

List of publications

Florent Leclercq

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4 August 2024

Refereed Journal Articles

21. *Luminous giants populate the dense Cosmic Web: The radio luminosity-environmental density relation for radio galaxies in action*
M. S. S. L. Oei, R. J. van Weeren, M. J. Hardcastle, A. R. D. J. G. I. B. Gast, [F. Leclercq](#), H. J. A. Röttgering, P. Dabhade, T. W. Shimwell, A. Botteon
A&A (accepted for publication), (2024), [arXiv:2404.17776 \[astro-ph.CO\]](#) (citation: **1**)
20. *Field-Based Physical Inference From Peculiar Velocity Tracers*
J. Prideaux-Ghee, [F. Leclercq](#), G. Lavaux, A. Heavens, J. Jasche
MNRAS **518**, 4191 (2023), [arXiv:2204.00023 \[astro-ph.CO\]](#) (citations: **11**)
19. *An intergalactic medium temperature from a giant radio galaxy*
M. S. S. L. Oei, R. J. van Weeren, M. J. Hardcastle, F. Vazza, T. W. Shimwell, [F. Leclercq](#), M. Brüggén, H. J. A. Röttgering
MNRAS **518**, 240 (2023), [arXiv:2210.10156 \[astro-ph.GA\]](#) (citations: **5**)
18. *Simulation-based inference of Bayesian hierarchical models while checking for model misspecification*
[F. Leclercq](#)
Physical Sciences Forum **5**, 4 (2022), [arXiv:2209.11057 \[stat.ME\]](#) (citations: **3**)
17. *Filamentary Baryons and Where to Find Them: A forecast of synchrotron radiation from merger and accretion shocks in the local Cosmic Web*
M. S. S. L. Oei, R. J. van Weeren, F. Vazza, [F. Leclercq](#), A. Gopinath, H. J. A. Röttgering
A&A **662**, A87 (2022), [arXiv:2203.05365 \[astro-ph.CO\]](#) (citations: **7**)
16. *Kernel-Based Emulator for the 3D Matter Power Spectrum from CLASS*
A. Mootooyaloo, A. H. Jaffe, A. F. Heavens, [F. Leclercq](#)
Astronomy and Computing **38**, 100508 (2022), [arXiv:2105.02256 \[astro-ph.CO\]](#) (citations: **24**)
15. *On the accuracy and precision of correlation functions and field-level inference in cosmology*
[F. Leclercq](#), A. Heavens
MNRAS Letters **506**, L85 (2021), [arXiv:2103.04158 \[astro-ph.CO\]](#) (citations: **16**)
14. *Velocity debiasing for Hubble constant measurements from standard sirens*
S. Mukherjee, G. Lavaux, F. R. Bouchet, J. Jasche, B. D. Wandelt, S. M. Nisanke, [F. Leclercq](#), K. Hotokezaka
A&A **646**, A65 (2020), [arXiv:1909.08627 \[astro-ph.CO\]](#) (citations: **84**)
13. *Parameter Inference for Weak Lensing using Gaussian Processes and MOPED*
A. Mootooyaloo, A. F. Heavens, A. H. Jaffe, [F. Leclercq](#)
MNRAS **497**, 2213 (2020), [arXiv:2005.06551 \[astro-ph.CO\]](#) (citations: **20**)
12. *Perfectly parallel cosmological simulations using spatial comoving Lagrangian acceleration*
[F. Leclercq](#), B. Faure, G. Lavaux, B. D. Wandelt, A. H. Jaffe, A. F. Heavens, W. J. Percival, C. Nouis
A&A **639**, A91 (2020), [arXiv:2003.04925 \[astro-ph.CO\]](#) (citations: **10**)
11. *Primordial power spectrum and cosmology from black-box galaxy surveys*
[F. Leclercq](#), W. Enzi, J. Jasche, A. Heavens
MNRAS **490**, 4237 (2019), [arXiv:1902.10149 \[astro-ph.CO\]](#) (citations: **16**)

10. *Bayesian optimisation for likelihood-free cosmological inference*
[F. Leclercq](#)
 Physical Review D **98**, 063511 (2018), [arXiv:1805.07152 \[astro-ph.CO\]](#) (citations: **47**)
 9. *The phase-space structure of nearby dark matter as constrained by the SDSS*
[F. Leclercq](#), J. Jasche, G. Lavaux, B. Wandelt, W. Percival
 JCAP **6**, 49 (2017), [arXiv:1601.00093 \[astro-ph.CO\]](#) (citations: **20**)
 8. *Cosmological N-body simulations including radiation perturbations*
 J. Brandbyge, C. Rampf, T. Tram, [F. Leclercq](#), C. Fidler, S. Hannestad
 MNRAS Letters **466**, L68 (2017), [arXiv:1610.04236 \[astro-ph.CO\]](#) (citations: **29**)
 7. *Comparing cosmic web classifiers using information theory*
[F. Leclercq](#), G. Lavaux, J. Jasche, B. Wandelt
 JCAP **8**, 27 (2016), [arXiv:1606.06758 \[astro-ph.CO\]](#) (citations: **14**)
 6. *Cosmic web-type classification using decision theory*
[F. Leclercq](#), J. Jasche, B. Wandelt
 A&A Letters **576**, L17 (2015), [arXiv:1503.00730 \[astro-ph.CO\]](#) (citations: **20**)
 5. *Bayesian analysis of the dynamic cosmic web in the SDSS galaxy survey*
[F. Leclercq](#), J. Jasche, B. Wandelt
 JCAP **6**, 15 (2015), [arXiv:1502.02690 \[astro-ph.CO\]](#) (citations: **46**)
 4. *Dark matter voids in the SDSS galaxy survey*
[F. Leclercq](#), J. Jasche, P. M. Sutter, N. Hamaus, B. Wandelt
 JCAP **3**, 47 (2015), [arXiv:1410.0355 \[astro-ph.CO\]](#) (citations: **37**)
 3. *Past and present cosmic structure in the SDSS DR7 main sample*
 J. Jasche, [F. Leclercq](#), B. D. Wandelt
 JCAP **1**, 36 (2015), [arXiv:1409.6308 \[astro-ph.CO\]](#) (citations: **74**)
 2. *One-point remapping of Lagrangian perturbation theory in the mildly non-linear regime of cosmic structure formation*
[F. Leclercq](#), J. Jasche, H. Gil-Marín, B. Wandelt
 JCAP **11**, 48 (2013), [arXiv:1305.4642 \[astro-ph.CO\]](#) (citations: **33**)
 1. *Main Sequence Stars with Asymmetric Dark Matter*
 F. Iocco, M. Taoso, [F. Leclercq](#), G. Meynet
 Physical Review Letters **108**, 061301 (2012), [arXiv:1201.5387 \[astro-ph.SR\]](#) (citations: **49**)
- Other Refereed Publications**
2. *Rubin-Euclid Derived Data Products: Initial Recommendations*
 L. P. Guy, J. C. Cuillandre, *et al.* (120 authors)
[Zenodo](#), 5836022 (2022), [arXiv:2201.03862 \[astro-ph.IM\]](#) (citations: **4**)
 1. *One-point statistics of the Lagrangian displacement field*
 Addendum to *One-point remapping of Lagrangian perturbation theory in the mildly non-linear regime of cosmic structure formation*
[F. Leclercq](#), J. Jasche, B. Wandelt
 JCAP **4**, 26 (2015), [arXiv:1507.08664 \[astro-ph.CO\]](#) (citations: **2**)
- Submitted Articles**
4. *Euclid. I. Overview of the Euclid mission*
 Euclid Collaboration: Y. Mellier *et al.* (2305 authors)
[arXiv:2405.13491 \[astro-ph.CO\]](#) (citations: **48**)
 3. *Bayesian Inference of Initial Conditions from Non-Linear Cosmic Structures using Field-Level Emulators*
 L. Doerer, D. Jamieson, S. Stopyra, G. Lavaux, [F. Leclercq](#), J. Jasche
[arXiv:2312.09271 \[astro-ph.CO\]](#) (citations: **4**)

2. *Higher-order statistics of the large-scale structure from photometric redshifts*

E. Tsaprazi, J. Jasche, G. Lavaux, [F. Leclercq](#)

[arXiv:2301.03581](#) [astro-ph.CO] (citations: **9**)

1. *Systematic-free inference of the cosmic matter density field from SDSS3-BOSS data*

G. Lavaux, J. Jasche, [F. Leclercq](#)

[arXiv:1909.06396](#) [astro-ph.CO] (citations: **43**)

Conference Proceedings

4. *Probabilistic cartography of the large-scale structure*

[F. Leclercq](#), J. Jasche, G. Lavaux, B. Wandelt

Proceedings of the “Rencontres du Vietnam” 2015, Cosmology 50 years after CMB discovery, 16-22 August 2015, Quy Nhon, Vietnam

[arXiv:1512.02242](#) [astro-ph.CO] (citations: **3**)

3. *Bayesian inference of the initial conditions from large-scale structure surveys*

[F. Leclercq](#)

Proceedings of the IAU Symposium 308, “The Zel’dovich Universe: Genesis and Growth of the Cosmic Web”, 23-28 June 2014, Tallinn, Estonia

doi:10.1017/S1743921316009984, [arXiv:1410.2271](#) [astro-ph.CO]

2. *Bayesian large-scale structure inference: initial conditions and the cosmic web*

[F. Leclercq](#), B. Wandelt

Proceedings of the IAU Symposium 306, “Statistical Challenges in 21st Cosmology”, 25-29 May 2014, Lisbon, Portugal

doi:10.1017/S1743921314011120, [arXiv:1410.1546](#) [astro-ph.CO] (citations: **2**)

1. *Bayesian inference of dark matter voids in galaxy surveys*

[F. Leclercq](#)

Proceedings of the “Rencontres de Moriond”, Cosmology session 2014, 22-29 March 2014, La Thuile, Italy

[arXiv:1410.0865](#) [astro-ph.CO]

Book Chapters

1. *Cosmology: from theory to data, from data to theory*

[F. Leclercq](#), A. Pisani, B. Wandelt

Lectures given at the International School of Physics Enrico Fermi “New Horizons for Observational Cosmology”, June 30-July 6, 2013, Varenna, Italy

doi:10.3254/978-1-61499-476-3-189, [arXiv:1403.1260](#) [astro-ph.CO] (citations: **4**)

PhD Thesis

Bayesian large-scale structure inference and cosmic web analysis

[F. Leclercq](#)

Institut d’Astrophysique de Paris, 2015

tel-01265548, [arXiv:1512.04985](#) [astro-ph.CO] (citations: **11**)

Blog articles

3. *Simulating the Universe on a mobile phone*

[F. Leclercq](#), G. Lavaux

25-05-2020, [Personal website](#) · [Aquila Consortium website](#)

2. *Evolution of cosmological simulations over the last 50 years*

[F. Leclercq](#)

08-04-2020, [Personal website](#) · Repository: [GitHub:florent-leclercq/Moore_low_cosmosims](#)

1. *Algorithms for likelihood-free cosmological data analysis*

[F. Leclercq](#)

25-04-2019, [Personal website](#) · [Aquila Consortium website](#)

- Public Data and Codes**
3. *pySELF*
Python implementation of the *Simulator Expansion for Likelihood-Free Inference* (SELF) algorithm.
[F. Leclercq](#)
doi:10.5281/zenodo.3341588, GitHub:florent-leclercq/pyselfi,
<http://pyselfi.florent-leclercq.eu>
 2. *SIMBELMYNE*
A hierarchical probabilistic simulator to generate synthetic galaxy survey data
[F. Leclercq](#)
Additional contributions from: B. Faure, M. M. Ali Mohamed
BitBucket:florent-leclercq/simbelmyne, <http://simbelmyne.florent-leclercq.eu>
 1. *The BORG SDSS data release*
Public release of data products following the BORG SDSS analysis
[F. Leclercq](#), J. Jasche, B. Wandelt
Additional contributions from: N. Hamaus, G. Lavaux, P. M. Sutter
doi:10.5281/zenodo.1455729, GitHub:florent-leclercq/borg_sdss_data_release,
<http://data.florent-leclercq.eu>

Source of citation counts: [NASA ADS](#), 4 August 2024.