

Maria Salatino

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Born 1983, Rome. Italian citizen.

Physical Science Research Scientist. Physics Department Stanford University.

Kavli Institute for Particle Astrophysics and Cosmology (KIPAC).

382 Via Pueblo, Stanford, CA 94305, USA.

MAIN RESEARCH INTERESTS

- Instrumentation and technology for astrophysics and cosmology in the mm and sub-mm bands.
- Polarization of the Cosmic Microwave Background (CMB) and of the emission from interstellar dust.
- Superconducting detectors for mm and sub-mm bands, detectors cameras.
- Cryogenic polarization modulators.
- Mechanical design, finite element analysis, design of printed circuit boards.
- Data analysis, simulation, programming.
- Systematics in CMB polarimeters and large focal planes.

EDUCATION

Sapienza University of Rome - Physics Department.

- 2011. **Ph.D. in Astronomy**. Prof. P. de Bernardis.
Measuring interstellar dust polarization in the submillimeter.
- 2007. **M.Sc. in Astronomy and Astrophysics 110/110 cum laude**. Prof. P. de Bernardis.
A cryogenic polarization modulator for sensitive studies of interstellar dust polarization.
- 2004. **B.Sc. in Physics and Astrophysics 110/110 cum laude**. Prof. P. Giannone.
The stellar evolution compared to Hipparcos data.

APPOINTMENTS

- 2018-present. **Stanford University** and **KIPAC** - Physics Department.
Physical Science Research Scientist. Prof. C.-L. Kuo.
- Leading the development of ALICPT-1, the first CMB telescope in Tibet.
- 2017-2018. AstroParticle and Cosmology laboratory (APC), Paris Diderot University.
Post-doc Researcher. Prof. M. Piat.
Integration, commissioning and testing of the QUBIC experiment.
- Testbed development and TES arrays tests, calibration of the experiment.
- Microwave Kinetic Inductance Detector (MKID) fabricatio. Systematics in the QUBIC polarimeter.
- 2015-2017. **Princeton University** - Physics Department.
Postdoc Research Associate. Prof. S.T. Staggs.
Design and construction of the new AdvACT bolometric camera on ACT.
- Camera integration and tests, testbed development.
- Detectors data analysis and study of systematic effects.
- 2015. **Chalmers University of Technology** (Sweden) - Dept. of Microtechnology and Nanoscience MC2.
Visiting scientist. Prof. L. Kuzmin.
Development of Cold-Electron Bolometers (CEBs) for astrophysical observations of the primordial universe.
- CEBs fabrication and characterization.

Sapienza University of Rome - Physics Department.

88 papers, 12 first author (7 on refereed journals).

First Author Publications

Peer Reviewed Publications

88. *Proximity-Coupled Al/Au Bilayer Kinetic Inductance Detectors*. Hu J., **Salatino M.**, Traini A., Chaumont C., Boussaha F., Goupil C., Piat M.. *Journal of Low Temperature Physics*, doi s10909-019-02313-4 (2020).
87. *Machine Learning, Markov Chain Monte Carlo and Optimal Algorithms to Characterize the AdvACT kilopixel Transition-Edge Sensor Arrays*. **Salatino M.**, Austermann J., Beall J.A., Choi S., Crowley K.T., Duff S., Henderson S.W., Hilton G., Ho S.-P.P., Hubmayr J., Li Y., Niemack M.D., Simon S.M., Staggs S.T. and Wollack E.J.. *IEEE Transactions on Applied Superconductivity* 29, 5 (2019).
86. *Optimization of Advanced ACTPol Transition-Edge Sensor Bolometer Operation Using R(T,I) Transition Measurements (invited)*. **Salatino M.**, Pappas C.G., Henderson S.W., Newburgh L., Niemack M.D., Staggs S.T., and Wagoner K.. *IEEE Transactions on Applied Superconductivity* 27, 4, 1-6 (2017).
85. *Modeling Transmission and Reflection Mueller Matrices of Dielectric Half-Wave Plates*. **Salatino M.**, de Bernardis P., and Masi S., *Journal of Infrared, Millimeter, and Terahertz Waves* 38, 2, 215-228 (2017).
84. *Sensitivity to Cosmic Rays of Cold Electron Bolometers for Space Applications*. **Salatino M.**, de Bernardis P., Kuzmin L.S., Mahashabde S. and Masi S.. *Journal of Low Temperature Physics* 176, 3-4, 323-330, astro-ph/[1403.7779](#) (2014).
83. *The spectral energy distribution of the Carina nebula from far infrared to radio wavelengths*. **Salatino M.**, de Bernardis P., Masi S. and Polenta P.. *The Astrophysical Journal* 748, 1, 1-9, astro-ph/[1101.1443](#) (2012).
82. *A Cryogenic Waveplate Rotator for polarimetry at mm and sub-mm wavelengths*. **Salatino M.**, de Bernardis P. and Masi S.. *Astronomy and Astrophysics* 528, A138, 1-8, astro-ph/[1006.5392](#) (2011).

Conference proceedings

81. *Studies of systematic uncertainties for Simons Observatory: polarization modulator related effects*. **Salatino M.**, Lashner J., Gerbino M., Simon S.M., Didier J., Ali A., Ashton P.C., Bryan S., Chinone Y., Coughlin K., Crowley K.T., Fabbian G., Galitzki N., Goeckner-Wald N., Gudmundsson J.E., Hill C.A., Keating B., Kusaka A., Lee A.T., McMahon J., Miller A.D., Puglisi G., Reichardt C.L., Teply G., Xu Z., Zhu N.. *SPIE* 10708, doi:10.1117/12.2312993, astro-ph/[1808.07442](#) (2018).
80. *Performance of NbSi transition-edge sensors readout with a 128 MUX factor for the QUBIC experiment*. **Salatino M.**, Bélier B., Chapron C., Hoang D.T., Maestre S., Marnieros S., Marty W., Montier L., Piat M., Prêle D., Rambaud D., Thermeau J.P., Torchinsky S.A., Henrot-Versillé S., Voisin F. et al. *SPIE* 10708, doi:10.1117/12.2312080 (2018).
79. *Cold-electron bolometers for future mm and sub-mm sky surveys*. **Salatino M.**, Mahashabde S., de Bernardis P., Kuzmin L.S. and Masi S.. *Proc. SPIE* 9153, 91530A, astro-ph/[1410.5870](#) (2014).
78. *On Stokes Polarimeters for high precision CMB measurements and mm Astronomy measurements*. **Salatino M.** and de Bernardis P.. *Proc. of 45th Rencontres de Moriond - Cosmology session*, astro-ph/[1006.3225](#) (2010).
77. *Measuring polarization of interstellar dust: a modulator for the PILOT experiment*. **Salatino M.**, de Bernardis P., Iacoangeli A., Masi S., Pimentão J. and Bernard J.Ph.. *Memorie della Società Astronomica Italiana* 79, 905-909 (2008).

Submitted

- *The cross correlation of the ABS and ACT maps.* Li Z. et al. (including **Salatino M.**), astro-ph/[2002.05717](#) (2020).
- *QUBIC: using NbSi TESs with a bolometric interferometer to characterize the polarisation of the CMB.* Piat M. et al. (including **Salatino M.**). Submitted to JLTP, astro-ph/[1911.12418](#) (2019).
- Garcia B. and the QUBIC Collaboration (including **Salatino M.**). QUBIC: observing the polarized microwave sky over the Puna (May 2019).

Additional Publications

Peer Reviewed Publications

76. *Simons Observatory Microwave SQUID Multiplexing Readout: Cryogenic RF Amplifier and Coaxial Chain Design.* Rao M.S., Silva-Feaver M. et al. (including **Salatino M.**). JLTP, astro-ph/[2003.08949](#) (2020).
75. *Characterization of Transition Edge Sensors for Simons Observatory.* Stevens R.J. et al. (including **Salatino M.**). JLTP, astro-ph/[1912.00860](#) (2020).
74. *Small Aperture Telescopes for the Simons Observatory* Ali A.A. et al. (including **Salatino M.**). JLTP, astro-ph/[2001.07848](#) 2020.
73. *Characterization of aliased noise in the Advanced ACTPol receiver.* Gallardo P. et al. (including **Salatino M.**). JLTP, astro-ph/[1912.02902](#) (2020).
72. *Assembly and Integration Process of the High-Density Detector Array Readout Modules for the Simons Observatory.* Li Y. et al. (including **Salatino M.**). JLTP, doi 10.1007/s10909-020-02386-6 (2020).
71. *The geometry of the magnetic field in the central molecular zone measured by PILOT.* Mangilli A. et al. (including **Salatino M.**). A&A 630, A74, astro-ph/[1901.06196](#) (2019).
70. *PILOT balloon-borne experiment in-flight performance.* Mangilli A., Foënard G., Aumont J., Hughes A., Mot B., Bernard J.-Ph., Lacourt A., Ristorcelli I., Montier L., Longval Y., Ade P., André Y., Bautista L., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Bray N., Buttice V., Charra M., Chaigneau M., Crane B., Doumayrou E., Dubois J.P., Dupac X., Engel C., Etcheto P., Gelot Ph., Griffin M., Grabarnik S., Hargrave P., Lepennec Y., Laureijs R., Leriche B., Maestre S., Maffei B., Martignac J., Marty C., Marty W., Masi S., Mirc F., Misawa F., Nicot J.M., Montel J., Narbonne J., Pajot F., Pérot E., Parot G., Pimentao J., Pisano G., Ponthieu N., Rodriguez L., Roudil G., Roussel H., **Salatino M.**, Savini G., Simonella O., Saccoccio M., Stever S., Tapie P., Tauber J., Tibbs C., Tucker C.. *Experimental Astronomy*, 48, 265, astro-ph/[1804.05645](#) (2019).
69. *The Simons Observatory: Science goals and forecasts.* The Simons Observatory Collaboration (including **Salatino M.**). JCAP 2, 56, astro-ph/[1808.07445](#) (2019).
68. *TES bolometer arrays for the QUBIC B-mode CMB experiment* Marnieros S. and the QUBIC collaboration (including **Salatino M.**). JLTP, doi 10.1007/s10909-019-02304-5 (2020).
67. *Characterization of the Mid-Frequency Arrays for Advanced ACTPol.* S.K. Choi, Austermann J., Beall J., Crowley K., Datta R., Duff S., Gallardo P., Ho S.-P., Hubmayr J., Koopman B., Li Y., Nati F., Niemack M., Page L., **Salatino M.**, Simon S., Staggs S., Stevens J., Ullom J., Wollack E.. *Journal of Low Temperature Physics* 193, 267, astro-ph/[1711.04841](#) (2018).
66. *Advanced ACTPol TES Device Parameters and Noise Performance in Fielded Arrays.* Crowley K.T., Duff S.M., Gallardo P.A., Hubmayr J., Koopman B.J., Nati F., Niemack M.D., **Salatino M.**, Simon S.M., Staggs S.T, Vavagiakis E.M., Wollack E.J.. *Journal of Low Temperature Physics* 193, 3, 328, astro-ph/[1807.07496](#) (2018).
65. *QUBIC - The Q&U Bolometric Interferometer for Cosmology - A novel way to look at the polarized Cosmic Microwave Background.* Mennella A., Aumont J., Banfi S., Battaglia P., E.S. Battistelli E.S., Baù A. Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.A., Bleurvacq N., Bordier G., Brossard J., Bunn E.F., Buzi D., Buzzelli A., Camilleri D., Cavaliere F., Chaniel P., Chapron C., Coppi G., Coppolecchia A., Couchot F., D'Agostino R., D'Alessandro G., de Bernardis P., De Gasperis G., De Petris M., Decourcelle T., Del Torto F., Dumoulin L., Etchegoyen A., Franceschet C., Garcia B., Gault A., Gayer D., Gervasi M., Ghribi A., Giard M., Giraud-Héraud Y., Gradziel M., Grandsire L., Hamilton J.Ch., Harari D., Haynes V., Henrot-Versillé S., Holtzer N., Kaplan J., Korotkov A., Lamagna L., Lande J., Loucatos S., Lowitz A., Lukovic V., Maffei B., Marnieros S., Martino J., Masi S., May A., McCulloch

- M., Medina M.C., Melhuish S., Montier L., Murphy A., Néel D., Ng M.W., O'Sullivan C., Paiella A., Pajot F., Passerini A., Pelosi A., Perbost C., Perdereau O., Piacentini F., Piat M., Piccirillo L., Pisano G., Prêle, Puddu R., Rambaud D., Rigaut O., Romero G.E., **Salatino M.**, Schillaci A., Scully S., Stolpovskiy M., Suarez F., Tartari A., Timbie P., Tristram M., Tucker G., Viganò D., Vittorio N., Voisin F., Watson B., Zannoni M., Zullo A.. Proc. of the EPS-HEP 2017, astro-ph/[1801.03730](https://arxiv.org/abs/1801.03730) (January 2018).
64. *The PILOT Optical Alignment For Its First Flight*. Mot B., Longval Y., Bernard J-Ph., Ade P., André Y., Aumont J., Bautista L., Bray N., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Buttice V., Caillat A., Chaigneau M., Coudournac C., Crane B., Douchin F., Doumayrou E., Dubois J.-P., Engel C., Etcheto C., Gélot P., Griffin M., Foenard G., Grabarnik S., Hargrave P., Hughes A., Laureijs R., Lepennec Y., Leriche B., Maestre S., Maffei B., Mangilli A., Martignac J., Marty C., Marty W., Masi S., Mirc F., Misawa R., Montel J., Montier L., Narbonne J., Nicot J.-M., Pajot F., Parot G., Pérot E., Pimentao J., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., Saccoccio M., **Salatino M.**, Savini G., Stevers S., Simonella O., Tapie P., Tauber J., Tibbs C., Torre J.-P., Tucker C.. CEAS Space journal, doi:10.1007/s12567-017-0159-3 (2017).
63. *The optical performance of the PILOT instrument from ground end-to-end tests*. Misawa R., Bernard J.-Ph., Longval Y., Ristorcelli I., Ade P., André Y., Aumont J., Bautista L., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Buttice V., Caillat A., Chaigneau M., Charra M., Crane B., Douchin F., Doumayrou E., Dubois J.P., Engel C., Griffin M., Foenard G., Grabarnik S., Hargrave P., Hughes A., Laureijs R., Leriche B., Maestre S., Maffei B., Marty C., Marty W., Masi S., Montel J., Montier L., Mot L., Narbonne L., Pajot F., Pérot E., Pimentão J., Pisano J., Ponthieu N., Rodriguez L., Roudil G., **Salatino M.**, Savini G., Simonella O., Saccoccio M., Tauber J., Tucker C.. Experimental Astronomy 43, 3, 211 (2017).
62. *PILOT: a balloon-borne experiment to measure the polarized FIR emission of dust grains in the interstellar medium*. Bernard J.-Ph., Ade P., André Y., Aumont J., Bautista L., Bray N., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Buttice V., Caillat A., Charra M., Chaigneau M., Crane B., Crussaire J.-P., Douchin F., Doumayrou E., Dubois J.-P., Engel C., Etcheto P., Gélot P., Griffin M., Foenard G., Grabarnik S., Hargrave P., Hughes A., Laureijs R., Lepennec Y., Leriche B., Longval Y., Maestre S., Maffei B., Martignac J., Marty C., Marty W., Masi S., Mirc F., Misawa R., Montel J., Montier L., Mot B., Narbonne J., Nicot J.-M., Pajot F., Parot G., Pérot E., Pimentão J., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.**, Savini G., Simonella O., Saccoccio M., Tapie P., Tauber J., Torre J.-P., Tucker C.. Experimental Astronomy 42, 2, 199-227 (2016).
61. *AIMn Transition Edge Sensors for Advanced ACTPol*. Li D., Austermann J.E., Beall J.A., Becker D.T., Duff S.M., Gallardo P.A., Henderson S.W., Hilton G.C., Ho S.P., Hubmayr J., Koopman B.J., McMahon J.J., Nati F., Niemack M.D., Pappas C.G., **Salatino M.**, Schmitt B.L., Simon S.M., Staggs S.T., Van Lanen J., Ward J.T., Wollack E.J.. Journal of Low Temperature Physics 184, 1-2, 66-73 (2016).
60. *The First Multichroic Polarimeter Array on the Atacama Cosmology Telescope: Characterization and Performance*. Ho S.P., Pappas C.G., Austermann J., Beall J.A., Becker D., Choi S.K., Datta R., Duff S.M., Gallardo P.A., Grace E., Hasselfield M., Henderson S.W., Hilton G.C., Hubmayr J., Koopman B.J., Lanen J.V., Li D., McMahon J., Nati F., Niemack M.D., Niraula P., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Staggs S.T., Stevens J.R., Ward J.T., Wollack E.J., Vavagiakis E.M.. Journal of Low Temperature Physics 184, 3-4, 559-567 (2016).
59. *Advanced ACTPol Multichroic Polarimeter Array Fabrication Process for 150 mm Wafers*. Duff S.M., Austermann J., Beall J.A., Becker D., Datta R., Gallardo P.A., Henderson S.W., Hilton G.C., Ho S.P., Hubmayr J., Koopman B.J., Li D., McMahon J., Nati F., Niemack M.D., Pappas C.G., **Salatino M.**, Schmitt B.L., Simon S.M., Staggs S.T., Stevens J.R., Van Lanen J., Vavagiakis E.M., Ward J.T., Wollack E.J.. Journal of Low Temperature Physics 184, 3-4, 634-641 (2016).
58. *High-Density Superconducting Cables for Advanced ACTPol*. Pappas C.G., Austermann J., Beall J.A., Duff S.M., Gallardo P.A., Grace E., Henderson S.W., Ho S.P., Koopman B.J., Li D., McMahon J., Nati F., Niemack M.D., Niraula P., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Staggs S.T., Stevens J.R., Vavagiakis E.M., Ward J.T., Wollack E.J.. Journal of Low Temperature Physics 184, 1-2, 473-479 (2016).
57. *QUBIC: A Fizeau Interferometer Targeting Primordial B-Modes*. Tartari A., Aumont J., Banfi S., Battaglia

- P., Battistelli E.S., Baù A., Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.A., Bleurvacq N., Bordier G., Brossard J., Bunn E.F., Buzi D., Cammilleri D., Cavaliere F., Chanial P., Chapron C., Coppolecchia A., D'Alessandro G., de Bernardis P., Decourcelle T., Del Torto F., De Petris M., Dumoulin L., Franceschet C., Gault A., Gayer D., Gervasi M., Ghribi A., Giard M., Giraud-Héraud Y., Gradziel M., Grandsire L., Hamilton J.Ch., Haynes V., Holtzer N., Kaplan J., Korotkov A., Lande J., Lowitz A., Maffei B., Marnieros S., Martino J., Masi S., McCulloch M., Melhuish S., Mennella A., Montier L., Murphy A., Néel D., Ng M. W., O'Sullivan C., Pajot F., Passerini A., Perbost C., Piacentini F., Piat M., Piccirillo L., Pisano G., Prêle D., Rambaud D., Rigaut O., **Salatino M.**, Schillaci A., Scully S., Stolpovskiy M. M., Timbie P., Tucker G., Viganò D., Voisin F., Watson B., Zannoni M.. *Journal of Low Temperature Physics* 184, 3-4, 739-745 (2016).
56. *Design and Deployment of a Multichroic Polarimeter Array on the Atacama Cosmology Telescope*. Datta R., Austermann J., Beall J.A., Becker D., Coughlin K.P., Duff S.M., Gallardo P.A., Grace E., Hasselfield M., Henderson S.W., Hilton G.C., Ho S.P., Hubmayr J., Koopman B.J., Lanen J.V., Li D., McMahon J., Munson C.D., Nati F., Niemack M.D., Page L., Pappas C.G., **Salatino M.**, Schmitt B.L., Schillaci A., Simon S.M., Staggs S.T., Stevens J.R., Vavagiakis E.M., Ward J.T., Wollack E.J.. *Journal of Low Temperature Physics* 184, 3-4, 568-575, astro-ph/[1510.07797](#) (2016).
55. *Advanced ACTPol Cryogenic Detector Arrays and Readout*. Henderson S.W., Allison R., Austermann J., Baidon T., Battaglia N., Beall J.A., Becker D., De Bernardis F., Bond J.R., Calabrese E., Choi S.K., Coughlin K.P., Crowley K.T., Datta R., Devlin M.J., Duff S.M., Dunner R., Dunkley J., van Engelen A., Gallardo P.A., Grace E., Hasselfield M., Hills F., Hilton G.C., Hincks A.D., Hlozek R., Ho S.P., Hubmayr J., Huppenberger K., Hughes J.P., Irwin K.D., Koopman B.J., Kosowsky A.B., Li D., McMahon J., Munson C., Nati F., Newburgh L., Niemack M.D., Niraula P., Page L.A., Pappas C.G., **Salatino M.**, Schillaci A., Schmitt B.L., Sehgal N., Sherwin B.D., Sievers J.L., Simon S.M., Spergel D.N., Staggs S.T., Stevens J.R., Thornton R., Van Lanen J., Vavagiakis E.M., Ward J.T., Wollack E.J.. *Journal of Low Temperature Physics* 184, 3-4, 772-779, astro-ph/[1510.02809](#) (2016).
54. *A distributed-absorber cold-electron bolometer single pixel at 95 GHz*. Mahashabde S., Tarasov M.A., **Salatino M.**, Sobolev A., Masi S., Kuzmin L.S., de Bernardis P.. *Applied Physics Letters* 107, 9, 092602 (2015).
53. *A Frequency Selective Surface based focal plane receiver for the OLIMPO balloon-borne telescope*. Mahashabde S., Sobolev A., Bengtsson A., Andrén D., Tarasov M., Masi S., **Salatino M.**, de Bernardis P., Kuzmin L.. *IEEE Transactions on Terahertz Science and Technology* 5, 1, 145-152, astro-ph/[1505.02618](#), [10.1109/TTHZ.2014.2362010](#) (2014).
52. *PRISM (Polarized Radiation Imaging and Spectroscopy Mission): An Extended White Paper*. Andre P., Baccigalupi C., Banday A., Barbosa D., Barreiro B., Bartlett J., Bartolo N., Battistelli E.S., Battye R., Bendo G., Benoit A., Bernard J.-Ph., Bersanelli M., Bethermin M., Bielewicz P., Bonaldi A., Bouchet F., Boulanger F., Brand J., Bucher M., Burigana C., Cai Z.-Y., Camus P., Casas F., Casasola V., Castex G., Challinor A., Chluba J., Chon G., Colafrancesco S., Comis B., Cuttaia F., D'Alessandro G., Da Silva A., Davis R., de Avillez M., de Bernardis P., De Petris M., de Rosa A., de Zotti G., Delabrouille J., Desert F.-X., Dickinson C., Diego J.M., Dunkley J., Enlin T., Errard J., Falgarone E., Ferreira P., Ferriere K., Finelli F., Fletcher A., Fosalba P., Fuller G., Galli S., Ganga K., Garcia-Bellido J., Ghribi A., Giard M., Giraud-Héraud Y., Gonzalez-Nuevo J., Grainge K., Gruppuso A., Hall A., Hamilton J.-Ch., Haverkorn M., Hernandez-Monteagudo C., Herranz D., Jackson M., Jaffe A., Khatri R., Kunz M., Lamagna L., Lattanzi M., Leahy P., Lesgourgues J., Liguori M., Liuzzo E., Lopez-Caniego M., Macias-Perez J., Maffei B., Maino D., Mangilli A., Martinez-Gonzalez E., Martins C., Masi S., Massardi M., Matarrese S., Melchiorri A., Melin J.-B., Mennella A., Mignano A., Miville-Deschénes M.-A., Monfardini A., Murphy A., Naselsky P., Nati F., Natoli P., Negrello M., Noviello F., O'Sullivan C., Paci F., Pagano L., Paladino R., Palanque-Delabrouille N., Paoletti D., Peiris H., Perrotta F., Piacentini F., Piat M., Piccirillo L., Pisano G., Polenta G., Pollo A., Ponthieu N., Ricciardi S., Roman M., Rosset C., Rubino-Martin J.-A., **Salatino M.**, Schillaci A., Shellard P., Silk J., Stompor R., Sunyaev R., Tartari A., Terenzi L., Toffolatti L., Tomasi M., Trappe N., Tristram M., Trombetti T., Tucci M., Van de Weijgaert R., Van Tent B., Verde L., Vielva P., Wandelt B., Watson R., Withington S.. *Journal of Cosmology and Astroparticle Physics* 2, 6, astro-ph/[1306.2259](#) (2014).

51. [Latest Progress on the QUBIC Instrument](#). Ghribi A., Aumont J., Battistelli E.S., Bau A., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bordier G., Bunn E.T., Cavaliere F., Chaniel P., Coppolecchia A., Decourcelle T., de Bernardis P., De Petris M., Drilien A.-A., Dumoulin L., Falvella M.C., Gault A., Gervasi M., Giard M., Gradziel M., Grandsire L., Gayer D., Hamilton J.-Ch., Haynes V., Hiraut Y.-G., Holtzer N., J. Kaplan, Korotkov A., Landé J., Lowitz A., Maffei B., Marnieros S., Martino J., Masi S., Mennella A., Montier L., Murphy A., Ng M.W., Olivieri E., Pajot F., Passerini A., Piacentini F., Piat M., Piccirillo L., Pisano G., Prêle D., Rambaud D., Rigaut O., Rosset C., **Salatino M.**, Schillaci A., Scully S., O'Sullivan C., Tartari A., Timbie P., Tucker G., Vibert L., Voisin F., Watson B., Zannoni M.. *Journal of Low Temperature Physics* 176, 5, 698-704, astro-ph/[1307.5701](#) (2014).
50. [Intensity and polarization of the atmospheric emission at millimetric wavelengths at Dome Concordia](#). Battistelli E. S., Amico G., Bau A., Berge L., Bréle E., Charlassier R., Collin S., Cruciani A., de Bernardis P., Dufour, Dumoulin, Gervasi M., Giard M., Giordano C., Giraud-Héraud Y., Guglielmi L., Hamilton J.C., Landé J., Maffei B., Maiello M., Marnieros S., Masi S., Passerini A., Piacentini F., Piat M., Piccirillo L., Pisano G., Polenta G., Rosset, **Salatino M.**, Schillaci A., Sordini R., Spinelli S., Tartari A., Zannoni M.. *Monthly Notices of the Royal Astronomical Society* 423, 2, 1293-1299, astro-ph/[1203.5615](#) (2012).
49. [QUBIC: the Q&U Bolometric Interferometer for Cosmology](#). Piat M., Battistelli E., Baú A., Bennett D., Bergé L., Bernard J.-P., de Bernardis P., Bigot-Sazy M.-A., Bordier G., Bounab A., Bréelle E., Bunn E.F., Calvo M., Charlassier R., Collin S., Cruciani A., Curran G., Dumoulin L., Gault A., Gervasi M., Ghribi A., Giard M., Giordano C., Giraud-Héraud Y., Gradziel M., Guglielmi L., Hamilton J.-C., Haynes V., Kaplan J., Korotkov A., Landé J., Maffei B., Maiello M., Malu S., Marnieros S., Martino J., Masi S., Montier L., Murphy A., Nati F., O'Sullivan C., Pajot F., Parisel C., Passerini A., Peterzen S., Piacentini F., Piccirillo L., Pisano G., Polenta G., Prêle D., Romano D., Rosset C., **Salatino M.**, Schillaci A., Sironi G., Sordini R., Spinelli S., Tartari A., Timbie P., Tucker G., Vibert L., Voisin F., Watson R.A., Zannoni M.. *Journal of Low Temperature Physics* 167, 872-878 (2012).
48. [QUBIC: The QU bolometric interferometer for cosmology](#). Battistelli E., Baú A., Bennett D., Bergé L., Bernard J.-Ph., de Bernardis P., Bordier G., Bounab A., Bréelle E., Bunn E.F., Calvo M., Charlassier R., Collin S., Coppolecchia A., Cruciani A., Curran G., de Petris M., Dumoulin L., Gault A., Gervasi M., Ghribi A., Giard M., Giordano C., Giraud-Héraud Y., Gradziel M., Guglielmi L., Hamilton J.Ch., Haynes V., Kaplan J., Korotkov A., Landé J., Maffei B., Maiello M., Malu S., Marnieros S., Martino J., Masi S., Murphy A., Nati F., O'Sullivan C., Pajot F., Passerini A., Peterzen S., Piacentini F., Piat M., Piccirillo L., Pisano G., Polenta G., Prêle D., Romano D., Rosset C., **Salatino M.**, Schillaci A., Sironi G., Sordini R., Spinelli S., Tartari A., Timbie P., Tucker G., Vibert L., Voisin F., Watson R.A., Zannoni M.. *Astroparticle Physics* 34, 705-716, astro-ph/[1010.0645](#) (2011).

Conference proceedings

47. [QUBIC: Exploring the primordial Universe with the Q&U Bolometric Interferometer](#). Mennella A. et al. (129 coauthors). Proc. of the 2018 ICNFP conference, Crete, astro-ph/[1812.00785](#) (2018).
46. [Studies of Systematic Uncertainties for Simons Observatory: Optical Effects and Sensitivity Considerations](#). Gallardo P.A., Gudmundsson J., Koopman B.J., Matsuda F.T., Simon S.M., Ali A., Bryan S., Chinone Y., Coppi G., Cothard N., Devlin M.J., Dicker S., Fabbian G., Galitzki N., Hill C.A., Keating B., Kusaka A., Lashner J., Lee A.T., Limon M., Mauskopf P.D., McMahon J., Nati F., Niemack M.D., Orłowski-Scherer J.L., Parshley S.C., Puglisi G., Reichardt C.L., **Salatino M.**, Staggs S.T., Suzuki A., Vavagiakis E.M., Wollack E.J., Xu Z., Zhu N.. SPIE, 10708, 107083Y, astro-ph/[1808.05152](#) (2018).
45. [The Simons Observatory: instrument overview](#). Galitzki N., Ali A., Arnold K.S., Ashton P.C., Austermann J.A., Baccigalupi C., Baildon T., Barron D., Beall J.A., Beckman S., Bruno S.M., Bryan S., Calisse P.G., Chesmore G.E., Chinone Y., Choi S.K., Coppi G., Crowley K.D., Crowley K.T., Cukierman A., Devlin M.J., Dicker S., Dober B., Duff S.M., Dunkley J., Fabbian G., Gallardo P.A., Gerbino M., Goeckner-Wald N., Golec J.E., Gudmundsson J.E., Healy E.E., Henderson S.W., Hill C.A., Hilton G.C., Ho S.-P.P., Howe L.A., Hubmayr J., Jeong O., Keating B., Koopman B.J., Kiuchi K., Kusaka A., Lashner J., Lee A.T., Li Y., Limon M., Lungu M., Matsuda F., Mauskopf P.D., May A.J., McCallum N., McMahon J., Nati F., Niemack M.D., Orłowski-Scherer J.L., Parshley S.C., Piccirillo L., Sathyanarayana Rao M., Raum C., **Salatino M.**, Seibert J.S., Sierra C., Silva-Feaver M., Simon S.M., Staggs S.T., Stevens J.R., Suzuki A., Tepy G., Thornton R., Tsai C., Ullom J.N., Vavagiakis E.M., Vissers M.R., Westbrook B., Wollack E.J.,

- Xu Z., Zhu N.. SPIE 10708, 1070804, doi:10.1117/12.2312985, astro-ph/[1808.04493](https://arxiv.org/abs/1808.04493) (July 2018).
44. *Designs for next generation CMB survey strategies from Chile*. Stevens J.R., Goeckner-Wald N., Keskitalo R., McCallum N., Ali A., Borrill J., Brown M.L., Chinone Y., Gallardo P.A., Kusaka A., Lee A.T., McMahon J., Niemack M.D., Page L., Puglisi G., **Salatino M.**, Mak S.Y.D, Teply G., Thomas D.B., Vavagiakis E.M., Wollack E.J., Xu Z., Zhu N.. SPIE 10708, 1070841 doi:10.1117/12.2313898, astro-ph/[1808.05131](https://arxiv.org/abs/1808.05131) (July 2018).
 43. *Simons Observatory large aperture receiver simulation overview*. Orłowski-Scherer J.L., Zhu N., Xu Z., Ali A., Arnold K.S., Ashton P.C., Coppi G., Devlin M.J., Dicker S., Galitzki N., Gallardo P.A., Keating B., Lee A.T., Limon M., Lungu M., May A., McMahon J., Niemack M.D., Piccirillo L., Puglisi G., **Salatino M.**, Silva-Feaver M., Simon S.M., Robert Thornton, Vavagiakis E.M.. SPIE 10708, 107083X, doi:10.1117/12.2312868, astro-ph/[1808.06648](https://arxiv.org/abs/1808.06648) (July 2018).
 42. *Cooldown strategies and transient thermal simulations for the Simons Observatory*. Coppi G., Xu Z., Ali A., Galitzki N., Gallardo P.A., May A.J., Orłowski-Scherer J.L., Zhu N., Devlin M.J., Dicker S., Keating B., Limon M., Lungu M., McMahon J., Niemack M.D., Piccirillo L., Puglisi G., **Salatino M.**, Simon S.M., Teply G., Thornton R., Vavagiakis E.M.. SPIE 10708, 1070827 doi:10.1117/12.2312679 (July 2018).
 41. *Studies of systematic uncertainties for Simons Observatory: detector array effects*. Crowley K.T., Simon S.M., Silva-Feaver M., Goeckner-Wald N., Ali A., Ausermann J., Brown M.L., Chinone Y., Cukierman A., Dober B., Duff S.M., Dunkley J., Errard J., Fabbian G., Gallardo P.A., Ho S.-P., Hubmayr J., Keating B., Kusaka A., McCallum N., McMahon J., Nati F., Niemack M.D., Puglisi P., Sathyanarayana Rao M., Reichardt C.L., **Salatino M.**, Siritanasak P., Staggs S.T., Suzuki A., Teply G., Thomas D.B., Ullom J.N., Vergès C., Vissers M.R., Westbrook B., Wollack E.J., Xu Z., Zhu N.. SPIE, 10708, 107083Z, doi:10.1117/12.2313414 (July 2018).
 40. *Feedhorn development and scalability for Simons Observatory and beyond*. Simon S.M., Golec J.E., Ali A., Ausermann J., Beall J.A., Bruno S.M., Choi S.K., Crowley K.T., Dicker S., Dober B., Duff S.M., Healy E., Hill C.A., Ho S.-P., Hubmayr J., Li Y., Lungu M., McMahon J., Orłowski-Scherer J., **Salatino M.**, Staggs S.T., Wollack E.J., Xu Z., Zhu N.. SPIE 10708, 107084B, doi:10.1117/12.2313405 (July 2018).
 39. *Development of calibration strategies for the Simons Observatory*. Bryan S.A, Simon S.M., Gerbino M., Teply G., Ali A., Chinone y., Crowley K., Fabbian G., Gallardo P.A., Goeckner-Wald N., Keating B., Koopman B., Kusaka A., Matsuda F., Mauskopf P., McMahon J., Nati F., Puglisi G., Reichardt C.L., **Salatino M.**, Xu Z., Zhu N.. SPIE 10708, 1070840, doi: 10.1117/12.2313832 (July 2018).
 38. *Simons Observatory large aperture telescope receiver design overview*. Zhu N., Orłowski-Scherer J.L., Xu Z., Ali A., Arnold K.S., Ashton P.C., Coppi G., Devlin M.J., Dicker S.R., Galitzki N., Gallardo P.A., Henderson S.W., Ho S.-P., Hubmayr J., Keating B., Lee A.T., Limon M., Lungu M., Mauskopf P.D., May A.J., McMahon J., Niemack M.D., Piccirillo L., Puglisi G., Sathyanarayana Rao M., **Salatino M.**, Silva-Feaver M., Simon S.M., Staggs S.T., Thornton R., Ullom J.N., Vavagiakis E.M., Westbrook B., Wollack E.J.. SPIE 10708, 1070829, doi:10.1117/12.2312871 (July 2018).
 37. *Cold optical design for the large aperture Simons' Observatory telescope*. Dicker S.R., Gallardo P. A., Gudmundsson J.E., Mauskopf P.D., Ali A., Ashton P.C., Coppi G., Devlin M.J., Galitzki N., Ho S.P., Hill C.A., Hubmayr J., Keating B., Lee A.T., Limon M., Matsuda F., McMahon J., Niemack M.D., Orłowski-Scherer J.L., Piccirillo L., **Salatino M.**, Simon S.M., Staggs S.T., Thornton R., Ullom J.N., Vavagiakis E.M., Wollack E.J., Xu Z., Zhu N.. SPIE 10700, 107003E, doi:10.1117/12.2313444, astro-ph/[1808.05058](https://arxiv.org/abs/1808.05058) (July 2018).
 36. *BoloCalc: a sensitivity calculator for the design of Simons Observatory*. Hill C.A., Bruno S.M.M., Simon S.M., Aamir A., Arnold K.S., Ashton P.C., Barron D., Bryan S., Chinone Y., Coppi G., Crowley K.T., Cukierman A., Dicker S., Dunkley J., Fabbian G., Galitzki N., Gallardo P.A., Gudmundsson J.E., Hubmayr J., Keating B., Kusaka A., Lee A.T., Matsuda F., Mauskopf P.D., McMahon J., Niemack M.D., Puglisi G., Sathyanarayana R.M., **Salatino M.**, Sierra, C., Staggs S., Suzuki A., Teply G., Ullom J.N., Westbrook B., Xu Z., Zhu N.. SPIE 10708, 1070842, astro-ph/[1806.04316](https://arxiv.org/abs/1806.04316) (June 2018).
 35. *Simulations and performance of the QUBIC optical beam combiner*. O'Sullivan C., Burke D., Gayer D., Murphy J.D., Scully S., De Leo M., De Petris M., Mattei A., Zullo A., Mennella A., Zannoni M., Bleurvacq N., Chapron C., Hamilton J.-Ch., Piat M., Ade A., Amico G., Auguste D., Aumont J.,

- Banfi S., Barbarán G., Battaglia P., Battistelli E., Baù A., Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bonaparte J., Bonis J., Bordier G., Bréelle E., Bunn E., Buzi D., Buzzelli A., Cavaliere F., Chanial P., Charlassier R., Columbro F., Coppi G., Coppolecchia A., Couchot, F., D'Agostino R., D'Alessandro G., de Bernardis P., de Gasperis G., Di Donato A., Dumoulin L., Etchegoyen A., Fasciszewski A., Franceschet C., Gamboa Lerena M.M., García B., Garrido X., Gaspard M., Gault A., Gervasi M., Giard M., Giraud-Héraud Y., Gómez Berisso M., González M., Gradziel M., Grandsire L., Guerrard E., Harari D., Haynes V., Henrot-Versillé S., Hoang D.T., Incardona F., Jules E., Kaplan J., Korotkov A., Kristukat C., Lamagna L., Loucatos S., Louis T., Lowitz A., Lukovic V., Luterstein R., Maffei B., Marnieros S., Masi S., May A., McCulloch M., Medina M.C., Mele L., Melhuish S., Montier L., Mundo L.M., Murphy J.A., Olivieri E., Paiella A., Pajot F., Passerini A., Pastoriza H., Pelosi A., Perbost C., O. Perdereau, F. Pezzotta, F. Piacentini, L. Piccirillo, G. Pisano, G. Polenta, D. Prêle, R. Puddu, D. Rambaud, P. P., Ringegni, Romero G.E., **Salatino M.**, Schillaci A., Scóccola C.G., Spinelli S., Stolpovskiy M., Suarez F., Tartari A., Thermeau J.-P., Timbie P., Torchinsky S.A., Tristram M., Truongcanh V., Tucker C., Tucker G., Vanneste S., Viganò D., Vittorio N., Voisin F., Watson B., Wicek F.. SPIE 10708, 107082I doi:10.1117/12.2313256 (July 2018).
34. *Thermal architecture for the QUBIC cryogenic receiver*. May A.J., C. Chapron C., Coppi G., D'Alessandro G., de Bernardis P., Masi S., Melhuish S., Piat M., Piccirillo L., Schillaci A., Thermeau J.-P., Ade A., Amico G., Auguste D., Aumont J., Banfi S., Barbarán G., Battaglia P., Battistelli E., Baù A., Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bleurvacq N., Bonaparte J., Bonis J., Bordier G., Bréelle E., Bunn E., Burke D., Buzi D., Buzzelli A., Cavaliere F., Chanial P., Charlassier R., Columbro F., Coppolecchia A., Couchot, F., D'Agostino R., de Gasperis G., De Leo M., De Petris M., Di Donato A., Dumoulin L., Etchegoyen A., Fasciszewski A., Franceschet C., Gamboa Lerena M.M., García B., Garrido X., Gaspard M., Gault A., Gayer D., Gervasi M., Giard M., Giraud-Héraud Y., Gómez Berisso M., González M., Gradziel M., Grandsire L., Guerrard E., Hamilton J.-Ch., Harari D., Haynes V., Henrot-Versillé S., Hoang D.T., Incardona F., Jules E., Kaplan J., Korotkov A., Kristukat C., Lamagna L., Loucatos S., Louis T., Lowitz A., Lukovic V., Luterstein R., Maffei B., Marnieros S., Mattei A., McCulloch M., Medina M.C., Mele L., Mennella A., Montier L., Mundo L.M., Murphy J.A., Murphy J.D., O'Sullivan C., Olivieri E., Paiella A., Pajot F., Passerini A., Pastoriza H., Pelosi A., Perbost C., O. Perdereau, F. Pezzotta, F. Piacentini, G. Pisano, G. Polenta, D. Prêle, R. Puddu, D. Rambaud, P. P., Ringegni, Romero G.E., **Salatino M.**, Scóccola C.G., Scully S., Spinelli S., Stolpovskiy M., Suarez F., Tartari A., Timbie P., Torchinsky S.A., Tristram M., Truongcanh V., Tucker C., Tucker G., Vanneste S., Viganò D., Vittorio N., Voisin F., Watson B., Wicek F., Zannoni M., Zullo A.. SPIE 10708, 107083V, doi:10.1117/12.2312085 (July 2018).
33. *Performance of the advanced ACTPol low frequency array*. Li Y., Austermann J.E., Beall J.A., Bruno S.M., Choi S.K., Cothard N.F., Crowley K.T., Duff S.M., Gallardo P.A., Henderson S.W., Ho S.-P.P., Hubmayr J., Koopman B.J., J. McMahon J.J., Niemack M.D., Maria Salatino, Simon S.M., Staggs S.T., Stevens J.R., Ullom J.N., Ward J., Wollack E.J.. SPIE 10708, 107080A, doi:10.1117/12.2313942 (July 2018).
32. *QUBIC: the Q and U bolometric interferometer for cosmology*. O'Sullivan C., Ade A., Amico G., Auguste D., Aumont J., Banfi S., Barbarán G., Battaglia P., Battistelli E., Baù A., Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bleurvacq N., Bonaparte J., Bonis J., Bordier G., Bréelle E., Bunn E., Burke D., Buzi D., Buzzelli A., Cavaliere F., Chanial P., Chapron C., Charlassier R., Columbro F., Coppi G., Coppolecchia A., Couchot, F., D'Agostino R., D'Alessandro G., de Bernardis P., de Gasperis G., De Leo M., De Petris M., Di Donato A., Dumoulin L., Etchegoyen A., Fasciszewski A., Franceschet C., Gamboa Lerena M.M., García B., Garrido X., Gaspard M., Gault A., Gayer D., Gervasi M., Giard M., Giraud-Héraud Y., Gómez Berisso M., González M., Gradziel M., Grandsire L., Guerrard E., Hamilton J.-Ch., Harari D., Haynes V., Henrot-Versillé S., Hoang D.T., Incardona F., Jules E., Kaplan J., Korotkov A., Kristukat C., Lamagna L., Loucatos S., Louis T., Lowitz A., Lukovic V., Luterstein R., Maffei B., Marnieros S., Masi S., Mattei A., May A., McCulloch M., Medina M.C., Mele L., Melhuish S., Mennella A., Montier L., Mundo L.M., Murphy J.A., Murphy J.D., Olivieri E., Paiella A., Pajot F., Passerini A., Pastoriza H., Pelosi A., Perbost C., O. Perdereau, F. Pezzotta, F. Piacentini, M. Piat, L. Piccirillo, G. Pisano, G. Polenta, D. Prêle, R. Puddu, D. Rambaud, P. P., Ringegni, Romero G.E.,

- Salatino M.**, Schillaci A., Scóccola C.G., Scully S., Spinelli S., Stolpovskiy M., Suarez F., Tartari A., Thermeau J.-P., Timbie P., Torchinsky S.A., Tristram M., Truongcanh V., Tucker C., Tucker G., Vanneste S., Viganò D., Vittorio N., Voisin F., Watson B., Wicek F., Zannoni M., Zullo A.. SPIE 10708, 107082B, doi:10.1117/12.2313332 (July 2018).
31. *Optical modelling and analysis of the Q and U bolometric interferometer for cosmology*. Burke D., Gayer D., Kalinauskaite E., O'Sullivan C., Murphy J.D., Scully S.P., De Petris M., De Leo M., Mennella A., Torchinsky S.A., Zannoni M., Amico G., Auguste D., Aumont J., Banfi S., Barbarán G., Battaglia P., Battistelli E., Baù A., Bélier B., Bennett D.G., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bleuvacq N., Bonaparte J., Bonis J., Bordier G., Bréelle E., Bunn E.F., Buzi D., Buzzelli A., Cavaliere F., Chaniel P., Chapron C., Charlassier R., Columbro F., Coppi G., Coppolecchia A., Couchot F., D'Alessandro G., D'Agostino R., de Bernardis P., De Gasperis G., Di Donato A., Drilien A.-A., Dumoulin L., Etchegoyen A., Fasciszewski A., Franceschet C., Gamboa-Lerena M., García B., Garrido X., Gaspard M., Gault A., Gervasi M., Giard M., Giraud-Héraud Y., Gómez Berisso M., González M., Gradziel M.L, Grandsire L., Guerrard E., Hamilton J.-Ch., Harari D., Haynes V., Henrot-Versille S., Hoang D.T., Holtzer N., Incardona F., Jules E., Kaplan J., Korotkov A.L., Kristukat C., Lamagna L., Lande J., Loucatos S., Louis T., Lowitz A., Lukovic V., Luterstein R., Maffei B., Marnieros S., Masi S., Mattei A., May A.J., McCulloch M.A., Medina M.C., Mele L., Melhuish S.J., Mundo L., Montier L., Murphy J.A., N'El D., Olivieri E., Paiella A., Pajot F., Passerini A., Pastoriza H., Pelosi A., Perbost C., Perdereau O., Pezzotta F., Piacentini F., Piat M., Piccirillo L., Pisano G., Polenta G., Prêle D., Puddu R., Rambaud D., Rigaut O., Ringegni P., Romero G.E., **Salatino M.**, Schillaci A., Scóccola C.G., Spinelli S.M., Stolpovskiy M., Suarez F., Tartari A., Thermeau J.-P., Timbie P.T., Tristram M., Truongcanh V., Tucker G.S., Tucker C.E., Viganò D., Vittorio N., Voisin F., Watson B., Wicek F., Zullo A.. Proc. SPIE Terahertz, RF, Millimeter, and Submillimeter-Wave Technology and Applications XI, 10531, 105310G, doi: 10.1117/12.2287158 (2018).
 30. *Optical design and modelling of the QUBIC instrument, a next-generation quasi-optical bolometric interferometer for cosmology*. Scully S., Burke D., O'Sullivan C., Gayer D., Gradziel M., Murphy J.A., De Petris M., Buzi D., Zannoni M., Mennella A., Gervasi M., Tartari A., Maffei B., Aumont J., Banfi S., Battaglia P., Battistelli E.S., Baù A., Bélier, Bennet D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.-A., Bleuvacq N., Bordier G., Brossard J., Bunn E.F., Cammilleri D., Cavaliere F., Chaniel P., Chapron C., Coppolecchia A., Couchot F., D'Alessandro G., de Bernardis P., Decourcelle T., Del Torto F., Dumoulin L., Franceschet C., Gault A., Ghribi A., Giard M., Giraud-Héraud Y., Grandsire L., Hamilton J.C., Haynes V., Henrot-Versillé S., Holtzer N., Kaplan J., Korotkov A., Lande J., Lowitz A., Marnieros S., Martino J., Masi S., McCulloch M., Melhuish S., Montier L., Néel D., Ng M.W., Pajot F., Passerini A., Perbost C., Perdereau O., Piacentini F., Piat M., Piccirillo L., Pisano G., Prêle D., Puddu R., Rambaud D., Rigaut D., **Salatino M.**, Schillaci A., Stolpovskiy M., Timbie P., Tristram M., Tucker G., Viganò D., Voisin F., Watson B.. Proc. SPIE 9914, 99142S, doi:10.1117/12.2231717 (2016).
 29. *Inflight performance of the PILOT balloon-borne experiment*. Bernard J.-Ph., Ade P., André Y., Aumont J., Bautista L., Bray N., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Buttice V., Caillat A., Charra M., Chaigneau M., Crane B., Crussaire J.-P., Douchin F., Doumayrou E., Dubois J.P., Engel C., Etcheto P., Gélot P., Griffin M., Foenard G., Grabarnik S., Hargrave P., Hughes A., Laureijs R., Lepennec Y., Leriche B., Longval Y., Maestre S., Maffei B., Martignac J., Marty C., Marty W., Masi S., Mirc F., Misawa R., Montel J., Montier L., Mot B., Narbonne J., Nicot J.-M., Pajot F., Parot G., Pérot E., Pimentão J., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.**, Savini G., Simonella O., Saccoccio M., Tapie P., Tauber J., Torre J.-P., Tucker C.. Proc. SPIE 9914, 99140W, doi:10.1117/12.2231872 (2016).
 28. *PILOT optical alignment*. Longval Y., Mot B., Ade P., André Y., Aumont J., Baustista L., Bernard J.-Ph., Bray N., de Bernardis P., Boulade O., Bousquet F., Bouzit M., Buttice V., Caillat A., Charra M., Chaigneau M., Crane B., Crussaire J.-P., Douchin F., Doumayrou E., Dubois J.-P., Engel C., Etcheto P., Gélot P., Griffin M., Foenard G., Grabarnik S., Hargrave P., Hughes A., Laureijs R., Lepennec Y., Leriche B., Maestre S., Maffei B., Martignac J., Marty C., Marty W., Masi S., Mirc F., Misawa R., Montel J., Montier L., Narbonne J., Nicot J.-M., Pajot F., Parot G., Pérot E., Pimentão J., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.**, Savini G., Simonella O., Saccoccio M., Tapie P., Tauber J., Torre J.-P., Tucker C.. Proc. SPIE 9904, 990458, doi:10.1117/12.2232892 (2016).

27. *Far sidelobe effects from panel gaps of the Atacama Cosmology Telescope*. Fluxa Rojas P.A., Dünner R., Maurin L., Choi S.K., Devlin M.J., Gallardo P.A., Ho S.-P. P., Koopman B.J., Louis T., McMahon J.J., Nati F., Niemack M.D., Newburgh L., Page L.A., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Staggs S.T., Wollack E.J.. Proc. SPIE 9914,99142Q, doi:10.1117/12.2231421 (2016).
26. *Optical modeling and polarization calibration for CMB measurements with ACTPol and Advanced ACT-Pol*. Koopman B., Austermann J., Cho H.-M., Coughlin K.P., Duff S.M., Gallardo P.A., Hasselfield M., Henderson S.W., Ho S.-H.P., Hubmayr J., Irwin K. D., Li D., McMahon J.J., Nati F., Niemack M.D., Newburgh L., Page L.A., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Vavagiakis E.M., Ward J.T., Wollack E.J.. Proc. SPIE 9914, 99142T, doi: 10.1117/12.2231912, astro-ph/[1607.01825](https://arxiv.org/abs/1607.01825) (2016).
25. *Survey strategy optimization for the Atacama Cosmology Telescope*. De Bernardis F., Stevens J.R., Hasselfield M., Alonso D., Bond J.R., Calabrese E., Choi S.K., Crowley K.T., Devlin M., Dunkley J., Gallardo P.A., Henderson S.W., Hilton M., Hlozek R., Ho S.P., Huffenberger K., Koopman B.J., Kosowsky A., Louis T., Madhavacheril M.S., McMahon J., Naess S., Nati F., Newburgh L., Niemack M.D., Page L. A., **Salatino M.**, Schillaci A., Schmitt B.L., Sehgal N., Sievers J.L., Simon S.M., Spergel D.N., Staggs S.T., van Engelen A., Vavagiakis E.M., Wollack E.J.. Proc. SPIE 9910, 991014, doi:10.1117/12.2232824, astro-ph/[1607.02120](https://arxiv.org/abs/1607.02120) (2016).
24. *Highly uniform 150 mm diameter multichroic polarimeter array deployed for CMB detection*. Ho S.P., Austermann J., Beall J.A., Choi S., Cothardd N.F., Crowley K., Devlin M.J., Duff S.M., Gallardo P.A., Hasselfield M., Henderson S.W., Hilton G., Hubmayr J., Koopman B.J., Li Y., McMahon J., Niemack M.D., **Salatino M.**, Simon S.M., Staggs S.T., Ward J.T., Ullom J.N., Vavagiakis E.M., Wollack E.J.. Proc. SPIE 9914, 991418 (2016).
23. *Characterization of AIMn TES impedance, noise, and optical efficiency in the first 150 mm multichroic array for Advanced ACTPol*. Crowley K.T., Choi S.K., Kuan J., Austermann J.A., Beall J.A., Datta R., Duff S.M., Gallardo P.A., Hasselfield M., Henderson S.W., Ho S.-P.P., Koopman B.J., Niemack M.D., **Salatino M.**, Simon S.M., Staggs S.T., Wollack E.J.. Proc. SPIE 9914, 991431, doi:10.1117/12.2231999 (2016).
22. *Assembly and integration process of the first high density detector array for the Atacama Cosmology Telescope*. Li Y., Choi S., Ho S.-P., Crowley K.T., **Salatino M.**, Simon S.M., Staggs S.T., Nati F., Ward J., Schmitt B.L., Henderson S.W., Koopman B.J., Gallardo P.A., Vavagiakis E.M., Niemack M.D., McMahon J.J., Duff S.M., Schillaci A., Hubmayr J., Hilton G.C., Beall J.A., Wollack E.J.. Proc. SPIE 9914, 991435, doi:10.1117/12.2233470 (2016).
21. *The design and characterization of wideband spline-profiled feedhorns for Advanced ACTPol*. Simon S.M., Austermann J., Beall J.A., Choi S.K., Coughlin K.P., Duff S.M., Gallardo P.A., Henderson S.H., Hills F.B., Ho S.-P.P., Hubmayr J., Josaitis A., Koopman B.J., McMahon J.J., Nati F., Newburgh L., Niemack M.D., **Salatino M.**, Schillaci A., Schmitt B.L., Staggs S.T., Vavagiakis E.M., Ward J., Wollack E.J.. Proc. SPIE 9914, 991416, doi:10.1117/12.2233603 (2016).
20. *Mechanical design and development of TES bolometer detector arrays for the Advanced ACTPol experiment*. Ward J.T., Austermann J., Beall J.A., Choi S.K., Crowley K.T., Devlin M.J., Duff S.M., Gallardo P.M., Henderson S.W., Ho S.-P.P., Hilton G., Hubmayr J., Khavari N., Klein J., Koopman B.J., Li D., McMahon J.J., Mumby G., Nati F., Niemack M.D., Page L.A., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Staggs S.T., Thornton R., Ullom J.N., Vavagiakis E.M., Wollack E.J.. Proc. SPIE 9914, 991437, astro-ph/[1607.05754](https://arxiv.org/abs/1607.05754) (2016).
19. *Readout of two-kilopixel transition-edge sensor arrays for Advanced ACTPol*. Henderson S.W., Stevens J.R., Amiri M., Austermann J., Beall J.A., Chaudhuri S., Cho H.-M., Choi S.K., Cothard N.F., Crowley K.T., Duff S.M., Fitzgerald C.P., Gallardo P.A., Halpern M., Hasselfield M., Hilton G., Ho S.-P.P., Hubmayr J., Irwin K.D., Koopman B.J., Li D., Li Y., McMahon J.J., Nati F., Niemack M.D., Reintsema C.D., **Salatino M.**, Schillaci A., Schmitt B.L., Simon S.M., Staggs S.T., Vavagiakis E.M., Ward J.T.. Proc. SPIE 9914, 99141G, astro-ph/[1607.06064](https://arxiv.org/abs/1607.06064) (2016).
18. *Pilot End-to-End Calibration Results*. Misawa R., Bernard J.-Ph., Ade P., André Y., de Bernardis P., Bautista L., Boulade O., Bousquet F., Bouzit M., Bray N., Brysbaert C., Buttice V., Caillat A., Chaigneau M., Charra M., Crane B., Douchin F., Doumayrou E., Dubois J. P., Engel C., Etcheto P., Evrard J., Gelot P., Gomes A., Grabarnik S., Griffin M., Hargrave P., Jonathan A., Laureijs R., Laurens A., Lepennec

- Y., Leriche B., Longval Y., Martignac J., Marty C., Marty W., Maestre S., Masi S., Mirc F., Montel J., Motier L., Mot B., Narbonne J., Nicot J. M., Otrio G., Pajot F., Perot E., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., Saccoccio M., **Salatino M.**, Savini G., Simonella O., Tauber J., Tapie P., Tucker C., Versepuech G.. Proc. of the 22nd ESA Symposium on European Rocket and Balloon Programmes and Related Research, Tromso, Norway, 7-12 June 2015 (ESA SP-730, September 2015) edited by L. Ouwehand. ESA Communications, ESTEC, Noordwijk, The Netherlands. ISBN 978-92-9221-294-0. ISSN 1609-042X., p.575 (2015).
17. *OLIMPO: A 4-bands detectors array for balloon-borne observations of the Sunyaev-Zel'dovich effect.* Coppolecchia A., Ade P., Amico G., Battistelli E.S., Boscaleri A., de Bernardis P., Camus P., Colafrancesco S., Cruciani A., D'Addabbo A., D'Alessandro G., De Gregori S., De Petris M., Di Stefano G., Gervasi M., Gualtieri R., Irwin K., Lamagna L., Marchegiani P., Masi S., Mauskopf P., Morozov D., Nati L., Nati F., Paiva Novaes C., Pagano L., Piacentini F., Puddu R., Reintsema C., Romeo G., **Salatino M.**, Schillaci A., Tucker C., Tucker R., Yvon D., Wuensche A., Zannoni M.. Proc. of the International School of Physics Enrico Fermi, course 186, New Horizons for Observational Cosmology (2014).
 16. *PILOT: a balloon-borne experiment to measure the polarized FIR emission of dust grains in the interstellar medium.* Misawa R., Bernard J.-Ph., Ade P., André Y., de Bernardis P., Bouzit M., Charra M., Crane B., Dubois J.P., Engel C., Griffin M., Leriche B., Longval Y., Maestre S., Marty C., Marty W., Masi S., Mot B., Narbonne J., Pajot F., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.**, Savini G.. Proc. SPIE 9153, 91531H, astro-ph/[1410.5760](#) (2014).
 15. *Development of large radii half-wave plates for CMB satellite missions.* Pisano G., Maffei B., Wah Ng M., Haynes C.V., Brown M.D., Noviello F., de Bernardis P., Masi S., Piacentini F., Pagano L., **Salatino M.**, Ellison B.N., Henry M., de Maagt P.J.I., Shortt B.. Proc. SPIE 9153, 915317, astro-ph/[1409.8516](#) (2014).
 14. *PILOT: Optical Performance and end-to-end characterization,* Longval Y., Misawa R., Ade P., André Y., de Bernardis P., Bousquet F., Bouzit M., Buttice V., Charra M., Crane B., Dubois J.P., Engel C., Griffin M., Hargrave P., Leriche B., Maestre S., Marty C., Marty W., Masi S., Mot B., Narbonne J., Pajot F., Pisano G., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., Simonella O., **Salatino M.**, Savini G., Tucker C., Bernard J.-Ph., International Conference on Space Optics (2014).
 13. *SWIPE: a bolometric polarimeter for the Large-Scale Polarization Explorer.* de Bernardis P., Aiola S., Amico G., Battistelli E., Coppolecchia A., Cruciani A., D'Addabbo A., D'Alessandro G., De Gregori S., De Petris M., Goldie D., Gualtieri R., Haynes V., Lamagna L., Maffei B., Masi S., Nati F., Wah Ng M., Pagano L., Piacentini F., Piccirillo L., Pisano G., Romeo G., **Salatino M.**, Schillaci A., Tommasi E., Withington S.. Proc. SPIE 8452, 84523F, astro-ph/[1208.0282](#) (2012).
 12. *The Large-Scale Polarization Explorer (LSPE).* The LSPE collaboration: Aiola S., Amico G., Battaglia P., Battistelli E., Baú A., de Bernardis P., Bersanelli M., Boscaleri A., Cavaliere F., Coppolecchia A., Cruciani A., Cuttaia F., D'Addabbo A., D'Alessandro G., De Gregori S., Del Torto F., De Petris M., Fiorineschi L., Franceschet C., Franceschi E., Gervasi M., Goldie D., Gregorio A., Haynes V., Lamagna L., Maffei B., Maino D., Masi S., Mennella A., Morgante G., Nati F., Ng M. W., Pagano L., Passerini A., Peverini O., Piacentini F., Piccirillo L., Pisano G., Ricciardi S., Rissone P., Romeo G., **Salatino M.**, Sandri M., Schillaci A., Stringhetti L., Tartari A., Tascone R., Terenzi L., Tomasi M., Tommasi E., Villa F., Virone G., Withington S., Zacchei A., Zannoni M.. Proc. SPIE 8446, 84467A, astro-ph/[1208.0281](#) (2012).
 11. *Progress in Precision Measurements of the Cosmic Microwave Background.* de Bernardis P., Calvo M., Coppolecchia A., Cruciani A., Giordano C., Masi S., Nati F., **Salatino M.**, Schillaci A.. Nuclear Physics B Proc. Supp. 217, 1, 15-20 (2011).
 10. *CMB polarization measurements, the Planck mission and beyond.* de Bernardis P., Calvo M., Giordano C., Masi S., Nati F., **Salatino M.** and Schillaci A.. Proc. of the 22nd Rencontres de Blois Particle Physics and Cosmology, 15th-20th July (2010).
 9. *Optical design and ground tests, for PILOT, a balloon borne experiment for Astronomy.* Engel C., Longval Y., Bernard J.-Ph., Ristorcelli I., Leriche B., Marty C., Mot B., Otrio G., Savini G., Tucker C., Roudil G., Ade P., Bouzit M., Daddato R., Giard M., Griffin M., Hargrave P., Laureijs R., Maffei B., Pajot F., Ponthieu N., Rodriguez L., **Salatino M.** Conf. Latin America Optics and Photonics (2010).
 8. *SAGACE: the Spectroscopic Active Galaxies And Clusters Explorer.* de Bernardis P., Bagliani D., Bardi

- A., Battistelli E., Birkinshaw M., Calvo M., Colafrancesco S., Conte A., De Gregori S., De Petris M., De Zotti G., Donati A., Ferrari L., Franceschini A., Gatti F., Gervasi M., Giommi P., Giordano C., Gonzalez-Nuevo J., Lamagna L., Lapi P., Luzzi G., Maiolino R., Marchegiani P., Mariani A., Masi S., Massardi M., Mauskopf P., Nati F., Nati L., Natoli P., Negrello M., Piacentini F., Polenta G., **Salatino M.**, Savini G., Schillaci A., Spinelli S., Tartari A., Tavanti M., Tortora A., Vaccari M., Vaccarone R., Zannoni M., Zolesi V.. Proc. of the 12th Marcel Grossman Meeting, pag. 2133, astro-ph/[1002.0867](#) (2010).
7. *Status of the PILOT balloon-borne experiment*. Engel C., Ade P.A.R., Bernard J.-Ph., de Bernardis P., Bouzit M., Giard M., Griffin M., Hargrave P., Laurens A., Leriche B., Leroy C., Longval Y., Madden S., Maffei B., Marty C., Masi S., Meny C., Miville-Deschênes M.-A., Narbonne J., Nati L., Pajot F., Pisano G., Pointecouteau E., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.**, Savini G., Torre G., and Tucker C.. Proc. of the 19th ESA Symposium on European Rocket and Balloon Programmes and Related Research. Bad Reichenhall (Germany), 7th-11th June (2009).
6. *PILOT: Measuring polarization in the Interstellar Medium*. Bernard J.-Ph., Ade P., de Bernardis P., Giard M., Griffin M., Hargrave P., Laurens A., Leriche B., Leroy C., Longval Y., Marty C., Madden S., Maffei B., Masi S., Meny C., Miville-Deschênes M.-A., Narbonne J., Nati L., Pajot F., Pisano G., Pointecouteau E., Ponthieu N., Ristorcelli I., Rodriguez L., Roudil G., **Salatino M.** and Savini G.. EAS Publication Series 23, 189-203, doi 10.1051/eas:2007012 (2007).

White papers

5. *The Simons Observatory: Astro2020 Decadal Project White Paper*. The Simons Observatory collaboration. Astro-ph/[1907.08284](#) (2019).
4. *CMB-S4 Decadal Survey APC White Paper*. The CMB-S4 collaboration. Astro-ph/[1908.01062](#) (2019).
3. *CMB-S4 Technology Book, First Edition*. Abitbol M.H., Ahmed Z., Barron D., Basu T.R., Bender A.N., Benson B.A., Bischoff C.A., Bryan S.A., Carlstrom J.E., Chang C.L., Chuss D.T., Crowley K.T., Cukierman A., de Haan T., Dobbs M., Essinger-Hileman T., Filippini J.P., Ganga K., Gudmundsson J.E., Halverson N.W., Hanany S., Henderson S.W., Hill C.A., Ho S.P., Hubmayr J., Irwin K., Jeong O., Johnson B.R., Kernasovskiy S.A., Kovac J.M., Kusaka A., Lee A.T., **Salatino M.**, Mauskopf P., McMahon J.J., Moncelsi L., Nadolski A.W., Nagy J.M., Niemack M.D., O'Brient R.C., Padin S., Parshley S.C., Pryke C., Roe N.A., Rostem K., Ruhl J., Simon S.M., Staggs S.T., Suzuki A., Switzer E.R., Tajima O., Thompson K.L., Timbie P., Tucker G.S., Vieira J.D., Vieregg A.G., Westbrook B., Wollack E.J., Yoon Ki W., Young K.S., Young E.Y.. Astro-ph/[1706.02464](#) (2017).
2. *QUBIC Technological Design Report*. Aumont J., Banfi S., Battaglia P., Battistelli E. S., Baù A., Bélier B., Bennett D., Bergé L., Bernard J.-Ph., Bersanelli M., Bigot-Sazy M.A., Bleurvacq N., Bordier G., Brossard J., Bunn E.F., Buzi D., Buzzelli A., Cammilleri D., Cavaliere F., Chanial P., Chapron C., Coppi G., Coppolecchia A., Couchot F., D'Agostino R., D'Alessandro G., de Bernardis P., De Gasperis G., De Petris M., Decourcelle T., Del Torto F., Dumoulin L., Etchegoyen A., Franceschet C., Garcia B., Gault A., Gayer D., Gervasi M., Ghribi A., Giard M., Giraud-Héraud Y., Gradziel M., Grandsire L., Hamilton J.Ch., Harari D., Haynes V., Henrot-Versillé S., Holtzer N., Kaplan J., Korotkov A., Lande J., Loucatos S., Lowitz A., Lukovic V., Maffei B., Marnieros S., Martino J., Masi S., Medina M.C., McCulloch M., May A., Melhuish S., Mennella A., Montier L., Murphy A., Néel D., Ng M.W., O'Sullivan C., Pajot F., Passerini A., Pelosi A., Perbost C., Perdereau O., Piacentini F., Piat M., Piccirillo L., Pisano G., Prêle D., Puddu R., Rambaud D., Rigaut O., Romero G.E., **Salatino M.**, Schillaci A., Scully S., Stolpovskiy M., Tartari A., Timbie P., Tristram M., Tucker G., Viganò D., Vittori N., Voisin F., Watson B., Zannoni M., Zullo A.. Astro-ph/[1609.04372](#) (2016).
1. *COrE (Cosmic Origin Explorer). A white paper*. The COrE collaboration. Bouchet F.R., de Bernardis P., Maffei B., Natoli P., Piat M., Ponthieu N., Stompor R., Bersanelli M., Bielewicz P., Camus P., De Petris M., Mauskopf P., Masi S., Nati F., Peacocke T., Piacentini F., Piccirillo L., Pisano G., **Salatino M.**, Stompor R., Withington S., Bucher M., Avides M., Barbosa D., Bartolo N., Battye R., Bernard J.-Ph., Boulanger F., Challinor A., Chongchitnan S., Colafrancesco S., Ensslin T., Fergusson J., Ferreira P., Ferriere K., Finelli F., Garcia-Bellido J., Galli S., Gauthier C., Haverkorn M., Hindmarsh M., Jaffe A., Kunz M., Lesgourgues J., Liddle A., Liguori M., Marchegiani P., Matarrese S., Melchiorri A., Mukherjee P., Pagano L., Paoletti D., Peiris H., Perroto L., Rath C., Rubino Martin J., Rath C., Shellard P., Urrestilla J.,

Van Tent B., Verde L., Wandelt B., Burigana C., Delabrouille J., Armitage-Caplan C., Banday A., Basak S., Bonaldi A., Clements D., De Zotti G., Dickinson C., Dunkley J., Lopez-Caniego M., Martinez-Gonzalez E., Negrello M., Ricciardi S., Toffolatti L.. Astro-ph/[1102.2181](#) (2011).

Post-doc researcher. Prof. P. de Bernardis.

- 2012-2014. *Development of detectors and modulators for millimetric radiation sensitive to polarization.*
 - Testbed development and testing CEBs sensitivity to High-Energy Particles (HEPs).
 - Modeling the interactions between CEBs and HEPs.
- 2010-2012. *Development of modulators for precision polarimetry at millimetric wavelengths.*
 - Design, tests, qualification of the cryogenic polarization modulator for the PILOT balloon-borne experiment:
 - working strategy, mechanical system, readout electronics, laboratory testbed.
 - Data analysis of the Carina nebula. Study of spectral energy distribution and estimate of dust properties.
- 2009. Assistant Laboratory Instructor, course of laboratory of electromagnetism.
B.Sc. Physics and Astrophysics.
- 2007-2008. Research Technician. Prof. P. de Bernardis. *Test on prototype of flight modulator.*

AWARDS AND FUNDING as PI

- 2018. *Development of sensitive Microwave Kinetic Inductance Detectors.*
Paris Diderot University, proposal **ranked first**.
- 2014. *Development of Cold-Electron Bolometers for future astrophysical observations of the primordial universe,* Angelo della Riccia Foundation.
- 2013. *Development of Cold-Electron Bolometers arrays for the Cosmic Microwave Background.*
Sapienza University of Rome.
- 2007-2010. **Italian Space Agency Astronomy Fellowship (highest score on admission exam).**

MAIN SCIENTIFIC ACHIEVEMENTS

- *Pioneered implementation of Machine Learning algorithms in CMB instrumentation.*
S.M. et al., submitted to IEEE Trans. on Appl. Supercon. (Oct. 2018).
- *Pioneered CEBs sensitivity tests to Cosmic Rays.*
S.M. et al., JLTTP 176, 3, 323, astro-ph/[1403.7779](#) (2014).
S.M. et al., SPIE 9153, 91530A, astro-ph/[1410.5870](#). (2014).
- *Development of the PILOT cryogenic polarization modulator.*
It has enabled unprecedented high resolution observations of the sky in polarization at 1250 GHz.
S.M. et al., A&A, 528, A138, 1, astro-ph/[1006.5392](#) (2011).
- *Pioneered study of polarized emissions in CMB polarimeters.*
S.M. and de Bernardis P., astro-ph/[1006.1006.3225](#) (2010).

RESEARCH COLLABORATIONS

- AliCPT-1 (leading receiver development).
- *Atacama Cosmology Telescope* (development AdvACT camera).
- *Simons Observatory* (lead of the HWP systematics working group).
- *PILOT* (co-PI for the development of the cryogenic polarization modulator).
- *CMB-S4* (co-leader cryogenics-cryostat-optics working group. Lead bibliography of the Technology Book).
- *QUBIC.*
Past:
 - **European Space Agency Next Generation Sub-millimetre Wave Focal Plane Array Coupling Concepts.**
 - **European Space Agency Large radii Half-Wave Plate development.**

PROFESSIONAL SERVICE

- (invited) **Committee Member** 2020 Applied Superconductivity Conference, Tampa 2020.
- (invited) **Reviewer** for the **NASA** 2018 Astrophysics Research and Analysis (APRA) program.
- (invited) **Committee Member** 2018 *Applied Superconductivity Conference*, Seattle 2018 and organizer *special session* on cosmological applications.
- **Reviewer** for the **NASA** 2015 Astrophysics Research and Analysis (APRA) program.
- Referee for:

- *IEEE Transactions on Applied Superconductivity*.
- *Journal of Low Temperature Physics*.
- *28th International Conference on Low Temperature Physics*.
- *Applied Thermal Engineering*.
- *Applied Physics Research*.

SKILLS AND EXPERTISE

Softwares

- o **LabVIEW**, IDL, **Python**. AutoCAD, I-deas 11, **SolidWorks**, **Comsol**.
- o Design of printed circuit boards: **Orcad** Capture and Layout. Basic: HFSS, CST, Zemax.
- o Mathematica, Matlab (basic), Origin. Healpix, Latex, bash.

Computation

- o **Markov Chain Monte Carlo**, **Machine Learning** (keras, tensorflow).

Technological and Scientific Skills

- o Setup, calibration and tests of mechanical and optical systems at cryogenic temperatures.
- o Cryogenics, vacuum techniques, electronics, optics and mechanics. Data acquisition and analysis.
- o Cold-Electron Bolometers, Transition-Edge Sensors, Microwave Kinetic Inductance Detectors. Electrical, dark and optical tests.
- o Double stage refrigerators, dilution refrigerators and pulse tube systems.
- o Time Domain Multiplexing, SQUID amplifiers, UBC's [Multi Channel Electronics \(MCE\)](#).
- o Radioactive and X-ray sources, operation, modeling of the interaction with bolometric detectors.
- o Use of devices (Gunn Diode, Black Wave Oscillator, Black Body Calibrators) and instruments (lock-in amplifiers, spectrum analyzers) for mm-far infrared range.
- o Electric circuits and basic mechanical manufacturing (press drill, lathe and milling machine).
- o Wire bonding machine (basic).
- o Systematic effects in large focal plane detector arrays and in half-wave plates.
- o Simulation of real polarimeters.
- o Data analysis of balloons and satellites observations. Simulations of balloon experiments (scanning strategy, maps reconstruction, power spectra estimate).
- o 2015-2017 remote observer of ACT, shift of 24 hours, 1-2 days per month.

Cleanroom Skills

- o **Authorized class 10 and 100 cleanrooms user**
[Chalmers MC2](#), [Princeton MNFL/ACEE](#) and Paris Observatory.
- o Nanofabrication process: spinning resist and baking, electron beam lithography (basic), photolithography, development, thin film metal deposition, and lift-off.
- o Tools: anneal furnace, atomic layer deposition, e-beam evaporator, ellipsometer, mask aligner, laser writer, oxygen plasma, profilometer, scanning electron microscope (SEM), probing station, dicing saw.
- o **Processing Si wafers up to 6 in diameter.**
- o Fabrication of Cold-Electron Bolometers, Microwave Kinetic Inductance Detectors and templates for die bonding of the AdvACT cryogenic readout components.

Operating systems Windows and Linux.

Languages Italian: mother tongue. English: fluent. French and Swedish: conversational.

FIELD and CLEANROOM WORK

7. Paris Observatory cleanroom: MKIDs fabrication. July 2018.
6. **Atacama Desert**: experimental activity on ACT site. June and December 2016.
5. **Princeton MNFL and ACEE cleanroom**. February - August 2016.
4. **Flight campaign, Canadian Space Agency base of the stratospheric balloons**, the PILOT experiment of the French Space Agency CNES. Timmins, Canada, September 2015.
3. **MC2 cleanroom, Chalmers University of Technology**. Göteborg, June 2014 and January - April 2015.

2. **French Space Agency (CNES)**: PILOT calibration tests with a point polarized source at the infinity. Toulouse, October 2013.
1. Institut d'Astrophysique Spatiale: integration of the PILOT cryogenic modulator. Orsay, France, August 2011.

SELECTED TALKS

I have given tens of talks.

18. **invited**. Future of Science Conference. Kigali (Rwanda), July 2019.
17. KIPAC tea talk. SLAC, January 2019.
16. Applied Superconductivity Conference. Seattle, October 2018.
15. APC Paris, September 2017.
14. **invited**. **Pontificia Universidad Católica de Chile**, August 2017.
13. **Caltech**, June 2017.
12. **invited**. **John Hopkins University**, January 2017.
11. Sapienza University of Rome, September 2016.
10. Applied Superconductivity Conference. Denver, September 2016.
9. **Princeton** University, July 2016.
8. **Princeton** University, April 2016.
7. **Princeton** University, October 2015.
6. Onsala Space Observatory. April 2015.
5. MC2 Chalmers Univ. of Technology. Göteborg, March 2015.
4. SPIE conference. Montréal, June 2014.
3. B-Pol kick-off meeting. Institute of Spatial Astrophysics, Paris, July 2010.
2. 45th Rencontres de Moriond. Cosmology. La Thuile, March 2010.
1. **French Space Agency (CNES)**. Toulouse, September 2008.

SELECTED CONFERENCES and SCHOOLS

I have participated to tens among conferences, collaboration meetings. Selected ones:

9. **invited** *First Balzan-Lincei Interdisciplinary Seminar*. Accademia dei Lincei, Rome, November 2012.
8. **awarded** *Cryocourse 2012*. Heidelberg, September 2012.
7. **awarded** *ISAPP 2009-International School of Astroparticle Physics. Cosmic Microwave Background and Fundamental Interaction Physics*. Come, July 2009.
6. **awarded** *Cosmology: an astrophysical perspective*. Heraklion Crete, July 2008.
5. *CMB-S4 Collaboration Workshop*. Argonne, March 2018.
4. *CMB Data Analysis Summer School*. Ann Arbor, August 2016.
3. *CMB-S4 Collaboration Workshop*. Berkeley LNBL, March 2016.
2. *Cosmic Microwave Background @ 50*. Princeton University, June 2015.
1. *Space researchers Coordination*. Swedish Space Agency. Chalmers Univ. of Technology, Göteborg, March 2015.

TEACHING EXPERIENCE

Since 2009 I have been performing teaching activities in four countries: Italy, Sweden, France and USA.

Stanford University.

- 2018 - present. Supervision undergraduate student X. Bai.
- October 2019 - guest lecture for the course of "physics in the 21st century". Topic: Observational cosmology.

Paris Diderot University.

- 2018. Supervision internship student. 2017. Supervision visiting graduate student A. Almela.

Princeton University.

- 2016. Tutor of summer undergraduate students N. Habtemariam and S. Aggarwal.

Chalmers University of Technology.

- 2015. Guest lectures. Topics: the science of the CMB and how a typical CMB experiment works.

Sapienza University of Rome.

- Tutor for laboratory of Astrophysics - M.Sc. in Astronomy and Astrophysics. Undergraduates Supervised:
 - 2013. E. Guerriero and R. Pontrandolfi.
 - 2011. S. Aiola (scientist at Flatiron institute NYC). F. Bianchini (Post Doc at Melbourne University). A. Ridolfi (Post Doc at Max-Planck-Institut für Radioastronomie, Bonn).
- Teaching assistant
 - 2011-2013. Laboratory of Astrophysics - M.Sc. in Astronomy and Astrophysics.
 - 2011. Laboratory of System and Signals - B.Sc. in Physics.
 - 2009. Laboratory of Electromagnetism - B.Sc. in Physics and Astrophysics.

OUTREACH

Publications

- *Margherita Hack*.
Le Scienze Naturali nella Scuola, 51, 87-89 (2014).
A memory of a very famous Italian astrophysicist. I emphasized how the emotions of spending cold and long nights in Florence observatory in the 1950s are the same as those that motivate my daily research.
- *Dear Professor, in the International Year of the Astronomy...*
Le Scienze Naturali nella Scuola, 37, 5-8 (2009).
An invitation to the teachers to go beyond the common events (conferences, meeting with experts) that such international years of *something* represent; an invitation to think about what astronomy can really teach us.
- *In a basement*.
in "Il tallone di Minerva", Moglioni S.. Edizioni Universitarie Romane, 39-44 (2008).
The story of my daily research activity. I underline the importance of good professors in *training* young researchers, demonstrating how daily I apply their teaching in my research activity.

Others:

[Stanford Science Penpals](#) since 2019.

WOMEN IN STEM

2015-2017. Active participation in the [Women in Physics](#) group. Princeton, Physics Department.

REFERENCES

- Prof. Chao-Lin Kuo. Physics Department Stanford University. clkuo@stanford.edu
- Prof. Suzanne T. Staggs. Physics Department Princeton University. staggs@princeton.edu
- Prof. Paolo de Bernardis. Physics Department Sapienza University of Rome. paolo.debernardis@roma1.infn.it
- Dr. Jean-Philippe Bernard. Research Institute in Astrophysics and Planetology (IRAP), Toulouse.
Jean-Philippe.Bernard@irap.omp.eu
- Prof. Adrian Lee. University of California, Berkeley. Adrian.Lee@berkeley.edu
- Dr. Aritoki Suzuki. Lawrence Berkeley National Laboratory (LBNL), Berkeley. asuzuki@lbl.gov
- Dr. Giampaolo Pisano. School of Physics and Astronomy, Cardiff University. giampaolo.pisano@astro.cf.ac.uk
- Prof. Leonid Kuzmin. Chalmers University of Technology, Göteborg. leonid.kuzmin@chalmers.se
- Dr. Mikhail Tarasov. Kotel'nikov Institute of Radio Engineering and Electronics, Moscow. tarasov@hitech.cplire.ru