

CURRICULUM VITAE OF ZIANG YAN

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Department of Physics and Astronomy
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EDUCATION

University of British Columbia, Vancouver 2017.09-2021.08(expected)

PhD in Physics

Supervisor: Profs. Gary Hinshaw and Ludovic van Waerbeke

Proposed Thesis: *Probing the Universe with Multiple Large-Scale Structure Tracers*

University of British Columbia, Vancouver 2015.07-2017.08

MSc in Astronomy

Supervisor: Prof. Gary Hinshaw

Major Courses GPA: 92/100

Tsinghua University, Beijing 2011.09-2015.07

BSc in Physics

Supervisor: Prof. Charling Tao

Major Courses GPA: 91/100

HONORS AND AWARDS

2020 President's Academic Excellence Initiative PhD Award (UBC)

2018-2022 UBC Four Year Doctoral Fellowship (UBC)

2016 Physics and Astronomy Graduate Scholarship (UBC)

2015 Faculty of Science Graduate Award (UBC)

2014 The outstanding academic scholarship of Guanghua (Tsinghua)

2013-2015 Tsinghua Xuetao scholarship (Tsinghua)

2013-2015 Member Student of Tsinghua Xuetao Physics Program (Tsinghua)

2012 The outstanding academic scholarship of Zheng Geru (Tsinghua)

REFERENCES

Prof. Ludovic van Waerbeke Department of Physics and Astronomy, UBC
waerbeke@phas.ubc.ca

Prof. Gary Hinshaw Department of Physics and Astronomy, UBC
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Prof. Paul Hickson Department of Physics and Astronomy, UBC
hickson@physics.ubc.ca

Prof. Yin-Zhe Ma School of Chemistry & Physics University of KwaZulu-Natal
ma@ukzn.ac.za

COMPUTER SKILLS

Languages Python, Fortran, L^AT_EX, C, IDL

Software & Tools CAMB, Healpix, Treecorr, PolSpice, PYCCL, Tensorflow

RESEARCH EXPERIENCE

Graduate Research Assistant, University of British Columbia	2015.09-present
Undergraduate Research Assistant, Cosmology Group of Tsinghua University	2013.09-2015.08
Summer Research, APC, Paris	2014.07-2014.08
Tsinghua Student Research Training	2012-2013

INTERNATIONAL PROJECT INVOLVEMENT

Chinese Space Station Telescope A proposed space telescope for cosmological surveys	2020-Present
Kilo-Degree Survey A large optical imaging survey in the Southern sky	2019-Present
Cosmology Large Angular Scale Surveyor A ground-based CMB polarization telescope	2017-Present
Primordial Inflation Explorer A proposed space mission to observe CMB polarization	2016-2017

PUBLICATIONS

1. **Yan Z.**, et al., ” *Probing Galaxy Bias and Intergalactic Gas Pressure with KiDS Galaxies-tSZ-CMB Lensing Cross-correlations,*” arXiv:2102.07701
2. **Yan Z.**, Mead A. J., Van Waerbeke L., Hinshaw G., McCarthy I. G., 2020, “*Galaxy cluster mass estimation with deep learning and hydrodynamical simulations,*” 2020, MNRAS, 499, 3445, doi:10.1093/mnras/staa3030, arXiv:2005.11819.
3. **Yan Z.**, Raza N., Van Waerbeke L., Mead A. J., McCarthy I. G., Tröster T., Hinshaw G., “*An analysis of galaxy cluster mis-centring using cosmological hydrodynamic simulations,*” 2020, MNRAS, 493, 1120, doi:10.1093/mnras/staa295, arXiv:1912.06663.
4. **Yan Z.**, Hojjati A., Tröster T., Hinshaw G., van Waerbeke L., “*An Assessment of Contamination in the thermal-SZ Map Using Cross Correlations,*” 2019, ApJ, 884, 139, doi:10.3847/1538-4357/ab40b2, arXiv:1809.09636.
5. Iuliano J., Eimer J., Parker L., Rhoades G., Ali A., Appel J. W., Bennett C., et al., “*The Cosmology Large Angular Scale Surveyor Receiver Design,*” 2018, SPIE, 10708, 1070828, doi:10.1117/12.2312954, arXiv:1807.04167.
6. Harrington K., Eimer J., Chuss D. T., Petroff M., Cleary J., DeGeorge M., Grunberg T. W., et al., “*Variable-delay polarization modulators for the CLASS telescopes,*” 2018, SPIE, 10708, 107082M, doi:10.1117/12.2313614
7. Dahal S., Ali A., Appel J. W., Essinger-Hileman T., Bennett C., Brewer M., Bustos R., et al., “*Design and characterization of the Cosmology Large Angular Scale Surveyor (CLASS) 93 GHz focal plane,*” 2018, SPIE, 10708, 107081Y, doi:10.1117/12.2311812, arXiv:1807.03927.

TALKS AND POSTERS

Talks

- Seminar talk, German Centre for Cosmological Lensing, online, 2020
- Seminar talk, Kavli IPMU, online, 2020
- Talk, CSST telecon, online, 2020

- Talk, KiDS busy week, online, 2020
- Group meeting talk, University of Waterloo, online, 2020
- Group meeting talk, Ohio State University, online, 2020
- Group seminar talk, Stanford University and Ludwig Maximilian University of Munich (adjoint meeting), online, 2020
- Invited seminar talk, Tsung-Dao Lee Institute, online, 2020
- Colloquium talk, University of British Columbia, 2020
- Talk, UBC-SFU-TRIUMF adjoint meeting, TRIUMF, 2020
- Talk, UBC-SFU-TRIUMF adjoint meeting, SFU, 2019
- Invited talk, Institut d'Astrophysique Spatiale, 2019
- Talk, UBC-SFU-TRIUMF adjoint meeting, SFU, 2017
- Workshop report, SSI SLAC Summer Institute, SLAC, 2017
- Group seminar talk, Tsinghua Center for Astrophysics, 2016
- Tsinghua Xuetaang Physics Program Summer Internship Report, Tsinghua University, 2014

Posters

- Galaxy Cluster Mis-centring Analysis with BAHAMAS Simulation (CosmoGold, IAP2019)
- Evaluation of Contamination in the Reconstructed tSZ signal: Taking $\kappa \times y$ as an Example (SSI2017)

WORKSHOPS AND MEETINGS

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| • CosmoGold IAP 2019 Workshop | IAP, Paris, France, 2019.06 |
| • SSI SLAC Summer Institute 2017 Workshop | SLAC, CA, USA, 2017.08 |
| • Frontier Conference in Cosmology | Beijing, China, 2014.06 |

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant

- Introduction to Stars and Galaxies (UBC, 2018 Winter);
- Introductory Physics Laboratory for Engineers (UBC, 2018 Winter);
- Electricity, Light and Radiation (UBC, 2018 Summer);
- Energy and Waves (UBC, 2015 Winter);
- Introductory Physics (UBC, 2015 Winter);

Grader

- Theory of Measurement (UBC, 2020 Winter)
- High Energy Astrophysics (UBC, 2019 Winter)
- Group Theory (UBC, 2019 Winter)
- Cosmology (UBC, 2018 Winter)

Mentorship

Angela Zhou (high-school student): *An investigation of a dark matter-dark energy interaction model to explain discrepancies in Hubble rate measurements.*(2019-present)

OUTREACH

Public talks

- Kick Start the Universe (Three Minute Thesis Competition, UBC, 2017)
- Introduction to Astronomy (Xinhuang No.1 Middle School, Hunan, China, 2015)
- Introduction to Cosmology (Tsinghua Xuetaang Program, 2015)

Book Translation (To Chinese)

- *Gravity: A Very Short Introduction* by Timothy Clifton; ISBN: 9787544392730
- *El sistema solar (The Solar System)* by Joel Gabas Masip; in-print

Other activities

- Writing popular science articles for Chinese social media (2015-2020, with ~ 300 k readings)
- Outreach activity with the Astronomy Club of High School Affiliated to Minzu University, Beijing (2015)
- Volunteer in stargazing activities (organized by the Astronomy Club of Tsinghua University, 2014, 2015)

LANGUAGE SKILLS

Mandarin (first language), English (fluent), Japanese (intermediate), German (intermediate), Cantonese (moderate)