

# Alessandro Manzotti

Department of Astronomy and Astrophysics & KICP  
The University of Chicago  
5640 S. Ellis Ave, Chicago, IL 60637  
Phone: (773) 656-7586, E-mail: [manzotti.alessandro@gmail.com](mailto:manzotti.alessandro@gmail.com), [Website](#)  
Nationality: Italian

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## Research interest

**Data-driven observational cosmology and advanced statistical methods.**  
CMB lensing and de-lensing using external large scale structure tracers  
Cosmic Microwave Background and Large scale structure data analysis and theory.  
Monte-Carlo method for parameters estimation.

## Education

<b>The University of Chicago</b> Ph.D. Astronomy & Astrophysics	Advisor: S. Dodelson	<i>Summer 2017</i>
<b>University of Parma and Padova INFN</b> M.S. in Theoretical Physics	Advisor: M. Pietroni	<i>July 2012</i>
110/110 cum laude (full marks with honors).		
<b>University of Parma</b> B.S. in Theoretical Physics	Advisor: R. Burioni	<i>October 2009</i>
110/110 cum laude (full marks with honors).		

## Published works

8. **First demonstration of B-mode delensing**  
A. Manzotti et al. (2016), in preparation.
7. **External priors for the next generation of CMB experiments**  
A. Manzotti, S. Dodelson, Y. Park, [Phys. Rev. D 93, 063009 \(2016\)](#) [arXiv:1512.02654](#)
6. **CosmoSIS: modular cosmological parameter estimation**  
J. Zuntz, M. Paterno, E. Jennings, D. Rudd, A. Manzotti, S. Dodelson, S. Bridle, S. Sehrish, J. Kowalkowski, [arXiv:1409.3409](#) *Astron.Comput.* 12 (2015) 45-59
5. **Mapping the Integrated Sachs-Wolfe Effect**  
A. Manzotti, S. Dodelson [Phys.Rev. D90 \(2014\) 123009](#), [arXiv:1407.5623](#)
4. **A coarse grained perturbation theory for the Large Scale Structure, with cosmology and time independence in the UV**  
A. Manzotti, M. Peloso, M. Pietroni, M. Viel, F. Villaescusa-Navarro [JCAP 1409 \(2014\) 09, 047](#), [arXiv:1407.1342](#)
3. **Super sample CMB lensing**  
A. Manzotti, W. Hu, A. Benoit-Lévy Submitted to [Phys.Rev. D90 \(2014\) 2, 023003](#), [arXiv: 1401.7992](#)
2. **Prospects for early localization of gravitational-wave signals from compact binary coalescences with advanced detectors**  
A. Manzotti, A. Dietz Submitted [IOP \(2012\)](#) [arXiv:1202.4031](#)
1. **Effective target arrangement in a deterministic scale-free graph**  
E. Agliari, R. Burioni, A. Manzotti [PRE, 82;011118](#)

## Talks

- Dec 2017 **Cambridge:** Delensing CMB B-modes: results from SPT.  
Jan 2017 **Oxford:** Delensing CMB B-modes: results from SPT.  
Dec 2016 **MPA, Munich:** Delensing CMB B-modes: results from SPT.  
Oct 2016 **Berkeley, BCCP Seminar:** Delensing CMB B-modes: results from SPT.  
May 2016 **Cross-correlation Spectacular with LSST:** Delensing: Present and Future  
May 2016 **SLAC:** CMB Delensing.  
Apr 2015 **Kavli IPMU:** The Never-Ending story of Cosmic Microwave Background and Large Scale Structure correlations.  
Apr 2015 **CHEP 2015:** CosmoSIS: a system for MC parameter estimation.

## Conferences & Workshops

- Sep 2016** [Future cosmic surveys](#), KICP Chicago (organizing committee)  
**Sep 2016** [Cosmology with CMB S-4](#), KICP Chicago  
**Sep 2015** [Cosmology with CMB S-4](#), U. Michigan  
**May 2015** [CMB Spectral Distortion Workshops](#), KICP Chicago  
**Jul 2013** [International School of Physics “Enrico Fermi”](#), [New Horizons for Observational Cosmology](#). Varenna, Italy  
**Jul 2013** [“New light in cosmology from the CMB.”](#) International center for theoretical physics (ICTP)  
**Oct 2011** [Dark Workshop at GGI](#) (Florence Italy)  
**Jul 2011** [XVI National Conference on Statistical Physics and Complex Systems](#)  
**Jul 2010** [V Parma International School of Theoretical Physics: New trends in Cosmology, Particle Physics and Gauge-Gravity Duality](#)  
**Jul 2009** [IV Parma International School of Theoretical Physics: Theoretical Tools for the LHC](#)

## Awards and Honors

- The University of Chicago, Alumni Club of Italy Graduate Scholarship.  
The University of Chicago McCormick fellowship.  
LIGO-INFN Fellowship for a 4 month summer project.

## Teaching Experiences

### The University of Chicago

- Teaching Assistant for undergraduate courses:  
“The Physics of Stars and Stellar Systems” (Fall 2012, Fall 2013)  
“Origin of the Universe and How We Know” (Winter 2013)  
“Evolution of the Universe” (Spring 2013)

## References

- S. Dodelson** Fermi National Accelerator Laboratory  
Phone: (630) 840-2426 Email: [dodelson@fnal.gov](mailto:dodelson@fnal.gov)  
**J. Carlstrom** U. Chicago  
Phone: (773) 834-0269 Email: [jc@kicp.uchicago.edu](mailto:jc@kicp.uchicago.edu)  
**W. Hu** U. Chicago  
Phone: (773) 702-0160 Email: [whu@grounddown.uchicago.edu](mailto:whu@grounddown.uchicago.edu)  
**M. Pietroni** INFN Padova  
Phone: (+) 39-049-8277240 Email: [massimo.pietroni@pd.infn.it](mailto:massimo.pietroni@pd.infn.it)