

MARTA MONELLI

Kavli Institute for the Physics and Mathematics of the Universe (IPMU)
5-1-5 Kashiwanoha, Kashiwa, Chiba, 277-8583, Japan
email: marta.monelli@ipmu.jp
website: github.com/martamonelli, martamonelli.github.io

ACADEMIC APPOINTMENTS

Project researcher

Kavli Institute for the Physics and Mathematics of the Universe, Kashiwanoha, Japan

OCT 2024 - today

Postdoctoral research fellow

Max Planck Institute for Astrophysics, Garching, Germany

MAY 2024 - OCT 2024

EDUCATION

Ph.D. in Physics

JUN 2020 - APR 2024

degree obtained from LMU Munich at Max Planck Institute for Astrophysics, Garching, Germany

Thesis: "Development of realistic simulations for the polarization of the cosmic microwave background"

Supervisor: Prof. Dr. Eiichiro Komatsu

Master's Degree in Physics

NOV 2015 - DEC 2018

University of Pisa, Pisa, Italy

Bachelor's Degree in Physics

OCT 2012 - DEC 2015

University of Pisa, Pisa, Italy

PUBLICATIONS

(total: 19 peer reviewed papers, of which 2 first author)

First author papers

1. M. Monelli, E. Komatsu, T. Ghigna, T. Matsumura, G. Pisano and R. Takaku: "*Impact of half-wave plate systematics on the measurement of CMB B-mode polarization*". Published in JCAP 05 (2024) 018.
2. M. Monelli, E. Komatsu, A. E. Adler, M. Billi, P. Campeti, N. Dachlythra, A. J. Duivenvoorden, J. E. Gudmundsson and M. Reinecke: "*Impact of half-wave plate systematics on the measurement of cosmic birefringence from CMB polarization*". Published in JCAP 03 (2023) 034.

First author tier papers (significant contributor)

3. M. Bortolami, N. Raffuzzi, L. Pagano, G. Puglisi, A. Anand, A. Banday, P. Campeti, G. Galloni, A. Lonappan, M. Monelli et al (LiteBIRD collaboration): "*First release of LiteBIRD simulations from an end-to-end pipeline*". Published in JCAP 11 (2025) 042.
4. R. Aurlien, M. Galloway, E. Gjerløw, U. Fuskeland, A. Basurov, M. Bortolami, M. Brilenkov, P. Campeti, H. K. Eriksen, D. Herman, M. Monelli et al (Cosmoglobe and LiteBIRD collaborations): "*On the computational feasibility of Bayesian end-to-end analysis of LiteBIRD simulations within Cosmoglobe*". Published in JCAP 11 (2025) 041.
5. M. Tomasi, L. Pagano, A. Anand, C. Baccigalupi, A. Banday, M. Bortolami, G. Galloni, M. Galloway, T. Ghigna, S. Giardiello, M. Gomes, E. Hivon, N. Krachmalnicoff, S. Micheli, M. Monelli et al (LiteBIRD collaboration): "*A Simulation Pipeline for the LiteBIRD Instruments*". Published in JCAP 11 (2025) 040.

Other collaboration papers

- Contributing author to 14 additional LiteBIRD collaboration papers (2021–present). See publication list.

Preprints/submitted

- N. Raffuzzi, A. Carones, M. Monelli et al (LiteBIRD collaboration): "*Mitigating half-wave plate systematics at the map-making level: calibration requirements for LiteBIRD*". arXiv: [2602.02410](https://arxiv.org/abs/2602.02410), submitted to JCAP.

PROFESSIONAL PRESENTATIONS

Invited talks

1. Kavli IPMU, Japan, *LiteBIRD global F2F*, Jan 2026.
2. SISSA, Italy, *APC Seminar*, Jan 2026.
3. Hamburg Observatory, Germany, *Colloquium*, Dec 2025.
4. Max-Planck-Institute for Astrophysics, Germany, *Cosmology Seminar*, Dec 2025.
5. Quy Nhon, Vietnam, *21st Rencontres du Vietnam*, **LiteBIRD overview talk**, Aug 2025.

6. Università di Ferrara, Italy, *Special seminar*, May 2025.
7. IFCA, Spain, *Cosmology group meeting*, May 2025.
8. KEK, Japan, *CMB B-mode NEXT*, Jan 2025.
9. Kavli IPMU, Japan, *LiteBIRD global F2F*, Jan 2025.
10. Max-Planck-Institute for Astrophysics, Germany, *Institute Seminar*, Sep 2024.
11. Stockholm, Sweden, *Beam Mode workshop*, Sep 2023 (online).
12. KEK, Japan, *CMB Group Seminar*, Jun 2023.
13. Max-Planck-Institute for Astrophysics, Germany, *Cosmology Seminar*, May 2023.
14. Chino, Japan, *Workshop on Very Light Dark Matter*, Mar 2023 (online).
15. KEK, Japan, *Cosmophysics Seminar*, Dec 2022 (online).

Contributed talks and presentations

16. Milan, Italy, *CMB-Cal workshop*, Nov 2024 (online).
17. Kashiwa-no-ha, Japan, *Kashiwa-no-ha Dark Matter and Cosmology symposium*, Nov 2024.
18. Kyoto, Japan, *COSMO'24 Conference*, Oct 2024.
19. McGill University, Canada, *Trottier Space Institute special seminar*, Oct 2023.
20. Rome, Italy, *CMB-Inflate meeting*, Sep 2023 (online).
21. Madrid, Spain, *COSMO'23 Conference*, Sep 2023.
22. University of New Brunswick, Canada, *Gravity Group meeting*, Feb 2023.
23. Perimeter Institute, Canada, *Special seminar*, Feb 2023.
24. Canadian Institute for Theoretical Astrophysics, Canada, *Cosmolunch*, Feb 2023.
25. Tenerife, Spain, *Galactic science and CMB foregrounds Workshop*, Dec 2022.
26. Kavli IPMU, Japan, *CMB group meeting*, Sep 2022.
27. KEK, Japan, *CMB group meeting*, Sep 2022.
28. Kavli IPMU, Japan, *9th core-to-core program CMB Japan group seminar for young scientists*, Sep 2022.
29. Online, *CMB-Inflate kickoff meeting*, Dec 2021.
30. Online, *LiteBIRD global S2S*, Oct 2021.

Posters

- Kavli IPMU, Japan, *WPI committee site visit*, poster, January 2026.
- Vancouver, Canada, *LiteBIRD global F2F*, poster, July 2024.
- Kavli IPMU, Japan, *LiteBIRD Japan F2F*, poster, Jun 2023.
- Okayama, Japan, *LiteBIRD global F2F*, online poster, Dec 2022.
- Online, *LiteBIRD global S2S*, poster, Oct 2021.

PROFESSIONAL ACTIVITIES

Leadership and organization

- Early-career LiteBIRD staff representative (2026–present)
- Co-organizer of *CMB group meetings*, Kavli IPMU (2024–present)
- Local Organizing Committee chair and Scientific Organizing Committee member, *LiteBIRD Winter F2F* (2025)
- Co-organizer of “*Informology*”, weekly early-career meeting, MPA (2023–2024)

Mentorship

- Co-supervisor of Taisei Iwagaki, Master student, IPMU CMB group (2025–2026)

Collaboration and service

- Member, LiteBIRD collaboration (2021–present)
 - Science Ground Segment (2025–present)
 - MaPLEs (2024–present)
 - Recipe + Sensitivity Task Force (2024–2025)
 - Simulation Team (2021–present)
- Member, CMB-Inflate program, MPA (2021–2024)

Outreach and public engagement

- Outreach talk for high school students visiting from RSJ, Kavli IPMU (Nov 2025)
- Intercultural Exchange Seminar, Kyoritsu Women's Junior College (Oct 2025)

OTHER WORK EXPERIENCE

Internship student

Max Planck Institute for Astrophysics, Garching, Germany

JAN 2020 - JUN 2020

Substitute mathematics and physics teacher

Secondary education (*liceo*), Italy

DEC 2018 - DEC 2019