

Below, I list my 12 preprint articles and 175 published articles in refereed journals. Apart from three articles in Nature, all appeared in the four main astronomy journals and their Letters sections: Astrophysical Journal (ApJ), Astronomical Journal (AJ), Astronomy & Astrophysics (A&A), and Monthly Notices of the Royal Astronomical Society (MNRAS). I follow common practice in astronomy of letting students lead articles unless their contribution was minor.

Published:

1. Desvignes, G.; Eatough, R. P.; Pen, U. L.; Lee, K. J.; Mao, S. A.; Karuppusamy, R., et al. (2018). Large Magneto-ionic Variations toward the Galactic Center Magnetar, PSR J1745-2900. *The Astrophysical Journal Letters* 852 (1), id. L12, p.5
2. Berger, P., Oppermann, N., Pen, U., Shaw, J. R. (2017). An efficient method for removing point sources from full-sky radio interferometric maps. *Monthly Notices of the Royal Astronomical Society* 472 (4), p.4928-4934
3. Yu, Y., Pen, U., Zhu, H.M. (2017). Halo Nonlinear Reconstruction. *The Astrophysical Journal*, 847(2) id. 110: p. 1-9
4. Emberson, J. D.; Yu, Hao-Ran; Inman, Derek; Zhang, Tong-Jie; Pen, Ue-Li; Harnois-Déraps, Joachim; Yuan, Shuo; Teng, Huan-Yu; Zhu, Hong-Ming; Chen, Xuelei; Xing, Zhi-Zhong. (2017). Cosmological neutrino simulations at extreme scale. *Research in Astronomy and Astrophysics*. 17(8): id. 085
5. Pan, Qiaoyin; Pen, Ue-Li; Inman, Derek; Yu, Hao-Ran. (2017). Increasing Fisher information by Potential Isobaric Reconstruction. *Monthly Notices of the Royal Astronomical Society*. 469(2): p.1968-1973
6. Amiri, M.; Bandura, K.; Berger, P.; Bond, J. R.; Cliche, J. F.; Connor, L.; Deng, M.; Denman, N.; Dobbs, M.; Domagalski, R. S.; Fandino, M.; Gilbert, A. J.; Good, D. C.; Halpern, M.; Hanna, D.; Hincks, A. D.; Hinshaw, G.; Höfer, C.; Hsyu, G.; Klages, P.; Landecker, T. L.; Masui, K.; Mena-Parra, J.; Newburgh, L. B.; Oppermann, N.; Pen, U. L.; Peterson, J. B.; Pinsonneault-Marotte, T.; Renard, A.; Shaw, J. R.; Siegel, S. R.; Sigurdson, K.; Smith, K.; Storer, E.; Tretyakov, I.; Vanderlinde, K.; Wiebe, D. V.; Scientific Collaboration20, CHIME. (2017). Limits on the Ultra-bright Fast Radio Burst Population from the CHIME Pathfinder. *The Astrophysical Journal*. 844(2): id. 161 1-11
7. Yu, Hao-Ran; Emberson, J. D.; Inman, Derek; Zhang, Tong-Jie; Pen, Ue-Li; Harnois-Déraps, Joachim; Yuan, Shuo; Teng, Huan-Yu; Zhu, Hong-Ming; Chen, Xuelei; Xing, Zhi-Zhong; Du, Yunfei; Zhang, Lilun; Lu, Yutong; Liao, Xiangke. (2017). Differential neutrino condensation onto cosmic structure. *Nature Astronomy*. 1: id.0143
8. Lin, Hsiu-Hsien; Masui, Kiyoshi; Pen, Ue-Li; Peterson, Jeffrey B. (2017). A pulsar timing solution from hydrogen mapping data. *MNRAS* (In Press)
9. Masui, Kiyoshi Wesley; Pen, Ue-Li; Turok, Neil. (2017). Two- and Three-Dimensional Probes of Parity in Primordial Gravity Waves. *Physical Review Letters*. 118 (22): id.221301

10. Wang, Xin; Yu, Hao-Ran; Zhu, Hong-Ming; Yu, Yu; Pan, Qiaoyin; Pen, Ue-Li. (2017). Isobaric Reconstruction of the Baryonic Acoustic Oscillation. *The Astrophysical Journal Letters*, 841 (2): id. L29 1- 5
11. Anderson, Christopher; Luciw, Nicholas; Li, Yi-Chao; Kuo, Cheng-Yu; Yadav, Jaswant; Masui, Kiyoshi; Chang, Tzu-Ching; Chen, Xuelei; Oppermann, Niels; Pen, Ue-Li; Timbie, Peter T. (2017). Lack of small-scale clustering in 21-cm intensity maps crossed with 2dF galaxy densities at $z \sim 0.08$. *American Astronomical Society*: id.#314.08
12. Yu, Hao-Ran; Pen, Ue-Li; Zhang, Tong-Jie; Li, Di; Chen, Xuelei. (2017). Blind search for 21-cm absorption systems using a new generation of Chinese radio telescopes. *Research in Astronomy and Astrophysics*, 17 (6): id. 049
13. Main, Robert; van Kerkwijk, Marten; Pen, Ue-Li; Mahajan, Nikhil; Vanderlinde, Keith. (2017). Descattering of Giant Pulses in PSR B1957+20. *The Astrophysical Journal Letters*, 840 (2) : L15 1-6
14. Inman, D., Yu, H.R., Zhu, H.M., Pen, U., et al. (2017). Measurement of the Cold Dark Matter-Neutrino Dipole in the TianNu Simulation, *Physical Review D*, 95: p1-6
15. Pen, U., Yang, H, Nishizawa, A. (2017), Testing Gravity with Pulsar Scintillation Measurements, *Physical Review D*, 95: 084049
16. Inman, D, Pen, U. (2017). Cosmic neutrinos: dispersive and non-linear. *Physical Review D*. 95: 063535_1- 063535_9
17. Yu, Hao-Ran; Pen, Ue-Li; Zhu, Hong-Ming. (2017). Nonlinear E -mode clustering in Lagrangian space. *Physical Review D*, 95(4): id.043501
18. Wolz, L., Blake, C., Abdalla, F. B., Pen, U., et al. (2017). Erasing the Milky Way: new cleaning technique applied to GBT intensity mapping data. *Monthly Notices of the Royal Astronomical Society*, 464: 4938-4949
19. Wang, X., Yang, I.S., Pen, U. (2017). Gravitational rotation of polarization: Clarifying the gauge dependence and prediction for double pulsar. *Physical Review D* (In Press)
20. Liao, Yu-Wei, Chang, Tzu-Ching, Kuo., Pen, Ue-Li., et al. (2016). Accurate Polarization Calibration at 800 MHz with the Green Bank Telescope, *The Astrophysical Journal*, 833: 1-2
21. Emberson, J. D.; Yu, Hao-Ran; Inman, Derek; Zhang, Tong-Jie; Pen, Ue-Li; Harnois-Deraps, Joachim; Yuan, Shuo; Teng, Huan-Yu; Zhu, Hong-Ming; Chen, Xuelei; Xing, Zhi-Zhong. (2016). Cosmological neutrino simulations at extreme scale. *Research in Astronomy and Astrophysics*, 17 (8); doi:10.1088/1674-4527/17/8/85
22. Pan, Q., Inman, D., Yu, H.R. Pen, U. (2016) Increasing Fisher Information by Moving-Mesh Reconstruction. *Monthly Notices of the Royal Astronomical Society* (In Press): p.1-6

23. Inman, D., Yu, H-R., Zhu, H-M., Emberson, J. D.; Pen, U., Zhang, T-J., Yuan, S., Chen, X., Xing, Z-Z. (2016). Measurement of the Cold Dark Matter-Neutrino Dipole in the TianNu Simulation. *Phys. Rev. D* 95: p 083518 1-6
24. Oppermann, N., Connor, L.D., Pen, U. (2016). The Euclidean distribution of fast radio bursts. *Monthly Notices of the Royal Astronomical Society*. 461 (1): p.984-987
25. Yu, H.R., Emberson, J. D.; Inman, D., Zhang, T.J., Pen, U. et al. (2016). Differential Neutrino Condensation onto Cosmic Structure. *Nature Astronomy* (In press): p.1-15
26. Turok, N, Pen, U. (2016). Shocks in the Early Universe. *Physical Review Letters*, 117: 131301_1-131301_5
27. Oppermann, N; Connor, L. D., Pen, U. (2016). The Euclidean distribution of fast radio bursts. *Monthly Notices of the Royal Astronomical Society*, 461: p.984-987
28. Connor, L; Lin, H.H.; Masui, K., Pen, U, et al. (2016). Constraints on the FRB rate at 700-900 MHz. *Monthly Notices of the Royal Astronomical Society*, 460: p.1054-1058
29. Kodwani, D, Yang, I.S., Pen, U., (2016). Pulsar acceleration shifts from nearby supernova explosion. *Physical Review D*, 93: p. 103006_1- 103006_6
30. Connor, L., Oppermann, N. Pen, U., (2016). FRB repetition and non-Poissonian statistics. *Monthly Notices of the Royal Astronomical Society*, 458: p.L89-L93
31. Connor, L., Sievers, J., Pen. U (2016). Non-cosmological FRBs from young supernova remnant pulsars. *Monthly Notices of the Royal Astronomical Society*, 458: p.L19-L23
32. Liu, S., Macquart, J.-P.; Briskin, W., Deller, A., Pen, U., (2016). Pulsar lensing geometry. *Monthly Notices of the Royal Astronomical Society*, 458: p.1289-1299
33. Zhu, H-M., Chen, X., Inman, D. Pen, U. (2016). Probing Neutrino Hierarchy and Chirality via Wakes. *Physical Review Letters*, 116: p.141301
34. Masui, K., Lin, H-H., Sievers, J., Pen U., et al. (2015). Dense magnetized plasma associated with a fast radio burst, *Nature*, 528, p: 523-525
35. Switzer, E. R., Pen, U., Chang, T.-C., Masui, K. W., Voytek, T. C. (2015). Interpreting the Unresolved Intensity of Cosmologically Redshifted Line Radiation. *The Astrophysical Journal*, 815: p.1-19
36. Inman, D., Emberson, J. D., Farchi, A., Pen, U, et al. (2015). Precision reconstruction of the cold dark matter-neutrino relative velocity from N -body simulations. *Physical Review D*, 92: p.023502

37. Connor, L., Pen, U. Local Circumnuclear Magnetar Solution to Extragalactic Fast Radio Bursts. *The Astrophysical Journal*, 807: p.1-3
38. Shaw, J. R., Sigurdson, K., Sitwell, M., Stebbins, A., Pen, U. (2015). Coaxing cosmic 21 cm fluctuations from the polarized sky using m -mode analysis. *Physical Review D*, 91, p.083514
39. Koopmans, L., Pritchard, J., Mellema, G., Aguirre, J., Ahn, K., Pen, U., et al. (2015). The Cosmic Dawn and Epoch of Reionisation with SKA. *Proceedings of Science, AASKA14*: p.1
40. Yang, I-S., Pen, U-L. (2015). Strong lensing interferometry for compact binaries. *Physical Review D*, 91: p.064044
41. Broderick, A.E., Pen, U-L. (2014). Possible astrophysical observables of quantum gravity effects near black holes. *Monthly Notices of the Royal Astronomical Society*, 445: p.3370-3373
42. Zhu, H-M., Chen, X., Inman, D., Yu, Y., Pen, U-L. (2014). Measurement of Neutrino Masses from Relative Velocities. *Physical Review Letters*, 113: p.1-5
43. Levin, Y., Pen, U-L. (2014). Pulsar scintillations from corrugated reconnection sheets in the interstellar medium. *Monthly Notices of the Royal Astronomical Society*. 442: p.3338-3346
44. Yu, H-R., Zhang, T-J., Pen, U-L. (2014). Method for Direct Measurement of Cosmic Acceleration by 21-cm Absorption Systems. *Physical Review Letters*, 113: p.041303
45. Macquart, J-P., Deller, A.T., Brisken, W, Pen, U-L. (2014). 50 picoarcsec astrometry of pulsar emission. *Monthly Notices of the Royal Astronomical Society*, 440: p.L36-L40
46. Zhang, P., Pen, U-L. (2014). Observational consequences of dark energy decay. *Physical Review D*, 89
47. Iliev, I.T., Mellema, G., Ahn, K., Pen, U-L., et al. (2014). Simulating cosmic reionization: how large a volume is large enough?. *Monthly Notices of the Royal Astronomical Society*, 439: p.725-743
48. Shaw, J. R., Sigurdson, K., Pen, U-L., et al. (2014). All-sky Interferometry with Spherical Harmonic Transit Telescopes. *The Astrophysical Journal*, 781: p.1-9
49. Pérez-García, M. Á., Silk, J., Pen, U-L. (2013). Pulsar scintillation patterns and strangelets, *Physics Letters B*, 727: p.357-360.
50. Harnois-Déraps, J., Yu, H-R., Zhang, T-J., Pen, U-L. (2013). Optimizing the recovery of Fisher information in the dark matter power spectrum. *Monthly Notices of the Royal Astronomical Society*, 436: p.759-773
51. Harnois-Déraps, J., Iliev, I.T., Pen, U-L., et al. (2013). High-performance P³M N-body code: CUBEP³M. *Monthly Notices of the Royal Astronomical Society*, 436: p.540-559

52. Natarajan, A., Battaglia, N., Trac, H., Loeb, A., Pen, U-L. (2013). Reionization on Large Scales. II. Detecting Patchy Reionization through Cross-correlation of the Cosmic Microwave Background. *The Astrophysical Journal*, 776: p.1-10
53. Switzer, E. R., Masui, K. W., Bandura, K., Pen, U-L., et al. (2013). Determination of $z \sim 0.8$ neutral hydrogen fluctuations using the 21cm intensity mapping autocorrelation. *Monthly Notices of the Royal Astronomical Society*, 434: p.L46-L50
54. Paciga, G., Albert, J.G., Bandura, K., Pen, U-L., et al. (2013). A simulation-calibrated limit on the H I power spectrum from the GMRT Epoch of Reionization experiment. *Monthly Notices of the Royal Astronomical Society*, 433: p.639-647
55. Harnois-Déraps, J., Pen, U-L. (2013). Non-Gaussian error bars in galaxy surveys – II. *Monthly Notices of the Royal Astronomical Society*, 431: p.3349-3363
56. Masui, K. W., Switzer, E. R., Banavar, N., Pen, U-L., et al. (2013). Measurement of 21 cm Brightness Fluctuations at $z \sim 0.8$ in Cross-correlation. *The Astrophysical Journal Letters*, 763 L-20: p.1-5
57. Boyle, L., Pen, U-L. (2012). Pulsar timing arrays as imaging gravitational wave telescopes: Angular resolution and source (de)confusion. *Physical Review D*, 86
58. Harnois-Déraps, J., Pen, U-L. (2012). Non-Gaussian error bars in galaxy surveys – I. *Monthly Notices of the Royal Astronomical Society*, 423: p.2288-2307
59. McDonald, P., MacDonald, I., Pen, U-L., et al. (2012). Non-Gaussian errors of baryonic acoustic oscillations. *Monthly Notices of the Royal Astronomical Society*, 419: p.2949-2960
60. Iliev, I.T., Mellema, G., Shapiro, P.R., Mao, Y., Koda, J., Ahn, K., Pen, U-L. (2012). Can 21-cm observations discriminate between high-mass and low-mass galaxies as reionization sources?. *Monthly Notices of the Royal Astronomical Society*, 423: p.2222-2253
61. King, L., Pen, U-L. (2012). Refractive convergent plasma lenses explain extreme scattering events and pulsar scintillation. *Monthly Notices of the Royal Astronomical Society*, 421: p. L132-L136
62. Yu, H-R; Harnois-Déraps, J., Zhang, T-J, Pen, U-L. (2012). Information content in the angular power spectrum of weak lensing: wavelet method. *Monthly Notices of the Royal Astronomical Society*, 421: p. 832-840
63. Vujanovic, G., Reid, M., Bond, J. R., Pen, U-L. (2012). Detecting cosmic structure via 21-cm intensity mapping on the Australian Telescope Compact Array. *Astronomy & Astrophysics*, 539: p.1-4
64. Ngan, W., Harnois-Déraps, J., McDonald, P., MacDonald, I., Pen, U-L. (2012). Non-Gaussian errors of baryonic acoustic oscillations. *Monthly Notices of the Royal Astronomical Society*, 419: p. 2949-2960

65. Pang, B., Matzner, C.D., Green, S.R., Liebendörfer, M., Pen, U-L. (2011). Numerical parameter survey of non-radiative black hole accretion: flow structure and variability of the rotation measure. *Monthly Notices of the Royal Astronomical Society*, 415: p. 1228-1239.
66. Käppeli, R., Whitehouse, S. C., Scheidegger, S., Liebendörfer, M., Pen, U-L. (2011). FISH: A Three-dimensional Parallel Magnetohydrodynamics Code for Astrophysical Applications. *The Astrophysical Journal Supplement*, 195: p.1-16
67. Paciga, G., Chang, T-C., Pen, U-L. et al. (2011). The GMRT Epoch of Reionization experiment: a new upper limit on the neutral hydrogen power spectrum at $z \approx 8.6$. *Monthly Notices of the Royal Astronomical Society*, 413: p. 1174-1183.
68. Liu, G-C., Ng, K-W., Pen, U-L. (2011). Improved dark energy detection through the polarization-assisted cross correlation of the cosmic microwave background with radio sources. *Physical Review D*, 83: p.063001
69. Zhang, T-J., Yu, H-R., Pen, U-L. et al. (2011). Increasing the Fisher Information Content in the Matter Power Spectrum by Nonlinear Wavelet Wiener Filtering. *The Astrophysical Journal*, 728: p.1-6
70. Dalal, N., Seljak, U., Pen, U-L. (2010). Large-scale BAO signatures of the smallest galaxies. *Journal of Cosmology and Astroparticle Physics*: id 007
71. Alvarez, M.A., Chang, T.C., Pen, U. (2010). Enhanced Detectability of Pre-reionization 21 cm Structure. *The Astrophysical Journal Letters*, 723: p. L17-L21
72. Masui, K.W., Pen, U-L. (2010). Primordial Gravity Wave Fossils and Their Use in Testing Inflation. *Physical Review Letters*, 105: id. 161302
73. Pang, B., Vishniac, E.T., Pen, U. (2010). Fast magnetic reconnection in three-dimensional magnetohydrodynamics simulations. *Physics of Plasmas*, 17: p. 102302-102302-9
74. Roy, J., Gupta, Y., Pen, U. et al. (2010). A real-time software backend for the GMRT. *Experimental Astronomy*. 28: p.25-60
75. Chang, T.C., Bandura, K., Peterson, J.B., Pen, U-L. (2010). An intensity map of hydrogen 21-cm emission at redshift $z \sim 0.8$. *Nature*. 466: p. 463-465
76. Lu, T., Doré, O., Pen, U-L. (2010). Dark energy from large-scale structure lensing information. *Physical Review D*. 81: 123015
77. Zhang, P., Bernstein, G., Pen, U-L. (2010). Self-calibration of photometric redshift scatter in weak-lensing surveys. *Monthly Notices of the Royal Astronomical Society*, 405: p. 359-374
78. Masui, K.W., McDonald, P., Pen, U-L. (2010). Near-term measurements with 21 cm intensity mapping: Neutral hydrogen fraction and BAO at $z < 2$. *Physical Review D*, 81: id. 103527

79. Masui, K.W., McDonald, P., Pen, U. et al. (2010). Projected constraints on modified gravity cosmologies from 21 cm intensity mapping. *Physical Review D*, 81: id. 062001
80. Vafaei, S., Lu, T., Pen, U-L. et al. (2010). Breaking the degeneracy: Optimal use of three-point weak lensing statistics. *Astroparticle Physics*, 32: p. 340-351
81. Chang, T-C., Hirata, C.M., Peterson, J.B., Pen, U-L. et al. (2009). The GMRT EoR experiment: limits on polarized sky brightness at 150 MHz. *Monthly Notices of the Royal Astronomical Society*, 399: p. 181-194
82. Bonoli, S., Pen, U. (2009). Halo stochasticity in global clustering analysis. *Monthly Notices of the Royal Astronomical Society*, 396: p.1610-1618
83. Ahn, K., Shapiro, P.R., Pen, U-L., et al. (2009). The Inhomogeneous Background Of H_2 -Dissociating Radiation During Cosmic Reionization. *The Astrophysical Journal*. 695: p. 1430-1445
84. Ho, P.T.P., Altamirano, P., Pen, U-L., et al. (2009). The Yuan-Tseh Lee Array for Microwave Background Anisotropy. *The Astrophysical Journal*, 694: p. 1610-1618
85. Iliiev, Ilian T., McDonald, P., Shapiro, P.R., Pen, U-L., et al. (2009). Reionization: characteristic scales, topology and observability. *Astrophysics and Space Science*, 320: p. 39-43
86. Staveley-Smith, L., Peterson, J.B., Pen, U. et al. (2009). First detection of cosmic structure in the 21-cm intensity field. *Monthly Notices of the Royal Astronomical Society*, 394: p. L6-L10
87. Johnston, S., Taylor, R., Bailes, M., Pen, U-K., et al. (2008). Science with ASKAP. The Australian square-kilometre-array pathfinder. *Experimental Astronomy*, 22: P.151-273
88. Iliiev, I.T., Shapiro, P.R., McDonald, P., Mellema, G., Pen, U-L. (2008). The effect of the intergalactic environment on the observability of $Ly\alpha$ emitters during reionization. *Monthly Notices of the Royal Astronomical Society*, 391: p. 63-83
89. Lee, J, Pen, U. (2008). Information Content in the Galaxy Angular Power Spectrum from the Sloan Digital Sky Survey and Its Implication on Weak-Lensing Analysis. *The Astrophysical Journal Letters*, 686: L1-L4
90. Lee, J., Springel, V., Lemson, G., Pen, U-L. (2008). Quantifying the cosmic web - I. The large-scale halo ellipticity-ellipticity and ellipticity-direction correlations. *Monthly Notices of the Royal Astronomical Society*, 389: p. 1266-1274
91. Lu, T., Pen, U. (2008). Precision of diffuse 21-cm lensing. *Monthly Notices of the Royal Astronomical Society*, 388: p. 1819-1830
92. Lee, J., Pen, U. (2008). The Nonlinear Evolution of Galaxy Intrinsic Alignments. *The Astrophysical Journal*, 681: p.798-805

93. Chang, T-C., Peterson, J.B., McDonald, P., Pen, U. (2008). Baryon Acoustic Oscillation Intensity Mapping of Dark Energy. *Physical Review Letters*, 100: p.1-4
94. Ilian T Iliev, Garrelt Mellema, Ue-Li Pen, J Richard Bond, Paul R Shapiro. (2008). Current models of the observable consequences of cosmic reionization and their detectability. *Monthly Notices of the Royal Astronomical Society*. 384: p.863-874
95. Johnston, S., Bailes, M., Bartel, N., Baugh, C., Pen, U., et al. (2007). Science with the Australian Square Kilometre Array Pathfinder. *Publications of the Astronomical Society of Australia*, 24: p. 174-188
96. Lee, J., Pen, U. (2007). Comparison between the Blue and Red Galaxy Alignments Detected in the Sloan Digital Sky Survey. *The Astrophysical Journal*. 670: p. L1-L4
97. Doré, O., Holder, G., Alvarez, M., Pen, U., et al. (2007). Signature of patchy reionization in the polarization anisotropy of the CMB. *Physical Review D*, 76: 043002
98. Trac, H., Sills, A., Pen, U. (2007). A comparison of hydrodynamic techniques for modelling collisions between main-sequence stars. *Monthly Notices of the Royal Astronomical Society*, 377: p. 997-1005
99. Iliev, I.T., Bond, J. R., Pen, U-L., et al. (2007). The Kinetic Sunyaev-Zel'dovich Effect from Radiative Transfer Simulations of Patchy Reionization. *The Astrophysical Journal*, 660: p. 933-944
100. Iliev, I.T., Mellema, G., Shapiro, P.R., Pen, U-L. (2007). Self-regulated reionization. *Monthly Notices of the Royal Astronomical Society*, 376: p. 534-548
101. Iliev, I.T., Richard Bond, J., Mellema, G., Shapiro, P.R., Pen, U-L. (2006). kSZ from patchy reionization: The view from the simulations. *New Astronomy Reviews*, 50: p. 909-917
102. Iliev, I. T., Mellema, G., Shapiro, P. R., Pen, U. (2006). Simulating cosmic reionization at large scales - II. The 21-cm emission features and statistical signals. *Monthly Notices of the Royal Astronomical Society*, 372: p. 679-692
103. Iliev, I. T., Mellema, G., Merz, H., Shapiro, P. R., Alvarez, M. A., Pen, U. (2006). Simulating cosmic reionization at large scales - I. The geometry of reionization. *Monthly Notices of the Royal Astronomical Society*, 369: p. 1625-1638
104. Mao, S, Pen, U. (2006). Rotation in gravitational lenses. *Monthly Notices of the Royal Astronomical Society*, 367: p. 1543-1550
105. Zhang, P., Pen, U. (2006). Precision measurement of cosmic magnification from 21-cm emitting galaxies. *Monthly Notices of the Royal Astronomical Society*, 367: p. 169-178
106. Trac, H, Pen, U. (2006). Out-of-core hydrodynamic simulations for cosmological applications. *New Astronomy*, 11: p. 273-286

107. Zhang, P, Pen, U. (2005). Mapping Dark Matter with Cosmic Magnification. *Physical Review Letters*, 95: id 241302
108. Zhang, T-J., Pen, U-L. (2005). Reconstruction of the One-Point Distribution of Convergence from Weak Lensing by Large-Scale Structure. *The Astrophysical Journal*, 635: p. 821-826
109. Liebendörfer, M., Thompson, C., Pen, U. (2005). Approaching the dynamics of hot nucleons in supernovae. *Nuclear Physics A*, 758: p.59-62
110. Zhang, L.L., Pen, U-L (2005). Fast n-point correlation functions and three-point lensing application. *New Astronomy*, 10: p. 569-590
111. Bond, J. R., Contaldi, C. R., Pen, U-L., et al. (2005). The Sunyaev-Zel'dovich Effect in CMB-calibrated Theories Applied to the Cosmic Background Imager Anisotropy Power at $l > 2000$. *The Astrophysical Journal*, 626: p. 12-30
112. Merz, H., Trac, H., Pen, U. (2005). Towards optimal parallel PM N-body codes: PMFAST. *New Astronomy*, 10: p. 393-407
113. Zhang, P., Trac, H., Pen, U. (2004). The temperature of the intergalactic medium and the Compton y parameter. *Monthly Notices of the Royal Astronomical Society*, 355: p. 451-460
114. Trac, H., Pen, U. (2004). A moving frame algorithm for high Mach number hydrodynamics. *New Astronomy*, 9: p. 443-465
115. Pen, U. (2004). Gravitational lensing of epoch-of-reionization gas. *New Astronomy*, 9: p. 417-424
116. Readhead, A. C. S., Mason, B. S., Pen, U., et al. (2004). Extended Mosaic Observations with the Cosmic Background Imager. *The Astrophysical Journal*, 609: p. 498-512
117. Pen, U. (2004). Beating lensing cosmic variance with galaxy tomography. *Monthly Notices of the Royal Astronomical Society*, 350: p. 1445-1448
118. Zhang, P., Trac, H., Pen, U. (2004). Precision era of the kinetic Sunyaev-Zel'dovich effect: simulations, analytical models and observations and the power to constrain reionization. *Monthly Notices of the Royal Astronomical Society*, 347: p. 1224-1233
119. Peterson, J.B., Wu, X-P., Pen, U. (2004). The Primeval Structure Telescope. *Modern Physics Letters A*, 19: p. 1001-1008
120. Frolov, A.V., Pen, U. (2003). Naked singularity in the global structure of critical collapse spacetimes. *Physical Review D*, 68(12): id. 124024

121. Lu, T., van Waerbeke, L., Mellier, Y, Pen, U. (2003). The three-dimensional power spectrum of dark and luminous matter from the VIRMOS-DESCART cosmic shear survey. *Monthly Notices of the Royal Astronomical Society*, 346: p. 994-1008.
122. Pen, U. (2003). Fast power spectrum estimation. *Monthly Notices of the Royal Astronomical Society*, 346: p. 619-626
123. Arras, P., Wong, S., Pen, U. (2003). A Free, Fast, Simple, and Efficient Total Variation Diminishing Magnetohydrodynamic Code. *The Astrophysical Journal Supplement Series*, 149: p. 447-455
124. Zhang, T-J., Zhang, P., Dubinski, J., Pen, U. (2003). Optimal Weak-Lensing Skewness Measurements *The Astrophysical Journal*, 598: p. 818-826.
125. Matzner, C.D., Wong, S., Pen, U. (2003). The Fate of Nonradiative Magnetized Accretion Flows: Magnetically Frustrated Convection. *The Astrophysical Journal*, 596: p. L207-L210.
126. Padmanabhan, N., Seljak, U., Pen, U. (2003). Mining weak lensing surveys. *New Astronomy*, 8: p. 581-603
127. Zhang, T., van Waerbeke, L., Mellier, Y., Pen, U., et al. (2003). Detection of Dark Matter Skewness in the VIRMOS-DESCART Survey: Implications for Ω_0 . *The Astrophysical Journal*, 592: p. 664-673
128. Sievers, J. L., Bond, J. R., Cartwright, J. K., Pen, U., et al. (2003). Cosmological Parameters from Cosmic Background Imager Observations and Comparisons with BOOMERANG, DASI, and MAXIMA. *The Astrophysical Journal*, 591: p. 599-622
129. Myers, S. T., Contaldi, C. R., Bond, J. R., Pen, U-L., et al. (2003). A Fast Gridded Method for the Estimation of the Power Spectrum of the Cosmic Microwave Background from Interferometer Data with Application to the Cosmic Background Imager. *The Astrophysical Journal*, 591: p. 575-598.
130. Pearson, T. J., Mason, B. S., Readhead, A. C. S., Pen, U., et al. (2003). The Anisotropy of the Microwave Background to $l = 3500$: Mosaic Observations with the Cosmic Background Imager. *The Astrophysical Journal*, 591: p. 556-574
131. Mason, B. S., Pearson, T. J., Readhead, A. C. S., Pen, U., et al. (2003). The Anisotropy of the Microwave Background to $l = 3500$: Deep Field Observations with the Cosmic Background Imager. *The Astrophysical Journal*, 591: p. 540-555
128. Zhang, P, Pen, U. (2003). Measuring Feedback Using the Intergalactic Medium State and Evolution Inferred from the Soft X-Ray Background. *The Astrophysical Journal*, 588: p. 704-710
129. Trac.H., Pen, U. (2003). A Primer on Eulerian Computational Fluid Dynamics for Astrophysics. *The Publications of the Astronomical Society of the Pacific*, 115: p. 303-321.

130. Zhang, P., Wang, B., Pen, U. (2002). The Sunyaev-Zeldovich Effect: Simulations and Observations. *The Astrophysical Journal*, 577: p. 555-568
131. Van Waerbeke, L., Mellier, Y., Pelló, R., McCracken, H. J., Jain, B., Pen, U. (2002). Likelihood analysis of cosmic shear on simulated and VIRMOS-DESCART data. *Astronomy and Astrophysics*, 393: p.369-379
132. Schmidt, R. W., Kundić, T., Turner, E. L., Wambsganss, J., Pen, U., et al. (2002). Optical monitoring of the gravitationally lensed quasar Q2237+0305 from APO between June 1995 and January 1998. *Astronomy and Astrophysics*, 392: p.773-779
133. Fox, D.C., Pen, U. (2002). The Distance to Clusters: Correcting for Asphericity. *The Astrophysical Journal*, 574: p. 38-50
134. Crittenden, R.G., Natarajan, P., Theuns, T., Pen, U. (2002). Discriminating Weak Lensing from Intrinsic Spin Correlations Using the Curl-Gradient Decomposition. *The Astrophysical Journal*, 568: p. 20-27
135. Lee, J., Pen, U. (2002). Detection of Galaxy Spin Alignments in the Point Source Catalog Redshift Survey Shear Field. *The Astrophysical Journal*, 567. p. L111-L114.
136. Van Waerbeke, L., Mellier, Y., Pen, U. (2002). Gravity and Nongravity Modes in the VIRMOS-DESCART Weak-Lensing Survey. *The Astrophysical Journal*, 567: p. 31-36.
137. Crittenden, R.G., Natarajan, P., Theuns, T., Pen, U. (2001). Spin-induced Galaxy Alignments and Their Implications for Weak-Lensing Measurements. *The Astrophysical Journal*, 559: p. 552-571
138. Lee, J., Pen, U. (2001). Galaxy Spin Statistics and Spin-Density Correlation. *The Astrophysical Journal*, 555: p. 106-124
139. Kao, W. F., Zhang, P., Pen, U. (2001). Friedmann equation and stability of inflationary higher derivative gravity. *Physical Review D*, 63: id. 127301
140. Seljak, U., Burwell, J., Pen, U. (2001). Sunyaev-Zeldovich effect from hydrodynamical simulations: Maps and low order statistics. *Physical Review D*, 63: id. 063001
141. Pen, U. (2001). Cosmic defects. *New Astronomy Reviews*, 45: p. 271-276
142. Zhang, P., Pen, U. (2001). Deprojecting Sunyaev-Zeldovich Statistics. *The Astrophysical Journal*, 549: p. 18-27
143. Fox, D.C., Pen, U., (2001). Gravitational Lensing by Galaxy Groups in the Hubble Deep Field. *The Astrophysical Journal*, 546: p. 35-46
144. Natarajan, P., Crittenden, R.G., Theuns, T., Pen, U. (2001). Do Angular Momentum

- Induced Ellipticity Correlations Contaminate Weak Lensing Measurements?. Publications of the Astronomical Society of Australia, 18: p. 198-200.
145. Lee, J., Seljak, U., Pen, U. (2000). Tentative Detection of Galaxy Spin Correlations in the Tully Catalog. The Astrophysical Journal, 543: p. L107-L110
 146. Refregier, A., Komatsu, E., Spergel, D.N., Pen, U. (2000). Power spectrum of the Sunyaev-Zel'dovich effect. Physical Review D (Particles, Fields, Gravitation, and Cosmology), 61: p.15
 147. Pen, U. (2000). Strong Lensing Reconstruction. The Astrophysical Journal, 534: p. L19-L22
 148. Lee, J., Pen, U. (2000). Cosmic Shear from Galaxy Spins. The Astrophysical Journal, 532: p. L5-L8
 149. Frenk, C. S., White, S. D. M., Bode, P., Pen, U., et al. (1999). The Santa Barbara Cluster Comparison Project: A Comparison of Cosmological Hydrodynamics Solutions. The Astrophysical Journal, 525, p. 554-582
 150. Crittenden, R., Bond, J. R., Pen, U. (1999). On non-Gaussianity of the COBE-DMR map. Journal of the Royal Astronomical Society of Canada, 93: p. 176
 151. Rines, K., Forman, W., Jones, C., Burg, R., Pen, U. (1999). Constraining q_0 with Cluster Gas Mass Fractions: A Feasibility Study. The Astrophysical Journal, 517: p. 70-77
 152. Pen, U. (1999). Analytical Fit to the Luminosity Distance for Flat Cosmologies with a Cosmological Constant. The Astrophysical Journal Supplement Series, 120: p. 49-50
 153. Pen, U. (1999). Heating of the Intergalactic Medium. The Astrophysical Journal, 510: p. L1-L5
 154. Loeb, A., Turok, N., Pen, U. (1998). Gamma-Ray Bursts from Baryon Decay in Neutron Stars. The Astrophysical Journal, 509: p. 537-543
 155. Pen, U. (1998). Reconstructing Nonlinear Stochastic Bias from Velocity Space Distortions. The Astrophysical Journal, 504: p. 601-606.
 156. Turok, N., Seljak, U., Pen, U. (1998). Scalar, vector, and tensor contributions to CMB anisotropies from cosmic defects. Physical Review D (Particles, Fields, Gravitation, and Cosmology), 58: p.15
 157. Pen, U. (1998). Normalizing the Temperature Function of Clusters of Galaxies. The Astrophysical Journal, 498: p. 60-66.
 158. Pen, U. (1998). A High-Resolution Adaptive Moving Mesh Hydrodynamic Algorithm. The Astrophysical Journal Supplement Series, 115: p. 19-34

159. Spergel, D., Pen, U. (1997). Cosmology in a String-Dominated Universe. *The Astrophysical Journal*, 491: p. L67-L71
160. Pen, U. (1997). Generating Cosmological Gaussian Random Fields. *The Astrophysical Journal*, 490: p. L127-L130
161. Pen, U. (1997). Measuring the universal deceleration using angular diameter distances to clusters of galaxies. *New Astronomy*, 2: p. 309-317
162. Seljak, U., Turok, N., Pen, U. (1997). Polarization of the Microwave Background in Defect Models. *Physical Review Letters*, 79: p.1615-1618
163. Seljak, U., Turok, N., Pen, U. (1997). Power spectra in global defect theories of cosmic structure formation. *Physical Review Letters*, 79: p. 1611
164. Jiang, T-F., Pen, U. (1996). Direct momentum-space calculations for the resonant multiphoton processes of a hydrogen atom under intense laser pulses. *Physical Review A (Atomic, Molecular, and Optical Physics)*, 53: p.623-626
165. Kundic, T., Colley, W. N., Pen, U., et al. (1995). An Event in the Light Curve of 0957+561A and Prediction of the 1996 Image B Light Curve. *Astrophysical Journal Letters*, 455: p.L5
166. Pen, U-L. (1995). A Linear Moving Adaptive Particle-Mesh N-Body Algorithm. *Astrophysical Journal Supplement*, 100: p.269
167. Spergel, D.N., Pen, U. (1995). Cosmic microwave anisotropies from topological defects in an open universe. *Physical Review D (Particles, Fields, Gravitation, and Cosmology)*, 51: p.4099-4110
168. Pen, U. (1995). Numerical Studies of Gas Dynamics in Clusters of Galaxies. Thesis (PH.D.)--PRINCETON UNIVERSITY, 56(12): Section: B, p. 6798.
169. Pen, U. (1994). Modes of elliptical galaxies. *The Astrophysical Journal Part 1*, 431: p. 104-108
170. Pen, U. (1994). A general class of self-similar self-gravitating fluids. *The Astrophysical Journal*, 429: p. 759-763
171. Spergel, D. N., Pen, U. (1994). Topological defects in an open universe. *Nuclear Physics B Proceedings Supplements*. 35: p. 17-27
172. Spergel, D.N., Turok, N., Pen, U. (1993). Cosmic structure formation and microwave anisotropies from global field ordering. *Physical Review D (Particles, Fields, Gravitation, and Cosmology)*. 49: p.692-729

173. Spergel, D., Pen, U. (1993). Large scale structure and cosmic microwave background fluctuations in a defect seeded open universe. *Journal of the Royal Astronomical Society of Canada*, 87: p. 201
174. Jiang, T. F, Pen, (U). (1992). Strong-field effects of the one-dimensional hydrogen atom in momentum space. *Physical Review A (Atomic, Molecular, and Optical Physics)*. 46: p.4297-4305
175. Kao, W. F, Pen, U. (1991). Generalized Friedmann-Robertson-Walker metric and redundancy in the generalized Einstein equations. *Physical Review D (Particles, Fields, Gravitation, and Cosmology)*, 44: p.3974-3977

Preprint:

1. Yu, Y., Zhu, H.M., Pen, U. (2017). Halo nonlinear reconstruction, arXiv:1703.0830, p1-8.
2. Simard, D., Pen U. (2017). Predicting Pulsar Scintillation from Refractive Current Sheets. arXiv:1703.06855, p1-9.
3. CHIME Scientific Collaboration; Amiri, M., Bandura, K., Berger, P., Bond, J. R., Cliche, Jean-François; Connor, L., Deng, M., Denman, N., Dobbs, M., Domagalski, R.S., Fandino, M., Gilbert, A.J; Good, D.C.; Halpern, M., Hanna, D., Hincks, A.D.; Hinshaw, G., Höfer, C., Hsyu, G., Klages, P., Landecker, T. L.; Masui, K., Mena-Parra, J., Newburgh, L., Oppermann, N., Pen, U., Peterson, Jeffrey B.; Pinsonneault-Marotte, T., Renard, A., Shaw, J. R., Siegel, Seth R.; Sigurdson, K., Smith, K.M.; Storer, E., Tretyakov, I., Vanderlinde, K., Wiebe, Donald V. (2017). Limits on the ultra-bright Fast Radio Burst population from the CHIME Pathfinder. arXiv:1702.08040
4. A self-consistency check for unitary propagation of Hawking quanta. Baker, Daniel; Kodwani, Darsh; Pen, Ue-Li; Yang, I-Sheng. arXiv:1701.04811
5. An efficient method for removing point sources from full-sky radio interferometric maps. Berger, Philippe; Oppermann, Niels; Pen, Ue-Li; Shaw, J. Richard. arXiv:1612.03255
6. Nonlinear Reconstruction. Zhu, Hong-Ming; Yu, Yu; Pen, Ue-Li; Chen, Xuelei; Yu, Hao-Ran. arXiv:1611.09638
7. Emberson, J. D.; Yu, H.R. Inman, D. (2016). Cosmological neutrino simulations at extreme scale. eprint arXiv:1611.01545, p1-4
8. Recovering lost 21 cm radial modes via cosmic tidal reconstruction. Zhu, Hong-Ming; Pen, Ue-Li; Yu, Yu; Chen, Xuelei. arXiv:1610.07062
9. Inman, D., Pen, U. (2016). Cosmic neutrinos: dispersive and non-linear. eprint arXiv:1609.09469: p.1-9

10. Zhu, H.M., Chen, X., Pen, U. (2016). Primordial density and BAO reconstruction. eprint arXiv:1609.07041: p.1-5
11. Berger, P., Newburgh, L.B., Amiri, M., Bandura, K., Pen, U. et al. (2016). Holographic beam mapping of the CHIME pathfinder array. Proceedings of the SPIE (eprint arXiv:1607.01473), 9906: p. 99060D_1 - 99060_16
12. Kodwani, D, Yang, I.S., Pen, U. (2016). Supernova energy measurement in gravitational wave detectors, eprint arXiv:1605.05399: p.1-4