

Postgraduate Application Form



Zhang, Mr Erpan (*Erpan*)

Course

MASt in Astrophysics (MASAS)

Department

Institute of Astronomy

Course start date

01 Oct 2024 (MT 2024)

Date submitted

26 Oct 2023

Mode of study

Full Time

PUF

No

Academic History

Sep 2021 - Jul 2024
(Not yet obtained)

BSc (Hons) in Astrophysics (School of Physics & Astronomy) - All or mostly full-time

1st degree

The University of Edinburgh (*United Kingdom*)

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 hold a Student visa

Language

I have recently studied for 3 years (ending within the last 2 years) at a level equivalent to a UK Bachelor degree in a list A country.

Scholarships

Apply for funding

No

Curriculum Vitae

Uploaded

Career Goals

660/1000 chars

I have a clear mind about my future. After completing the Master’s degree, I aspire to seek a research assistant position to engage in astrophysics-related research projects and accumulate experience. Later, I also want to pursue a doctoral degree in this field to explore the unknown areas of the universe. After that, I aim to work as a lecturer and researcher in a college, where I can dedicate myself to making breakthroughs in research on different astrophysical phenomena, such as gravitational wave astronomy or high-energy astrophysics, as well as nurture talents in this field to exert a lasting impact on the exploration and development of astronomy.

Additional Information to Support Application

932/1000 chars

Through diverse tasks in courses, I’ve cultivated my research skills. In Computer Modeling, I independently completed the dynamics simulation of the eight planets of the solar system, the Moon and Halley’s Comet with Python. I tried many computing methods and selected the best one. My simulation verified the correctness of Kepler’s Third Law and confirmed the perihelion, aphelion and period of celestial bodies, which deepened my understanding of their dynamic tracks. In the Telescope Group Project, we used a 20-inch telescope to observe and measure the shape, mass, period and luminosity of the asteroid 5111 Jacliff, and derived the measurements by combining the obtained data with literature values. The difficulty remains that the change of cloud height and wind speed will affect the observed results. Therefore, I held meetings and discussed with the supervisor to decide the observation period to guarantee its accuracy.

Course Specific Questions

Core - statement of interest

My research interest lies in gravitational wave astronomy, which offers me a new angle to probe into the depths of the universe. I am curious about the properties of black holes and neutron stars, as well as how they are distributed in the universe. Besides that, dark matter and dark energy are the unsolved mysteries in the universe. I found the knowledge of gravitational wave astronomy could help me better observe and explore the cosmos and eventually understand the evolution and shape of the universe. Since LIGO detected gravitational waves in 2015 for the first time, people have made great strides in this field. However, people are still facing many challenges, such as discovering and understanding intricate gravitational waves and improving the sensitivity of detectors. I wish to dedicate myself to conquering these challenges.

Core - reasons for applying

Driven by my passion for exploring the mystery of the universe, I chose Astrophysics as my undergraduate major. With the deepening of my studies, I was more curious about how scientists explored the universe and brought these discoveries to us. Till now, I’ve been equipped with the theories and scientific methods to observe celestial bodies, explain astronomical phenomena, and conduct research. Moreover, my visit to the CERN in Switzerland made me aware that physics constantly evolved, and my existing knowledge was limited to fulfilling advanced research tasks. There, I came to know cutting-edge physics concepts and their applications. The opportunities to closely observe the equipment and technologies used in particle physics research excited me. Such an experience that went far beyond textbooks confirmed my mind to explore astrophysics further, delving into the unknown realms of the universe and developing new techniques to underpin future astrophysics research.

Astronomy - Extra Materials WP

Uploaded

Application Information		
Academic Awards		
Pre-Honours Certificate of Merit	academic excellence	31 Dec 2022
Margaret Campbell Scott Entrance Scholarship	academic excellence	31 Jan 2023
Employment History		
Jul 2023 - Aug 2023	Intern	Wuhan Richcoburg Automation Co., Ltd (Wuhan, China)
Other Applications Made		
No other applications entered		

Personal Information

Identifying Information

Full name

Zhang, Mr Erpan (*Erpan*)

Date of birth

14 Jan 2001

Previous name

Legal gender

Male

Contact

Email

zhangerpan114@163.com

Phone

8613720395755 (1st)

Skype address

Contact address

701-2-X3 Huayangnianhuajun, Renhe Road, Hongshan District, Wuhan, Hubei, 430076, China

Home address

Same as contact address

Valid until

01 Oct 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 hold a Student visa

Study Visas

Applicant previously

STUDIED in the UK

Visa type

Student Visa (including Tier 4)

Start date

10 Aug 2021

Qualification level

Scottish Level 10: Undergraduate Honours Degree, Graduate Diploma

End date

31 Dec 2024

Funding Application

Not wish to apply for any funds

I have personal finances/intend to take out a loan that will cover my course fees and living costs

Mastercard Foundation

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.



Information identifying the holder of the qualification

Full Name: Erpan Zhang
 Date of Birth: 14 January 2001
 Matric / HUSID Number: S2221330 / 2111670097301

(HUSID (HESA Unique Student Identifier) is the unique identifying number for students registered at a UK university. It is defined by the UK's Higher Education Statistics Agency)

Information identifying the qualification

The qualification has not yet been awarded, the student is studying Astrophysics (BSc Hons)

(The power to award degrees is regulated by law in the UK.)

Main field(s) of study for the qualification: Astrophysics

Name and status of awarding institution: The University of Edinburgh

(The University of Edinburgh is a recognised body granted powers by the Privy Council to award degrees.)

Language(s) of instruction/examination: English

Information on the level of the qualification

Official length of programme: 4 Years

Access requirement(s): Detailed information regarding admission to the programme is available in the University's [Prospectus](#)

Information on the contents and results gained

Mode of study: Full-time

Programme requirements: Information not available. Please contact relevant School using the details in 'Further Information Sources'

Further Information Sources

Further information sources: <http://www.ph.ed.ac.uk>

Any enquiries regarding the above should be addressed to: School of Physics, University of Edinburgh, James Clerk Maxwell Building, King's Buildings, Mayfield Road, Edinburgh, EH9 3JZ; Tele: +44 (0) 131 651 7067; Web:

<http://www.ph.ed.ac.uk>; email: info@ph.ed.ac.uk

Further information regarding the University of Edinburgh HEAR: <http://www.ed.ac.uk/schools-departments/student-administration/other-info/overview>

This Higher Education Achievement Report incorporates the model developed by the European Commission, Council of Europe and UNESCO/CEPS for the European Diploma Supplement. The purpose of the report is to provide sufficient recognition of qualifications (diplomas, degrees, certificates etc). It is designed to provide a description of the nature, level, context and status of the studies that were purposed and successfully completed by the individual named on the original qualification to which this report should be appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should be given.

Programme details, and the individual grades/marks/credits obtained

Programme Start Date: 20 September 2021

This is an interim transcript, the student is currently studying Astrophysics (BSc Hons)

Academic Year	Code	Name	Mark	Grade	Result	SCQF Level	No. of attempts	Credits Achieved*
2021/22	PHYS08041	Algebra and Calculus	76	A3	P	08	1	20
2021/22	PHYS08043	Dynamics and Vector Calculus	75	A3	P	08	1	20
2021/22	PHYS08044	Classical and Modern Physics	76	A3	P	08	1	20
2021/22	PHYS08046	Physics of Fields and Matter	69	B	P	08	1	20
2021/22	PHYS08050	Introductory Astrophysics	87	A2	P	08	1	20
2021/22	PHYS08056	Experimental Physics 2	79	A3	P	08	1	20
								Sub Total: 120
2022/23	PHYS09053	Quantum Mechanics	74	A3	P	09	1	20
2022/23	PHYS09055	Fourier Analysis and Statistics	72	A3	P	09	1	20
2022/23	PHYS09056	Research Methods in Physics	66	B	P	09	1	10
2022/23	PHYS09057	Computer Modelling	67	B	P	09	1	10
2022/23	PHYS09059	Observational Astronomy	59	C	P	09	1	20
2022/23	PHYS09061	Thermal Physics	73	A3	P	09	1	20
								Sub Total: 100
* 1 European Credit Transfer Scheme (ECTS) credit = 2 University of Edinburgh credits								Total: 220

Exempt from 3 Unnamed Subjects (Previous Study) – 120 Credits at Level 8

Additional Information

Prizes and Medals:

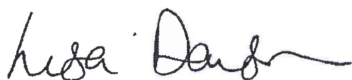
2021/22: Awarded the Margaret Campbell Scott Scholarship

2021/22: Awarded the Year 2 Certificate of Merit for MPhys Astrophysics

Additional Recognised Activities: None recorded

Additional Notes: None recorded

Certification:



Lisa Dawson, Academic Registrar

Grading Scheme

Grade Expectations: <https://www.ed.ac.uk/student-systems/support-guidance/admin-support-staff/student-admin-colleges-schools/assessment-hub/recording-of-course-assessment-results-within-eucl>

Grades followed by 'A' = Fail (Credits Awarded on Aggregation)

Grades 'ES' and 'PS' = fail result of 38 or 39 but pass and credits awarded due to special circumstances

Grade CD = Course delivery disrupted, awarded on aggregate

Common Marking Scheme from 2005/2006

With effect from Academic Session 2005/2006, the marking scheme for undergraduate degree examinations in all Schools is as follows, except for the Royal (Dick) School of Veterinary Studies and the M.B.,Ch.B. curriculum in the College of Medicine and Veterinary Medicine.

HONOURS		NON HONOURS		
Honours Class	Mark (%)	Grade	Description	
I	90–100	A1	Excellent	
I	80–89	A2	Excellent	
I	70–79	A3	Excellent	
II.1	60–69	B	Very Good	
II.2	50–59	C	Performance at a level showing the potential to achieve at least a lower second class honours degree	
III	40–49	D	Pass, may not be sufficient for progression to an honours programme	
Fail	30–39	E	Marginal Fail	
Fail	20–29	F	Clear Fail	
Fail	10–19	G	Bad Fail	
Fail	0–9	H	Bad Fail	

Bachelor of Veterinary Medicine and Surgery (BVMS), Royal (Dick) School of Veterinary Studies

70–100 = A (Excellent); 60–69 = B (Very Good); 55–59 = C (Good); 50–54 = D (Satisfactory); 46–49 = E (Marginal Fail); 35–45 = F (Clear Fail); 0–34 = G (Bad Fail)

BVMS is a Masters level degree and is not classified into any other GPA or similar system. Due to differences in examining systems, it is rare for students to receive a mark greater than 80% with 70% or greater equating to a distinction.

Postgraduate Extended Common Marking Scheme (with effect from Academic Session 2005/2006)

Mark (%)	Grade	Description
90–100	A1	An excellent performance, satisfactory for a distinction
80–89	A2	An excellent performance, satisfactory for a distinction
70–79	A3	An excellent performance, satisfactory for a distinction
60–69	B	A very good performance
50–59	C	A good performance, satisfactory for a master's degree
40–49*	D	A satisfactory performance for the diploma, but inadequate for a master's degree
30–39**	E	Marginal Fail***
20–29	F	Clear Fail***
10–19	G	Bad Fail ***
0–9	H	Bad Fail***

* Assessment of the dissertation: A mark of 47–49 may be used to denote the possibility that by minor revision the work may be upgraded to a Masters standard.

** Assessment of the dissertation: A mark of 37–39 may be used to denote the possibility that by minor revision the work may be upgraded to a diploma standard.

*** Assessment of the dissertation: In those programmes where a diploma may be awarded for the taught component only, a failed dissertation may be put aside for the diploma.

Information on the National Higher Education System

Description of Higher Education in Scotland

Scotland's distinctive higher education system has 20 higher education institutions (HEIs). The 14 Universities, the Open University in Scotland, 2 colleges of higher education, 2 art schools and a conservatoire are part-funded for research, teaching and learning through the Scottish Funding Council.

The HEIs are independent, self-governing bodies, active in teaching, research and scholarship. They decide the degrees they offer; the conditions on which they are awarded and the admissions arrangements. Degrees and other higher education qualifications are legally owned by the awarding institution, not by the state. The HEIs offer qualifications at undergraduate (Bologna first cycle) and postgraduate (Bologna second and third cycle) levels. In Scotland, the law distinguishes the power to award degrees on the basis of completion of taught programmes from the power to award research degrees. Universities have powers to award taught and research degrees. Some other HEIs have powers to award degrees while others offer programmes leading to degrees awarded by HEIs with degree powers.

Lists of institutions with powers toward degrees and institutions recognised by authorities in Scotland as being able to offer courses leading to a degree of another HEI may be found at (<http://www.univisities-scotland.ac.uk>). A small number of degrees are available in colleges of further education by the authority of a duly empowered HEI.

Qualifications

The types of qualification awarded at the undergraduate (first cycle) and postgraduate level (second and third cycles) in Scotland are described in the Framework for Higher Education qualifications in Scotland which includes qualifications descriptors, developed with the higher education sector (<http://www.qaa.ac.uk>). The Framework is an integral part of a wider national framework: the Scottish Credit and Qualifications Framework that covers all forms of programmes and qualifications from School to Doctorates (see table 1 and <http://www.scqf.org.uk>). Institutions use SCQF credit points for students entering or transferring between programmes or institutions, and use ECTS for transfers within the European area.

Admission

Requirements for particular programmes are set by the HEIs which offer a range of routes for entry and/or credit transfer into their programmes, and admit students whom they believe have the potential to complete their programmes successfully. The Open University is an open entry institution. The most common qualification for entry to higher education is the Higher or Advanced Higher or, for entrants from the rest of the U.K., the General Certificate of Education at 'Advanced' level (including the "advanced supplementary") or comparable qualifications. Four or five Highers are normally taken in the 5th and 6th year of secondary school or at college or further education and studied in considerable depth, involving coursework and final examinations. Advanced Highers are taken in the 6th year. A major route into Degrees, often with transfer of credit, is the higher National Qualifications offered in colleges or further education.

Quality Assurance

Standards of qualification and the quality of the student learning experience are maintained by the HEIs using a range of processes including extensive use of external examiners. In some subject areas, Professional and Statutory Bodies have a role to ensure that programmes meet the needs and standards of the particular profession. HEIs in Scotland demonstrate their public accountability for quality and standards through a national quality and standards through a national quality assurance framework that has a strong focus on enhancement as follows: HEIs take account of a QAA published U.K.-wide code of practice for quality assurance, and U.K. subject level 'benchmark' statements on standards (see <http://www.qaa.ac.uk>). Subject level issues are addressed by HEIs internal reviews conducted in accordance with guidance issued by the Scottish Funding Council (SHEFC) (see <http://www.scf.ac.uk>). External reviews are conducted by the Quality Assurance Agency for Higher Education in Scotland (QAA). The Agency is an independent body established to provide public confidence in the quality and standards of higher education. It involves students in its quality enhancement activities. The Agency publishes reports on the outcomes of reviews and the confidence that can be placed in the HEIs' arrangements for assuring and enhancing standards and quality, and for ensuring that they provide public information that is complete, accurate and fair (see <http://www.qaa.ac.uk>). A national development service supports students in their role as active participants in assuring and enhancing quality and standards (see <http://www.sparqs.org.uk>).

Table 1: The Scottish Credit and Qualifications Framework (SCQF)

The SCQF covers all the major qualifications in Scotland from school to Doctorate and including work based Scottish Vocational Qualifications (SVQs)

SCQF Level	Qualifications of Higher Education Institutions	SQA Higher National and National Units, Courses and Group Awards	SVQs
12	Doctoral Degrees (Minimum 540 SCQF credits)	–	–
11	Masters Degrees (Minimum 180 SCQF credits) Postgraduate Diploma (Minimum 120 SCQF credits) Integrated Masters Degrees (Minimum 600 SCQF credits)	–	SVQ 5
10	Bachelors Degree with Honours (Minimum 480 SCQF credits) Graduate Diplomas and Certificates	–	–
9	Bachelors Degree (Minimum 360 SCQF credit) Graduate Diplomas and Certificates	–	–
8	Diploma of Higher Education (Minimum 240 SCQF credits)	Higher National Diploma	SVQ 4
7	Certificate of Higher Education (Minimum 120 SCQF credits)	Advanced Higher Higher National Certificate	–
6	–	Higher	SVQ 3
5	–	Intermediate 2 Credit Standard Grade	SVQ 2
4	–	Intermediate 1 General Standard Grade	SVQ 1
3	–	Access 3 Foundation Standard Grade	–
2	–	Access 2	–
1	–	Access 1	–

Notes

- SCQF levels represent increasing complexity and demand in learning outcome.
- One credit represents the outcomes achievable by the average through 10 notional hours of learner effort. In general terms, one full-time undergraduate year is considered to be 120 credits worth of learning. A postgraduate year is 180 credits. 1 ECTS credit is deemed equivalent to 2 SCQF credits. Research degrees – Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) are not credit rated.
- Graduate Certificates (minimum of 60 SCQF credits) and Graduate Diplomas (minimum of 120 credits) are offered at levels 9 and 10 within the SCQF framework. They are offered for programmes that are for graduates but do not have outcomes that are at postgraduate level.
- The Bachelors Degree (level 9) leads to employment and in some instances can give access to postgraduate study particularly when accompanied by relevant work or professional experience.
- At Postgraduate levels, the framework and the higher education qualifications are the same as those for the rest of the UK. The Honours Degree levels of the frameworks are considered to be in broad alignment (the Honours Degree in Scotland normally takes 4 years and that in the rest of the UK takes 3 years). Below Honours level the frameworks reflect the different educational structures of Scotland and the rest of the UK.
- Scotland has a distinctive higher education system and also operates under a devolved government, including for higher education. There is a separate Description of Higher Education in England, Wales and Northern Ireland where the system is different to that of Scotland.
- This national description is endorsed by the Quality Working Group which is a national committee with members from The Quality Assurance Agency for Higher Education, Scotland; The Scottish Funding Council; Universities Scotland and the National Union of Students in Scotland.

Description of the University of Edinburgh

The University of Edinburgh was founded in 1583, and has 22 Schools in 3 Colleges: Humanities and Social Science, Medicine and Veterinary Medicine and Science and Engineering. It offers more than 300 degree programmes to its approximately 29,000 students. It is one of around a hundred universities in the United Kingdom and of 14 in Scotland. Higher Education, including universities, within Scotland is the responsibility of the Scottish Parliament, which has powers devolved from the U.K. Parliament.

The University is an independent, self-governing body that is active in both teaching and research. Its mission is the advancement and dissemination of knowledge and understanding. (See <http://www.planning.ed.ac.uk/Strategic-Planning/MissionStatement.htm> for fuller details of the University's mission and plan). Like all universities in the UK, its degrees are its own responsibility, not that of the State. The University is funded from a variety of sources, including a block grant from the Scottish government, academic fees, research grants, and other sources.

About 4,500 students graduate every year with a Bachelors degree with honours and after four-years of study. For long-standing historical reasons, many degrees at this level in humanities subjects are designated Master of Arts. There are also some "undergraduate masters degrees" in science subjects that require five years of study and take students to a postgraduate level of achievement without their having achieved an intermediate bachelors degree. The outcome of these honours degrees is quoted in terms of the "classification" of the degree: first (the highest), upper second, lower second, or third. Some students graduate with a non-honours "ordinary" degree, which is not classified, although a transcript showing their marks is available. This system is common to all the universities in the UK.

About 2,000 students each year graduate with postgraduate degrees, generally designated as Master or Doctor. These degrees are not classified.



The University of Edinburgh

Certification of Matriculation

This is to certify that the person named below is currently studying for the Programme stated below:

Academic Year	2023/24
Full Name	Erpan Zhang
UUN/Instance	S2221330/1
Programme of Study	Astrophysics (MPhys)
Mode of Attendance	Full-time
Enrolment Status	Fully matriculated
Year of Programme	4
Year of Study	3
Start Date	20/Sep/2021
Expected End Date	31/Jul/2025

Academic Sessions

Academic Year	Programme of Study	Mode of Attendance	Enrolment Status	Year of Programme	Year of Study
2023/24	Astrophysics (MPhys)	Full-time	Fully matriculated	4	3
2022/23	Astrophysics (MPhys)	Full-time	Fully matriculated	3	2
2021/22	Astrophysics (MPhys)	Full-time	Fully matriculated	2	1

Lisa Dawson, Academic Registrar

To verify this document email us at infopoint@ed.ac.uk. More information about our services is available at <https://www.ed.ac.uk/student-administration/student-info-points>

Date of issue: 19/Sep/2023

Academic reference for Mr Erpan Zhang

MASt in Astrophysics

Referee Details

Name	Dr Sergey Kopusov	Job title	Reader
Email	sergey.kopusov@ed.ac.uk	Department	
Phone		Institution	The University of Edinburgh
Relationship	Tutor	City	Edinburgh
Known for	Sep 2021 to Oct 2023	Country	United Kingdom

Reference

Academic ranking	Among the top 10% in year (i.e., in the top 4 if the group size was 40) Around 20
Student potential	Displays some originality/creativity/independence of thought
Course suitability	Very Suitable

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



October 27, 2023

Dear members of the admissions committee,

First, let me introduce myself. I am currently a Reader in observational astronomy in the University of Edinburgh and also I am a personal tutor (academic advisor) of a cohort of students in the University, which involves registering students for courses, discussing academic and career options, reviewing the student performance.

It is my pleasure to recommend Erpan Zhang for the MAST in Astrophysics programme in Cambridge.

The nature of my interactions with Erpan is quite limited as I am meeting him in the beginning of each semester to assign him to courses with occasional interactions throughout the year.

I can say that Erpan's academic results are very good with average grade at around 80%. Erpan is on the astrophysics degree in the University and so far he has taken a few astronomy courses, such as Observational Astronomy and Introductory Astrophysics where he achieved an average grade of 73%. This year he is also doing a telescope project which is one of the third year courses. For his academic results Erpan received the Margaret Campbell Scott Entrance Scholarship and a Pre-Honours Certificate of Merit.

As an academic tutor I cannot comment on Erpan's critical evaluation skills and aptitude.

I can say that throughout my interactions with Erpan, he was always responsible and pleasant to communicate with. As a non-native speaker, Erpan's language skills are very good, and he would be perfectly suited to MAST Astrophysics in Cambridge.

Feel free to contact me if you have further questions.

With best regards,

A handwritten signature in black ink, appearing to be 'S. Koposov', with a stylized, flowing script.

Sergey E. Koposov
Reader in Observational Astronomy
Institute for Astronomy,
Royal Observatory, Blackford Hill,
Edinburgh, EH9 3HJ, UK
Email: skoposov@ed.ac.uk

Academic reference for Mr Erpan Zhang

MASt in Astrophysics

Referee Details

Name	Dr Christopher Stock	Job title	Professor
Email	c.stock@ed.ac.uk	Department	
Phone		Institution	The University of Edinburgh
Relationship	Taught in third year quantum mechanics.	City	Edinburgh
Known for	2 years	Country	United Kingdom

Reference

Academic ranking	Among the top 10% in year (i.e., in the top 4 if the group size was 40) 150 students
Student potential	Distinctly original/creative/independent of thought
Course suitability	Very Suitable

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



THE UNIVERSITY *of* EDINBURGH
School of Physics & Astronomy

November 1, 2023
James Clerk Maxwell Building,
King's Buildings,
Peter Guthrie Tait Road
EH9 3FD
tel.: +44 (0) 131 651 7066
email: cstock@ed.ac.uk

To Whom It May Concern:,

It is a pleasure to write a reference letter for Erpan Zhang for graduate studies. I have known Erpan through teaching third year Quantum Mechanics at the University of Edinburgh. Erpan was an active participant in the weekly workshops and made a strong effort to understand all problem sets attending workshops and classes. I would rank him in the top 10% of a class of over 150 students and this is consistent with his past performance in other courses he has taken pursuing a Physics degree. I hope Erpan's application is successful as I feel he is strongly deserving. Based on what I have seen in Quantum and his past track record in other courses, I can highly recommend Erpan as an excellent and highly motivated student. He would no doubt approach graduate studies with the same dedication and enthusiasm that he does with his university work.

Please feel free to contact me if you need any further information at the address above.

Sincerely,

Chris Stock
(Professor, School of Physics and Astronomy)

We thank you for your time spent taking this survey.
Your response has been recorded.

Below is a summary of your responses

[Download PDF](#)

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

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.

Your first name:

Erpan

Your surname:

Zhang

Your email address:

zep20010114@gmail.com

Confirm your email address:

zep20010114@gmail.com

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

Your undergraduate/ bachelor's institution:

University of Edinburgh

Did you undertake your degree full-time or part-time?

☒ **Full-time**

☐ Part-time (for any part of the degree)

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

Campus safety, I will check the crime rate for campus and its surrounding area to obtain a sense of security status for each university.

Characters remaining: 865

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

N/A

Characters remaining: 997

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

N/A

Characters remaining: 997

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

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.

I met a lot of abstract terminologies that are challenging to understand (i.e. in quantum and relativity) when I was new to university physics. In addition, I had to juggle lecture, tutorial, lab

projects and coursework for multiple courses. To solve these challenges, I do several things. 1. Preview contents before lecture, and take notes based on my own understanding. When encounter a problem, I search for answer on my own first and then discuss with friends. If no result, I will ask instructor for help. I also actively participate in every tutorial, starting with simple problems and gradually solving more complex problems. This process help me build confidence. 2. Try to explain the abstract concept in my own words. If can explain clearly, it means I understand. And change my way of thinking, try to understand the derivation and arguments behind it, and use mathematical form to understand. 3. Use structured learning and allocate dedicated time to study specific courses and entertainments

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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.

When I just attended university, I did directly entry into 2nd year. I did not adapt to the university teaching and learning method at that time as I still my high school habits, which led to a big resistance, challenge and confusion when studying. To overcome this, I strengthen self-study abilities and time managements(just like mentioned in last section).

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EDUCATION

The University of Edinburgh, UK

09/2021-07/2024

- Program: BSc Astrophysics
- GPA: predicted first class degree Honours
- Final year modules: *Relativity, Nuclear and Particle Physics, Physics Skills, Telescope Group Project, Astrophysics: Stars and Planets, Astrophysics: Galaxies and Cosmology*, etc

Furen International School, Singapore

09/2019-10/2020

- Program: Preparatory Course for Cambridge International (A-level)
- Subjects: Mathematics (A*), Physics (A*), Chemistry (A), Further Mathematics (B), Chinese Language (A)

PROJECTS

Observational Astrophysics (individual)

09/2022-05/2023

Supervisor: Prof. R J McLure, School of Physics and Astronomy

- Measure the overall wavelengths emitted by the element lamp, find the wavelengths of emission lines, and search it in databases to confirm the unknown element in the element lamp;
- Determine the redshift of a quasar by reduction, calibration and analysis from its spectrum to provide valuable data for the study of cosmology

Telescope Group Project (groupwork)

09/2023-04/2024

Supervisor: Prof. Colin Snodgrass, School of Physics and Astronomy

- Observe the asteroid 5111 Jacliff in a group of 5 with a 20-inch telescope;
- Measure its shape, mass, period and luminosity, and compare them with literature data to reach the final measured values;
- Present the research results with experimental reports and presentations.

Computer Modeling (individual)

09/2022-04/2023

Supervisor: Dr. Joe Zuntz, School of Physics and Astronomy

- Conducted dynamics simulation of the eight planets of the solar system, the moon and Halley's Comet with Python to verify the correctness of Kepler's Third Law and confirm the perihelion, aphelion and period of all celestial bodies;
- Tested various computing methods to choose the best one and completed an experimental report.

INTERNSHIP

Wuhan Richcoburg Automation Co., Ltd, China

07/2023-08/2023

- Responsible for data analysis and the optimization of electrical equipment;
- Raised suggestions for improving electrical cabinets.

OTHERS

Achievements: Margaret Campbell Scott Entrance Scholarship; Pre-Honours Certificate of Merit

Languages: Chinese (native); English (proficient) A-level and undergraduate in an English-speaking country

IT Skills: Data analysis; Use Python for: Computer modeling/simulation, Numerical recipes

Interests: Painting; Watching movies; Playing online games; Reading novels