

List of Publications

Saleem Zaroubi

Papers in Refereed Journals

1. Vibor Jelić, Saleem Zaroubi, Panagiotis Labropoulos, Gianni Bernardi, A. G. de Bruyn and Leon V. E. Koopmans, Realistic Simulations of the Galactic Polarized Foreground: Consequences for 21-cm Reionization Detection Experiments, 2010, MNRAS, submitted.
2. Thomas, R.M., **Zaroubi, S.**, On the spin-temperature evolution during the epoch of reionization, MNRAS, 2010, submitted.
3. Bernardi, G.; Harker, A. G. de Bruyn G.; Brentjens, M. A.; Ciardi, B.; Jeli, V.; Koopmans, L. V. E.; Labropoulos, P.; Offringa, A.; Pandey, V. N.; Schaye, J.; Thomas, R. M.; Yatawatta, S.; **Zaroubi, S.**, Foregrounds for observations of the cosmological 21 cm line: II. Westerbork observations of the fields around 3C196 and the North Celestial Pole, 2010, A&A, submitted.
4. Harker, Geraint; **Zaroubi, Saleem**; Bernardi, Gianni; Brentjens, Michiel A.; de Bruyn, A. G.; Ciardi, Benedetta; Jelic, Vibor; Koopmans, Leon V. E.; Labropoulos, Panagiotis; Mellema, Garrelt; Offringa, Andre; Pandey, V. N.; Pawlik, Andreas H.; Schaye, Joop; Thomas, Rajat M.; Yatawatta, Sarod, “Power spectrum extraction for redshifted 21-cm epoch of reionization experiments: the LOFAR case”, MNRAS, 2010, accepted.
5. A.R. Offringa, G. de Bruyn, M. Biehl, **S. Zaroubi**, G. Bernardi, V.N. Pandey, Post-correlation RFI classification methods, 2010, MNRAS, accepted.
6. Tashiro, Hiroyuki; Aghanim, Nabila; Langer, Mathieu; Douspis, Marian; **Zaroubi, Saleem**; Jelic, Vibor, “Detectability of the 21 cm-CMB cross-correlation from the EoR”, 2010, MNRAS, 402, 2617 (arXiv:0908.1632)
7. **Saleem Zaroubi**, “Probing the end of the Universe’s Dark Ages with LOFAR”, 2009, Europhysics News, 40-4, 22. (Invited Article).
8. Vibor Jelic, **Saleem Zaroubi**, Nabila Aghanim, Marian Douspis, Leon V. E. Koopmans, Mathieu Langer, Garrelt Mellema, Hiroyuki Tashiro, Rajat M. Thomas. “Cross-correlation Study between the Cosmological 21-cm Signal and the Kinetic Sunyaev-Zeldovich Effect”, 2010, MNRAS, 402, 2279 (arXiv:0907.5179).
9. G. Bernardi, A.G. de Bruyn, M.A. Brentjens, B. Ciardi, G. Harker, V. Jelic, L. V. E. Koopmans, P.P. Labropoulos, A. Offringa, V.N. Pandey, J. Schaye, R.M. Thomas, S. Yatawatta, and **S. Zaroubi**. “Foregrounds for observations of the cosmological 21 cm line: I. First Westerbork measurements of Galactic emission at 150 MHz in a low latitude field”, 2009, Astronomy and Astrophysics, 500, 965.
10. Geraint Harker, **Saleem Zaroubi**, Gianni Bernardi, Michiel A. Brentjens, A. G. de Bruyn, Benedetta Ciardi, Vibor Jelic, Leon V. E. Koopmans, Panagiotis Labropoulos, Garrelt Mellema, Andre Offringa, V. N. Pandey, Joop Schaye, Rajat M. Thomas and Sarod Yatawatta. “Non-parametric foreground subtraction for 21cm epoch of reionization experiments”, 2009, MNRAS, 397, 1138.

11. P. Labropoulos L. V. E. Koopmans, V. Jelic, S. Yatawatta, R. M. Thomas, G. Bernardi, M. Brentjens, A.G. de Bruyn, B. Ciardi, G. Harker, A.R. Offringa, V. N. Pandey, J. Schaye, **S. Zaroubi**, The LOFAR EoR Data Model: (I) Effects of Noise and Instrumental Corruptions on the 21-cm Reionization Signal-Extraction Strategy, 2009, submitted to MNRAS.
12. Sarod Yatawatta, **Saleem Zaroubi**, Ger de Bruyn, Leon Koopmans and Jan Noordam, “Radio Interferometric Calibration Using The SAGE Algorithm”, 2009, proceedings of the IEEE Signal Processing Society 13th Digital Signal Processing Workshop.
13. Geraint J. A. Harker, **Saleem Zaroubi**, Rajat M. Thomas, Vibor Jelic, Panagiotis Labropoulos, Garrelt Mellema, Ilian T. Iliev, Gianni Bernardi, Michiel A. Brentjens, A. G. de Bruyn,;4 Benedetta Ciardi, Leon V. E. Koopmans, V. N. Pandey, Andreas H. Pawlik, Joop Schaye and Sarod Yatawatta, “Detection and extraction of signals from the epoch of reionization using higher order one-point statistics”, 2009, MNRAS, 393. 1449
14. Thomas, Rajat M., **Zaroubi, Saleem**, Ciardi, Benedetta, Pawlik, Andreas H., Labropoulos, Panagiotis, Jelic, Vibor, Bernardi, Gianni, Brentjens, Michiel A., de Bruyn, A. G., Harker, Geraint J. A., Koopmans, Leon V. E., Mellema, Garrelt, Pandey, V. N., Schaye, Joop, Yatawatta, Sarod, “Fast large-scale reionization simulations”, 2009, MNRAS, 393, 32.
15. Jelic, V., **Zaroubi, S.**, Labropoulos P., Thomas R.M., Bernardi G., Brentjens M., de Bruyn A.G., Ciardi B., Harker G., Koopmans L.V.E., Pandey V., Schaye J., Yatawatta S., “Foreground simulations for the LOFAR - Epoch of Reionization Experiment”, 2008, MNRAS, 389, 1319.
16. Tashiro H., Aghanim A., Langer M., Douspis M., and Zaroubi S., “The cross-correlation of the CMB polarisation and the 21 cm line fluctuations from cosmic reionisation”, 2008, MNRAS, 389, 469.
17. Ripamonte, E., Mapelli, M., **Zaroubi S.**, “Radiation from early black holes - I: effects on the evolution of the inter-galactic medium”, 2008, MNRAS, 387, 158.
18. Thomas, R.M., **Zaroubi S.** “Time-evolution of ionization and heating around first stars and mini-quasars”, 2008, MNRAS, 384, 1080.
19. Pohlen M., **Zaroubi S.**, Peletier, R. F., Dettmar, R.-J., “On the 3 dimensional structure of edge-on disk galaxies”, 2007, MNRAS, 378, 594.
20. **Zaroubi S.**, Thomas R.M., Sugiyama N., Silk J., “Heating the Intergalactic Medium with Primordial Mini-quasars”, 2007, MNRAS, 375, 1269.
21. **Zaroubi, S.**, Viel, M., Nusser, A., Haehnelt, M.G., Kim, T.-S., “The matter power spectrum at small scales: an estimate from the inverted Lyman- α forest optical depth”, 2006, MNRAS, 369, 734.
22. Schaefer, B.M., Pfrommer, C., **Zaroubi, S.**, “Cluster redshift estimation by wavelet decomposition of their Sunyaev-Zel’dovich morphology”, 2005, MNRAS, 362, 1418.
23. Hoffman, Y., Eldar, A., **Zaroubi, S.** and Dekel, A., “Reconstruction of Large-Scale Tidal Velocity Field”, 2003, submitted to ApJ.
24. **Zaroubi, S.** & Silk, J., “LOFAR as a Probe the Source of Cosmological Reionisation” 2005, MNRAS, 360, L64.

25. **Zaroubi, S.**, Branchini, E., “The Gaussian cell two-point *energy-like* equation: Application to large scale galaxy redshift and peculiar motion surveys”, 2005, MNRAS, 357, 572.
26. Sugiyama N., **Zaroubi, S.**, Silk, J., “Isocurvature Fluctuations Induce Early Star Formation”, 2004, MNRAS, 354, 543.
27. Erdogdu, P., Lahav, O., **Zaroubi, S.**, and the 2dFGRS Team, “The 2dF Galaxy Redshift Survey: Wiener Reconstruction of the Cosmic Web”, 2004, MNRAS, 352, 939.
28. **Zaroubi, S.**, Branchini, E., Hoffman, Y., da Costa, L.N., “Consistent values from density-density and velocity-velocity comparisons”, 2002, MNRAS, 336, 1234.
29. Theuns, T., **Zaroubi, S.**, Kim T.-S., Tzanavaris, P., Carswell, R.F., “Temperature Fluctuations in the Intergalactic Medium”, 2002, Monthly Notices of the Royal Astronomical Society, 332, 367.
30. Theuns, T., Schaye, J., **Zaroubi, S.**, Kim T.-S., Tzanavaris, P., Carswell, R.F., Constraints on Reionization From The Thermal History of the Intergalactic Medium, 2002, The ApJL, 567, L103.
31. **Zaroubi, S.**, “Unbiased Reconstruction of the Large Scale Structure”, 2002, MNRAS, 331, 901.
32. **Zaroubi, S.**, Squires, G., de Gasperis, G., Evrard, G., Hoffman, Y., and Silk, J., “Deprojection of Rich Cluster Images: Methos and Simulations”, 2001, ApJ, 561, 600.
33. **Zaroubi, S.**, Bernardi, M., da Costa, L.N., Hoffman, Y., Alonso, M.V., Wegner, G., Willmer, C.N.A., Pellegrini P.S., “Large Scale Power Spectrum and Reconstruction From ENEAR Peculiar Velocities”, 2001, MNRAS, 326, 375.
34. Griffiths, L.M., and Silk, J., **Zaroubi, S.**, “Bumpy Power Spectra and $\Delta T/T$ ”, 2001, MNRAS, 324, 712.
35. Theuns, T., and **Zaroubi, S.**, “Wavelet Analysis of QSO Spectra”, 2000, MNRAS, 317, 989.
36. Hoffman, Y. and **Zaroubi, S.**, “Goodness-of-Fit Analysis of Radial Velocities Surveys” 2000, ApJLet, **535**, L5.
37. L.N. da Costa, M. Bernardi, M.V. Alonso, G. Wegner, C.N.A. Willmer, P.S. Pellegrini, M. A. G. Maia, **Zaroubi, S.**, “Redshift-Distance Survey of Early-Type Galaxies. IV. Dipoles of the Velocity Field”, 2000, ApJLet, **537**, L81.
38. Banday, A., **Zaroubi, S.**, and Gorski, K., “On the Non-Gaussianity of the COBE-DMR Data?”, 2000, ApJ, **533**, 575.
39. **Zaroubi, S.** and Goelman, G., “Complex-Denoising of MRI Data via Wavelet Analysis: Application for functional MRI”, 2000, ‘Magnetic Resonance Imaging’, 18:(1) 59-68.
40. Freudling W., Zehavi I, da Costa, L.N., Dekel, A., Eldar A., Giovanelli R., Haynes M.P., Salzer J.J., Wegner G., **Zaroubi, S.**, “Likelihood Anaysis of the Power Spectrum from the SFI data” 1999, ApJ, **523**, 1.
41. **Zaroubi, S.**, Hoffman, Y., and Dekel, A., “Wiener Reconstruction of the LSS from Radial Velocities”, 1999, ApJ, **520**, 413.
42. **Zaroubi, S.**, Squires, G., Hoffman, Y., and Silk, J., “Deprojection of Rich Cluster Images”, 1998, ApJLet, **500**, L87.

43. **Zaroubi, S.**, Sugiyama, N., Silk, J., Hoffman, Y., and Dekel, A., “From Local Velocities to CMB”, 1997, ApJ, **490**, 473.
44. **Zaroubi, S.**, Zehavi, I., Dekel, A., Hoffman, Y. and Kolatt, T., “Large-Scale Power Spectrum from Peculiar Velocities Via Likelihood Analysis”, 1997, ApJ, **486**, 21.
45. **Zaroubi, S.** and Hoffman, Y., “Clustering in Redshift Space: Linear Theory”, 1996, ApJ, **462**, 25.
46. **Zaroubi, S.**, Naim, A., and Hoffman, Y., “Secondary Infall: Theory *vs.* Simulations”, 1996, ApJ, **457**, 50.
47. **Zaroubi, S.**, Hoffman, Y., Fisher, K., and Lahav, O., “Wiener Reconstruction of the Large Scale Structure”, 1995, ApJ, **449**, 446.
48. Fisher, K., Lahav, O., Hoffman, Y., Lynden-Bell, D. and **Zaroubi, S.**, “Wiener Reconstruction of the Peculiar Velocity Field from All-Sky Galaxy Redshift Surveys”, 1995, MNRAS, **272**, 885.
49. Bunn, E., Fisher, K., Hoffman, Y., Lahav, O., Silk, J. and **Zaroubi, S.**, “Wiener Filtering of the *COBE* DMR Data”, 1994, ApJLet, **432**, L75.
50. Lahav, O., Fisher, K.B., Hoffman, Y., Scharf, C.A. and **Zaroubi, S.**, “Wiener Reconstruction of Galaxy Surveys in Spherical Harmonics ”, 1994, ApJLet, **423**, L93.
51. **Zaroubi, S.** and Hoffman, Y., “Gravitational Collapse in an Expanding Universe : Asymptotic Self-Similar solutions”, 1993, ApJ, **416**, 410.
52. **Zaroubi, S.** and Hoffman, Y., “Second Order Perturbation Theory in an Expanding Universe: Spherical Harmonics Expansion”, 1993, ApJ, **414**, 20.

Patents

1. **Zaroubi, S.**, Goelman G., Chisin R. “MRI Imaging with Noise Filtering in Wavelet Space”, July, 2000, United States Patent no. 6094050.

Books

1. Banday, A.J., **Zaroubi, S.**, & Bartelmann, M. L. (Editors), Proceedings of the 3rd Joint MPA-ESO-MPE Cosmology Conference on ‘Mining The Sky’, ESO Astrophysics Symposia, Springer-Verlag 2001.

Conference Papers

1. Pohlen, M.; Beckman, J. E.; Aladro, R.; Dettmar, R.-J.; Erwin, P. Gutierrez, L.; Peletier, R. F.; Trujillo, I.; **Zaroubi, Z.**, “The Good, the Bad, and the Ugly: Three Types of Disks”, Proceedings of the ASP conference series, 2008, 396, 183. (Editors: Jos G. Funes, S.J., and Enrico Maria Corsini)
2. Pohlen M., **Zaroubi S.**, Peletier R. F., “Deprojecting Edge-on Disk Galaxies”, 2006, Proceedings of the IAU Symposium No. 235, Combes F. & Palous J. (Editors).

3. Erdogdu, P., Lahav, O., **Zaroubi, S.**, & The 2dfgrs Team 2003, IAU Symposium, 216,
4. **Zaroubi, S.**, Invited Review on: Cosmic Flows: Review of Recent Developments, 2001, the proceedings of the XIIIrd Recontres de Blois “Frontiers of the Universe”, L. M. Celnikier, et al. (Editors), p. 65.
5. Theuns, T., **Zaroubi, S.**, Kim, T.-S., “Detecting HeII reionization from a sudden injection of entropy in the intergalactic medium”, 2001, to appear in the proceedings of ‘Gaseous Matter in Galaxie and Intergalactic Space’
6. Griffiths, L.M., and Silk, J., **Zaroubi, S.**, “Bumpy Power Spectra and T/ T”, 2001, Nuclear Physics B - Proceedings Supplements 95: 23-28.
7. **Zaroubi, S.**, “Large-Scale Power Spectrum From the ENEAR galaxy Peculiar VelocityCatalog”, 2001, “Progress in Astronomy: Supplement”, 19, 41. (Invited talk)
8. **Zaroubi, S.**, “Reconstructing the Zone of Avoidance from Galaxy Peculiar Velocities”, 2000, proceedings of “Mapping the Hidden Universe: The Universe Behind the Milky Way – The Universe in $H I$ ”, ASP Conf. Ser., eds. R.C. Kraan-Korteweg, P.A. Henning, H. Andernach
9. Goelman G. and **Zaroubi, S.** “Observation of two distinct modes of BOLD signal in rat somatosensory fMRI data”, The ESMRMB 16th annual meeting, 1999, Sevilla Spain
10. **Zaroubi, S.** and Goelman, G. , “Statistical Improvement of FMRI by Wavelet Denoising”, The ESMRMB 16th annual meeting, 1999, Sevilla Spain.
11. **Zaroubi, S.**, Goelman, G., and Chisin R. “Complex-Denoising of MRI Data *Via* Wavelet Analysis”, 1998, Abstract at the ‘First Israeli Symposium on Computer-Aided Surgery, Medical Robotics and Medical Imaging’, Technion, Haifa.
12. **Zaroubi, S.**, “Likelihood Anaysis of the Power Spectrum From the Mark III Data Set”, 1996, Proceeding of the 1st RESCEU International Symposium, “The Cosmological Constant and the Evolution of the Universe”, Sato *et al.* (editors).
13. **Zaroubi, S.**, “Wiener Reconstruction, SVD and ‘Optimal’ Functional Basis: Application For Redshift Galaxy Catalogs”, 1995, the Proceedings of the X-th Moriond Meeting “Clustering in the Universe”, S. Maurogordato *et al.* (editors).