

Education

PRINCETON UNIVERSITY, PRINCETON, NJ, USA

Degree: Ph.D., Electrical Engineering (09/2010)
Thesis: “Channel coding: non-asymptotic fundamental limits”
Advisers: H. V. Poor and S. Verdú

MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY, RUSSIA

Degree: M.S. with Honors, Applied Mathematics and Physics (06/2005)
Degree: B.S. with Honors, Applied Mathematics and Physics (06/2003)

Awards

2024 IEEE Fellow
2020 James L. Massey Award (IEEE Information Theory Society)
2020 Amazon Scholar
2016 Jerome H. Saltzer Teaching Award (MIT EECS)
2015 Simons-Berkeley Research Fellowship
2013 NSF CAREER Award
2011 IEEE Information Theory Best Paper Award
2010 Best Student Paper Award at *2010 IEEE Int. Symp. Information Theory (ISIT)*
2009 Harold W. Dodds Fellowship (Princeton University Honorary Fellowship)
2008 Best Student Paper Award at *2008 IEEE Int. Symp. Information Theory (ISIT)*

Awards (group)

2024 *Yuzhou Gu*: George Sprowls Ph.D. thesis award (*EECS@MIT*)
2022 *Jennifer Tang*: Best Student Paper Award at *2022 IEEE Int. Symp. Information Theory (ISIT)*
2021 *Yuzhou Gu*: Best Student Paper Award at *2021 Conf. Learning Th. (COLT)*
2021 *Anuran Makur*: Thomas M. Cover Dissertation Award from *IEEE Inform. Theory Society*
2020 *Anuran Makur*: Jin Au Kong Ph.D. thesis award (*EECS@MIT*)
2016 *Jennifer Tang*: Shannon Centennial Student Competition Winner from *Bell Labs*

Work Experience

2024-now MIT, Leverett Howell Cutten '07 and William King Cutten '39 Professor of EECS
2022-now MIT, Professor of EECS
2019-2020 EPFL, Visiting Professor, School of Computer and Comm. Sciences (IC)
2020-now AMAZON, Amazon Scholar
2015-2022 MIT, Associate Professor of EECS
2012-2015 MIT, Robert J. Shillman Career Development Professor of EECS
2011-2012 MIT, Assistant Professor of EECS
2010-2011 PRINCETON UNIVERSITY, Postdoctoral Research Associate (Sponsor: S. Verdú)
2005-2010 PRINCETON UNIVERSITY, Assistant-in-Research, Assistant-in-Instruction

Journal Publications and Preprints

- G. Liva and Y. Polyanskiy, “Unsources multiple access: a coding paradigm for massive random access,” *Proc. IEEE*, 2024 (to appear)
- G. Bresler, C. Guo, and Y. Polyanskiy, “Thresholds for reconstruction of random hypergraphs from graph projections,” *Proc. Conf. on Learning Theory (COLT-2024)*, Jul. 2024.
- P. Agostini, J.-F. Chamberland, F. Clazzer, J. Dommel, G. Liva, A. Munari, K. Narayanan, Y. Polyanskiy, S. Stanczak, and Z. Utkovski, “Evolution of the 5G new radio two-step random access towards 6G unsourced MAC,” *arXiv:2405.03348*, May. 2024
- P. R. Gerber, T. Jiang, Y. Polyanskiy, and R. Sun, “Density estimation using the perceptron,” *arXiv:2312.17701*, Dec. 2023
- B. Geshkovski, C. Letrouit, Y. Polyanskiy, and P. Rigollet, “A mathematical perspective on Transformers,” *arXiv:2312.10794*, Dec. 2023
- B. Geshkovski, C. Letrouit, Y. Polyanskiy, and P. Rigollet, “The emergence of clusters in self-attention dynamics,” *Proc. 37th Adv. in Neural Inform. Proc. Syst. (NeurIPS-2023)*, Dec. 2023
- P. R. Gerber, T. Jiang, Y. Polyanskiy, and R. Sun, “Kernel-based tests for likelihood-free hypothesis testing,” *Proc. 37th Adv. in Neural Inform. Proc. Syst. (NeurIPS-2023)*, Dec. 2023
- T. Jayashankar, G. Lee, A. Lancho, A. Weiss, Y. Polyanskiy, and G. W. Wornell “Score-based source separation with applications to digital communication signals,” *Proc. 37th Adv. in Neural Inform. Proc. Syst. (NeurIPS-2023)*, Dec. 2023
- G. Bresler, C. Guo, and Y. Polyanskiy, “Algorithmic decorrelation and planted clique in dependent random graphs: the case of extra triangles,” *Proc. 64th Symp. Found. Comp. Sci (FOCS-2023)*, Nov. 2023
- Y. Gu and Y. Polyanskiy, “Weak recovery threshold for the hypergraph stochastic block model,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- P. R. Gerber, Y. Han, and Y. Polyanskiy, “Minimax optimal testing by classification,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- S. Jana, Y. Polyanskiy, A. Teh, and Y. Wu, “Empirical Bayes via ERM and Rademacher complexities: the Poisson model,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- Z. Jia, Y. Polyanskiy, and Y. Wu, “Entropic characterization of optimal rates for learning Gaussian mixtures,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- A. Block and Y. Polyanskiy, “The sample complexity of approximate rejection sampling with applications to smoothed online learning,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- Y. Gu and Y. Polyanskiy, “Uniqueness of BP fixed point for the Potts model and applications to community detection,” *Proc. Conf. on Learning Theory (COLT-2023)*, Jul. 2023.
- P. R. Gerber and Y. Polyanskiy, “Likelihood-free hypothesis testing,” *IEEE Trans. Information Theory*, 2024 (to appear)
- Q. Yu and Y. Polyanskiy, “Ising model on locally tree-like graphs: uniqueness of solutions to cavity equations,” *IEEE Trans. Information Theory*, vol. 70, no. 3, pp. 1913–1938, Mar. 2024
- S. Jana, Y. Polyanskiy, and Y. Wu, “Optimal empirical Bayes estimation for the Poisson model via minimum-distance methods,” *arXiv:2209.01328*, Sep. 2022
- A. Adler, J. Tang, and Y. Polyanskiy, “Efficient representation of large-alphabet probability distributions,” *IEEE J. Sel. Areas Information Theory*, vol. 3, no. 4, pp. 651–663, Dec. 2022
- A. Block, Z. Jia, Y. Polyanskiy, and A. Rakhlin, “Rate of convergence of the smoothed empirical Wasserstein distance,” *arXiv:2205.02128*, May. 2022
- G. Bresler, C. Guo, and Y. Polyanskiy, “Linear programs with polynomial coefficients and applications to 1D cellular automata,” *arXiv:2204.06357*, Apr. 2022
- J. Tang and Y. Polyanskiy, “Capacity of noisy permutation channels,” *IEEE Trans. Information Theory*, vol. 69, no. 7, pp. 4145–4162, Jul. 2023
- Y. Polyanskiy and Y. Wu, “Sharp regret bounds for empirical Bayes and compound decision problems,” *arXiv:2109.03943*, Sep. 2021

- A. Block, Z. Jia, Y. Polyanskiy, A. Rakhlin, “Intrinsic dimension estimation using Wasserstein distances,” *J. Machine Learning Research (JMLR)*, 23(313):1-37, 2022.
- E. Abbe, E. Cornacchia, Y. Gu and Y. Polyanskiy, “Stochastic block model entropy and broadcasting on trees with survey,” *Proc. Conf. on Learning Theory (COLT-2021)*, Aug. 2021. **Best Student Paper Award**
- M. Feder and Y. Polyanskiy, “Sequential prediction under log-loss and misspecification,” *Proc. Conf. on Learning Theory (COLT-2021)*, Aug. 2021.
- A. Makur, E. Mossel and Y. Polyanskiy, “Broadcasting on two-dimensional regular grids,” *IEEE Trans. Information Theory*, vol. 68, no. 10, pp. 6297–6334, Oct. 2022
- O. Ordentlich and Y. Polyanskiy, “Strong data processing constant is achieved by binary inputs,” *IEEE Trans. Information Theory*, vol. 68, no. 3, pp. 1480–1481, Mar. 2022
- Y. Polyanskiy and Y. Wu, “Self-regularizing property of nonparametric maximum likelihood estimator in mixture models,” *arXiv:2008.08244*, Aug. 2020
- Y. Polyanskiy and Y. Wu, “Note on approximating the Laplace transform of a Gaussian on a complex disk,” *arXiv:2008.13372*, Aug. 2020
- J. Gaudio and Y. Polyanskiy, “Attracting random walks,” *Elect. J. Probability*, vol. 25, no. 73, 2020
- S. Jana, Y. Polyanskiy and Y. Wu, “Extrapolating the profile of a finite population,” *Proc. Conf. on Learning Theory (COLT-2020)*, Jul. 2020.
- Y. Gu and Y. Polyanskiy, “Non-linear log-Sobolev inequalities for the Potts semigroup and applications to reconstruction problems,” *Commun. Math. Phys.*, vol. 404, pp. 769–831, Dec. 2023
- Z. Goldfeld and Y. Polyanskiy, “The information bottleneck problem and its applications in machine learning,” *IEEE Journal Sel. Areas Information Theory (JSAIT)*, vol. 1, no. 1, pp. 19–38, Apr. 2020.
- H. Roozbehani and Y. Polyanskiy, “Low density majority codes and the problem of graceful degradation,” *arXiv:1911.12263*, Nov. 2019
- Y. Wu, X. Gao, S. Zhou, W. Yang, Y. Polyanskiy, and G. Caire, “Massive access for future wireless communication systems,” *IEEE Wireless Communications*, vol. 27, no. 4, pp. 148–156, Apr. 2020
- O. Ordentlich, Y. Polyanskiy and O. Shayevitz, “A note on the probability of rectangles for correlated binary strings,” *IEEE Trans. Information Theory*, vol. 66, no. 12, pp.7878 – 7886, Dec. 2020.
- S. Kowshik, K. Andreev, A. Frolov and Y. Polyanskiy, “Energy efficient coded random access for the wireless uplink,” *IEEE Trans. Comm.*, vol. 68, no. 8, pp. 4694–4708, Aug. 2020
- Z. Goldfeld, K. Greenewald, Y. Polyanskiy, and J. Weed, “Convergence of smoothed empirical measures with applications to entropy estimation,” *IEEE Trans. Information Theory*, vol. 66, no. 7, pp. 4368–4391, Jul. 2020.
- Y. Polyanskiy and Y. Wu, “Dualizing Le Cam’s method, with applications to estimating the unseens,” *arXiv:1902.05616*, Feb. 2019.
- Y. Kochman, O. Ordentlich and Y. Polyanskiy, “A lower bound on the expected distortion of joint source-channel coding,” *IEEE Trans. Information Theory*, vol. 66, no. 8, pp. 4722–4741, Aug. 2020.
- U. Hadar, J. Liu, Y. Polyanskiy and O. Shayevitz, “Communication complexity of estimating correlations,” *Proc. 51st ACM Symp. on Theory of Comp. (STOC)*, Phoenix, AZ, Jun. 2019.
- S. Kowshik and Y. Polyanskiy, “Fundamental limits of many-user MAC with finite payloads and fading,” *IEEE Trans. Information Theory*, vol. 67, no. 9, pp. 5853–5884, Sep. 2021.
- A. Bhatt, B. Nazer, O. Ordentlich and Y. Polyanskiy, “Information-distilling quantizers,” *IEEE Trans. Information Theory*, vol. 67, no. 4, pp. 2472–2487, Apr. 2021.
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- Z. Goldfeld, E. van den Berg, K. Greenewald, I. Melnyk, N. Nguyen, B. Kingsbury and Y. Polyanskiy, “Estimating information flow in deep neural networks,” Proc. 36th Int. Conf. Machine Learning (*ICML’2019*), Long Beach, CA, June 2019.
- Y. Polyanskiy and Y. Wu, “Application of information-percolation method to reconstruction problems on graphs,” *Math. Stat. Learn.*, vol. 2, no. 1, pp. 1–24, 2019.
- Z. Goldfeld, G. Bresler and Y. Polyanskiy, “Information storage in the stochastic Ising model,” *IEEE Trans. Information Theory*, vol. 67, no. 3, pp. 1373–1399, Mar. 2021
- N. Alon, B. Bukh and Y. Polyanskiy, “List-decodable zero-rate codes,” *IEEE Trans. Information Theory*, vol. 65, no. 3, pp. 1657–1667, Mar. 2019
- W. Yang, A. Collins, G. Durisi, Y. Polyanskiy, and H. V. Poor, “Beta-Beta bounds: finite-blocklength analog of the golden formula,” *IEEE Trans. Information Theory*, vol. 64, no. 9, pp. 6236–6256, Sep. 2018.
- A. Collins and Y. Polyanskiy, “Coherent multiple-antenna block-fading channels at finite block-length,” *IEEE Trans. Information Theory*, vol. 65, no. 1, pp. 380–405, Jan. 2019.
- Y. Polyanskiy, A. T. Suresh and Y. Wu, “Sample complexity of population recovery,” *Proc. Conf. on Learning Theory (COLT-2017)*, Jul. 2017.
- M. Dalai and Y. Polyanskiy, “Bounds on the reliability function of typewriter channels,” *IEEE Trans. Information Theory*, vol. 64, no. 9, pp. 6208–6222, Sep. 2018.
- J. Tang, D. Wang, Y. Polyanskiy and G. Wornell, “Defect tolerance: fundamental limits and examples,” *IEEE Trans. Information Theory*, vol. 64, no. 7, pp. 5240–5260, Jul. 2018.
- A. Makur and Y. Polyanskiy, “Comparison of channels: criteria for domination by a symmetric channel,” *IEEE Trans. Information Theory*, vol. 64, no. 8, pp. 5704–5725, Aug. 2018.
- Y. Polyanskiy and A. Samorodnitsky, “Improved log-Sobolev inequalities, hypercontractivity and uncertainty principle on the hypercube,” *J. Functional Analysis*, vol. 277, no. 11, Dec. 2019.
- F. P. Calmon, Y. Polyanskiy and Y. Wu, “Strong data processing inequalities for input constrained additive noise channels,” *IEEE Trans. Information Theory*, vol. 64, no. 3, pp. 1879–1892, Mar. 2018.
- Y. Polyanskiy and Y. Wu, “Strong data-processing inequalities for channels and Bayesian networks,” In *Convexity, Concentration and Discrete Structures*, part of *The IMA Volumes in Mathematics and its Applications*, vol. 161, Springer-Verlag, New York, 2017.
- M. Dalai and Y. Polyanskiy, “Bounds for codes on pentagon and other cycles,” *arXiv:1508.03020*, Aug. 2015
- W. Yang, G. Durisi and Y. Polyanskiy, “Minimum energy to send k bits over multiple-antenna fading channels,” *IEEE Trans. Information Theory*, vol. 62, no. 12, pp. 6831–6853, Dec. 2016.
- Y. Polyanskiy and Y. Wu, “Wasserstein continuity of entropy and outer bounds for interference channels,” *IEEE Trans. Information Theory*, vol. 62, no. 7, pp. 3992–4002, Jul. 2016.
- Y. Polyanskiy, “On metric properties of maps between Hamming spaces and related graph homomorphisms,” *J. Combin. Theory Ser. A*, vol. 145, pp. 227–251, 2017.
- V. Kostina, Y. Polyanskiy and S. Verdú, “Joint source-channel coding with feedback,” *IEEE Trans. Information Theory*, vol. 63, no. 6, pp. 3502–3515, Jun 2017.
- G. Durisi, T. Koch, J. Östman, Y. Polyanskiy and W. Yang, “Short-packet communications with multiple antennas: transmit diversity, spatial multiplexing, and channel estimation overhead,” *IEEE Trans. Comm.*, vol. 64, no. 2, pp. 618–629, Feb. 2016
- H. Roozbehani and Y. Polyanskiy, “Algebraic methods of classifying directed graphical models,” *arXiv:1401.5551*, Dec. 2014
- Y. Polyanskiy, “Upper bound on list-decoding radius of binary codes,” *IEEE Trans. Information Theory*, vol. 62, no. 3, pp. 1119–1128, Mar. 2016.
- W. Yang, G. Caire, G. Durisi and Y. Polyanskiy, “Optimum power control at finite blocklength,” *IEEE Trans. Information Theory*, vol. 61, no. 9, pp. 4598–4615, Sep. 2015.
- Y. Polyanskiy and Y. Wu, “Dissipation of information in channels with input constraints,” *IEEE Trans. Information Theory*, vol. 62, no. 1, pp. 35–55, Jan. 2016.

- V. Kostina, Y. Polyanskiy and S. Verdú, “Variable-length compression allowing errors,” *IEEE Trans. Information Theory*, vol. 61, no. 8, pp. 4316–4330, Aug. 2015.
- W. Yang, G. Durisi, T. Koch and Y. Polyanskiy, “Quasi-static multiple-antenna fading channels at finite blocklength,” *IEEE Trans. Information Theory*, vol. 60, no. 7, pp.4232–4265, Jul. 2014.
- Y. Polyanskiy, “Hypercontractivity of spherical averages in Hamming space,” *SIAM J. Disc. Math.*, vol. 33, no. 2, pp. 731–754, 2019.
- Y. Polyanskiy and Y. Wu, “Peak-to-average power ratio of good codes for Gaussian channel,” *IEEE Trans. Information Theory*, vol. 60, no. 12, pp. 7655–7660, Dec 2014.
- A. Makhdoumi, S.-L. Huang, M. Médard and Y.Polyanskiy, “On locally decodable source coding,” *arXiv:1308.5239*, Aug. 2013.
- Y. Polyanskiy, “Hypothesis testing via a comparator and hypercontractivity,” *preprint*, Feb. 2013.
- Y. Polyanskiy, “Saddle point in the minimax converse for channel coding,” *IEEE Trans. Information Theory*, vol. 59, no. 5, pp. 2576-2595, May 2013.
- Y. Polyanskiy and S. Verdú, “Empirical distribution of good channel codes with non-vanishing error probability,” *IEEE Trans. Information Theory*, vol. 60, no. 1, pp. 5-21, Jan. 2014.
- Y. Polyanskiy, “Asynchronous communication: exact synchronization, universality, and dispersion,” *IEEE Trans. Information Theory*, *IEEE Trans. Information Theory*, vol. 59, no. 3, pp. 1256-1270, Mar. 2013.
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- Y. Polyanskiy, H. V. Poor and S. Verdú, “Minimum energy to send k bits through the Gaussian channel with and without feedback,” *IEEE Trans. Information Theory*, vol. 57, no. 8, pp. 4880 - 4902, Aug. 2011.
- Y. Polyanskiy, H. V. Poor and S. Verdú, “Dispersion of the Gilbert-Elliott channel,” *IEEE Trans. Information Theory*, vol. 57, no. 4, pp. 1829-1848, Apr. 2011.
- Y. Polyanskiy, H. V. Poor and S. Verdú, “Channel coding rate in the finite blocklength regime,” *IEEE Trans. Information Theory*, vol. 56, no. 5, pp. 2307-2359, May 2010.
- V. Gorokhov, G. Popelnukha, G. Polyanskiy, Y. Polyanskiy, V. Tsukanov, Russian Federation Patent №31061 (RU), “Switchboard for managing submersible electric motors,” Jul. 10, 2003.

Conference Proceedings

- T. Jayashankar, B. Kurien, A. Lancho, G. C. F. Lee, Y. Polyanskiy, A. Weiss, and G. W. Wornell, "The data-driven radio frequency signal separation challenge," *IEEE ICASSP 2024*, Seoul, Korea, Apr. 2024
- A. Fengler, A. Lancho, and Y. Polyanskiy, "Coded orthogonal modulation for the multi-antenna multiple-access channel," *IEEE Comm. Theory Workshop (CTW-2023)*, Taiwan, Jul. 2023.
- A. Teh and Y. Polyanskiy, "Comparing Poisson and Gaussian channels," *2023 IEEE Int. Symp. Information Theory (ISIT)*, Taipei, Taiwan, Jun. 2023.
- A. Fengler, A. Lancho, K. Narayanan, and Y. Polyanskiy, "On the advantages of asynchrony in the unsourced MAC," *2023 IEEE Int. Symp. Information Theory (ISIT)*, Taipei, Taiwan, Jun. 2023.
- Q. Yu and Y. Polyanskiy, "Uniqueness of distributional BP fixed point in Ising model on trees," *2023 IEEE Int. Symp. Information Theory (ISIT)*, Taipei, Taiwan, Jun. 2023.
- G. Lee, A. Weiss, A. Lancho, Y. Polyanskiy, and G. Wornell, "On neural architectures for deep learning-based source separation of co-channel OFDM signals," *IEEE ICASSP 2023*, Greece, Jun. 2023
- A. Fengler, G. Liva and Y. Polyanskiy, "Sparse graph codes for the 2-user unsourced MAC," *2022 Asilomar Conf. Sig. Syst. Comp.*, Pacific Grove, CA, USA, Nov. 2022
- A. Lancho, A. Weiss, G. Lee, J. Tang, Y. Bu, Y. Polyanskiy, and G. Wornell, "Data-driven blind synchronization and interference rejection for digital communication signals," *IEEE GLOBECOM 2022*, Rio de Janeiro, Brazil, Dec. 2022
- A. Lancho, A. Fengler and Y. Polyanskiy, "Finite-blocklength results for the A-channel: applications to unsourced random access and group testing", *58th Allerton Conference*, U. Illinois, IL, USA, Sep. 2022
- G. Lee, A. Weiss, A. Lancho, J. Tang, Y. Bu, Y. Polyanskiy, and G. W. Wornell, "Exploiting temporal structures of cyclostationary signals for data-driven single-channel source separation," *32nd IEEE Int. Workshop Machine Learning for Sig. Proc. (MLSP)*, Xi'an, China, Aug. 2022
Best Student Paper Award
- J. Tang and Y. Polyanskiy, "Capacity of noisy permutation channels," *2022 IEEE Int. Symp. Information Theory (ISIT)*, Espoo, Finland, Jun. 2022. **Best Student Paper Award**
- A. Adler, J. Tang and Y. Polyanskiy, "Efficient representation of large-alphabet probability distributions via arcsinh-compander," *2022 IEEE Int. Symp. Information Theory (ISIT)*, Espoo, Finland, Jun. 2022.
- G. Liva and Y. Polyanskiy, "On coding techniques for unsourced multiple-access," *2021 Asilomar Conf. Sig. Syst. Comp.*, Pacific Grove, CA, USA, Nov. 2021
- A. Adler, J. Tang and Y. Polyanskiy, "Quantization of random distributions under KL divergence," *2021 IEEE Int. Symp. Information Theory (ISIT)*, Melbourne, Australia, Jul. 2021.
- A. Makur, E. Mossel and Y. Polyanskiy, "Reconstruction on 2D regular grids," *2021 IEEE Int. Symp. Information Theory (ISIT)*, Melbourne, Australia, Jul. 2021.
- Q. Yu and Y. Polyanskiy, "Broadcasting on trees near criticality: perturbation theory," *2021 IEEE Int. Symp. Information Theory (ISIT)*, Melbourne, Australia, Jul. 2021.
- Y. Gu, H. Roozbehani and Y. Polyanskiy, "Broadcasting on trees near criticality," *2020 IEEE Int. Symp. Information Theory (ISIT)*, Los Angeles, CA, USA, Jun. 2020.
- H. Roozbehani and Y. Polyanskiy, "Graceful degradation over the BEC via non-linear codes," *2020 IEEE Int. Symp. Information Theory (ISIT)*, Los Angeles, CA, USA, Jun. 2020.
- S. Kowshik, K. Andreev, A. Frolov and Y. Polyanskiy, "Short-packet low-power coded access for massive MAC," *2019 Asilomar Conf. Sig. Syst. Comp.*, Pacific Grove, CA, USA, Nov. 2019
- A. Makur, E. Mossel and Y. Polyanskiy, "Broadcasting on random networks," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
- S. Kowshik and Y. Polyanskiy, "Quasi-static fading MAC with many users and finite payload," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.

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- I. Zadik, Y. Polyanskiy, and C. Thrampoulidis, "Improved bounds on Gaussian MAC and sparse regression via Gaussian inequalities," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
 - S. Kowshik, K. Andreev, A. Frolov and Y. Polyanskiy, "Energy efficient random access for the quasi-static fading MAC," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
 - Z. Goldfeld, K. Greenewald, J. Weed and Y. Polyanskiy, "Optimality of the plug-in estimator for differential entropy estimation under Gaussian convolutions," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
 - U. Hadar, J. Liu, Y. Polyanskiy and O. Shayevitz, "Error exponents in distributed hypothesis testing of correlations," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
 - Y. Kochman, O. Ordentlich and Y. Polyanskiy, "A lower bound on the expected distortion of joint source-channel coding," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
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 - Z. Goldfeld, G. Bresler and Y. Polyanskiy, "Information storage in the stochastic Ising model at low temperature," *2019 IEEE Int. Symp. Information Theory (ISIT)*, Paris, France, Jul. 2019.
 - C. Thrampoulidis, I. Zadik and Y. Polyanskiy, "A simple bound on the BER of the MAP decoder for massive MIMO systems," *2019 Proc. of ICASSP*, Brighton, UK, May 2019.
 - Z. Goldfeld, G. Bresler and Y. Polyanskiy, "Information storage in the stochastic Ising model at zero temperature," *2018 IEEE Int. Symp. Information Theory (ISIT)*, Vail, CO, USA, Jun. 2018.
 - O. Ordentlich and Y. Polyanskiy, "Entropy under additive Bernoulli and spherical noises," *2018 IEEE Int. Symp. Information Theory (ISIT)*, Vail, CO, USA, Jun. 2018.
 - H. Hassani, S. Kudekar, O. Ordentlich, Y. Polyanskiy and R. Urbanke, "Almost optimal scaling of Reed-Muller codes on BEC and BSC channels," *2018 IEEE Int. Symp. Information Theory (ISIT)*, Vail, CO, USA, Jun. 2018.
 - Y. Kochman, O. Ordentlich and Y. Polyanskiy, "Ozarow-type outer bounds for memoryless sources and channels," *2018 IEEE Int. Symp. Information Theory (ISIT)*, Vail, CO, USA, Jun. 2018.
 - H. Roozbehani and Y. Polyanskiy, "Input-output distance properties of good linear codes," *2018 IEEE Int. Symp. Information Theory (ISIT)*, Vail, CO, USA, Jun. 2018.
 - H. Roozbehani and Y. Polyanskiy, "Triangulation codes: a family of non-linear codes with graceful degradation," *2018 Conf. Inform. Sciences and Syst. (CISS)*, Princeton, NJ, USA, Mar. 2018.
 - Y. Polyanskiy, A. T. Suresh and Y. Wu, "Sample complexity of population recovery," *Proc. Conf. on Learning Theory (COLT-2017)*, Jul. 2017.
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 - O. Ordentlich and Y. Polyanskiy, "Low complexity schemes for the random access Gaussian channel," *2017 IEEE Int. Symp. Information Theory (ISIT)*, Aachen, Germany, Jun. 2017.
 - A. Makur and Y. Polyanskiy, "Less noisy domination by symmetric channels," *2017 IEEE Int. Symp. Information Theory (ISIT)*, Aachen, Germany, Jun. 2017.
 - B. Nazer, O. Ordentlich, and Y. Polyanskiy, "Information-distilling quantizers," *2017 IEEE Int. Symp. Information Theory (ISIT)*, Aachen, Germany, Jun. 2017.
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- 2016.
- Y. Polyanskiy and Y. Wu, "Converse bounds for interference channels via coupling and proof of Costa's conjecture," *2016 IEEE Int. Symp. Information Theory (ISIT)*, Barcelona, Spain, Jul. 2016.
- A. Mazumdar, Y. Polyanskiy, A.S. Rawat and H. Roozbehani, "Distance-preserving maps and combinatorial joint source-channel coding for large alphabets," *2016 IEEE Int. Symp. Information Theory (ISIT)*, Barcelona, Spain, Jul. 2016.
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