	90						
78005320	大学德语 I	2	91.5						

大学本部

成续学历审核专用章

第1页

打印日期:



第1页 共1页

打印日期: 2023-9-25

2022-2023-2

地址: 中国江苏省南京市栖霞区仙林大道163号 邮编: 210023 电话: 86-25-89683186

Address: 163 Xianlin Avenue, Qixia District, Nanjing, China, 210023 Tel: 86-25-89683186



# Academic reference for Miss Zixin Wei

## MASt in Astrophysics

### Referee Details

<b>Name</b>	Professor Yong Shi	<b>Job title</b>	Professor
<b>Email</b>	yong@nju.edu.cn	<b>Department</b>	Astronomy and Space Science Department
<b>Phone</b>		<b>Institution</b>	Nanjing University
<b>Relationship</b>	advisor for a research project	<b>City</b>	Nanjing
<b>Known for</b>	3 years	<b>Country</b>	China

### Reference

<b>Academic ranking</b>	Among the top 10% in year (i.e., in the top 4 if the group size was 40) 50 students
<b>Student potential</b>	Displays some originality/creativity/independence of thought
<b>Course suitability</b>	Very Suitable

Reference provided as uploaded file. Please see the next page.

Yong Shi  
Professor  
Astronomy and Space Science Department, Nanjing University  
Email: [yong@nju.edu.cn](mailto:yong@nju.edu.cn)

2023.10.17

To whom it may concern,

I am writing to endorse Zixin Wei, an excellent student majoring in the School of Astronomy and Space Science at Nanjing University, who is seeking your Ph.D. program.

Zixin's academic prowess is exceptional, and she exhibited a profound understanding and curiosity during her Innovative Program "Studies of Nearby Galaxies with the Chinese Space Station Telescope". She was the keynote speaker of this program's open and midterm defenses, providing a testament to her comprehensive grasp of the subject. She played a pivotal role in testing Starfish software by improving the Python code and running different grids, which greatly enhances the project's efficiency. Moreover, her extensive literature research on star formation history, along with her teammates, was instrumental in shaping the project's theoretical understanding.

Throughout this program, Zixin showed that she is a good cooperater, has a solid theoretical foundation and can be a good teammate. She approaches challenges with unbridled optimism and demonstrates a commitment to her studies.

I am confident that Zixin Wei possesses the qualities and capabilities to excel in your esteemed program. I wholeheartedly endorse her admission to your institution.

Sincerely  
Yong Shi

# Academic reference for Miss Zixin Wei

## MASt in Astrophysics

### Referee Details

<b>Name</b>	Dr Ping Zhou	<b>Job title</b>	Associate Professor
<b>Email</b>	pingzhou@nju.edu.cn	<b>Department</b>	Astronomy and Space Science Department
<b>Phone</b>		<b>Institution</b>	Nanjing University
<b>Relationship</b>	Supervisor	<b>City</b>	Nanjing
<b>Known for</b>	June 2022 to present	<b>Country</b>	China

### Reference

<b>Academic ranking</b>	Among the top 10% in year (i.e., in the top 4 if the group size was 40) All students in current year (around 40 students)
<b>Student potential</b>	Distinctly original/creative/independent of thought
<b>Course suitability</b>	Exceptionally Suitable

Reference provided as uploaded file. Please see the next page.

Ping Zhou  
Associate Professor,  
School of Astronomy and Space  
Science  
Nanjing University  
Nanjing 210046  
Mobile: (+86) 25 8968 1229  
E-mail: [pingzhou@nju.edu.cn](mailto:pingzhou@nju.edu.cn)

Nanjing, October 27, 2023

To whom it may concern,

With this letter, I would like to give my strongest support to Ms. Zixin Wei for her application to the master's program at the University of Cambridge. Zixin Wei is currently a bachelor's student at the School of Astronomy and Space Science at Nanjing University.

Zixin has been leading the "Multi-band study of supernova remnants in the center of M31" under my advice since June 2022. I was initially a little bit worried that this one-year program might be hard to complete for an undergraduate with intense college courses. The program requires not only programming and data analysis skills, but also physical understanding of the interstellar medium and supernova remnants. But Zixin has completed his tasks excellently with surprising enthusiasm. She is a quick learner and follows instructions without hesitation. In this project, she used the PPAK optical imaging spectroscopic data to study the supernova remnants in the center of M31, especially for the remnant Bruan 101. She obtained the distribution and spectral parameters of optical emissions, showing that the interaction with an inhomogeneous medium causes the aspherical morphology of Braun 101 in multi-wavelength. To derive the shock and gas parameters, she learned the plasma modeling code MAPPING V without much guidance from others and successfully ran shock models to explain the observed optical lines. She made good progress in the research project, by finding a likely core-collapse supernova origin of Braun 101. This is an interesting and unexpected result, as it hints at recent star formation in the central 500 pc of M31. The results were presented (poster) by Zixin at the "Supernova Remnants and the Interstellar Medium" conference held in Suzhou, China, in July. She is writing a paper based on the research results.

Zixin has a pleasant personality and is a nice member of the team. In the "Supernova Remnants and the Interstellar Medium" conference, she volunteered to help with the organization and practical issues. She also helped other students who needed help in optical observations: She joined a CFHT proposal (accepted) on the supernova remnant in M31 as the first co-I, contributing to writing part of the proposal and adding figures about parameter diagnosis with optical lines. Zixin actively joins my group meetings with graduate students and shares papers that she recently read from arXiv.

All these academic activities and performances illustrate her strong potential, ability, and enthusiasm for Astrophysics research. Zixin is an outstanding undergraduate, and I highly recommend her without any hesitation.

Sincerely,

周平

Ping Zhou

## Response Summary:

Institute of Astronomy

### Important: please read before continuing

In this form, you will be asked a series of questions to help us gather information about your **previous** university study. The questions relate to your previous study, not the course that you are currently applying to. Depending on department procedures, relevant contextual data may have a small impact on some funding opportunities, so if your application is eligible for University funding, we encourage you to fill in this form.

You will be given the opportunity to tell us about any events or circumstances that have had an impact on your education, and limited your ability to perform in your studies. **You do not need to provide personal or detailed information about these circumstances**, we only ask you give details of the **impact** that they have had on your studies.

Please only provide the information that you are asked for in the form, and leave the text box blank if you cannot/ do not wish to respond. You should only provide information in the form if you feel comfortable to do so. Your application will not be disadvantaged if you choose not to respond to the questions, and your academic merit will be assessed based on the information you provide in other parts of the application. Once you have completed this form, you will need to download a PDF copy of your answers to upload to the [applicant portal](#). You will be given the option to download the PDF at end of the form, and you will also receive a copy by email. This will be sent to you as soon as the form is submitted.

#### Q2. Your first name:

Zixin

#### Q3. Your surname:

Wei

#### Q16. Your email address:

201840337@smail.nju.edu.cn

#### Q17. Confirm your email address:

201840337@smail.nju.edu.cn

The following questions relate to your experience of studying at undergraduate/ bachelor's level.

#### Q6. Your undergraduate/ bachelor's institution:

Nanjing University

#### Q7. Did you undertake your degree full-time or part-time?

- Full-time

#### Q8. When choosing your university, were there any factors other than grades that you felt limited your choice of institution?

*e.g. not being able to live away from home, financial considerations, concerns about fitting in*

No ,I choose university based on my interest in astronomy and NJU has the best astronomy department in China

#### Q11. Did you have any essential regular commitments that impacted the extent to which you could dedicate yourself to your studies? If so, please explain the impact of this on your studies.

*e.g. caring responsibilities, being a single parent or guardian, employment during studies*

No

**Q12. Did you experience any serious disruption to your studies that prevented you from studying for at least 3 months over the course of a year? If so, please explain the impact of this on your studies. It is not necessary to provide details about the nature of the disruption.**

***e.g. illness, bereavement***

When I was in Grade 11, my father passed away and I left school for about 3 monthes. It affect my study as I cannot focus on due to sadness.

**The following questions relate to your previous experience of university study at all levels (undergraduate and/or postgraduate).**

**Q14. Some students get off to a slower start than others in their studies, and later show an upward progression in their marks.**

**Were there any circumstances that you feel initially inhibited your academic performance? If so, please provide details of the impact on your studies, and the change in circumstances that allowed you to improve your performance.**

When I first got in touch with academic research, I felt not well as I was quite slow when reading publications. However, my colleagues quickly adapted to it and they were all faster than me. I was quite nervous at that time and wondered whether I was suitable for scientific research. I then changed my mind and tried not to think about others' processes, just focus on myself. Then with detailed reading, I marked out what I didn't understand and tried to understand them by searching on the Internet and communicating with my colleagues and tutor. I finally overcame this difficulty and acquired the knowledge needed. I did a great job and found scientific research interesting.

**Q15. Please use the space below to let us know about anything else that has had an impact on your studies or educational pathway. You might like to explain any incomplete qualifications or course changes.**

My journey into the realm of astrophysics began with capturing a picture of the Milky Way. In high school, I joined the Astronomy Enthusiasts club we held some events to observe the Milky Way through our telescope. Beside, I always heard from the whole society say girls are not suited to learn science but are suited to learn liberal arts I then realized it is a kind of discrimination against girls as no one said that in the days of the imperial examinations to become officials, liberal arts were the way to get ahead for men while now learning science is more lucrative. To pursue my interest, as well as to prove myself I worked hard and kept good grades in senior high. I finally enrolled in Nanjing University's esteemed Astronomy and Space Science Department.

---

**Embedded Data:**

N/A



# ZIXIN WEI

wzxkk@smail.nju.edu.cn | +(86)15881601316

## EDUCATION

**BSc Astronomy | Nanjing University (Project 985), China** 2020 – 2024 (Expected)

**GPA:** 4.39/5.00 (87.9/100)

**Core Courses:** Theoretical Astrophysics, Experimental Astrophysics, Spherical Astronomy, Fundamental Astronomy Internship, Fundamental Celestial Mechanics, Statistical Physics, Atomic Physics, Electrodynamics, Fluid Mechanics, Methods in Mathematical Physics

## ACADEMIC RESEARCH

**Multi-band Study of Supernova Remnant (SNR) Braun 101 at the center of M31 | Nanjing University, China** 2022 – 2023

**Advisors:** Prof. Ping Zhou, Dr. Zong-Nan Li, Prof. Zhi-Yuan Li

- I carried out the optical data analysis of SNRs, and by comparing my optical data with X-ray and radio data, we characterized morphological structures, evolution parameters, and pre-SN activities of SNRs in the center of M31.
- I used Pyraf and Heasoft to deal with data cubes and visualized them in DS9, and then I fitted the spectra using Python code. I calculated the fluxes of optical lines in Braun101 and obtained high ratios of  $[NII]/H\alpha$ ,  $[OIII]/H\alpha$ , and  $[SII]/H\alpha$ . The remarkably large  $[NII]/H\alpha$  indicated an N-enrichment by progenitor wind. Now, I am using the software MAPPINGS V to simulate conditions and some properties.
- Displayed a poster on the Scientific Symposium of Supernova Remnants and Interstellar Medium, a publication is in prep.

**Small Scale Pre-Study of Galaxies With The China Space Station Telescope | Nanjing University, China** 2021 – 2022

**Advisors:** Dr. Xin Li, Prof. Yong Shi

- Wrote Python code to test the star formation history simulation software and debugged using public Hubble Space Telescope data.
- Conducted literature research and developed an understanding of the relationship between star formation history and age at different metallicity and improved the integration of photometric data into the SFH prediction process.
- This project received a provincial Innovation University Students Project. I was the keynote speaker for open and midterm defenses and helped our team receive a provincial Innovation University Students Project.

## TECHNICAL SKILLS

**Programming:** Python, C, C++, MATLAB

**Astronomical Data Analysis:** DS9, Fv tools, Erosita, Pyraf, Heasoft, Mappings, Ciao

**Text Tools:** Word, LATEX

## ACADEMIC ACTIVITIES

**Scientific Symposium on Supernova Remnants and the Interstellar Medium** 2023

- Displayed a poster: “Multi-band Study of Supernova Remnant Braun 101 in the Center of M31” to show my latest research results

- Helped to organise check-in

### **Peking University CSST Galactic Science Summer Camp**

**2022**

- The outstanding camper
- Learned how to use some simulation and data analysis software

### **Co-investigator of CFHT observation proposal**

**2023**

- Determined the right observing time and wrote part of the proposal “Optical Spatial Spectroscopy on Hypernova Remnant Candidate BA 1-23
- Collection of reference pictures and papers

## **VOLUNTEER ACTIVITIES**

---

### **Assistant Minister, Academic Division, Student Council of Astronomy and Space Science**

**2021 – 2022**

- Organize a weekly academic seminar and an experience-sharing session
- Participated in the organization of a fellowship

## **SCHOLARSHIPS**

---

- |  |      |
|--|------|
| • NJU Talent Training for Basic Science Scholarship (Second Class, value: CNY4000)             | 2023 |
| • People’s Scholarship (Third Class, value: CNY1000)   | 2023 |
| • NJU Talent Training for Basic Science Scholarship (Second Class, value: CNY4000)             | 2022 |
| • People’s Scholarship (Third Class, value: CNY1000)   | 2022 |
| • National Astronomical Observatories Chinese Academy of Sciences Scholarship (value: CNY3000) | 2022 |
| • NJU Talent Training for Basic Science Scholarship (Second Class, value: CNY4000)             | 2021 |
| • People’s Scholarship (Second Class, value: CNY2000)  | 2021 |
| • Yang Yongman Scholarship (value: CNY2000)  | 2021 |