

CURRICULUM VITAE OF ZIANG YAN

yanza15@phas.ubc.ca

Department of Physics and Astronomy
310-6224 Agricultural Road
Vancouver, BC V6T 1Z1
<https://yanzastro.github.io/>

EDUCATION

University of British Columbia, Vancouver 2017.09-(expected)2021.09

PhD in Physics

Supervisor: Profs. Gary Hinshaw and Ludovic van Waerbeke

Proposed Thesis: *Probe 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

RESEARCH EXPERIENCE

Research Assistant, University of British Columbia 2015.09-present

Group Member, Cosmology Group of Peking University 2014.09-2015.07

Undergraduate Research Assistant, THCA 2013.09-2015.08

Summer Research, APC, Paris 2014.07-2014.08

Tsinghua Student Research Training 2012-2013

RESEARCH INTERESTS

Galaxy clusters, large-scale structure, tSZ effect, weak lensing, cross-correlations, application of deep learning

COLLABORATIONS

Cosmology Large Angular Scale Surveyor 2017-Present

Kilo-Degree Survey 2019-Present

PUBLICATIONS

1. **Z. Yan**, et al., "Probing Galaxy and Gas Properties with KiDS Galaxies-tSZ-CMB Lensing Cross-correlations" (In preparation)
2. **Z. Yan**, A. J. Mead, L. Van Waerbeke, G. Hinshaw and I. G. McCarthy, [arXiv:2005.11819 [astro-ph.CO]].

3. **Z. Yan**, N. Raza, L. Van Waerbeke, A. J. Mead, I. G. McCarthy, T. Tröster and G. Hinshaw, Mon. Not. Roy. Astron. Soc. **493** (2020) no.1, 1120-1129 doi:10.1093/mnras/staa295 [arXiv:1912.06663 [astro-ph.CO]].
4. **Z. Yan**, A. Hojjati, T. Tröster, G. Hinshaw and L. van Waerbeke, doi:10.3847/1538-4357/ab40b2 [arXiv:1809.09636 [astro-ph.CO]].
5. J. Iuliano, J. Eimer, L. Parker, G. Rhoades, A. Ali, J. W. Appel, C. Bennett, M. Brewer, R. Bustos and D. Chuss, *et al.* Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 1070828 doi:10.1117/12.2312954 [arXiv:1807.04167 [astro-ph.IM]].
6. K. Harrington, J. Eimer, D. T. Chuss, M. Petroff, J. Cleary, M. DeGeorge, T. W. Grunberg, A. Ali, J. W. Appel and C. L. Bennett, *et al.* Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 107082M doi:10.1117/12.2313614
7. S. Dahal *et al.* [CLASS], Proc. SPIE Int. Soc. Opt. Eng. **10708** (2018), 107081Y [arXiv:1807.03927 [astro-ph.IM]].

TALKS

- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (Astronomy Colloquium, UBC, 2020)
- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (UBC-SFU-TRIUMF adjoint meeting, 2020)
- An analysis of galaxy cluster mis-centring using large scale hydrodynamical simulations (UBC-SFU-TRIUMF adjoint meeting, 2019)
- Galaxy Cluster Mass Estimations with Convolutional Neural Network and BAHAMAS Simulation (Invited talk at Institut d'Astrophysique Spatiale, 2019)
- Estimate the -CIB Contamination in -y Cross Correlation (UBC-SFU-TRIUMF adjoint meeting, 2017)
- Dark Energy as Cosmological Constant (Workshop at SSI2017)
- Brief Introduction to Cosmology (Tsinghua Xuetang Physics Program Talk, 2014)
- Noise Analysis for QUBIC Instrument (Tsinghua Xuetang Physics Program Summer Internship Report, 2014)

WORKSHOPS AND MEETINGS

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

HONORS AND AWARDS

President's Academic Excellence Initiative PhD Award	2020
UBC Four Year Doctoral Fellowship	2018
Physics and Astronomy Graduate Scholarship	2016
Faculty of Science Graduate Award	2015
The outstanding academic scholarship of Guanghua	2014
Tsinghua Xuetang scholarship	2013-2015
Member Student of Tsinghua Xuetang Physics Program	2013-2015
The outstanding academic scholarship of Zheng Geru	2012

LANGUAGE SKILLS

Mandarin (Mother Tongue), English (Proficient), Japanese (Intermediate), German (Daily conversations), Cantonese (Moderate)

COMPUTER SKILLS

Language	Python, Fortran, L ^A T _E X, C, IDL
Software & Tools	IRAF, CAMB, Emacs

OTHER EXPERIENCE

Teaching Assistant

Introductory Physics(PHYS100), Energy and Waves (PHYS101), Electricity, Light and Radiation (PHYS118), Introductory Physics Laboratory for Engineers (PHYS159), Introduction to Stars and Galaxies (ASTR102)

Grader

High Energy Astrophysics (ASTR506), Group Theory (PHYS521), Quantum Field Theory (PHYS526), Cosmology (PHYS571)

Book Translation (To Chinese)

- *Gravity: A Very Short Introduction*; ISBN: 9787544392730
- *Solar System*; in-print

Mentorship

Angela Zhou: *An investigation of a dark matter-dark energy interaction model to explain discrepancies in Hubble rate measurements.*;

REFERENCES

Dr. Gary Hinshaw	Dr. Ludovic van Waerbeke
Professor	Professor
Department of Physics and Astronomy	Department of Physics and Astronomy
University of British Columbia	University of British Columbia
+1 604 827-4063	+1 604 822 5515
hinshaw@phas.ubc.ca	waerbeke@phas.ubc.ca