

Curriculum Vitae Elisabetta Marchitelli

Education

- 2019 BACHELOR DEGREE in Physics, Sapienza University of Rome
2022 MASTER DEGREE in Astronomy and Astrophysics, Sapienza University of Rome
2022 - Current *PhD student*, Sapienza University of Rome

Visiting Appointments

- 2024-2025 University of Manchester, United Kingdom (October - February)
2025 University of Manchester, United Kingdom (April - June)

Research Activities

2021 - Current **Member of the COSMO collaboration:**

- Development of a cryogenic mirror transport mechanism for the differential Fourier transform spectrometer
- Development of multimodal kinetic inductance detectors
- Development of a simulation framework to assess the performance of the instrument
- Assembly, integration and verification of the sub-K cryogenics

2021-Current **Member of the LSPE/SWIPE collaboration:**

- Development and test of a star sensor
- Tests on the cryogenic rotation mechanism of the polarisation modulation unit

2023-Current **Member of the LiteBIRD collaboration:**

- Tests on the prototype model of the cryogenic rotation mechanism of the polarisation modulation unit

Talks

- 2025 **COSMO: in quest of spectral distortions of the CMB** at *Astronomy, Astrophysics and Space Science PhD. Workshop 2025*
- 2024 **Looking for Spectral Distortion of the Cosmic Microwave Background: the COSmic Monopole Observer experiment** at *Astronomy, Astrophysics and Space Science PhD. Workshop 2024*
- 2023 **Spectral Distortion of the CMB with the COSMO experiment** at *Astronomy, Astrophysics and Space Science PhD. Workshop 2023*
- 2021 **Measuring spectral distortions of the CMB: the COSMO experiment** at *6th Workshop of the SCAR AAA 2021*

Posters

- 2025 **How to make a CMB experiment (with images)** at *International Day of Girls and Women in Science “She rocks science”* (dissemination poster session)
- 2024 **CMB WARS: The Attack of The Cosmologists** at *International Day of Girls and Women in Science “She rocks science”* (dissemination poster session)
- 2022 **The COSMO experiment and Galactic foregrounds** at *Galactic Science and CMB foreground - 2nd Workshop of the JSPS Core to Core CMB Workshop series*

Publications

- 2024 Columbro, F., G. Barbieri Ripamonti, et al. (Aug. 2024). In: *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII*. Vol. 13102. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 1310220. DOI: [10.1117/12.3019100](https://doi.org/10.1117/12.3019100).
- Columbro, F., P. de Bernardis, et al. (Nov. 2024). In: *Journal of Low Temperature Physics* 217.3-4, pp. 383–392. DOI: [10.1007/s10909-024-03193-z](https://doi.org/10.1007/s10909-024-03193-z).
- Conenna, G. et al. (Aug. 2024). In: *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII*. Vol. 13102. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 1310221. DOI: [10.1117/12.3018633](https://doi.org/10.1117/12.3018633).
- Ghigna, T., A. Adler, K. Aizawa, H. Akamatsu, R. Akizawa, E. Allys, A. Anand, J. Aumont, J. Austermann, S. Azzoni, C. Baccigalupi, M. Ballardini, A. Banday, et al. (Aug. 2024). In: *Space Telescopes and Instrumentation 2024: Optical, Infrared, and Millimeter Wave*. Vol. 13092. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 1309228. DOI: [10.1117/12.3021377](https://doi.org/10.1117/12.3021377).
- Ghigna, T., A. Adler, K. Aizawa, H. Akamatsu, R. Akizawa, E. Allys, A. Anand, J. Aumont, J. Austermann, S. Azzoni, C. Baccigalupi, M. Ballardini, A. J. Banday, et al. (June 2024). In: *arXiv e-prints*, arXiv:2406.02724. DOI: [10.48550/arXiv.2406.02724](https://doi.org/10.48550/arXiv.2406.02724).
- Manzan, E., L. Albano, C. Franceschet, E. Battistelli, et al. (Aug. 2024). In: *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII*. Vol. 13102. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 131021A. DOI: [10.1117/12.3018730](https://doi.org/10.1117/12.3018730).
- Manzan, E., L. Albano, C. Franceschet, E. S. Battistelli, et al. (June 2024). In: *arXiv e-prints*, arXiv:2406.09349. DOI: [10.48550/arXiv.2406.09349](https://doi.org/10.48550/arXiv.2406.09349).
- Mennella, A., P. Ade, A. Almela, G. Amico, L. H. Arnaldi, J. Aumont, S. Banfi, E. S. Battistelli, B. Bélier, L. Bergé, J. P. Bernard, et al. (June 2024). In: *mm Universe 2023 - Observing the Universe at mm Wavelengths*. Vol. 293. European Physical Journal Web of Conferences, p. 00030. DOI: [10.1051/epjconf/202429300030](https://doi.org/10.1051/epjconf/202429300030).
- Micheli, S. et al. (Aug. 2024a). In: *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII*. Vol. 13102. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 131022R. DOI: [10.1117/12.3018553](https://doi.org/10.1117/12.3018553).

- Micheli, S. et al. (July 2024b). In: *arXiv e-prints*. DOI: [10.48550/arXiv.2407.15294](https://doi.org/10.48550/arXiv.2407.15294).
- Occhiuzzi, A. et al. (Aug. 2024). In: *Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy XII*. Vol. 13102. Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, p. 1310216. DOI: [10.1117/12.3019097](https://doi.org/10.1117/12.3019097).
- 2023 Masi, S. et al. (July 2023). In: *The Sixteenth Marcel Grossmann Meeting. On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics, and Relativistic Field Theories*, pp. 1654–1671. DOI: [10.1142/9789811269776_0131](https://doi.org/10.1142/9789811269776_0131).
- Mennella, A., P. Ade, A. Almela, G. Amico, L. H. Arnaldi, J. Aumont, S. Banfi, E. S. Battistelli, B. Bélier, L. Bergé, J. .-. Bernard, et al. (Nov. 2023). In: *arXiv e-prints*, arXiv:2311.02779. DOI: [10.48550/arXiv.2311.02779](https://doi.org/10.48550/arXiv.2311.02779).
- 2022 Mele, L. et al. (Dec. 2022). In: *Journal of Low Temperature Physics* 209.5-6, pp. 912–918. DOI: [10.1007/s10909-022-02874-x](https://doi.org/10.1007/s10909-022-02874-x).

Selected Publications

- Masi, S., et al. (July 2023). The COSmic Monopole Observer (COSMO). *The Sixteenth Marcel Grossmann Meeting*, pp. 1654-1671 DOI: [10.1142/9789811269776_0131](https://doi.org/10.1142/9789811269776_0131)
- Columbro, F., et al. (Nov. 2024). A Cryogenic Testbed of Polarization Modulators and Cryogenic Mechanisms. *Journal of Low Temperature Physics* 217.3-4, pp. 283-293. DOI: [10.1007/s10909-024-03193-z](https://doi.org/10.1007/s10909-024-03193-z)

Le informazioni contenute nel presente “curriculum vitae et studiorum” sono rese sotto la personale responsabilità del sottoscritto, ai sensi degli articoli 46 e 47 del Decreto del Presidente della Repubblica 28 dicembre 2000, numero 445, e successive modifiche e integrazioni, consapevole della responsabilità penale prevista dall’articolo 76 del medesimo Decreto per le ipotesi di falsità in atti e/o dichiarazioni mendaci.

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