

Publications:

1. Local Semicircle law and Gaussian fluctuation for Hermite β ensemble with Z.G. Su, *Scientia Sinica Mathematica*, 42 (10), (2012).
2. Tracy-Widom law for the extreme eigenvalues of sample correlation matrices, with G. M. Pan and W. Zhou, *Electronic Journal of Probability*, 17, No. 88, 1-32, (2012).
3. Central limit theorem for partial linear eigenvalue statistics of random matrices, with G. M. Pan and W. Zhou, *Journal of Statistical Physics*, 150, Issue 1, 88-129, (2013).
4. On asymptotic expansion and CLT of linear eigenvalue statistics for sample covariance matrices when $N/M \rightarrow 0$, *Theory of Probability and its Applications*, 59 (2), 313339, (2014).
5. Universality for a global property of the eigenvectors of Wigner matrices, with G. M. Pan and W. Zhou, *Journal of Mathematical Physics*, 55, 023303, (2014).
6. CLT for linear spectral statistics of Hermitian Wigner matrices with general moment conditions, with J. S. Xie, *Theory of Probability and its Applications*, 60 (2), 311332, (2015).
7. On the MIMO channel capacity for the general channels, with G. M. Pan, and W. Zhou, *IEEE Transactions on Information Theory*, 61 (6), 3413-3426, (2015).
8. The logarithmic law of random determinant, with G. M. Pan and W. Zhou, *Bernoulli*, 21(3), 1600-1628, (2015).
9. Universality for the largest eigenvalue of sample covariance matrices with general population, with G. M. Pan and W. Zhou, *Annals of Statistics*, 43(1), 382-421, (2015).
10. Spectral statistics of large dimensional Spearman's rank correlation matrix and its application, with L.-C. Lin, G. M. Pan and W. Zhou, *Annals of Statistics*, 43(6), 2588-2623, (2015).
11. Local stability of the free additive convolution, with L. Erdos and K. Schnelli, *Journal of Functional Analysis*, 271(3), 672-719, (2016).
12. Local law of addition of random matrices on optimal scale, with L. Erdos and K. Schnelli, *Communications in Mathematical Physics*, 349(3), 947-990, (2017).
13. Test of independence for high-dimensional random vectors based on block correlation matrices, with J. Hu, G. M. Pan and W. Zhou, *Electronic Journal of Statistics*, 11(1), 1527-1548, (2017).

14. Delocalization for a class of random block band matrices, with L. Erdos, *Probability Theory and Related Fields*, 167(3), 673-776, (2017).
15. Convergence rate of spectral distribution of addition of random matrices, with L. Erdos and K. Schnelli, *Advances in Mathematics*, 319, 251-291, (2017).
16. Canonical correlation coefficients of high-dimensional Gaussian vectors: finite rank case, with J. Hu, G. M. Pan and W. Zhou, *Annals of Statistics*, 47(1), 612-640, (2019).
17. Local single ring theorem on optimal scale, with L. Erdos and K. Schnelli, *Annals of Probability*, 47(3), 1270-1334, (2019).
18. Tracy-Widom limit for Kendall's tau, *Annals of Statistics*, 47(6), 3504-3532, (2019).
19. On the support of the free additive convolution, with L. Erdos and K. Schnelli, *Journal d'Analyse Mathématique*, 142, 323-348, (2020).
20. Spectral rigidity for addition of random matrices at the regular edge, with L. Erdos and K. Schnelli, *Journal of Functional Analysis*, 279(7), 108639, (2020).
21. Singular vector and singular subspace distribution for matrix denoising model, with X.C. Ding and K. Wang, *Annals of Statistics*, 49(1), 370-392, (2021).
22. Equipartition principle for Wigner matrices, with L. Erdos, and K. Schnelli, *Forum of Mathematics, Sigma*, 9, Cambridge University Press, (2021).
23. Central limit theorem for mesoscopic eigenvalue statistics of the free sum of matrices, with K. Schnelli, and Y.Y. Xu, *International Mathematics Research Notices*, 2022(7), 5320-5382, (2022).
24. Eigenvector distribution in the critical regime of BBP transition, with D. Wang, *Probability Theory and Related Fields*, 182 (1-2), 399-479, (2022).
25. Statistical inference for principal components of spiked covariance matrix, with X.C. Ding, J.M. Wang and K. Wang, *Annals of Statistics*, 50 (2), 1144-1169, (2022).
26. On Cramer-von Mises statistic for the spectral distribution of random matrices, with Y.K. He, *Annals of Applied Probability*, 32(6), 4315-4355, (2022).
27. Quantitative CLT for linear eigenvalue statistics of Wigner matrices, with Y.K. He, *Annals of Applied Probability*, 33(6B):5171-5207 (2023).
28. Extreme eigenvalues of Log-concave Ensemble, with X.C. Xu, *Ann. inst. Henri Poincaré (B) Probab. Stat.* (Accepted).
29. Spectral Statistics of Sample Block Correlation Matrices, with J. Hu, X.C. Xu, and X.Z. Zhang, *Annals of Statistics* (Accepted).

30. Non-splitting Neyman-Pearson Classifiers, with J.M. Wang, L. Xia, and X. Tong, *Journal of Machine Learning Research* (Accepted).
31. Phase transition for the smallest eigenvalue of covariance matrices, with J. Lee, and X.C. Xu, *Probability Theory and Related Fields* (Accepted).

