

YEE SHAN (ALEXIS) LAU

ysl204@exeter.ac.uk

EDUCATION

University of Exeter, UK
MPhys Physics with astrophysics
Expected First Class Honours

Sep 2016 - Present

Chichester College, UK
International Foundation Year
English for Academic Purposes (A), Physics (A), Mathematics (A)

Sep 2015 - Jun 2016

RESEARCH EXPERIENCE

Direct Imaging of Exoplanets and Circumstellar Disks
Researcher - Masters' Project

Jan 2019 - Present
University of Exeter

- Developing and applying a pipeline for automated data analysis and candidates search in Python
- Searching and characterising candidates with Python and IDL
- Computing statistical analysis of our imaging survey in Python
- Comparing outcomes from different post-processing algorithms in Python

How magnetic geometries influences the amount of open flux
Researcher

Jun - Sep 2019
University of Exeter

- Built magnetic field geometries by mixing higher order of modes with dipole in C
- Implemented my setup to the existing magneto-hydrodynamics model and produced simulations in C
- Created a pipeline in Python for extracting and analysing data from simulations of stellar wind

Graphene Water Filters
Researcher

Sep 2018 – Sep 2019
University of Exeter

- Produced graphene filters in a laboratory
- Analysed the properties of the filter by Raman Spectroscopy
- One of the top 20 UK team in “UK Global Grand Challenges Student Competition 2019”, organised by the Royal Academy of Engineering

Searching and Analysing Candidates data from a High Contrast Imaging Survey using Keck
Researcher

Sep 2018– Feb 2019
University of Exeter

- Completed image pre-processing for most of the dataset
- Analysed H, K and L band data from W.M. Keck Observatory in Python and IDL
- Improved the structure of the pipeline for image analysis

Calibrating Contrast curve and Processing data from Keck Observatory
Researcher

May – Jul 2018
University of Exeter

- Calibrated contrast curves by performing photometry on the reference star in Python
- Modified existing data analysis pipeline in Python

SKILLS

Programming Languages
Other
Languages

Python, C, IDL, SQL, Matlab, Octave
Latex, MS Office, Photoshop, Lightroom, Unix, Windows
Native: Cantonese; *Fluent:* English and Mandarin

AWARDS

Royal Astronomical Society Undergraduate Research Bursaries for “Calibrating Contrast curve and Processing data from Keck Observatory”

OUTREACH EXPERIENCES

Space:Exe

Sep 2016 – Current

President (2019–2020), Science Officer (2018–2019), Member(2016–)

University of Exeter

- Local Organising Committee of “Space:Exe Space Science and Astronomy Conference” (2018, 2019, 2020)
- Organising and managing scientific projects, e.g. XRT-C, an awarded students’ project for building a 4.5m radio telescope in Cornwall
- Participating in the Sidmouth Science Festival
- Organising community stargazing events
- Speaker of “Space:Exe Space Science and Astronomy Conference” (2018, 2019)

Hong Kong Astronomical Society

Dec 2012 – Sep 2018

Student Volunteer

Hong Kong Astronomical Society

- Local Organising Committee and volunteer of “HKAS Summer Astronomical Camp” (2012 – 2018)
- Organising community stargazing events and sidewalk astronomy
- Interviewed by TVB Hong Kong, talked about life being an astrophysics undergraduate, in “Info of academia without broader: Astronomy”
- Invited to share my experience with student participants, “Life of being astrophysics student and experience from summer research internship”, in 2018
- Speaker of “Hong Kong Space Museum: Astronomical Carnival” (07/2017, 07/2018)

OTHER INTERESTS

Taekwondo, hiking, landscape photography, astrophotography

REFERENCES

Prof Sasha Hinkley

email: S.Hinkley@exeter.ac.uk

Master project supervisor

University of Exeter

Prof Sean Matt

email: S.Matt@exeter.ac.uk

Supervisor of “How magnetic geometries influences the amount of open flux”

University of Exeter

Dr Pablo Loren-Aguilar

email: P.Loren-Aguilar@exeter.ac.uk

Tutor

University of Exeter

Dr Victor See

email: W.See@exeter.ac.uk

Supervisor of “How magnetic geometries influences the amount of open flux”

University of Exeter