Bibliography

Graça Rocha

August 29, 2009

Publications

Graça Rocha

1 Books

1. **'Bayesian methods in Cosmology'** Cambridge University Press, CUP (to be published in 2010); chapter on **'Bayesian Source Extraction'** by Mike Hobson, Graça Rocha, Richard Savage.

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-Λ CDM Cosmogonies from UCSB South Pole, ARGO, MAX, White Dish, and SuZIE Data'**, Bharat Ratra, Radoslaw Stompor, Ken Ganga, **Graça Rocha**, Naoshi Sugiyama, and Krzystof M. Górski, ApJ, **517**, 549R, 1999.

7. **'Python I, II, and III CMB anisotropy measurement constraints on open and flat-Λ 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 α 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 α in the Early Universe I: CMB temperature, Large-Scale Structure and Fisher Matrix Analysis'**, C.J.A.P Martins, A. Melchiori, 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-Λ 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 α 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 α 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 α 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 Absorver or Emitter'**, Kanekar, N., Carilli, CL., Langston, G. I., **Rocha, G.**, Combes, F., Subrahmanyan, 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., submitted to A & A, 2009. arXiv0906.0175K , 2009.

30. **'Measurement of CMB Polarization Power Spectra from Two Years of BICEP Data'**, Chiang, H. C., et al., submitted to ApJ., 2009. arXiv0906.1181C, 2009.

31. **'Characterization of the BICEP Telescope for High-Precision Cosmic Microwave Background Polarimetry'**, Takahashi, Y. D. et al., submitted to ApJ., 2009. arXiv0906.4069T, 2009.

32. **'Lensing reconstruction from PLANCK sky maps: inhomogeneous noise'**, Duncan Hanson, **Graça Rocha** & Krsysztof M. Górski, accepted for publication in MNRAS 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, submitted to A & A, 2009.

3 White Papers

34. **'CMBPol Mission Concept Study: Prospects for polarized foreground removal'**, Dunkley, J. et al, arXiv/0811.3915D, 2008.

35. **'CMBPol Mission Concept Study: Gravitational Lensing'**, Smith, Kendrick M. et al., arXiv0811.3916S, 2008.

36. **'Astroinformatics: A 21st Century Approach to Astronomy'**, Borne, Kirk et al., astro2010P...6B, 2009.

37. **'The Origin of the Universe as Revealed Through the Polarization of the Cosmic Microwave Background'**, Dodelson, Scott et al., astro2010S..67D, 2009.

38. **'Observing the Evolution of the Universe'**, Aguirre, James et al., arXiv0903.0902A, 2009.

4 Papers in Preparation

39. **'Recovery of low-ℓ temperature and polarization power spectra from PLANCK sky maps'**, Krzysztof Górski, **Graça Rocha**, Kevin Huffenberger, et al, in preparation. (to be submitted by 2009)

40. **'A high-l Power Spectrum Estimator and Likelihood for Planck: Xfaster'**, **Graça Rocha**, Carlo Contaldi & Dick Bond & Krzysztof M. Górski, in preparation. (to be submitted July/August 2009)

41. **'A high-l Likelihood for Planck - Xfaster'**, **Graça Rocha**, Carlo Contaldi, Loris Colombo, Dick Bond, Krzysztof Gorski & Charles Lawrence, in preparation. (to be submitted July/August 2009)

42. **'On the issue of Asymmetric beams and PowerSpectrum estimation: an exercise for Planck'**, **Graça Rocha**, Carlo Contaldi, Loris Colombo, & Krzysztof M. Gorski , in preparation. (to be submitted July/August 2009)

43. **'Effective beam - a fast beam estimation and convolver - a study for Planck'**, S. Mitra, **G. Rocha**, K.M. Gorski, K. Huffenberger, H.K. Eriksen and C. Lawrence, in preparation.

44. **'A comparison of CMB Power Spectrum Estimation methods for Planck'**, **CTP et al**, in preparation, to be submitted to Astronomy & Astrophysics (by 2009).

45. **'Comparison of Compact Source detection algorithms conducted within CSI'**, **Rocha, G.**, et al in preparation (to be submitted by 2009)

46. **Cosmological parameters from Markov chain Monte Carlo samples of CMB Temperature and Polarization Power Spectra**, Jeff Jewell, **Graca Rocha**, Chad Fendt, Krzysztof Górski, Charles Lawrence, in preparation (to be submitted by 2009)

47. **'A fast Bayesian approach to discrete object detection in astronomical datasets - PowellSnakes II'**, Pedro Carvalho, **Graça Rocha** & Mike Hobson, in preparation to be submitted to MNRAS (by 2009)

48. **'A fast Bayesian approach to discrete object detection in astronomical datasets as applied to Planck simulations'**, **Graça Rocha**, Pedro Carvalho, & Mike Hobson, in preparation to be submitted to MNRAS (by 2009)

49. **'A fast Bayesian approach to discrete object detection in astronomical datasets - PowellSnakes III'**, Pedro Carvalho, **Graça Rocha** & Mike Hobson, in preparation to be submitted to MNRAS (by 2009)

50. **'Observing the Galaxy with BICEP'**, **bicep et al** in preparation (to be submitted in 2009)

51. **'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 2009)

52. **The Planck Sky Model, PSM' PSM et al**, in preparation.

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

5 Other Publications

54. **'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).

55. **'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.

56. **'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.

57. **'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.

58. **'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.

59. **'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.; Veeraragharan, S.; Rebolo, R.; Gutierrez, C.M.; Hoyland, R.Y.; Lasenby, A.N.; Hancock S.; Jones A.W.; **Rocha, G.**, IAUS, **183**, 103D, 1999.

60. **'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.

61. **'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).

62. **'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.

63. **'New Constraints on varying** α**'**, **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.

64. **'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.

65. **'CMB polarimetry with BICEP: instrument characterization, calibration, and performance'**, Takahashi, Yuki D et al., SPIE.7020E, 34T, 2008.

66. **'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.

67. **'Measurement of CMB Polarization Power Spectra from Two Years of BICEP Data'**, Chiang, Cynthia et al., AAS, **41**, 754, (21431303C), 2009.

68. **'Gravitational Lensing'**, Smith, Kendrick M. et al., AIPC, **1141**, 121, 2009.

69. **'Prospects for polarized foreground removal'**, Dunkley, J., et al., AIPC, **1141**, 222, 2009.