

Curriculum Vitae

Xin Ren

PERSONAL AND INFORMATION

Surname: Ren
First Name: Xin
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Marital Status: Single
Date of birth: July 6, 1994
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EDUCATION

Sep.2017- Now Ph.D candidate in Astronomy
University of Science and Technology of China
Major: Cosmology
Supervisor: Prof. Yi-Fu Cai

Aug.2013- Jun. 2017 Bachelor of Sciences in Physics
Poling class of Physics, Nankai University

RESEARCH INTERESTS

- Explore the dynamical history of the universe
- Dark energy models and modified gravity (mainly $f(T)$ gravity).
- Use observational data to reconstruct or constrain the various theoretical parameters and distinguish different theories on different scales

RELEVANT EXPERIENCES

Sep.2017- Now **Research assistant** with Prof. Yi-Fu Cai, USTC
2020 Fall **Teaching Assistant** of Space and Time (022172)
with Prof. Yi-Fu Cai, USTC

Oct. 2019- Nov. 2019 **Internship** at Warsaw university with Prof. Chunshan Lin

Jan. 2016- Mar. 2016 **Internship** at University of Sydney with Prof. Geraint F. Lewis

Jun. 2015- Aug. 2015 **Internship** at Institute of Modern Physics, CAS with Prof. Sergei
Maydanyuk and Prof. Pengming Zhang

March 2018 **Conference Volunteer** of 2018 CfA@USTC Junior Cosmology
Symposium: Gravitational Waves and Early Universe

Jul. 2019 Volunteer of the first summer camp of astronomy Department of USTC

SELECTED AWARDS AND HONORS

2021-2022	Doctoral First-class academic scholarship in USTC
2020-2021	Doctoral First-class academic scholarship in USTC
2019-2020	Doctoral First-class academic scholarship in USTC
2018-2019	Master's First-class academic scholarship in USTC
2017-2018	Master's First-class academic scholarship in USTC
2016-2017	Merit student in Nankai University
2015	The Technical Institute of Physics and Chemistry, Chinese Academy of Sciences scholarship

PROGRAMMING

Python, Mathematica, Matlab, C/C++, Management of the particle cosmology group website at USTC

CONFERENCES AND SEMINAR

- **Oral presentation**

Nov. 2018	“Cosmic dawn and running vacuum models” Zhuhai Cosmology Winter Workshop 2018, Zhuhai, China
Aug. 2019	“21 cm line signal at cosmic dawn with Interacting dark energy” 2019 Symposium on Frontiers in Theoretical Physics, Lanzhou, China
Nov. 2019	“Reconstruct the history of the universe in $f(T)$ gravity through observational data” Autumn workshop on gravity and cosmology, Warsaw, Poland
Apr. 2021	“Data-driven Reconstruction of the Late-time Cosmic Acceleration with $f(T)$ Gravity” 2021 CQU & USTC Junior Cosmology Symposium, Chongqing, China
Jun. 2021	“Spherically symmetric solutions in covariant and pure tetrad formulation of $f(T)$ gravity - II” Workshop-Seminar: Covariance in Teleparallel Gravity, Online
Jul. 2021	“Data-driven Reconstruction of the Late-time Cosmic Acceleration with $f(T)$ Gravity” Sixteenth Marcel Grossmann Meeting, Online

- **Poster presentation**

Jul. 2018	“Dynamical Dark Energy In $f(T)$ Gravity To Relieve The Tension Of Hubble Constant”
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Jul. 2019 Fifteenth Marcel Grossmann Meeting, Rome, Italy
“Implications of the possible 21-cm line excess at cosmic dawn on
dynamics of interacting dark energy”
Beyond General Relativity, Beyond Cosmological Standard
Model, Warsaw, Poland

• **Conferences/Summer school attended**

Feb. 2017 2017 Spring School On Cosmology - "Early Universe: Theory and
Observations", Shanghai, China
Aug. 2017 Shedding Light on the Dark Universe with Extremely Large
Telescopes, Lanzhou, China
Mar. 2018 2018 CfA@USTC Junior Cosmology Symposium: Gravitational
Waves and Early Universe, Hefei, China
May 2018 Gravitational and relativistic Astrophysics Division 2018 Annual
meeting of Chinese Physical Society, Yangzhou, China
Jun. 2021 Geometric Foundations of Gravity 2021, Online
Jul. 2021 Astro-GR@Lanzhou 2021, Lanzhou, China
Jul. 2021 UFITS Summer School of Cosmology, FAST, China

PUBLICATIONS

4 papers published or under review in refereed journals. Statistics (from INSPIRE HEP):
<https://inspirehep.net/authors/1729084?ui-citation-summary=true>

• Total citations: 80 (updated on October 25, 2021)

1. Deflection angle and lensing signature of covariant $f(T)$ gravity.
Xin Ren, Yaqi Zhao, Emmanuel N. Saridakis, Yi-Fu Cai.
JCAP 10 (2021), 062. [arxiv:2105.04578 [astro-ph.CO]]
2. Data-driven Reconstruction of the Late-time Cosmic Acceleration with $f(T)$ Gravity.
Xin Ren, Thomas Hong Tsun Wong, Yi-Fu Cai, Emmanuel N. Saridakis.
Phys.Dark Univ. 32 (2021), 100812. [arxiv:2103.01260 [astro-ph.CO]]
3. Testing the equivalence principle via the shadow of black holes.
Sheng-Feng Yan, Chunlong Li, Lingqin Xue, **Xin Ren**, Yi-Fu Cai et al.
Phys.Rev.Res. 2 (2020) 2, 023164. [arxiv:1912.12629 [astro-ph.CO]]
4. Implications of the possible 21-cm line excess at cosmic dawn on dynamics of interacting dark energy.
Chunlong Li, **Xin Ren**, Martiros Khurshudyan Yi-Fu Cai.
Phys.Lett.B 801 (2020), 135141. [arXiv: 1904.02458 [astro-ph.CO]].