

JOEL A. TROPP

publications

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SUBMITTED FOR PUBLICATION

1. C. Camaño, E. N. Epperly, R. A. Meyer, and J. A. Tropp, “Faster linear algebra algorithms with structured random matrices.” July 2025.
2. C. Camaño, E. N. Epperly, and J. A. Tropp, “Successive randomized compression: A randomized algorithm for the compressed MPO–MPS product.” Apr. 2025.
3. J. A. Tropp, “Comparison theorems for the minimum eigenvalue of a random positive-semidefinite matrix.” Jan. 2025.
4. E. N. Epperly, J. A. Tropp, and R. J. Webber, “Embrace rejection: Kernel matrix approximation by accelerated randomly pivoted Cholesky.” Accepted to *SLAM J. Matrix Anal. Appl.*, July 2025.
5. C.-F. Chen, J. Garza-Vargas, J. A. Tropp, and R. van Handel, “A new approach to strong convergence.” Accepted to *Ann. Math.*, Feb. 2025.
6. J. A. Tropp and R. J. Webber, “Randomized algorithms for low-rank matrix approximation: Design, analysis, and applications.” Aug. 2023.
7. M. Díaz, E. N. Epperly, Z. Frangella, J. A. Tropp, and R. J. Webber, “Robust, randomized preconditioning for kernel ridge regression.” Apr. 2023.
8. M. Lotz and J. A. Tropp, “Sharp phase transitions in Euclidean integral geometry.” Accepted to *High-Dimensional Probability Proceedings X*, Apr 2025.
9. R. Kueng and J. A. Tropp, “Binary component decomposition, Part II.” July 2019.

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10. J. A. Tropp, *Topics in Sparse Approximation*, PhD Dissertation, Computational and Applied Mathematics, Univ. Texas at Austin, Aug. 2004.
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15. J. A. Tropp, *Matrix Analysis: Caltech ACM 204, Winter 2022*. Caltech CMS Lecture Notes 2022-01, Pasadena, 2022.

16. J. A. Tropp, *Probability in High Dimensions: Caltech ACM 217, Winter 2021*. Caltech CMS Lecture Notes 2021-01, Pasadena, 2021.
17. J. A. Tropp, *Randomized Algorithms for Matrix Computations: Caltech ACM 204, Winter 2020*. Caltech CMS Lecture Notes 2020-01, Pasadena, 2020.
18. J. A. Tropp, *Matrix Concentration & Computational Linear Algebra*. Caltech CMS Lecture Notes 2019-01, Pasadena, 2019. Short course for summer school “High-dimensional probability and algorithms” at École Normale Supérieure, Paris, July 2019.
19. J. A. Tropp, *Lectures on Convex Geometry: Caltech ACM 204, Fall 2018*. Caltech CMS Lecture Notes 2019-02, Pasadena, 2019.

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