JOEL A. TROPP

publications

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Submitted for Publication

1. J. A. Tropp, "Universality laws for random matrices via exchangeable counterparts." Mar. 2026.
2. J. A. Tropp, "Comparison theorems for the extreme eigenvalues of a random symmetric matrix." Mar. 2026.
3. C. Camaño, E. N. Epperly, R. A. Meyer, and J. A. Tropp, "Faster linear algebra algorithms with structured random matrices." July 2025.
4. J. A. Tropp, "Comparison theorems for the minimum eigenvalue of a random positive-semidefinite matrix." Accepted to *Comm. Amer. Math. Soc.*, Mar. 2026.
5. J. A. Tropp, "Applied random matrix theory." To appear, *Proc. 2026 International Congress of Mathematicians*.
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 X*, Apr 2025.
9. R. Kueng and J. A. Tropp, "Binary component decomposition, Part II." July 2019.

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11. J. A. Tropp, *Infinitesimals: History and Application*. Senior Thesis, Mathematics Dept., Univ. Texas at Austin, May 1999.

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12. J. A. Tropp, "An Introduction to Matrix Concentration Inequalities." *Foundations & Trends in Machine Learning*. Vol. 8, num. 1–2, pp. 1–230, May 2015.

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14. J. A. Tropp, *Probability Theory & Computational Mathematics: Caltech CMS/ACM 117, Fall 2024*. Caltech CMS Lecture Notes 2023-01, Pasadena, 2023.
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.

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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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