

PAULO MONTERO-CAMACHO

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Citizenship: Costa Rican

RESEARCH INTERESTS

Cosmology: 21cm cosmology, Lyman- α forest, CMB polarization, early universe, non-standard probes of cosmology, primordial black holes, cosmic reionization and intensity mapping.

Astrophysics: Neutron star binary mergers instabilities and their impact in gravitational waves observables and detection of magnetic fields in exoplanets.

EMPLOYMENT

Tsinghua University, China	10/2019
Postdoctoral Researcher at Department of Astronomy	
Shui Mu Scholar	

EDUCATION

PhD. in Physics	08/2019
The Ohio State University, Columbus OH.	
Advisor: Christopher M. Hirata	
Master of Science in Physics	08/2016
The Ohio State University, Columbus OH.	
Bachelor of Science in Physics	02/2012
University of Costa Rica, San Jose.	
Graduated with honors, first of the class.	

AWARDS/GRANTS

Tsinghua Office of International Affairs grant for Astro Coffee	2020
Tsinghua Shui Mu Scholarship	2019
University of Costa Rica research scholarship	2010-2013
University of Costa Rica TA scholarship	2010-2012
University of Costa Rica scholarship for excellence for incoming students	2009

WORK EXPERIENCE AND SERVICE

Referee for Journal of Cosmology and Astroparticle Physics	
Coordinator, Astro Coffee, Tsinghua	2020-
Mentor, Bridge program, Department of Physics, OSU	2017-2019
Coordinator, Cosmolunch Journal Club, CCAPP, OSU	2016-2019
Research Assistant, CCAPP & OSU	2016-2019
Teaching Assistant, Physics 1251: <i>EM, Optics, Modern Physics</i> , OSU	2 semesters, 2015-2016
Teaching Assistant, Physics 2300 & 2301: <i>Intermediate Mechanics</i> , OSU	2 semesters, 2014-2015
Lecturer, G. Physics II: <i>Waves, Thermo, Electro</i> , UCR	2 semesters, 2013-2014
Teaching Assistant, EM I: <i>Electrostatics</i> , UCR	2013
Research Assistant, Condensed Matter section, UCR	2012-2013
Research Assistant, Theoretical Physics section, UCR	2012-2013
Teaching Assistant, Math. Physics III: <i>Diff. forms, Green Func.</i> , UCR	2012
Teaching Assistant, G. Physics III: <i>EM, Optics, Modern Physics</i> , UCR	5 semesters, 2010-2012
Research Assistant, Astrophysics section, UCR	2010-2014

PUBLICATIONS

7. **Montero-Camacho, P.** and Mao, Yi, (2020) Ly α forest power spectrum as an emerging window into the epoch of reionization and cosmic dawn. [ArXiv:2003.10077](#)
6. Oklopčić, A., Silva, M., **Montero-Camacho, P.**, and Hirata, C.M., (2019) Detecting Magnetic Fields in Exoplanets with Spectropolarimetry of the Helium Line at 1083 nm. *The Astrophysical Journal*, **890** (1) [ArXiv:1910.02504](#)
5. **Montero-Camacho, P.**, Fang, X., Vasquez, G., Silva, M., and Hirata, C. M., (2019) Revisiting constraints on asteroid-mass primordial black holes as dark matter candidates. *Journal of Cosmology and Astroparticle Physics*, **08** 031, [ArXiv:1906.05950](#) **Citations: 55**
4. **Montero-Camacho, P.**, Hirata, C. M., Martini, P., and Honscheid, K., (2019) Impact of inhomogeneous reionization in the Lyman- α forest. *Monthly Notices of the Royal Astronomical Society*, **stz1388**, [arXiv:1902.02892](#) **Citations: 3**
3. **Montero-Camacho, P.** and Hirata, C. M., (2018) Exploring circular polarization in the CMB due to conventional sources of cosmic birefringence. *Journal of Cosmology and Astroparticle Physics*, **08**, 040, [arXiv:1803.04505](#) **Citations: 18**
2. Frutos-Alfaro, F., **Montero-Camacho, P.**, Araya, M. and Bonatti-Gonzalez, J. (2015) Approximate metric for a rotating deformed mass. *International Journal of Astronomy and Astrophysics*, **5**, 1-10, [arXiv:1405.1776](#) **Citations: 6**
1. **Montero-Camacho, P.**, Frutos-Alfaro, F., Gutierrez-Chaves, C. and Cordero-Garcia, I. (2015) Slowly rotating curzon-chazy metric. *Revista de Matemática: Teoría y Aplicaciones*, **22** (2):265-274. [Local journal](#) **Citations: 2**

PRESENTATIONS

15. Recorded Talk, Sazerac online conference	07/2020
14. Talk, DOA Cosmology Journal Club, Beijing, China	10/2019
13. Talk, UCR Department of Physics Colloquium, San Jose, Costa Rica	02/2019
12. Talk, Caltech Cosmology Journal Club, Pasadena, CA	10/2018
11. Talk, CMU Astro Lunch, Pittsburgh, PA	10/2018
10. Talk, OSU CCAPP Summer Seminar, Columbus, OH	07/2018
9. Talk, APS April Meeting 2018, Columbus, OH	04/2018
8. Poster, 48 th Saas-Fee course, Saas-Fee, Switzerland	01/2018
7. Talk, VII Essential Cosmology for the Next Generation, Punta Mita, Mexico	12/2017
6. Poster, COSMO-17, Paris, France	08/2017
5. Talk, SLAC Summer Institute 2017, Palo Alto, CA	08/2017
4. Poster, SLAC Summer Institute 2017, Palo Alto, CA	08/2017
3. Talk, UCR Department of Physics Colloquium, San José, Costa Rica	12/2016
2. Talk, UCR Department of Physics Colloquium, San José, Costa Rica	06/2014
1. Talk, XIX SIMMAC, San José, Costa Rica	02/2014

REFERENCES

Prof. Christopher M. Hirata	hirata.10@osu.edu
Department of Physics and Astronomy, The Ohio State University	
Prof. Yi Mao	ymao@tsinghua.edu.cn
Department of Astronomy, Tsinghua University	
Prof. Paul Martini	martini.10@osu.edu
Department of Astronomy, The Ohio State University	