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EDUCATION

2001 Ph. D. in Physics, University of Barcelona. *Summa cum laude*.
1996 B.S. with Distinction, Honors in Physics (highest grades in the promotion). University of Barcelona.

PROFESSIONAL INTERESTS

- Global Navigation Positioning Systems (GDGPS)
- Astrophysics: exoplanet science, both theory and observations (Palomar, Roman Coronagraph Instrument and Starshade).
- Cosmology: theory and observation (SPHEREx, Planck, BICEP/Keck).
- Data analysis: big sets of data, machine learning and new algorithms (Solid background in Mathematics).
- Astrophysics: General and Special Relativity (Solar System Dynamics, Satellite Dynamics, GPS. Black hole dynamics and theory).
- Astrophysics: dark matter and dark energy (Roman Wide Filed Instrument).
- Instrumentation: visible astronomy (Palomar).

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EMPLOYMENT

Dec 2012 - Present	Research Scientist, Jet Propulsion Laboratory, USA
Fall 2014 - Present	Lecturer in Physics, California Institute of Technology, USA.
Dec 2012 - Present	Visiting Faculty, California Institute of Technology, USA
2011-Dec 2012	Senior Postdoctoral Scholar, California Institute of Technology, USA.
2010	Senior Postdoctoral Scholar, Laboratoire de Physique Subatomique et Cosmologie, France.
2003-2009	Postdoctoral Scholar, Instituto de Astrofísica de Canarias, Spain.
2001-2002	Postdoctoral Scholar, Institut d'Estudis Espacials de Catalunya.
2001	European Marie Curie Postdoctoral grant with Distinction (2001-2003), United Kingdom.
1999-2000	Research Grant with Distinction, Institut d'Estudis Espacials de Catalunya.
1996-1998	Research Grant with Distinction, Univeristy of Barcelona.
1995-1996	Research undergraduate grant, Fundamental Physics Department, University of Barcelona

PROFESSIONAL ACTIVITIES

Dec 2022-Present	Member of the Global Differential GPS Team at JPL
Sep 2021-Aug 2022	Member of SPHEREx Survey and Science Team
2020-Present	Roman Coronagraph Instrument Reference Mission Design Lead (PI: Jason Rhodes, JPL)
2020-Present	Roman Coronagraph Instrument Astrometry Lead (PI: Jason Rhodes, JPL)
2016-2021	Roman Exoplanet Data Challenge co-Lead (PI, Margaret Turnbull, SETI).
2017-2022	Starshade Imaging Simulations Lead (PI, Stuart Shaklan, JPL).
2014-Present	Visiting Faculty Associate at the California Institute of Technology, Division of Physics, Mathematics and Astronomy.
2013-Present	Member of the BICEP3 bolometer telescope collaboration, California Institute of Technolo
2007- Present	Planck Mission Scientist.
2012-2013	Visitor at the California Institute of Technology, Division of Physics, Mathematics and Astronomy.
2011-2015	Co-Principal Investigator of TMAS, The Ten MiliArcSecond camera. The Hale Telescope, Palomar Observatory, California Institute of Technology.
2011- Present	Member of the BICEP2 bolometer telescope collaboration, California Institute of Technolo
2011- Present	Member of the Keck bolometer array collaboration, California Institute of Technology.
2010- 2015	Core Team member of the HFI instrument in Planck.
2007- 2015	Core Team member of the LFI Instrument in Planck.
2006-2010	Project Scientist of FastCam, European Nothern Observatory.
2003-2008	Project Scientist of COSMOSOMAS, 11-19 GHz multiple radiometer. Instituto de Astrofís de Canarias.

AWARDS

- JPL Team Award for providing original algorithmic solutions to complex problems in the Coronagraph Instrument of the Nancy Grace Roman Space Telescope (2021).
- JPL Team Award for the exceptional contribution to the data analysis of Planck 2018 data (2019).
- Giuseppe and Vanna Cocconi Prize of the European Physical Society's High Energy Energy and Particle Physics Division for the Planck team (2019).

- NASA Group Achievement Award "for the substantial and effective scientific, technical, and management work in developing the Large Mission Concept Studies for the 2020 Astrophysics Decadal Survey (2019).
- NASA Voyager Award (individual): For the creation of the first Starshade imaging simulation tool (2018).
- Member of the Planck Scientific collaboration to whom the Gruber Prize was awarded (2018).
- Royal Academy Group Achievement Award for the Planck Satellite Team (2018).
- Group Achievement Award to BICEP2 and Planck Mission Joint Data Analysis Team (2015).
- Group Achievement Award to U.S. Planck Data Analysis Team (2014).
- Group Achievement Award to BICEP2 Data Analysis Team (2014).

REFEREED PUBLICATIONS

Refereed index h=101, g=222.

In preparation:

1. N. Zimmerman et al. (including S.R. Hildebrandt) A Community Exoplanet Imaging Data Challenge: I. Design and Simulations. To be submitted to the Astronomical Journal.
2. J.H. Girard, et al. (including S.R. Hildebrandt) The Roman Exoplanet Imaging Data Challenge: II. Implementation, Results and Lessons Learned. To be submitted to the Astronomical Journal.

Accepted:

1. *BICEP / Keck XVII: Line of Sight Distortion Analysis: Estimates of Gravitational Lensing, Anisotropic Cosmic Birefringence, Patchy Reionization, and Systematic Errors.* BICEP/Keck Collaboration, 2023. Accepted for publication in ApJ
2. *BICEP / Keck XVI: Characterizing Dust Polarization Through Correlations with Neutral Hydrogen.* BICEP/Keck Collaboration. ApJ, **945**, 72, 2023
3. *Nancy Grace Roman Space Telescope Coronagraph Instrument Observation Calibration Plan.* R. Zellem et al., Roman Coronagraph Public Report, https://arxiv.org/abs/2202.05923, 2022.
4. *BICEP / Keck XV: The BICEP3 CMB Polarimeter and the First Three Year Data Set.* BICEP/Keck Collaboration. ApJ, **927**, 77, 2022
5. *BICEP / Keck XIV: Improved constraints on axion-like polarization oscillations in the cosmic microwave background.* BICEP/Keck Collaboration. Phys. Rev. D. **105**, 2, 2022.
6. *Improved Constraints on Primordial Gravitational Waves using Planck, WMAP, and BICEP/Keck Observations through the 2018 Observing Season.* BICEP/Keck Collaboration. PhysRevLett, **127**, 15, 2022.
7. S.R. Hildebrandt, S. Shaklan, E. Cady, M. Turnbull, *SISTER: Starshade Imaging Software Toolkit fir Exoplanet Reconneisance.* J. Astron. Telesc. Instrum. Syst. 7 (2), 021217, 2021.

8. M. Turnbull, N. Zimmerman, S.R. Hildebrandt et al. *A Community Exoplanet Imaging Data Challenge for Roman CGI and Starshade Rendezvous.* J. Astron. Telesc. Instrum. Syst. 7 (2), 021218, 2021.

9. Z. Li, S.R. Hildebrandt et al. *Direct Imaging of Exoplanets Beyond the Radial Velocity Limit.* AJ, **162**, 9, 2021.

10. Andrew Romero-Wolf, Geoffrey Bryden, Sara Seager, et al. (including S.R. Hildebrandt) (2021), *Starshade rendezvous: exoplanet sensitivity and observing strategy.* J. Astron. Telesc. Instrum. Syst. 7(2) 021210, 2021.

11. Eliad Peretz, Kevin Hall, John C. Mather, Stuart Shaklan, Sergi Hildebrandt, *Exoplanet imaging performance envelopes for starshade-based missions.* J. Astron. Telesc. Instrum. Syst. 7(2), 021215, 2021.

12. Eliad Peretz, John C. Mather, Lucas Pabarcius, et al. (including S.R. Hildebrandt) *Mapping the observable sky for a Remote Occulter working with ground-based telescopes.* J. Astron. Telesc. Instrum. Syst. 7(2), 021212, 2021.

13. Renyu Hu, Sergi R. Hildebrandt, Mario Damiano, et al. *Starshade exoplanet data challenge.* J. Astron. Telesc. Instrum. Syst. 7(2), 021216, 2021

14. *BICEP2/Keck Array XII: Constraints on axionlike polarization oscillations in the cosmic microwave background.* BICEP2/Keck Array collaboration. Phys. Rev. D, **103**, 042002, 2021.

15. Mario Damiano and Renyu Hu and Sergi R. Hildebrandt *Multi-orbital-phase and Multiband Characterization of Exoplanetary Atmospheres with Reflected Light Spectra*, AJ, **160**, 206, 2020,

16. *Planck intermediate results - LVII. Joint Planck LFI and HFI data processing*, A&A, **643**, A42, 2020

17. *HabEx collaboration: The Habitable Exoplanet Observatory (HabEx) Mission Concept Study Final Report.* https://ui.adsabs.harvard.edu/abs/2020arXiv200106683G

18. *BICEP2/Keck Array XI: Beam Characterization and Temperature-to-Polarization Leakage in the BK15 Dataset.* ApJ **844**, 114, 2019.

19. *BICEP2/Keck Array X: Constraints on Primordial Gravitational Waves Using Planck, WMAP, and New BICEP2/Keck Observations through the 2015 Season.* Phys. Rev. Lett. **121**, 22, 2018.

20. *BICEP2/Keck Array IX: New Bounds on Anisotropies of Cosmic Polarization Rotation and Implications for Axion-Like Particle and Primordial Magnetic Fields.* BICEP2/Keck Array collaboration. Phys. Rev. D 96, 102003, 2017.

21. *BICEP2/Keck Array VIII: Measurement of Gravitational Lensing from Large-scale B-mode Polarization.* BICEP2/Keck Array collaboration. ApJ, **833**, 228, 2016.

22. *BICEP2/Keck Array VII: Matrix based E/B separation applied to BICEP2 and the Keck Array.* BICEP2/Keck Array collaboration. ApJ **825**, 66, 2016.

23. *Planck intermediate results. XLII. Large-scale Galactic magnetic fields.* Planck Collaboration, 2016, A&A 596, A103.

24. *Planck intermediate results. XLIII. The spectral energy distribution of dust in clusters of galaxies.* Planck Collaboration, 2016. A&A, 596, A104..

25. *Planck intermediate results. XXXIX. The Planck list of high-redshift source candidates.* Planck Collaboration, 2016, A&A 596, A100.

26. *Planck intermediate results. XL. The Sunyaev-Zeldovich signal from the Virgo cluster.* Planck Collaboration, 2016, A&A 596, A101.

27. *Planck intermediate results. XLI. A map of lensing-induced B-modes.* Planck Collaboration, 2016, A&A 596, A102.

28. *Planck 2015. XXV. Diffuse, low-frequency Galactic foregrounds.* Planck Collaboration, 2016. A&A 594, A25.

29. *Planck 2015. XXIV. Cosmology from Sunyaev-Zeldovich cluster counts.* Planck Collaboration, 2015. Accepted by A&A.

30. *Planck 2015. XXIII. Thermal Sunyaev-Zeldovich effect–cosmic infrared background correlation.* Planck Collaboration, 2015. Accepted by A&A.

31. *Planck 2015. XXII. A map of the thermal Sunyaev-Zeldovich effect.* Planck Collaboration, 2015. Accepted by A&A.

32. *Planck 2015. XXI. The integrated Sachs-Wolfe effect.* Planck Collaboration, 2015. Accepted by A&A.

33. *Planck 2015. XX. Constraints on inflation.* Planck Collaboration, 2015. Accepted by A&A.

34. *Planck 2015. XIX. Constraints on primordial magnetic fields.* Planck Collaboration, 2016. Accepted by A&A.

35. *Planck 2015. XVIII. Background geometry and topology of the Universe.* Planck Collaboration, 2015. Accepted by A&A.

36. *Planck 2015. XV. Gravitational lensing.* Planck Collaboration, 2015. Accepted by A&A.

37. *Planck 2015. XIV. Dark energy and modified gravity.* Planck Collaboration, 2015. Accepted by A&A.

38. *Planck 2015. XIII. Cosmological parameters.* Planck Collaboration, 2015. Accepted by A&A.

39. *Planck 2015. XI. CMB power spectra, likelihood, and consistency of cosmological parameters.* Planck Collaboration, 2015. Accepted by A&A.

40. *Planck 2015. IX. Diffuse component separation: CMB maps.* Planck Collaboration, 2015. Accepted by A&A.

41. *Planck intermediate results. XXXVIII. E- and B-modes of dust polarization from the magnetized filamentary structure of the interstellar medium.* Planck Collaboration, 2016 A&A **586**, A141.

42. *Planck intermediate results. XXXVII. Evidence of unbound gas from the kinetic Sunyaev-Zeldovich effect.* Planck Collaboration, 2016 A&A **586**, A140.

43. *Planck intermediate results. XXXVI. Optical identification and redshifts of Planck SZ sources with telescopes in the Canary Islands Observatories.* Planck Collaboration, 2016 A&A 586, A139.

44. *Planck intermediate results. XXXV. Probing the role of the magnetic field in the formation of structure in molecular clouds.* Planck Collaboration, 2016 A&A, **586**, A138.

45. *Planck intermediate results. XXXIV. The magnetic field structure in the Rosette Nebula.* Planck Collaboration, 2016 A&A **586**, A137.

46. *Planck intermediate results. XXXIII. Signature of the magnetic field geometry of interstellar filaments in dust polarization maps.* Planck Collaboration, 2016 A&A **586**, A136.

47. *Planck intermediate results. XXXII. The relative orientation between the magnetic field and structures traced by interstellar dust.* Planck Collaboration, 2016 A&A **586**, A135.

48. *Planck intermediate results. XXXI. Microwave survey of Galactic supernova remnants.* Planck Collaboration, 2016 A&A **586**, A134.

49. *Planck intermediate results. XXX. The angular power spectrum of polarized dust emission at intermediate and high Galactic latitudes.* 2016 A&A **586**, A133.

50. *Planck intermediate results. XXIX. All-sky dust modelling with Planck, IRAS, and WISE observations.* Planck Collaboration, 2016 A&A **586**, A132.

51. *A Joint Analysis of BICEP2/Keck Array and Planck Data.* BICEP2/Keck and Planck Collaborations, Phys Rev Lett, **114**, 101301, 2015.

52. *Antenna-coupled TES bolometers used in BICEP2, Keck array, and SPIDER.* BICEP/Keck Array Collaboration. ApJ **812**, 176, 2015.

53. *BICEP2/Keck Array III: Instrumnetal Systematics.* BICEP/Keck Array Collaboration. ApJ **814**, 110, 2015.

54. *BICEP2/Keck Array IV: Optical Characterization and Performance of the BICEP2 and Keck Array Experiments.* BICEP/Keck Array Collaboration. ApJ **806**, 206, 2015.

55. *BICEP2/Keck Array V: Measurements of B-mode Polarization at Degree Angular Scales and 150 GHz by the Keck Array.* BICEP/Keck Array Collaboration. ApJ **811**,126 (2015).

56. *Planck 2015. I. Overview of products and results.* Planck Collaboration, 2015. Accepted by A&A.

57. *Planck 2015. II. Low Frequency Instrument data processing.* Planck Collaboration, 2015. Accepted by A&A.

58. *Planck 2015. III. LFI systematic uncertainties.* Planck Collaboration, 2015. Accepted by A&A.

59. *Planck 2015. IV. LFI beams and window functions.* Planck Collaboration, 2015. Accepted by A&A.

60. *Planck 2015. V. LFI calibration.* Planck Collaboration, 2015. Accepted by A&A.

61. *Planck 2015. VI. LFI maps.* Planck Collaboration, 2015. Accepted by A&A.

62. *Planck 2015. VII. High Frequency Instrument data processing: Time-ordered information and beam processing.* Planck Collaboration, 2015. Accepted by A&A.

63. *Planck 2015. VIII. High Frequency Instrument data processing: Calibration and maps.* Planck Collaboration, 2015. Accepted by A&A.

64. *Planck 2015. X. Diffuse component separation: Foreground maps.* Planck Collaboration, 2015. Accepted by A&A.

65. *Planck 2015. XII. Simulations.* Planck Collaboration, 2015. Accepted by A&A.

66. *Planck 2015. XVI. Isotropy and statistics of the CMB.* Planck Collaboration, 2015. Accepted by A&A.

67. *Planck 2015. XVII. Primordial non-Gaussianity.* Planck Collaboration, 2015. Accepted by A&A.

68. *Planck 2015. XXVII. The Second Planck Catalogue of Sunyaev-Zeldovich Sources.* Planck Collaboration, 2015. Accepted by A&A.

69. *Planck 2015. XXVIII. The Planck Catalogue of Galactic Cold Clumps.* Planck Collaboration, 2015. Accepted by A&A.

70. *Planck intermediate results. XXVIII. Interstellar gas and dust in the Chamaeleon clouds as seen by Fermi LAT and Planck.* Planck Collaboration, 2015. A&A, 573, A6.

71. *Planck intermediate results. XXVII. High-redshift infrared galaxy overdensity candidates and lensed sources discovered by Planck and confirmed by Herschel-SPIRE.* Planck Collaboration, 2015 A&A **582**, A30.

72. *Planck intermediate results. XXVI. Optical identification and redshifts of Planck clusters with the RTT150 telescope.* Planck Collaboration, 2015 A&A **582**, A29.

73. *Planck intermediate results. XXV. The Andromeda Galaxy as seen by Planck.* Planck Collaboration, 2015 A&A **582**, A28.

74. *Planck intermediate results. XXIV. Constraints on variation of fundamental constants.* Planck Collaboration, 2015 A&A **580**, A22.

75. *Planck intermediate results. XXIII. Galactic plane emission components derived from Planck with ancillary data.* Planck Collaboration, 2015 A&A **580**, A13.

76. *Planck intermediate results. XXII. Frequency dependence of thermal emission from Galactic dust in intensity and polarization.* Planck Collaboration, 2015 A&A **576**, A107.

77. *Planck intermediate results. XXI. Comparison of polarized thermal emission from Galactic dust at 353 GHz with optical interstellar polarization.* Planck Collaboration, 2015 A&A **576**, A106.

78. *Planck intermediate results. XX. Comparison of polarized thermal emission from Galactic dust with simulations of MHD turbulence.* Planck Collaboration, 2015 A&A **576**, A105.

79. *Planck intermediate results. XIX. An overview of the polarized thermal emission from Galactic dust.* Planck Collaboration, 2015 A&A **576**, A104.

80. *Planck intermediate results. XVIII The millimetre and sub-millimetre emission from planetary nebulae.* Planck Collaboration, 2015. A&A, 573, A6.

81. *Neutrino Physics from the Cosmic Microwave Background and Large Scale Structure.* Abazajian, K. N et al. 2015, Astropart.Phys. 63, 66.

82. *BICEP2 I: Detection of B-Mode Polarization at Degree Angular Scales by BICEP2.* 2014. PhysRevLett, 112.

83. *BICEP2 II: Experiment and Three-Year Data Set.* BICEP2 Collaboration, 2014. ApJ, 792, 62.

84. Planck intermediate results. XIII. Constraints on peculiar velocities. Planck Collaboration, 2014. A&A, 561, A97.

85. Planck 2013 results. XXXI. Consistency of the Planck data. Planck Collaboration, 2014. A&A, 571, A31.

86. Planck 2013 results. XXX. Cosmic infrared background measurements and implications for star formation. Planck Collaboration, 2014. A&A, 571, A30.

87. Planck 2013 results. XXIX. Planck catalogue of Sunyaev-Zeldovich sources. Planck Collaboration, 2014. A&A, 571, A29.

88. Planck 2013 results. XXVIII. The Planck Catalogue of Compact Sources. Planck Collaboration. 2014. A&A, 571, A28.

89. Planck 2013 results. XXVII. Doppler boosting of the CMB: Eppur si muove. Planck Collaboration, 2014. A&A, 571, A27.

90. Planck 2013 results. XXVI. Background geometry and topology of the Universe. Planck Collaboration, 2014. A&A, 571, A26.

91. Planck 2013 results. XXV. Searches for cosmic strings and other topological defects. Planck Collaboration, 2014. A&A, 571, A25.

92. Planck 2013 results. XXIV. Constraints on primordial non-Gaussianity. Planck Collaboration, 2014. A&A, 571, A24.

93. Planck 2013 results. XXIII. Isotropy and statistics of the CMB. Planck Collaboration, 2014. A&A, 571, A23.

94. Planck 2013 results. XXII. Constraints on inflation. Planck Collaboration, 2014. 2014. A&A, 571, A22.

95. Planck 2013 results. XXI. Cosmology with the all-sky Planck Compton parameter y-map. Planck Collaboration, 2014. 2014. A&A, 571, A21.

96. Planck 2013 results. XX. Cosmology from Sunyaev-Zeldovich cluster counts. Planck Collaboration, 2014. 2014. A&A, 571, A20.

97. Planck 2013 results. XIX. The integrated Sachs-Wolfe effect. Planck Collaboration, 2014. A&A, 571, A19.

98. Planck 2013 results. XVIII. Gravitational lensing-infrared background correlation. Planck Collaboration, 2014. A&A, 571, A18.

99. Planck 2013 results. XVII. Gravitational lensing by large-scale structure. Planck Collaboration, 2014. A&A, 571, A17.

100. Planck 2013 results. XVI. Cosmological parameters. Planck Collaboration, 2014. A&A, 571, A16.

101. Planck 2013 results. XV. CMB power spectra and likelihood. Planck Collaboration, 2014. A&A, 571, A15.

102. Planck 2013 results. XIV. Zodiacal emission. Planck Collaboration, 2014. A&A, 571, A14.

103. Planck 2013 results. XIII. Galactic CO emission. Planck Collaboration, 2014. A&A, 571, A13.

104. Planck 2013 results. XII. Component separation. Planck Collaboration, 2014. A&A, 571, A12.

105. Planck 2013 results. X. Energetic particle effects: characterization, removal, and simulation. Planck Collaboration, 2014. A&A, 571, A10.

106. Planck 2013 results. IX. HFI spectral response. Planck Collaboration, 2014. A&A, 571, A9.

107. Planck 2013 results. VIII. HFI photometric calibration and mapmaking. Planck Collaboration, 2014. A&A, 571, A8.

108. Planck 2013 results. VII. HFI time response and beams. Planck Collaboration, 2014. A&A, 571, A7.

109. Planck 2013 results. VI. High Frequency Instrument data processing. Planck Collaboration, 2014. A&A, 571, A6.

110. Planck 2013 results. V. LFI calibration. Planck Collaboration, 2014. A&A, 571, A5.

111. Planck 2013 results. IV. Low Frequency Instrument beams and window functions. Planck Collaboration, 2014. A&A, 571, A4.

112. Planck 2013 results. III. LFI systematic uncertainties. Planck Collaboration, 2014. A&A, 571, A3.

113. Planck 2013 results. II. Low Frequency Instrument data processing. Planck Collaboration, 2014. A&A, 571, A2.

114. Planck 2013 results. I. Overview of products and scientific results. Planck Collaboration, 2014. A&A, 571, A1.

115. *Planck intermediate results. XVII. Emission of dust in the diffuse interstellar medium from the far-infrared to microwave frequencies.* Planck Collaboration, 2014. A&A, 566, 55.

116. *Planck intermediate results. XVI. Profile likelihoods for cosmological parameters.* Planck Collaboration, 2014. A&A, 566, A54.

117. *Planck intermediate results. XV. A study of anomalous microwave emission in Galactic clouds.* Planck Collaboration, 2014. A&A, 565, 103.

118. *Planck intermediate results. XIV. Dust emission at millimetre wavelengths in the Galactic plane.* Planck Collaboration, 2014. A&A, 564, 45.

119. *Planck intermediate results. XIII. Constraints on peculiar velocities.* Planck Collaboration, 2014. A&A, 561, A97.

120. *PALM-3000: Exoplanet Adaptive Optics for the 5m Hale Telescope.* R. Dekany et al., 2013, ApJ, 776, 130.

121. *Planck intermediate results (Corrigendum). V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect.* Planck Collaboration, 2013. A&A, 558, C2.

122. *MILCA, a modified internal linear combination algorithm to extract astrophysical emissions from multifrequency sky maps.* G. Hurier, Macías-Pérez, J. F. and Hildebrandt, S. R. 2013, A&A, 558, A118.

123. *MILCA, a modified internal linear combination algorithm to extract astrophysical emissions from multifrequency sky maps.* G. Hurier, Macías-Pérez, J. F. and Hildebrandt, S. R. 2013, A&A, 558, A118.

124. *Planck intermediate results. XII. Diffuse Galactic components in the Gould Belt system.* Planck Collaboration, 2013. A&A, 557, A53.

125. *Planck intermediate results. XI. The gas content of dark matter halos: the Sunyaev-Zeldovich-stellar mass relation for locally brightest galaxies.* Planck Collaboration, 2013. A&A, 557, A52.

126. *Planck intermediate results. X. Physics of the hot gas in the Coma cluster.* Planck Collaboration, 2013. A&A, 554, A140.

127. *Planck intermediate results. IX. Detection of the Galactic haze with Planck.* Planck Collaboration, 2013. A&A, 554, A139.

128. A. Diaz-Sanchez et al. *VI photometry of M15 core.* 2013, VizieR Online Data Catalog, 742, 32260.

129. *Planck intermediate results. VIII. Filaments between interacting clusters.* Planck Collaboration, 2013. A&A, 550, A134.

130. *Planck intermediate results. VII. Statistical properties of infrared and radio extragalactic sources from the Planck Early Release Compact Source Catalogue at frequencies between 100 and 857 GHz.* Planck Collaboration, 2013. A&A, 550, A133.

131. *Planck intermediate results. VI. The dynamical structure of PLCKG214.6+37.0, a Planck discovered triple system of galaxy clusters.* Planck Collaboration, 2013. A&A, 550, A132.

132. *Planck intermediate results. V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect.* Planck Collaboration, 2013. A&A, 550, A131.

133. *Planck intermediate results. IV. The XMM-Newton validation programme for new Planck galaxy clusters.* Planck Collaboration, 2013. A&A, 550, A130.

134. *Planck intermediate results. III. The relation between galaxy cluster mass and Sunyaev-Zeldovich signal.* Planck Collaboration, 2013. A&A, 550, A129.

135. *Planck intermediate results. II. Comparison of Sunyaev-Zeldovich measurements from Planck and from the Arcminute Microkelvin Imager for 11 galaxy clusters.* Planck Collaboration, 2013. A&A, 550, A128.

136. *Planck intermediate results. Planck intermediate results. I. Further validation of new Planck clusters with XMM-Newton.* Planck Collaboration, 2013. A&A, 543, A102.

137. *A Characterization of the Diffuse Galactic Emissions in the Anticenter of the Galaxy.* L. Fauvet, Macías, J. F, Hildebrandt, S. R., and Désert, F.-X. (2013) AdAst, 2013, 3F.

138. *Inflation Physics from the Cosmic Microwave Background and Large Scale Structure.* Abazajian, K. N et al. 2013, Astropart.Phys. "Snowmass" report.

139. it Analysis of WMAP 7 Year Temperature Data: Astrophysics of the Galactic Haze. D. Pietrobon et al. (2013) ApJ, 755, 69.

140. *Robo-AO: autonomous and replicable laser-adaptive-optics and science system.* C. Baranec et al. (2012) SPIE, 844, 04B.

141. *High-resolution optical imaging of the core of the globular cluster M15 with FastCam.* A. Díaz-Sánchez et al. (2012) MNRAS, 423, 2260.

142. *Detection of Anomalous Microwave Emission in the Pleiades Reflection Nebula with Wilkinson Microwave Anisotropy Probe and the COSMOSOMAS Experiment.* R. Génova-Santos et al. (2011) ApJ, 743, 67G.

143. *Planck early results. XXVI. Detection with Planck and confirmation by XMM-Newton of PLCK G266.6-27.3, an exceptionally X-ray luminous and massive galaxy cluster at z ˜ 1.* Planck Collaboration, 2011. A&A, 536, 26.

144. *Planck early results. XXV. Thermal dust in nearby molecular clouds.* Planck Collaboration, 2011. A&A, 536, 25.

145. *Planck early results. XXIV. Dust in the diffuse interstellar medium and the Galactic hal.* Planck Collaboration, 2011. A&A, 536, 24.

146. *Planck early results. XXIII. The first all-sky survey of Galactic cold clumps.* Planck Collaboration, 2011. A&A, 536, 23.

147. *Planck early results. XXII. The submillimetre properties of a sample of Galactic cold clumps.* Planck Collaboration, 2011. A&A, 536, 22.

148. *Planck early results. XXI. Properties of the interstellar medium in the Galactic plane.* Planck Collaboration, 2011. A&A, 536, 21.

149. *Planck early results. XX. New light on anomalous microwave emission from spinning dust grains.* Planck Collaboration, 2011. A&A, 536, 20.

150. *Planck early results. XIX. All-sky temperature and dust optical depth from Planck and IRAS. Constraints on the "dark gas" in our Galaxy.* Planck Collaboration, 2011. A&A, 536, 19.

151. *Planck early results. XVIII. The power spectrum of cosmic infrared background anisotropies.* Planck Collaboration, 2011. A&A, 536, 18.

152. *Planck early results. XVII. Origin of the submillimetre excess dust emission in the Magellanic Clouds.* Planck Collaboration, 2011. A&A, 536, 17.

153. *Planck early results. XVI. The Planck view of nearby galaxies.* Planck Collaboration, 2011. A&A, 536, 16.

154. *Planck early results. XV. Spectral energy distributions and radio continuum spectra of northern extragalactic radio sources.* Planck Collaboration, 2011. A&A, 536, 15.

155. *Planck early results. XIV. ERCSC validation and extreme radio sources.* Planck Collaboration, 2011. A&A, 536, 14.

156. *Planck early results. XIII. Statistical properties of extragalactic radio sources in the Planck Early Release Compact Source Catalogue.* Planck Collaboration, 2011. A&A, 536, 13.

157. *Planck early results. XII. Cluster Sunyaev-Zeldovich optical scaling relations.* Planck Collaboration, 2011. A&A, 536, 12.

158. *Planck early results. XI. Calibration of the local galaxy cluster Sunyaev-Zeldovich scaling relations.* Planck Collaboration, 2011. A&A, 536, 11.

159. *Planck early results. X. Statistical analysis of Sunyaev-Zeldovich scaling relations for X-ray galaxy clusters.* Planck Collaboration, 2011. A&A, 536, 10.

160. *Planck early results. IX. XMM-Newton follow-up for validation of Planck cluster candidates.* Planck Collaboration, 2011. A&A, 536, 9.

161. *Planck early results. VIII. The all-sky early Sunyaev-Zeldovich cluster sample.* Planck Collaboration, 2011. A&A, 536, 8.

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164. *Planck Early Results. V. The Galactic Cold Core Population revealed by the first all-sky survey.* Planck Collaboration, 2011. A&A, 536, 5.

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OTHERS

COMPUTER SCIENCE SOFTWARE

Daily	Python, Matlab, C, IDL
Good knowledge	C++, Cuda, Graphical Processing Units
Good knowledge	latex, linux, general office software.

TEACHING

- 2022: Lecturer, California Institute of Technology. Subject: Physics 1 and 2.

- 2021: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2020: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2019: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2018: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2017: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2016: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2015: Lecturer, California Institute of Technology. Subject: Physics 1.

- 2014: Lecturer, California Institute of Technology. Subject: Physics 1.

- 1996-1998: Assistant Lecturer, University of Barcelona. Subjects: General Relativity, Mathematical methods II and IV.

STUDENT RESEARCH PROGRAMS

2019	Mentor of two Caltech SURF students and one UC Berkeley student
2018	Mentor of one Caltech SURF student
2017	Mentor of one Caltech SURF student
2016	Mentor of one Caltech SURF student
2015	co-Mentor of one JPL SURF student and Mentor of three Caltech SURF students.
2014	co-Mentor Caltech SURF student.

LANGUAGES

Spanish	Mother-tongue
Catalan	Mother-tongue
English	Very good
German	Good (oral, written, listening)
French	Good (oral, written, listening)