

# Tao Ren, Ph.D.

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## RESEARCH INTERESTS

Study the self-interaction nature of dark matter with astrophysical observations, direct detections and collider searches in a data-informed way.

## EDUCATION

2014 – 2019 Ph.D. in Physics, University of California, Riverside  
2010 – 2014 B.S. in Applied Physics, Hefei University of Technology

## EMPLOYMENT

2014 – 2019 Teaching Assistant, University of California, Riverside

## PUBLICATION

**Tao Ren.** “*Testing Self-Interacting Dark Matter with Spiral and Early-Type Galaxies.*” PhD diss., UC Riverside, 2019

Manoj Kaplinghat, **Tao Ren**, and Hai-Bo Yu. “*Dark Matter Cores and Cusps in Spiral Galaxies and their Explanations.*” arXiv:1911.00544 [astro-ph.GA], 2019

**Tao Ren**, Anna Kwa, Manoj Kaplinghat, Hai-Bo Yu. “*Reconciling the Diversity and Uniformity of Galactic Rotation Curves with Self-Interacting Dark Matter.*” Physical Review X 9.3: 031020, 2019

Jigang Hu, **Tao Ren**, Guanjun Wang, Weiqing Gao, Junxue Chen, Feng Gao, Hai Ming. “*Terminal interface effect in metal-dielectric multilayer.*” Proc. SPIE 9047, 2013 International Conference on Optical Instruments and Technology, doi: 10.1117/12.2037815, 2013

## AWARDS AND HONORS

2017 Outstanding Teaching Assistant (OTA) Award , Graduate Division, UC Riverside (2017)

Outstanding Teaching Assistant Award, Department, UC Riverside (2016)

Anne Kernan Graduate Scholarship Award, UC Riverside (2015)

Dean’s Distinguished Fellowship, UC Riverside (2014)

Claire and William Band Theoretical Fellowship (declined), Washington State University (2014)

China National Scholarship, Ministry of Education, China (2012)

China National Scholarship, Ministry of Education, China (2011)

Excellent Freshman Scholarship, Hefei University of Technology (2010)

## TALKS AND POSTERS

***“Diversity and Uniformity of Rotation Curves from Self-Interacting Dark Matter Framework”***

UCR HET Journal Club, University of California, Riverside, CA (3/2018)

UCLA Dark Matter 2018, University of California, Los Angeles, CA (Poster, 2/2018)

***“Explaining Diverse Rotation Curves of Spiral Galaxies with Self-Interacting Dark Matter”***

APS Division of Particles & Fields 2017, Fermilab, Chicago, IL (8/2017)

Phenomenology 2017 Symposium, University of Pittsburgh, Pittsburgh, PA (5/2017)

***“Apply SIDM to Spirals”***

SOCAL BSM 2017, Grad Student Gong Show, University of California, Riverside, CA (4/2017)

## STUDY EXPERIENCE

Dark Matter Advanced Training Institute, University of California, Los Angeles, CA (2/2018)

Dark Matter in Southern California Symposium - IV “Beyond Wimp Dark Matter”, Caltech, CA (8/2017)

GalFRESKA 2016 Workshop, Caltech, CA (9/2016)

## TEACHING

	University of California, Riverside
Quarter	Teaching Assistant
2019 Winter	Space-time, Relativity, and Cosmology 007
2018 Fall	Quantum Mechanics 156A
2018 Summer	General Physics Laboratory 40A
2018 Spring	Introduction to Physics 41C (Optics, Relativity and Quantum Mechanics)
2018 Winter	Introduction to Physics 41B (Thermodynamics and Electromagnetism)
2017 Fall	Introduction to Physics 41A (Mechanics)
2017 Spring	Introduction to Physics 41C (Optics, Relativity and Quantum Mechanics)
2017 Winter	Introduction to Physics 41B (Thermodynamics and Electromagnetism)
2016 Fall	Introduction to Physics 41A (Mechanics)
2016 Summer	General Physics Discussion 002A
2016 Spring	General Physics Discussion 002A
2016 Winter	General Physics Laboratory 02LC
2015 Fall	General Physics Laboratory 02LA
2015 Spring	General Physics Laboratory 02LC
2015 Winter	General Physics Laboratory 02LB
2014 Fall	General Physics Laboratory 02LA