

# Bibliography

Graça Rocha

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## Publications

Graça Rocha

### 1 Books

1. **'Bayesian methods in Cosmology'** Cambridge University Press, CUP, published in December 2009; chapter on **'Bayesian Source Extraction'** by Mike Hobson, **Graça Rocha**, Richard Savage.  
(<http://www.cambridge.org/uk/catalogue/catalogue.asp?isbn=9780521887946>)

### 2 Refereed Publications

1. **'Studies of CMB structure at DEC=+40°. II: Analysis and cosmological interpretation'**, Hancock, S., Lasenby, A.N., Gutierrez, C.M., Davies, R.D., **Rocha, G.**, Watson, R.A., & Rebolo, R., MNRAS, 1997, vol **289**, pp 505-514.
2. **'Constraints on cosmological parameters from recent measurements of CMB anisotropy'**, Hancock, S., **Rocha, G.**, Lasenby, A.N. & Gutierrez, C.M., MNRAS, 1998, vol **294L**, pp 1.
3. **'10 GHz Tenerife CMB observations at 8° resolution and their analysis using a new maximum entropy method'**, Jones, A.W., Hancock, S., Lasenby, A.N., Davies, R.D., Gutierrez, C.M., **Rocha, G.**, Watson, R.A., & Rebolo, R., MNRAS, 1998, vol **294**, pp 582.
4. **'Joint estimation of cosmological parameters from CMB and IRAS data'**, Matthew Webster, S.L. Bridle, M.P. Hobson, A.N. Lasenby, Ofer Lahav and **Graca Rocha**, ApJ letters, **509L**, 65W, 1998.

5. **'Detection of Cosmic Microwave Background Structure in a Second Field with the Cosmic Anisotropy Telescope'**, J.C. Baker, K. Grainge, M.P. Hobson, M.E. Jones, R. Kneissl, A.N. Lasenby, C.M.M. O'Sullivan, G. Pooley, **G. Rocha**, R. Saunders, P.F. Scott, E.M. Waldram, *MNRAS*, **308**, 1173B, 1999.
6. **'CMB Anisotropy Constraints on Open and Flat- $\Lambda$  CDM Cosmogonies from UCSB South Pole, ARGO, MAX, White Dish, and SuZIE Data'**, Bharat Ratra, Radoslaw Stompor, Ken Ganga, **Graça Rocha**, Naoshi Sugiyama, and Krzysztof M. Górski, *ApJ*, **517**, 549R, 1999.
7. **'Python I, II, and III CMB anisotropy measurement constraints on open and flat- $\Lambda$  CDM cosmogonies'**, **Graça Rocha**, Radoslaw Stompor, Ken Ganga, Bharat Ratra, Stephen R. Platt, Naoshi Sugiyama, and Krzysztof M. Górski, *ApJ*, **525**, 1R, 1999.
8. **'VSL theories and the Doppler peak'**, P.P. Avelino, C.J.A.P. Martins & **G. Rocha**, *Phys. Lett.* **B843**, 210, 2000.
9. **'Bayesian joint estimation of non-Gaussianity and the power spectrum'**, **Graça Rocha**, João Magueijo, Mike Hobson & Anthony Lasenby, *Phys. Rev.* **D64**, 063512, 2001.
10. **'Looking for a varying  $\alpha$  in the Cosmic Microwave Background'**, P.P. Avelino, C.J.A.P. Martins, **G. Rocha** & Pedro Viana, *Phys. Rev.* **D62**, 123508, 2000.
11. **'Updates on SuZIE and Python'**, Ganga,K., et al, *ApL&C..37..303G*, 2000.
12. **'Early-Universe constraints on a time-varying fine structure constant'**, P.P. Avelino, S. Esposito, G. Mangano, C.J.A.P. Martins, A. Melchiorri, G. Miele, O. Pisanti, **G. Rocha** and P.T.P. Viana, *Phys. Rev.* **D64**, 103506, 2001.
13. **'Measuring  $\alpha$  in the Early Universe I: CMB temperature, Large-Scale Structure and Fisher Matrix Analysis'**, C.J.A.P. Martins, A. Melchiorri, R. Trotta, R. Bean, **G. Rocha**, P.P. Avelino, and P. Viana, *Phys.Rev.* **D66** 023505, 2002.
14. **'CMB Anisotropy Constraints on Open and Flat- $\Lambda$  CDM Cosmogonies from DMR, UCSB South Pole, Python, ARGO, MAX, White Dish, OVRO and SuZIE Data'**, Pia Mukherjee, Ken Ganga, Bharat Ratra, **Graça Rocha**, Tarun Souradeep, Naoshi Sugiyama, and Krzysztof M. Górski, *Int. J. Mod. Phys., IJMPA*, **18**, 4933M, 2003.
15. **'Measuring  $\alpha$  in the Early Universe'**, **Graça Rocha**, *Astrophysics and Space Science, Astroph. & Sp. Sci.* **283**, Issue 4, 589R, 2003.
16. **'Topology of the Universe from COBE; a wavelet approach'**, **G. Rocha**, L. Cayon, R. Bowen, A. Canavezes, J. Silk, A. Banday & K. Górski, *MNRAS*, **351**, 769R, 2004.
17. **WMAP Constraints on varying  $\alpha$  and the Promise of Reionization'**, C.J.A.P. Martins, A. Melchiorri, **G. Rocha**, R. Trotta, P.P. Avelino, P. Viana, *Phys. Lett. B* **585**, 29, 2004.

18. **'Searching for non-Gaussianity in the VSA data'**, Richard Savage et al., MNRAS, **349**, 973S, 2004.
19. **'Measuring  $\alpha$  in the Early Universe II: CMB polarization and Fisher Matrix Analysis'**, **G. Rocha**, R. Trotta, C.J.A.P Martins, A. Melchiorri, P.P. Avelino, R. Bean and P.T.P. Viana, MNRAS, **352**, 20R, 2004.
20. **'Estimating the CMB bispectrum from the VSA data'**, Sarah Smith, **Graca Rocha**, Anthony Challinor & VSA team, MNRAS, **352**, 887, 2004.
21. **'Non-Random Phases in Non-Trivial Topologies'**, Patrick Dineen, **Graça Rocha**, & Peter Coles, MNRAS, **358**, 1285D, 2005.
22. **'Simulations of non-Gaussian CMB maps'**, **Graça Rocha**, Mike Hobson, Sarah Smith, Pedro Ferreira, & Anthony Challinor, MNRAS, **357**, 1R, 2005.
23. **'Cosmic Microwave Background observations from the Cosmic Microwave Background Imager and Very Small Array: a comparison of coincident maps and parameter estimation methods'**, Rajguru, Nutan et al., MNRAS, **363**, 1125R, 2005.
24. **'Constraints on Changes in Fundamental Constants from a Cosmologically Distant OH Absorber or Emitter'**, Kanekar, N., Carilli, CL., Langston, G. I., **Rocha, G.**, Combes, F., Subrahmanyam, R., Stocke, J.T., Menten, K.M., Briggs, F.H., Wilklind, T., Phys. Rev. L 95, 1301K, 2005.
25. **'What can be learned from the lensed cosmic microwave background *B*-mode polarization power spectrum?'**, Sarah J. Smith, Anthony Challinor & **Graca Rocha**, Phys. Rev. D 73, 023517, 2006.
26. **'Information content of the lensed CMB power spectra'**, Challinor, Anthony; Lewis, Antony; **Rocha, Graça**; Smith, Sarah; NewAR,51,421C, 2007.
27. **'A fast Bayesian approach to discrete object detection in astronomical datasets - PowellSnakes I'**, Pedro Carvalho, **Graca Rocha** & Mike Hobson, MNRAS, **393**, 681C, 2009. (astro-ph/08023916)
28. **'Making Maps from Planck LFI 30GHz data with Asymmetric Beams and Cooler Noise'**, Ashdown, M.A.J., et al, A&A **493**, 753A, 2009. (astro-ph/08063167)
29. **'Residual noise covariance for Planck low-resolution data analysis'**, Keskitalo, R. et al., **522A**, 94K, 2010. (arXiv0906.0175K , 2009.)
30. **'Measurement of CMB Polarization Power Spectra from Two Years of BICEP Data'**, Chiang, H. C., et al., ApJ, **711**, 1123C, 2010. (arXiv0906.1181C, 2009.)
31. **'Characterization of the BICEP Telescope for High-Precision Cosmic Microwave Background Polarimetry'**, Takahashi, Y. D. et al., ApJ, **711**, 1141T, 2010. (arXiv0906.4069T, 2009)

32. **‘Lensing reconstruction from PLANCK sky maps: inhomogeneous noise’**, Duncan Hanson, **Graça Rocha** & Krszysztof M. Górski, MNRAS, **400**, 2169H, 2009. (astro-ph/09071927)
33. **‘Markov Chain Beam Randomization: a study of the impact of PLANCK beam measurement errors on cosmological parameter estimation’**, **G. Rocha**, L. Pagano, K.M. Górski, K.M. Huffenberger, C.R. Lawrence, & A.E. Lange, A & A, **513**, 23R, 2010. (arXiv0907.5254R, 2009)
34. **‘Application of X<sub>Faster</sub> power spectrum and likelihood estimator to Planck’**, **G. Rocha**, C. R. Contaldi & J. R. Bond & K. M. Górski, MNRAS, **414**, 823R, 2011. (arXiv0912.4059R, 2009)
35. **‘Performance of X<sub>Faster</sub> likelihood in real CMB experiments’**, **G. Rocha**, C. R. Contaldi, L. P. L. Colombo, J. R. Bond, K. M. Górski & C. R. Lawrence, submitted to MNRAS 2010. 2010arXiv1008.4948R
36. **‘Fast Pixel Space Convolution for CMB Surveys with Asymmetric Beams and Complex Scan Strategies: FEBeCoP’**, Mitra, S., **Rocha, G.**, Gorski, K. M., et al., accepted for publication in ApJS., **193**, 5M, 2011. (arXiv/1005.1929, 2010)
37. **‘A Millimeter-wave Galactic Plane Survey with the BICEP Polarimeter’**, Bierman, E. M., et al, ApJ, **741**, 81B, 2011.
38. **‘A Comparison of Algorithms for the Construction of the Planck SZ Cluster Catalog’**, J.-B. Melin, N. Aghanim, M. Bartelmann, et al., A&A, **548A**, 51M, 2012.
39. **‘PowellSnakes II: a fast Bayesian approach to discrete object detection in multi-frequency astronomical data sets**, Carvalho, Pedro; **Rocha, Graça**; Hobson, M. P.; Lasenby, A. MNRAS, **427**,1384C, 2012.
40. **‘Scientific verification of Faraday Rotation Modulators: Detection of diffuse polarized Galactic emission’**, Moyerman, S, et al, submitted to ApJ, arXiv1212.0133M, 2012.

## 2.1 Planck pre-launch papers

41. **‘Planck pre-launch status: The Planck Mission’**, Tauber, J. A., Mandolesi, N., Puget, J., et al. 2010a, A&A, 520, A1+.
42. **‘Planck pre-launch status: Expected LFI polarization capabilities’**, Leahy, J. P., Bersanelli, M., D’Arcangelo, O., et al. 2010, A&A, 520, A8+.
43. **‘Planck pre-launch status: The Planck-LFI Programme’**, Mandolesi, N., Bersanelli, M., Butler, R. C., et al. 2010, A&A, 520, A3+.

## 2.2 Planck Early papers

44. **'Planck Early Results: The Planck mission'**Planck Collaboration 2011, *A&A*, 536, A1
45. **'Planck Early Results: The thermal performance of Planck'**Planck Collaboration 2011, *A&A*, 536, A2
46. **'Planck Early Results: Low Frequency Instrument in-flight performance'**A. Mennella, M. Bersanelli, *et al.* 2011, *A&A*, 536, A3
47. **'Planck Early Results: High Frequency Instrument in-flight performance'**HFI Core Team 2011, *A&A*, 536, A4
48. **'Planck Early Results: Low Frequency Instrument data processing'**A. Zacchei, D. Maino, *et al.* 2011, *A&A*, 536, A5
49. **'Planck Early Results: High Frequency Instrument data processing'**HFI Core Team 2011, *A&A*, 536, A6
50. **'Planck Early Results: The Early Release Compact Source Catalogue'**Planck Collaboration 2011, *A&A*, 536, A7
51. **'Planck Early Results: The all-sky early Sunyaev-Zeldovich cluster sample'**Planck Collaboration 2011, *A&A*, 536, A8
52. **'Planck Early Results: XMM-Newton follow-up for validation of Planck cluster candidates'**Planck Collaboration 2011, *A&A*, 536, A9
53. **'Planck Early Results: Statistical analysis of Sunyaev-Zeldovich scaling relations for X-ray galaxy clusters'**Planck Collaboration 2011, *A&A*, 536, A10
54. **'Planck Early Results: Calibration of the local galaxy cluster Sunyaev-Zeldovich scaling relations'**Planck Collaboration 2011, *A&A*, 536, A11
55. **'Planck Early Results: Cluster Sunyaev-Zeldovich optical Scaling relations'**Planck Collaboration 2011, *A&A*, 536, A12
56. **'Planck Early Results: Statistical properties of extragalactic radio sources in the Planck Early Release Compact Source Catalogue'**Planck Collaboration 2011, *A&A*, 536, A13
57. **'Planck Early Results: Early Release Compact Source Catalogue validation and extreme radio sources'**Planck Collaboration 2011, *A&A*, 536, A14
58. **'Planck Early Results: Spectral energy distributions and radio continuum spectra of northern extragalactic radio sources'**Planck Collaboration 2011, *A&A*, 536, A15
59. **'Planck Early Results: The Planck view of nearby galaxies'**Planck Collaboration 2011, *A&A*, 536, A16

60. **'Planck Early Results: Origin of the submillimeter excess dust emission in the Magellanic Clouds'**Planck Collaboration 2011, *A&A*, 536, A17
61. **'Planck Early Results: The power spectrum of cosmic infrared background anisotropies'**Planck Collaboration 2011, *A&A*, 536, A18
62. **'Planck Early Results: 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, A19
63. **'Planck Early Results: New light on anomalous microwave emission from spinning dust grains'**Planck Collaboration 2011, *A&A*, 536, A20
64. **'Planck Early Results: Properties of the interstellar medium in the Galactic plane'**Planck Collaboration 2011, *A&A*, 536, A21
65. **'Planck Early Results: The submillimetre properties of a sample of Galactic cold clumps'**Planck Collaboration 2011, *A&A*, 536, A22
66. **'Planck Early Results: The Galactic cold core population revealed by the first all-sky survey'**Planck Collaboration 2011, *A&A*, 536, A23
67. **'Planck Early Results: Dust in the diffuse interstellar medium and the Galactic halo'**Planck Collaboration 2011, *A&A*, 536, A24
68. **'Planck Early Results: Thermal dust in nearby molecular clouds'**Planck Collaboration 2011, *A&A*, 536, A25
69. **'Planck Early Results: Detection with Planck and confirmation by XMM-Newton of PLCK G266.6-27.3, an exceptionally X-ray luminous and massive galaxy cluster at  $z \sim 1$ '**Planck Collaboration 2011, *A&A*, 536, A26

### 2.3 Planck Intermediate Papers

70. **'Planck intermediate results. I. Further validation of new Planck clusters with XMM-Newton'**Planck Collaboration 2012, *A&A*, 543, A102
71. **'Planck intermediate results. II. Comparison of Sunyaev-Zeldovich measurements from Planck and from the Arcminute Microkelvin Imager for 11 galaxy clusters'** Planck and AMI Collaborations 2012, Submitted to *A&A*
72. **'Planck intermediate results. III. The relation between galaxy cluster mass and Sunyaev-Zeldovich signal'** Planck Collaboration 2012, *A&A* Accepted for publication
73. **'Planck intermediate results. IV. The XMM-Newton validation programme for new Planck clusters'** Planck Collaboration 2012, *A&A* Accepted for publication

74. **‘Planck intermediate results. V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect’** Planck Collaboration 2012, *A&A* Accepted for publication
75. **‘Planck intermediate results. VI: The dynamical structure of PLCKG214.6+37.0, a Planck discovered triple system of galaxy clusters’** Planck Collaboration 2012, *A&A* Accepted for publication
76. **‘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 2012, *A&A* Accepted for publication
77. **‘Planck intermediate results. VIII. Filaments between interacting clusters’** Planck Collaboration 2012, *A&A* Accepted for publication
78. **‘Planck intermediate results. IX. Detection of the Galactic haze with Planck’** Planck Collaboration 2012, *A&A* Accepted for publication
79. **‘Planck intermediate results. X. Physics of the hot gas in the Coma cluster’** Planck Collaboration 2012, *A&A* Accepted for publication

## 2.4 White Papers

80. **‘CMBPol Mission Concept Study: Prospects for polarized foreground removal’**, Dunkley, J. et al., arXiv/0811.3915D, 2008.
81. **‘CMBPol Mission Concept Study: Gravitational Lensing’**, Smith, Kendrick M. et al., arXiv0811.3916S, 2008.
82. **‘Astroinformatics: A 21st Century Approach to Astronomy’**, Borne, Kirk et al., astro2010P...6B, 2009.
83. **‘The Origin of the Universe as Revealed Through the Polarization of the Cosmic Microwave Background’**, Dodelson, Scott et al., astro2010S...67D, 2009.
84. **‘Observing the Evolution of the Universe’**, Aguirre, James et al., arXiv0903.0902A, 2009.

## 3 Other Publications

85. **‘Results of the Tenerife intermediate scale CMB anisotropy experiments’**, Rocha, G., [1993], in the ‘Proceedings of the Yamada Conference XXXV11’ on ‘Evolution of the Universe and its Observational Quest’ (June 8-12, 1993, Tokyo, Japan) edited by Katsuhiko Sato (The University of Tokyo).

86. **‘Comparison of Microwave Background Radiation Anisotropies models and experiments’**, Rocha, G., [1994], in the ‘Proceedings of the YERAC (Young European Radio Astronomers Conference) conference’ (September 18-23 ,1994, MRAO, University of Cambridge) edited by Cambridge University Press in electronic form, yera.conf, **27R**, 1995.
87. **‘Theoretical Implications of CMBR anisotropy experiments’**, Rocha, G. and Hancock S., [1996], in the ‘Proceedings of the Moriond Astrophysics meeting’, pp 189-195, mba.proc., **189R**, 1997.
88. **‘A first determination of the position of the ‘Doppler’ peak’**, Hancock, S., Rocha, G., [1996], in the ‘Proceedings of the Moriond Astrophysics meeting’, pp 179-188, mba.proc., **179H**, 1997.
89. **‘Comparison of Microwave Background Radiation Anisotropies models and experiments’**, Rocha, G., [1997], in the ‘ Proceedings of the Particle Physics and the Early Universe Conference’, PPEUC, eds R. Batley, M. Jones, D. Green.  
<http://www.cam.ac.uk/ppeuc/proceedings>.
90. **‘Observations of the CMB on scales of 2° to 15°’**, Davies, R.D.; Davis, R.J.; Wilkinson, A.; Watson, R.A.; Melhuish, S.J.; Dicker, S.; Veeraraghavan, S.; Rebolo, R.; Gutierrez, C.M.; Hoyland, R.Y.; Lasenby, A.N.; Hancock S.; Jones A.W.; Rocha, G., IAUS, **183**, 103D, 1999.
91. **‘Constraints on the Cosmological Parameters using CMB observations’**, Rocha, G., [1999], in Dark Matter in Astrophysics and Particle Physics 1998, ed. H.V. Klapdor-Kleingrothaus & L. Baudis (Bristol: Institute of Physics Publishing), dmap.conf, **238R**, 1999.
92. **‘Bayesian joint estimation of non-Gaussianity and the power spectrum’**, Graça Rocha, João Magueijo, Mike Hobson & Anthony Lasenby, [2000], in the proceedings of the IAU Symposium 201, ‘New Cosmological Data and the Values of the Fundamental Parameters’, (August 7-11, Manchester, UK).
93. **‘Using Wavelets to analyse the Topology of the Universe’**, Canavezes A., Rocha G., Silk J., Levin J., [2000], in Proceedings of CAPP2000 held at Verbier, Switzerland, 2000, AIPC, **555**, 328C, 2001.
94. **‘New Constraints on varying  $\alpha$ ’**, G. Rocha, R. Trotta, C.J.A.P Martins, A. Melchiorri, P.P. Avelino, and P.T.P. Viana, in Proceedings of the 2nd CMBNET Workshop, 20-21 February 2003, Oxford, UK, New Astronomy Reviews, NewAR, **47**, 863R, 2003.
95. **‘Constraints of the variation of the fine-structure constant from recent CMB measurements’**, G. Rocha, in Proceedings of the conference ”The Quest for Cosmological Scalar Fields”, 8-10 July 2004, Porto, Portugal.
96. **‘CMB polarimetry with BICEP: instrument characterization, calibration, and performance’**, Takahashi, Yuki D et al., SPIE.7020E, 34T, 2008.



97. ‘**The Early-Release Compact Source Catalog (ERCSC):A First Product of the Planck All-Sky Survey at Sub-mm Wavelengths**’, Rottler, Lee et al., AAS, **41**, 421, (21347009R), 2009.
98. ‘**Measurement of CMB Polarization Power Spectra from Two Years of BICEP Data**’, Chiang, Cynthia et al., AAS, **41**, 754, (21431303C), 2009.
99. ‘**Gravitational Lensing**’, Smith, Kendrick M. et al., AIPC, **1141**, 121, 2009.
100. ‘**Prospects for polarized foreground removal**’, Dunkley, J., et al., AIPC, **1141**, 222, 2009.
101. ‘**The C-Band All-Sky Survey (CBASS)**’, Muchovej, S., et al., AAS, **21538701M**, 2010.
102. ‘**Absolute polarization angle calibration using polarized diffuse Galactic emission observed by BICEP**’, Tomotake Matsumura, Peter Ade, Denis Barkats, et al. To appear in Proceedings of SPIE Astronomical Telescopes and Instrumentation 2010

### 3.1 Papers in Preparation

103. ‘**A hybrid-Likelihood for Planck - PiXFaster**’, **G. Rocha**, L. P. L. Colombo, L. Pagano, J. Jewell, C. R. Contaldi, K. M. Górski & C. R. Lawrence, in preparation, to be submitted.
104. ‘**A comparison of CMB Power Spectrum Estimation methods for Planck**’, **CTP et al**, in preparation, to be submitted to Astronomy & Astrophysics.
105. ‘**Markov Chain Beam Randomization II: a study of the impact of PLANCK beam measurement errors on cosmological parameter estimation**’, **G. Rocha**, L. Pagano, K.M. Górski, K.M. Huffenberger, C.R. Lawrence, & A.E. Lange, in preparation, to be submitted.
106. ‘**Dipole asymmetry in the Cosmic Microwave Background in the presence of simulated Planck noise maps**’, C. Dvorkin, **G. Rocha**, & K. M. Górski, in preparation, to be submitted.
107. ‘**A fast Bayesian approach to discrete object detection in astronomical datasets - PowellSnakes II**’, Pedro Carvalho, **Graça Rocha**, Mike Hobson & A.N. Lasenby, in preparation to be submitted to MNRAS.
108. ‘**Polarized point sources** Duncan Hanson, Chris Hirata, Graça Rocha, Kendrick Smith, in preparation to be submitted.
109. ‘**Cosmological parameters from Markov chain Monte Carlo samples of CMB Temperature and Polarization Power Spectra**, Jeff Jewell, **Graça Rocha**, Chad Fendt, Krzysztof Górski, Charles Lawrence, in preparation, to be submitted.
110. ‘**What can be learned from the lensed cosmic microwave background  $B$ -mode polarization power spectrum - II?**’, **Graça Rocha**, Sarah J. Smith, & Anthony Challinor , to be submitted to Phys. Rev. D. by 2011.

111. **'Detection of non-stationary signals using a non-commutative tomography technique'**, **Graça Rocha** & Lance Miller, in preparation.