

1 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 Krzysztof 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. ‘**Updates on SuZIE and Python**’, Ganga K. et al., ApL&C, **37**, 303G, 2000.
9. ‘**VSL theories and the Doppler peak**’, P.P. Avelino, C.J.A.P. Martins & **G. Rocha**, Phys. Lett. **B843**, 210, 2000.
10. ‘**Bayesian joint estimation of non-Gaussianity and the power spectrum**’, **Graça Rocha**, João Magueijo, Mike Hobson & Anthony Lasenby, Phys. Rev. **D64**, 063512, 2001.
11. ‘**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.
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. Melchiorri, R. Trotta, R. Bean, **G. Rocha**, P.P. Avelino, and P. Viana, Phys.Rev. **D66** 023505, 2002.
14. ‘**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.
15. ‘**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. A **18**, 26, 4933-4954, 2003.

16. **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.
17. **‘Measuring α in the Early Universe**’, **Graça Rocha**, Astrophysics and Space Science, Astroph. & Sp. Sci. **283**, Issue 4, 589R, 2003.
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, **Graça 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. **‘CMB observations from the CBI and VSA: A comparison of coincident maps and parameter estimation methods**’, N. Rajguru et al., submitted to MNRAS.
24. **‘Constraints on changes in fundamental constants from a cosmologically distant OH absorber/emitter**’, N. Kanekar, C.L. Carilli, G.I. Langston, **G. Rocha**, F. Combes, R. Subrahmanyam, J.T. Stroeck, K.M. Menten, F.H. Briggs, and T. Wiklind, submitted to Phys. Rev., Lett., PRL

2 Papers in Preparation

25. **‘Detection of non-stationary signals using a non-commutative tomography technique**’, **Graça Rocha** & Lance Miller, in preparation.
26. **‘Weak Lensing of the CMB: Non-Gaussianity and Cosmological Parameters**’, Sarah Smith, Anthony Challinor & **Graça Rocha**, in preparation.

3 Other Publications

27. **‘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).
28. **‘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.
29. **‘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.
30. **‘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.
31. **‘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>.
32. **‘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.

33. **‘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.
34. **‘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).
35. **‘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.
36. **‘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.
37. **‘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, AIPC, 736, 123R, 2004.