

Curriculum Vitae

Dr. Julian Merten is a theoretical Astrophysicist with a strong interest in cosmology and computer science. His main areas of research are dark matter and the large scale structure of the Universe, clusters of galaxies and gravitational lensing. He is a core team member of the Cluster Lensing and Supernova Survey with Hubble (CLASH), where he leads the weak lensing and theory working groups; a member of the Kilo Degree Survey (KiDS), where he participates in the efforts of the weak lensing team and a member of the Euclid Consortium.

Merten obtained his doctorate in Physics from the University of Heidelberg, where he finished his doctoral studies after only two years. He has six years of professional experience as a postdoctoral researcher working in Heidelberg (Germany), at JPL-Caltech (CA, USA) and in Oxford (UK). Currently he is a Marie Curie Fellow at the Osservatorio Astronomico di Bologna (Italy) and a stipendiary lecturer at University College Oxford. Merten won a grand total of ~\$970k in grant awards either in personal fellowships or as P.I. and Co-I. of collaborative efforts and has served on REA, NSF and NASA panels.

He has published 57 articles with 2900 citations (h-index 31) in distinguished astrophysical journals including Nature and Science. Eight (one as first author) of Merten's publications have 100 or more citations and 25 (three as first author) have 50 or more citations.

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<http://www.julianmerten.net>

1 Curriculum Vitae

1.1 Personal data

Name: Julian Manuel Merten (m)
Date of birth: August 8th, 1982
Place of birth: Hammelburg, Bavaria, Germany
Citizenship: German

1.2 Contact Information

INAF – Osservatorio Astronomico di Bologna
Via Gobetti 93/3
40129, Bologna, Italy
julian.merten@inaf.oabo.it
<http://www.julianmerten.net>
+39 0516357387 (office)

1.3 Education

[Ruprecht-Karls-Universität Heidelberg](#) **2002-2010**

- Dr. rer. nat. in Physics (Ph.D. equivalent) **Jun 2010**
magna cum laude (with high honours)
- Diplom in Physics (MSc equivalent) **Mar 2008**
minored in: Mathematics, Cosmology and Quantum Field Theory
- Vordiplom in Physics (BSc equivalent) **Apr 2004**
minored in: Mathematics and Chemistry

1.4 Professional career

- Marie Curie Fellow at [INAF – Osservatorio Astronomico di Bologna](#) (Italy) **since Jul 2017**
- Stipendiary Lecturer at [University College Oxford](#) (UK) **since Oct 2016**
- Marie Curie Fellow at the [University of Oxford](#) (UK) **Feb 2015 - Jun 2017**
- Postdoctoral Research Fellow at [JPL/Caltech](#) (CA, USA) **Oct 2011 - Jan 2015**
- Postdoctoral Research Fellow at [ITA/ZAH Heidelberg](#) (GER) **Aug 2010 - Oct 2011**

1.5 Research achievements and grants

Collaborations

- Full member of the [Euclid Consortium](#). **since Jul 2017**
- Full member of the [Kilo Degree Survey](#) (KiDS) and part of the weak lensing working group. **since Apr 2015**
- Full team member of the [Merging Cluster Collaboration](#). **since Sep 2012**
- Lead of the theory and weak lensing science working groups within the [CLASH](#) collaboration.
- Full core science member of the [CLASH](#) collaboration. **since May 2010**

Grants

- REA-Horizon2020: Marie-Curie [AstroFit2](#) personal fellowship (\$180k)
- Continued [Mass-mapper](#) for the [HST Frontier Field initiative](#) with new data for Abell 2744 and MACS J0416 under sub-contract with [STScI](#). (\$70k)
- REA-FP7: Marie Skłodowska-Curie International Incoming Fellowship. (\$240k)
- Co-I of HST AR 13915 “[Simulating HST Observations of Strong Lensing Clusters](#)”, P.I. [Massimo Meneghetti](#). (\$120k in cycle 22)
- Co-I of HST GO 13386 “[FrontierSN](#)”, P.I. [Steve Rodney](#). (\$60k in cycle 21)
- Co-I of HST GO 13343 “[Probing Dark Matter with a New Class of Merging Clusters](#)” P.I. [Dave Wittman](#). (\$130k in cycle 21)
- [Mass-mapper](#) for the [HST Frontier Field initiative](#) under sub-contract with [STScI](#). (\$50k)
- Co-I of HST GO 12817 “Longevity of dark matter substructure in Abell 3827” P.I. [Richard Massey](#). (\$50k in cycle 20)
- Enable-Fund of the University of Heidelberg. Acquisition of a 2-node, 4-GPU system. (\$20k)
- HPC-Europa2: proposal n.367 accepted for full 12 weeks from **June 1st 2010** at [CINECA/Italy](#). (\$20k)
- One year contract with the [Osservatorio Astronomico di Bologna](#) under an [ASI/EUCLID](#) grant. (\$30k) (Extension by 16 months offered)

Awards, panels and other

- Star award from the [Euclid Consortium](#) as a member of the Euclid PSF modelling team. **Jun 2017**
- Served as referee for [MNRAS](#), [Astronomy & Astrophysics](#) and [ApJ](#).
- REA-Horizon2020-SPACE: COMPET4 panel review – Scientific data exploitation **May 2017**
- NASA ADAP – Large Scale Cosmic Structures panel review **Aug 2016**
- NASA Postdoctoral Program application review **since 2016**
- NASA ADAP – Large Scale Cosmic Structures panel review **Aug 2014**
- NSF-Cosmology-2 panel review **Mar 2014**
- 6 nights observing run at [CSO/Bolocam](#) for radio observations of galaxy clusters.
- Student representative of the [Centre of Astronomy in Heidelberg \(ZAH\)](#) **Jun 2009 - Jun 2010**
- Elected student representative of the [IMPRS](#) **Nov 2008 - Jun 2010**
- Member of the [International Max-Planck Research School \(IMPRS\)](#) **Jul 2008 - Jun 2010**
- Member of the [Heidelberg Graduate School of Fundamental Physics \(HGSFP\)](#) **Apr 2008 - Jun 2010**

1.6 Teaching

- Stipendiary Lecturer at [University College Oxford](#)
 - Trinity term 2017: Revision and personal exam preparation for Relativity and Optics lectures.
 - Hillary term 2017: Optics for first year students, Optics for second year students.
 - Michaelmas term 2016: Special relativity and optics of first year students, Symmetry and Relativity for third year students.
 - Introduced to Oxford academic practice and specialised admissions training from the [Oxford Learning Institute](#).
- Co-supervised summer student Dominic Dootson for the [University of Oxford's summer programme](#). **Jul - Aug 2017**
- Supervised summer student Joaquim Llorens for the [University of Oxford's summer programme](#). **Jul - Aug 2016**
- Supervised summer student Íñigo Zubeldía Lafuente for the [University of Oxford's summer programme](#). **Jul - Aug 2015**

- Co-supervision of Internships, Master -and Ph.D. students at the University of Heidelberg. Together with [Prof. M. Bartelmann](#)
- Tutorials at the University of Heidelberg
 1. Tutor at DPG further training for teachers **Jul 2009**
 - *Topic:* Cosmology
 - *Lecturer:* Prof. Dr. [Matthias Bartelmann](#) & Prof. Dr. [Karl-Heinz Lotze](#)
 2. Tutor of theoretical Physics II (BSc students) **summer term 2008**
 - *Topic:* Analytical Mechanics and Thermodynamics
 - *Lecturer:* Prof. Dr. [Matthias Bartelmann](#)
 3. Tutor of theoretical Physics III **winter term 2007/08**
 - *Topic:* Quantum Mechanics
 - *Lecturer:* Prof. Dr. [Michael G. Schmidt](#)
 4. Tutor of theoretical Physics II **summer term 2007**
 - *Topic:* Electrodynamics
 - *Lecturer:* Assis. Prof. [Georg Wolschin](#)
 5. Tutor of theoretical Physics I **winter term 2006/07**
 - *Topic:* Classical Mechanics
 - *Lecturer:* Assis. Prof. [Jan Pawlowski](#)

1.7 Conferences and Colloquia (excerpt)

All of the following presentations and more can be downloaded at <http://www.julianmerten.net/publications> or by following the links in the electronic pdf file.

1. Galaxy Clusters 2017, Santander, Spain (session chair) **summer 2017**
2. [Bright and Dark Universe](#), Naples, Italy [[pdf](#)] **winter 2017**
3. GravLens 2016, From theory to applications: celebrating a century of gravitational lensing, Leiden, Netherlands [[pdf](#)] **summer 2016**
4. CosmoCruise 2015, The Mediterranean Sea (session chair) **summer 2015** [[Keynote](#)][[pdf](#)]
5. SnowCluster, “The Physics of Galaxy Clusters”, Snowbird Utah USA (invited) **spring 2015** [[Keynote](#)][[pdf](#)]
6. Cosmology seminar at [UC Davis](#) (invited) **winter 2015** [[Keynote](#)][[pdf](#)]
7. Astrophysics Colloquium at [JPL](#) (invited) **winter 2014** [[Keynote](#)][[pdf](#)]
8. [Cosmology with Galaxy Clusters in the XXI century](#) IFT-UAM/CSIC, Madrid, Spain (invited) **winter 2014** [[Keynote](#)][[pdf](#)]

9. Physics Colloquium at the [University of Durham](#) (invited) **winter 2014** [[Keynote](#)][[pdf](#)]
10. Cosmology seminar at the [Kavli Institute for Particle Astrophysics, Stanford University](#), Stanford, CA, USA (invited) **spring 2014** [[Keynote](#)][[pdf](#)]
11. Astrophysical Colloquium at the [University of Stony Brook](#), Long Island, NY, USA (invited) **spring 2014** [[Keynote](#)][[pdf](#)]
12. 223rd AAS meeting, dedicated speaker on the M-c relation from [CLASH](#). Special CLASH/CANDLES session, Washington D.C., USA (invited) **winter 2014** [[Keynote](#)][[pdf](#)]
13. Cluster Lensing: Peering into the Past, Planning for the Future STScI Baltimore, MD, USA (invited) **spring 2013** [[Keynote](#)][[pdf](#)]
14. SnowDark and SnowCluster, Snowbird Resort, UT, USA (invited) **winter 2013** [[Keynote](#)][[pdf](#)]
15. Aspen Winter Meeting, "Closing in on Dark Matter", Aspen, CO, USA (session chair) **winter 2012**
16. Future Surveys of Galaxy Clusters, Sesto, Italy (invited) **summer 2011** [[Keynote](#)][[pdf](#)]
17. Future directions of cosmological simulations, Edinburgh, Scotland (invited) **autumn 2010** [[pdf](#)]
18. 10 years of cosmic shear, Edinburgh Scotland **summer 2010** [[pdf](#)]

Events organized

1. Selection panel for the Oxford Astrophysics Galaxy Evolution Seminar **since Sep 2016**
2. Organizer of the [JPL Astrophysics](#) Monday [lunch seminar](#). **Sep 2012 - Jan 2015**
3. Planning committee of the [JPL Astrophysics](#) Thursday [Colloquium](#). **Sep 2012 - Jan 2015**
4. [CLASH science team meeting](#), IWH Heidelberg Germany **autumn 2011**

Public talks

1. Cosmology and gravitational lensing, Public talk at the 1959 Gaudy, University college Oxford, UK **spring 2017**
2. Cosmology and gravitational lensing, Public talk at the University College Ditchley retreat, Ditchley Foundation, UK **autumn 2016**
3. Cosmology and the dark Universe, Public talk for the Wolverhampton astronomical society, Wolverhampton, UK **spring 2016**
4. Cosmology and gravitational lensing, Overview talk for University of Oxford donor Adrian Beecroft, Oxford, UK **summer 2015**

5. LIGHT AND DARK ENERGY – the science and aesthetics of deep space, Public talk and exhibition at Pasadena City College with artist [David Em](#), Pasadena CA, **winter 2012**.
6. Cosmic collisions of dark matter, Public talk at the planetarium, Berlin/Germany, **autumn 2011**
7. Pandora’s Cluster: a cosmic crash test , Public talk in front of US DAAD-RISE scholars, Heidelberg/Germany, **autumn 2011**
8. Gravitational lenses – A peek into the dark side of the Universe, Public talk at the astronomia exhibition, Ravensburg/Germany, **summer 2009**
9. The dark side of the Universe – Dark matter and dark energy, Public talk at the astronomia exhibition, Ravensburg/Germany, **summer 2009**

1.8 Language and IT-Skills

Languages

1. German (native)
2. English (fluent)
3. French (basic knowledge)
4. Italian (basic knowledge)

Fully responsible for the IT at [ITA Heidelberg](#) between 2010 and 2011. This includes system administration of desktop machines, compute servers, infrastructure servers and network equipment. For further reference contact [Prof. Matthias Bartelmann](#) and [Prof. Ralf Klessen](#).

Programming languages and mathematical environments

1. C++ (native), C (native), Python (advanced), Java (basic), Fortran (read only)
2. HTML (basic), Shell-Scripting (advanced)
3. Mathematica (basic), Matlab (basic), R (advanced)
4. A variety of mathematical libraries including [GSL](#), [FFTW](#), [LAPACK](#), [OpenCV](#), [CGAL](#), [FLANN](#), [ATLAS](#) and [Boost](#).

Platforms

1. Linux/Unix (admin-level)
2. Mac (advanced)
3. Windows (if necessary)

Parallel computing

1. GPUs using [CUDA](#)
2. Shared memory using [OpenMP](#)
3. Distributed memory using [MPI](#)

2 List of Publications

2.1 Theses

- *An advanced method to recover the mass distribution of galaxy clusters*
Doctoral thesis in Physics at the University of Heidelberg, 2010
Main supervisor (Heidelberg): Prof. Dr. [Matthias Bartelmann](#)
Supervisor (Bologna) : Dr. [Massimo Meneghetti](#)
Second corrector: Prof. Dr. [Hans-Walter Rix](#)
Grade: magna cum laude (with high honors)
http://www.ita.uni-heidelberg.de/~jmerten/publications/phdthesis_merten.pdf
- *Combining Weak and Strong Lensing for Galaxy-Cluster Mass Reconstructions*
Diploma thesis in Physics at the University of Heidelberg, 2008
Supervisor: Prof. Dr. [Matthias Bartelmann](#)
Second corrector: Prof. Dr. [Joachim Wambsganß](#)
Grade: 1.0 (very good)
http://www.ita.uni-heidelberg.de/~jmerten/publications/jm_diploma_thesis.pdf

2.2 Scientific articles

The following list is based NASA ADS data from **7.7.2017** and is coarsely ordered by descending year of publication. Within each year, the publications are ordered by descending number of citations, which is shown in brackets after the respective publication title.

Summary

- Number of articles: 57
- Number of citations: 2927
- Average number of citations: 57
- h-index: 31
- 100+ cited [first author] publications: 8 [1]
- 50+ cited publications: 25 [3]

2017

1. *KiDS-450: Cosmological parameter constraints from tomographic weak gravitational lensing* (70)
Hildebrandt, H.; Viola, M.; Heymans, C.; Joudaki, S.; Kuijken, K.; Blake, C.; Erben, T.; Joachimi, B.; Klaes, D.; Miller, L.; Morrison, C. B.; Nakajima, R.; Verdoes Kleijn, G.; Amon, A.; Choi, A.; Covone, G.; de Jong, J. T. A.; Dvornik, A.; Fenech Conti, I.; Grado, A. Harnois-D'Al'rap, J.; Herbonnet, R.; Hoekstra, H.; Köhlinger, F.; McFarland, J.; Mead, A.; **Merten, J.**; Napolitano, N.; Peacock, J. A.; Radovich, M.; Schneider, P.; Simon, P.; Valentijn, E. A.; van den Busch, J. L.; van Uitert, E.; Van Waerbeke, L.
2017, Monthly Notices of the Royal Astronomical Society, vol. 465, issue 2, pp. 1454-1498
[\[NASA ADS\]](#)

2. *Calibration of weak-lensing shear in the Kilo-Degree Survey* (18)
Fenech Conti, Ian; Herbonnet, Ricardo; Hoekstra, Henk; **Merten, Julian**; Miller, Lance; Viola, Massimo
2017, Monthly Notices of the Royal Astronomical Society, 467, 1627 [\[NASA ADS\]](#)
3. *KiDS-450: The tomographic weak lensing power spectrum and constraints on cosmological parameters* (2)
Köhlinger, F.; Viola, M.; Joachimi, B.; Hoekstra, H.; van Uitert, E.; Hildebrandt, H.; Choi, A.; Erben, T.; Heymans, C.; Joudaki, S.; Klaes, D.; Kuijken, K.; **Merten, J.**; Miller, L.; Schneider, P.; Valentijn, E. A.
2017, Submitted to the Monthly Notices of the Royal Astronomical Society [\[NASA ADS\]](#)
4. *Chandra and JVLA Observations of HST Frontier Fields Cluster MACS J0717.5+3745* (2)
van Weeren, R. J.; Ogrean, G. A.; Jones, C.; Forman, W. R.; Andrade-Santos, F.; Pearce, Connor J. J.; Bonafede, A.; Brüggen, M.; Bulbul, E.; Clarke, T. E.; Churazov, E.; David, L.; Dawson, W. A.; Donahue, M.; Goulding, A.; Kraft, R. P.; Mason, B.; **Merten, J.**; Mroczkowski, T.; Nulsen, P. E. J.; Rosati, P.; Roediger, E.; Randall, S. W.; Sayers, J.; Umetsu, K.; Vikhlinin, A.; Zitrin, A. 2017, The Astrophysical Journal, Volume 835, Issue 2, article id. 197, 16 pp. [\[NASA ADS\]](#)
5. *CLUMP-3D. Three dimensional lensing and multi-probe analysis of MACS J1206.2-0847, a remarkably regular cluster* (1)
Serenio, Mauro; Ettori, Stefano; Meneghetti, Massimo; Sayers, Jack; Umetsu, Keiichi; **Merten, Julian**; Chiu, I-Non; Zitrin, Adi
2017, Monthly Notices of the Royal Astronomical Society, in press [\[NASA ADS\]](#)
6. *KiDS-450: Tomographic Cross-Correlation of Galaxy Shear with Planck Lensing* (1)
Harnois-Déraps, Joachim; Tröster, Tilman; Chisari, Nora Elisa; Heymans, Catherine; van Waerbeke, Ludovic; Asgari, Marika; Bilicki, Maciej; Choi, Ami; Hildebrandt, Hendrik; Hoekstra, Henk; Joudaki, Shahab; Kuijken, Konrad; **Merten, Julian**; Miller, Lance; Robertson, Naomi; Schneider, Peter; Viola, Massimo
2017, Submitted to the Monthly Notices of the Royal Astronomical Society [\[NASA ADS\]](#)
7. *The third data release of the Kilo-Degree Survey and associated data products* (1)
de Jong, J. T. A.; Verdoes Kleijn, G. A.; Erben, T.; Hildebrandt, H.; Kuijken, K.; Sikkema, G.; Brescia, M.; Bilicki, M.; Napolitano, N. R.; Amaro, V.; Begeman, K. G.; Boxhoorn, D. R.; Buddelmeijer, H.; Cavuoti, S.; Getman, F.; Grado, A.; Helmich, E.; Huang, Z.; Irisarri, N.; La Barbera, F.; Longo, G.; McFarland, J. P.; Nakajima, R.; Paolillo, M.; Puddu, E.; Radovich, M.; Rifatto, A.; Tortora, C.; Valentijn, E. A.; Vellucci, C.; Vriend, W-J.; Amon, A.; Blake, C.; Choi, A.; Fenech Conti, I.; Herbonnet, R.; Heymans, C.; Hoekstra, H.; Klaes, D.; **Merten, J.**; Miller, L.; Schneider, P.; Viola, M.
2017, submitted to the Astronomy & Astrophysics [\[NASA ADS\]](#)
8. *KiDS-450: Tomographic Cross-Correlation of Galaxy Shear with Planck Lensing* (0)
Harnois-Déraps, Joachim; Tröster, Tilman; Chisari, Nora Elisa; Heymans, Catherine; van Waerbeke, Ludovic; Asgari, Marika; Bilicki, Maciej; Choi, Ami; Hildebrandt, Hendrik; Hoekstra, Henk; Joudaki, Shahab; Kuijken, Konrad; **Merten, Julian**; Miller, Lance; Robertson, Naomi;

Schneider, Peter; Viola, Massimo

2017, submitted to the Monthly Notices of the Royal Astronomical Society [\[NASA ADS\]](#)

9. *CLASH: accurate photometric redshifts with 14 HST bands in massive galaxy cluster cores* (0)
Molino, A.; Benítez, N.; Ascaso, B.; Coe, D.; Postman, M.; Jouvel, S.; Host, O.; Lahav, O.; Seitz, S.; Medezinski, E.; Rosati, P.; Schoenell, W.; Koekemoer, A.; Jimenez-Teja, Y.; Broadhurst, T.; Melchior, P.; Balestra, I.; Bartelmann, M.; Bouwens, R.; Bradley, L. Czakon, N.; Donahue, M.; Ford, H.; Graur, O.; Graves, G.; Grillo, C.; Infante, L.; Jha, S. W.; Kelson, D.; Lazkoz, R.; Lemze, D.; Maoz, D.; Mercurio, A.; Meneghetti, M.; **Merten, J.**; Moustakas, L.; Nonino, M.; Orgaz, S.; Riess, A.; Rodney, S.; Sayers, J.; Umetsu, K.; Zheng, W.; Zitrin, A.
2017, Monthly Notices of the Royal Astronomical Society, 470, 95 [\[NASA ADS\]](#)
10. *KiDS+GAMA: Cosmology constraints from a joint analysis of cosmic shear, galaxy-galaxy lensing and angular clustering* (0)
van Uitert, Edo; Joachimi, Benjamin; Joudaki, Shahab; Heymans, Catherine; Köhlinger, Fabian; Asgari, Marika; Blake, Chris; Choi, Ami; Erben, Thomas; Farrow, Daniel J.; Harnois-Déraps, Joachim; Hildebrandt, Hendrik; Hoekstra, Henk; Kitching, Thomas D.; Klaes, Dominik; Kuijken, Konrad; **Merten, Julian**; Miller, Lance; Nakajima, Reiko; Schneider, Peter Valentijn, Edwin; Viola, Massimo
2017, submitted to the Monthly Notices of the Royal Astronomical Society [\[NASA ADS\]](#)
11. *Characterising dark matter haloes with computer vision* (0)
Merten, Julian; Llorens, Quim; Winther, Hans
2017, submitted to Astronomy & Computing [\[NASA ADS\]](#)

2016

1. *CLASH: Joint Analysis of Strong-Lensing, Weak-Lensing Shear and Magnification Data for 20 Galaxy Clusters* (62)
Umetsu, Keiichi; Zitrin, Adi; Gruen, Daniel; **Merten, Julian**; Donahue, Megan; Postman, Marc
2016, The Astrophysical Journal, Volume 821, Issue 2, article id. 116, 29 pp. [\[NASA ADS\]](#)
2. *Frontier Fields: Subaru Weak-Lensing Analysis of the Merging Galaxy Cluster A2744* (17)
Medezinski, Elinor; Umetsu, Keiichi; Okabe, Nobuhiro; Nonino, Mario; Molnar, Sandor; Massey, Richard; Dupke, Renato; **Merten, Julian**
2016, The Astrophysical Journal, Volume 817, Issue 1, article id. 24, 16 pp. [\[NASA ADS\]](#)
3. *CLASH-VLT: Dissecting the Frontier Fields Galaxy Cluster MACS J0416.1-2403 with ~800 Spectra of Member Galaxies* (14)
Balestra, I.; Mercurio, A.; Sartoris, B.; Girardi, M.; Grillo, C.; Nonino, M.; Rosati, P.; Biviano, A.; Ettori, S.; Forman, W.; Jones, C.; Koekemoer, A.; Medezinski, E.; **Merten, J.**; Ogrea, G. A.; Tozzi, P.; Umetsu, K.; Vanzella, E.; van Weeren, R. J.; Zitrin, A. Annunziatella, M.; Caminha, G. B.; Broadhurst, T.; Coe, D.; Donahue, M.; Fritz, A.; Frye, B.; Kelson, D.; Lombardi, M.; Maier, C.; Meneghetti, M.; Monna, A.; Postman, M.; Scodreggio, M.; Seitz, S.; Ziegler, B.
2016, The Astrophysical Journal Supplement Series, Volume 224, Issue 2, article id. 33, pp. [\[NASA ADS\]](#)

4. *The Detection and Statistics of Giant Arcs Behind CLASH Clusters* (8)
 Xu, Bingxiao; Postman, Marc; Meneghetti, Massimo; Seitz, Stella; Zitrin, Adi; **Merten, Julian**;
 Maoz, Dani; Frye, Brenda; Umetsu, Keiichi; Zheng, Wei; Bradley, Larry; Vega, Jesus; Koeke-
 moer, Anton
 2016, The Astrophysical Journal, Volume 817, Issue 2, article id. 85, 25 pp. [\[NASA ADS\]](#)

5. *A Comparison and Joint Analysis of Sunyaev-Zel'dovich Effect Measurements from Planck and Bolocam for a set of 47 Massive Galaxy Clusters* (7)
 Sayers, Jack; Golwala, Sunil R.; Mantz, Adam B.; **Merten, Julian**; Molnar, Sandor M.; Naka,
 Michael; Paillet, Gregory; Pierpaoli, Elena; Siegel, Seth R.; Wolman, Ben
 2016, The Astrophysical Journal, Volume 832, Issue 1, article id. 26, 11 pp. [\[NASA ADS\]](#)

6. *The discovery of lensed radio and X-ray sources behind the Frontier Fields cluster MACS J0717.5+3745 with the JVLA and Chandra* (7)
 van Weeren, R. J. ; Ogrean, G. A. ; Jones, C. ; Forman, W. R. ; Andrade-Santos, F. ; Bonafede, A. ;
 Brüggem, M. ; Bulbul, E. ; Clarke, T. E. ; Churazov, E. ; David, L. ; Dawson, W. A. ; Donahue, M. ;
 Goulding, A. ; Kraft, R. P. ; Mason, B. ; **Merten, J.** ; Mroczkowski, T. ; Murray, S. S. ; Nulsen, P. ;
 E. J. ; Rosati, P. ; Roediger, E. ; Randall, S. W. ; Sayers, J. ; Umetsu, K. ; Vikhlinin, A. ; Zitrin, A.
 2016, The Astrophysical Journal, Volume 817, Issue 2, article id. 98, 13 pp. [\[NASA ADS\]](#)

7. *Mesh-free free-form lensing I: Methodology and application to mass reconstruction* (6)
Julian Merten
 2016, Monthly Notices of the Royal Astronomical Society, vol. 461, issue 3, pp. 2328-2345
[\[NASA ADS\]](#)

8. *Calibrating the Planck Cluster Mass Scale with CLASH* (6)
 Penna-Lima, M.; Bartlett, J. G.; Rozo, E.; Melin, J. -B.; **Merten, J.**; Evrard, A. E.; Postman, M.;
 Rykoff, E.
 2016, Accepted by Astronomy & Astrophysics [\[NASA ADS\]](#)

9. *Frontier Fields Clusters: Deep Chandra Observations of the Complex Merger MACSJ1149.6+2223*
 (3)
 Ogrean, G. A.; van Weeren, R. J.; Jones, C.; Forman, W.; Dawson, W. A.; Golovich, N.; Andrade-
 Santos, F.; Murray, S. S.; Nulsen, P.; Roediger, E.; Zitrin, A.; Bulbul, E.; Kraft, R.; Goulding,
 A.; Umetsu, K.; Mroczkowski, T.; Bonafede, A.; Randall, S.; Sayers, J.; Churazov, E. David, L.;
Merten, J.; Donahue, M.; Mason, B.; Rosati, P.; Vikhlinin, A.; Ebeling, H. 2016, The Astrophys-
 ical Journal, Volume 819, Issue 2, article id. 113, 10 pp. [\[NASA ADS\]](#)

10. *Constraints on the Mass, Concentration, and Nonthermal Pressure Support of Six CLASH Clus-
 ters from a Joint Analysis of X-ray, SZ, and Lensing Data* (1)
 Siegel, Seth R.; Sayers, Jack; Mahdavi, Andisheh; Donahue, Megan; **Merten, Julian**; Zitrin,
 Adi; Meneghetti, Massimo; Umetsu, Keiichi; Czakon, Nicole G.; Golwala, Sunil R.; Postman,
 Marc; Koch, Patrick M.; Koekemoer, Anton M.; Lin, Kai-Yang; Melchior, Peter; Molnar, Sandor
 M.; Moustakas, Leonidas; Mroczkowski, Tony K.; Pierpaoli, Elena; Shitanishi, Jennifer
 2016, Submitted to the Astrophysical Journal [\[NASA ADS\]](#)

2015

1. *CLASH: The Concentration-Mass Relation of Galaxy Clusters* (94)
Merten, J.; Meneghetti, M.; Postman, M.; Umetsu, K.; Zitrin, A.; Medezinski, E.; Nonino, M.; Koekemoer, A.; Melchior, P.; Gruen, D.; Moustakas, L. A.; Bartelmann, M.; Host, O.; Donahue, M.; Coe, D.; Molino, A.; Jouvel, S.; Monna, A.; Seitz, S.; Czakon, N.; Lemze, D.; Sayers, J.; Balestra, I.; Rosati, P.; Benítez, N.; Biviano, A.; Bouwens, R.; Bradley, L.; Broadhurst, T.; Carrasco, M.; Ford, H.; Grillo, C.; Infante, L.; Kelson, D.; Lahav, O.; Massey, R.; Moustakas, J.; Rasia, E.; Rhodes, J.; Vega, J.; Zheng, W.
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2. *The behaviour of dark matter associated with four bright cluster galaxies in the 10 kpc core of Abell 3827* (83)
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3. *Hubble Space Telescope Combined Strong and Weak Lensing Analysis of the CLASH Sample: Mass and Magnification Models and Systematic Uncertainties* (76)
Zitrin, Adi; Fabris, Agnese; **Merten, Julian**; Melchior, Peter; Meneghetti, Massimo; Koekemoer, Anton; Coe, Dan; Maturi, Matteo; Bartelmann, Matthias; Postman, Marc; Umetsu, Keiichi; Seidel, Gregor; Sendra, Irene; Broadhurst, Tom; Balestra, Italo; Biviano, Andrea; Grillo, Claudio; Mercurio, Amata; Nonino, Mario; Rosati, Piero; Bradley, Larry; Carrasco, Mauricio; Donahue, Megan; Ford, Holland; Frye, Brenda L.; Moustakas, John
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Meneghetti, M.; Rasia, E.; Vega, J.; **Merten, J.**; Postman, M.; Yepes, G.; Sembolini, F.; Donahue, M.; Etori, S.; Umetsu, K.; Balestra, I.; Bartelmann, M.; Benítez, N.; Biviano, A.; Bouwens, R.; Bradley, L.; Broadhurst, T.; Coe, D.; Czakon, N.; De Petris, M.; Ford, H.; Giocoli, C.; Gottlöber, S.; Grillo, C.; Infante, L.; Jouvel, S.; Kelson, D.; Koekemoer, A.; Lahav, O.; Lemze, D.; Medezinski, E.; Melchior, P.; Mercurio, A.; Molino, A.; Moscardini, L.; Monna, A.; Moustakas, J.; Moustakas, L. A.; Nonino, M.; Rhodes, J.; Rosati, P.; Sayers, J.; Seitz, S.; Zheng, W.; Zitrin, A.
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Donahue, Megan; Voit, G. Mark; Mahdavi, Andisheh; Umetsu, Keiichi; Etori, Stefano; **Merten, Julian**; Postman, Marc; Hoffer, Aaron; Baldi, Alessandro; Coe, Dan; Czakon, Nicole; Bartelmann, Matthias; Benitez, Narciso; Bouwens, Rychard; Bradley, Larry; Broadhurst, Tom; Ford, Holland; Gastaldello, Fabio; Grillo, Claudio; Infante, Leopoldo; Jouvel, Stephanie; Koekemoer, Anton; Kelson, Daniel; Lahav, Ofer; Lemze, Doron; Medezinski, Elinor; Melchior, Peter; Meneghetti, Massimo; Molino, Alberto; Moustakas, John; Moustakas, Leonidas A.; Nonino, Mario; Rosati, Piero; Sayers, Jack; Seitz, Stella; Van der Wel, Arjen; Zheng, Wei; Zitrin, Adi
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Biviano, A.; Rosati, P.; Balestra, I.; Mercurio, A.; Girardi, M.; Nonino, M.; Grillo, C.; Scodreggio, M.; Lemze, D.; Kelson, D.; Umetsu, K.; Postman, M.; Zitrin, A.; Czoske, O.; Ettori, S.; Fritz, A.; Lombardi, M.; Maier, C.; Medezinski, E.; Mei, S.; Presotto, V.; Strazzullo, V.; Tozzi, P.; Ziegler, B.; Annunziatella, M.; Bartelmann, M.; Benítez, N.; Bradley, L.; Brescia, M.; Broadhurst, T.; Coe, D.; Demarco, R.; Donahue, M.; Ford, H.; Gobat, R.; Graves, G.; Koekemoer, A.; Kuchner, U.; Melchior, P.; Meneghetti, M.; **Merten, J.**; Moustakas, L.; Munari, E.; Regoes, E.; Sartoris, B.; Seitz, S.; Zheng, W.
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Medezinski, Elinor; Umetsu, Keiichi; Nonino, Mario; **Merten, Julian**; Zitrin, Adi; Broadhurst, Tom; Donahue, Megan; Sayers, Jack; Waizmann, Jean-Claude; Koekemoer, Anton; Coe, Dan; Molino, Alberto; Melchior, Peter; Mroczkowski, Tony; Czakon, Nicole; Postman, Marc; Meneghetti, Massimo; Lemze, Doron; Ford, Holland; Grillo, Claudio; Kelson, Daniel; Bradley, Larry; Moustakas, John; Bartelmann, Matthias; Benítez, Narciso; Biviano, Andrea; Bouwens, Rychard; Golwala, Sunil; Graves, Genevieve; Infante, Leopoldo; Jimenez-Teja, Yolanda; Jouvel, Stephanie; Lahav, Ofer; Moustakas, Leonidas; Ogaz, Sara; Rosati, Piero; Seitz, Stella; Zheng, Wei
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Balestra, I.; Vanzella, E.; Rosati, P.; Monna, A.; Grillo, C.; Nonino, M.; Mercurio, A.; Biviano, A.; Bradley, L.; Coe, D.; Fritz, A.; Postman, M.; Seitz, S.; Scodreggio, M.; Tozzi, P.; Zheng, W.;

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Eichner, Thomas; Seitz, Stella; Suyu, Sherry H.; Halkola, Aleks; Umetsu, Keiichi; Zitrin, Adi; Coe, Dan; Monna, Anna; Rosati, Piero; Grillo, Claudio; Balestra, Italo; Postman, Marc; Koekemoer, Anton; Zheng, Wei; Host, Ole; Lemze, Doron; Broadhurst, Tom; Moustakas, Leonidas; Bradley, Larry; Molino, Alberto; Nonino, Mario; Mercurio, Amata; Scodreggio, Marco; Bartelmann, Matthias; Benítez, Narciso; Bouwens, Rychard; Donahue, Megan; Infante, Leopoldo; Jouvel, Stephanie; Kelson, Daniel; Lahav, Ofer; Medezinski, Elinor; Melchior, Peter; **Merten, Julian**; Riess, Adam
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Postman, Marc; Coe, Dan; Benítez, Narciso; Bradley, Larry; Broadhurst, Tom; Donahue, Megan; Ford, Holland; Graur, Or; Graves, Genevieve; Jouvel, Stephanie; Koekemoer, Anton; Lemze, Doron; Medezinski, Elinor; Molino, Alberto; Moustakas, Leonidas; Ogaz, Sara; Riess, Adam; Rodney, Steve; Rosati, Piero; Umetsu, Keiichi; Zheng, Wei; Zitrin, Adi; Bartelmann, Matthias; Bouwens, Rychard; Czakon, Nicole; Golwala, Sunil; Host, Ole; Infante, Leopoldo; Jha, Saurabh; Jimenez-Teja, Yolanda; Kelson, Daniel; Lahav, Ofer; Lazkoz, Ruth; Maoz, Dani; McCully, Curtis; Melchior, Peter; Meneghetti, Massimo; **Merten, Julian**; Moustakas, John; Nonino, Mario; Patel, Brandon; Regoes, Eniko; Sayers, Jack; Seitz, Stella; Van der Wel, Arjen
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3 List of Personal References

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