

Publications list - Andrea Montanari

Book

M. Mézard and A. Montanari (2009), ‘INFORMATION, PHYSICS, AND COMPUTATION’, Oxford University Press, Oxford.

Review Papers, Lecture Notes and Book Chapters

E.W. Tramel, S. Kumar, A. Giurgiu, A. Montanari (2015) *Analyzing search algorithms with physical methods*, in ‘Statistical Physics, Optimization, Inference, and Message-Passing Algorithms,’ Eds.: F. Krzakala, F. Ricci-Tersenghi, L. Zdeborova, R. Zecchina, E. W. Tramel, L. F. Cugliandolo, Oxford University Press, Oxford

A. Montanari (2011), *Graphical Models Concepts in Compressed Sensing*, in ‘Compressed Sensing: Theory and Applications’, Y. Eldar and G. Kutyniok, Cambridge University Press

A. Dembo and A. Montanari (2009), *Gibbs Measures and Phase Transitions on Sparse Random Graphs*, Brazilian Journal of Probability and Statistics, 24, 137-211

A. Montanari and R. Urbanke (2006), *Modern Coding Theory: The Statistical Mechanics and Computer Science Point of View*, in ‘Complex Systems: Les Houches Summer School, Session LXXXV’, J.-P. Bouchaud et al. eds., Elsevier, Amsterdam.

A. Montanari (2006), *Two Lectures on Iterative Coding and Statistical Mechanics*, in ‘Mathematical statistical physics: Les Houches Summer School, Session LXXXIII’, A. Bovier et al. eds., Elsevier, Amsterdam.

S. Cocco, R. Monasson, A. Montanari, and G. Semerjian (2006) *Analyzing search algorithms with physical methods*, in ‘Computational complexity and statistical physics’, A. Percus, G. Istrate, and C. Moore eds., Oxford University Press, Oxford.

Journal Papers

Y. Deshpande and A. Montanari (2015), *Sparse PCA via Covariance Thresholding*, Journal of Machine Learning Research, accepted

D. Donoho and A. Montanari (2015), *High dimensional robust M-estimation: Asymptotic variance via approximate message passing*, Probability Theory and Related Fields, in press

A. Montanari (2015), *Finding One Community in a Sparse Graph*, Journal of Statistical Physics, accepted

- A. Montanari (2015), *Computational Implications of Reducing Data to Sufficient Statistics*, Electronic Journal of Statistics, accepted
- A. Montanari and E. Richard (2015), *Non-negative Principal Component Analysis: Message Passing Algorithms and Sharp Asymptotics*, IEEE Transactions on Information Theory, accepted
- M. Ibrahimi, Y. Kanoria, M. Kranning, A. Montanari (2015), *The Set of Solutions of Random XORSAT Formulae*, Annals of Applied Probability, 25, 2743-2808
- M. Bayati, M. Lelarge, A. Montanari (2015), *Universality in polytope phase transitions and message passing algorithms* Annals of Applied Probability, 25, 753-822
- M. Bayati, C. Borgs, J. Chayes, Y. Kanoria, A. Montanari (2015), *Bargaining dynamics in exchange networks*, Journal of Economic Theory, 156, 417-454
- Y. Deshpande, A. Montanari (2015), *Finding Hidden Cliques of Size $\sqrt{N/e}$ in Nearly Linear Time*, Foundations of Computational Mathematics, 15, 1069-1128
- A. Dembo, A. Montanari, A. Sly, N. Sun (2014), *The replica symmetric solution for Potts models on d -regular graphs* Communications in Mathematical Physics, 327, 551-575
- A. Javanmard and A. Montanari (2014), *Confidence Intervals and Hypothesis Testing for High-Dimensional Regression*, Journal of Machine Learning Research, 15, 2869-2909
- E. Abbe and A. Montanari (2014), *On the concentration of the number of solutions of random satisfiability formulas*, Random Structures and Algorithms, doi: 10.1002/rsa.20501
- A. Javanmard and A. Montanari (2014), *Hypothesis Testing in High-Dimensional Regression Under the Gaussian Random Design Model: Asymptotic Theory*, IEEE Transactions on Information Theory, 60, 6522-6554
- A. Javanmard and A. Montanari (2013), *Localization from Incomplete Noisy Distance Measurements*, Foundations of Computational Mathematics, 13, 297-345
- D. Donoho, A. Javanmard and A. Montanari (2013), *Information-Theoretically Optimal Compressed Sensing via Spatial Coupling and Approximate Message Passing*, IEEE Transactions on Information Theory, 59, 7434-7464
- A. Dembo, A. Montanari, N. Sun (2013), *Factor models on locally tree-like graphs*, Annals of Probability, 41, 4162-4213
- D. Donoho, M. Gavish, and A. Montanari (2013), *The phase transition of matrix recovery from Gaussian measurements matches the minimax MSE of matrix denoising*, Proceedings of the National Academy of Sciences, 110, 8405-8410

- D. Donoho, I. Johnstone, A. Montanari (2013), *Accurate Prediction of Phase Transitions in Compressed Sensing via a Connection to Minimax Denoising*, IEEE Transactions on Information Theory, 59, 3396 - 3433
- A. Javanmard and A. Montanari (2013), *State evolution for general approximate message passing algorithms, with applications to spatial coupling*, Information and Inference 2, 115-144
- Y. Kanoria and A. Montanari (2013), *Optimal Coding for the Binary Deletion Channel With Small Deletion Probability*, IEEE Transactions on Information Theory, 57, 6192-6219
- M. Bayati and A. Montanari (2012), *The LASSO risk for gaussian matrices*, IEEE Transactions on Information Theory, 58, 1997-2017
- A. Montanari, E. Mossel, A. Sly (2012), *The weak limit of Ising models on locally tree-like graphs*, Probability Theory and Related Fields, 152, 31-51
- D. Donoho, A. Maleki and A. Montanari (2011). *The noise sensitivity phase transition in compressed sensing*, IEEE Transactions on Information Theory, 57, 6920-6941
- S. Korada and A. Montanari (2011) *Applications of Lindeberg Principle in Communications and Statistical Learning*, IEEE Transactions on Information Theory, 57, 2440-2450
- Y. Kanoria and A. Montanari (2011), *Majority dynamics on trees and the dynamic cavity method*, Annals of Applied Probability, 21, 1694-1748
- A. Montanari, R. Restrepo and P. Tetali (2011), *Reconstruction and Clustering in Random Constraint Satisfaction Problems*, SIAM Journal on Discrete Mathematics, 25, 771-808
- A. Montanari and R. Urbanke (2011), *Iterative Coding for Network Coding*, IEEE Transactions on Information Theory, 59, 1563-1572
- A. Montanari and A. Saberi (2010). *The Spread of Innovations in Social Networks*, Proceedings of the National Academy of Sciences, 107, 20196-20201
- M. Bayati and A. Montanari (2010). *The dynamics of message passing on dense graphs, with applications to compressed sensing*, IEEE Transactions on Information Theory, 57, 764-785
- R. H. Keshavan, A. Montanari, and S. Oh (2010), *Matrix Completion from Noisy Entries*, Journal of Machine Learning Research, 11, 2057-2078
- R. H. Keshavan, A. Montanari, and S. Oh (2010), *Matrix Completion from a Few Entries*, IEEE Transactions on Information Theory, 56, 2980-2998.
- D. Donoho, A. Maleki and A. Montanari (2009), *Message Passing Algorithms for Compressed Sensing*, Proceedings of the National Academy of Sciences, 106, 18914-18919

- A. Dembo and A. Montanari (2009), *Ising models on locally tree-like graphs*, *Annals of Applied Probability*, 20, 565-592.
- C. Measson, A. Montanari, T. Richardson, and R. Urbanke (2009), *The Generalized Area Theorem and Some of its Consequences*, *IEEE Transactions on Information Theory*, 55, 4793 - 4821.
- A. Amraoui, A. Montanari, T. Richardson, R. Urbanke (2009) *Finite-Length Scaling for Iteratively Decoded LDPC Ensembles*. *IEEE Transactions on Information Theory*, 55, 473-498
- C. Measson, A. Montanari, R. Urbanke (2008), *Maxwell Construction: The Hidden Bridge between Iterative and Maximum a Posteriori Decoding*, *IEEE Transactions on Information Theory*, 54, 5277-5307
- A. Dembo and A. Montanari (2008), *Finite Size Scaling for the Core of Large Random Hypergraphs*. *Annals of Applied Probability*, 18, 1993-2040
- A. Montanari (2008), *Estimating Random Variables from Random Sparse Observations* *European Transactions on Telecommunications*, 19, 385 - 403
- A. Montanari, F. Ricci-Tersenghi and G. Semerjian (2008), *Clusters of solutions and replica symmetry breaking in random k -satisfiability*, *Journal of Statistical Mechanics*, P04004
- F. Krzakala, A. Montanari, F. Ricci-Tersenghi, G. Semerjian, L. Zdeborová (2007), *Gibbs States and the Set of Solutions of Random Constraint Satisfaction Problems*, *Proceedings of the National Academy of Sciences*, 104, 10318-10323
- A. Montanari and A. Sinton (2007), *A simple one dimensional glassy Kac model*. *Journal of Statistical Mechanics*, P08004
- S. Franz, A. Montanari (2007), *Analytic determination of dynamical and mosaic length scales in a Kac glass model*, *Journal of Physics A: Mathematical and Theoretical*, 40, F251-F257
- A. Montanari, G. Semerjian (2006), *Rigorous Inequalities between Length and Time Scales in Glassy Systems*, *Journal of Statistical Physics* 125, 23
- M. Mézard, A. Montanari (2006), *Reconstruction on trees and spin glass transition*, *Journal of Statistical Physics* 124, 1317
- A. Montanari, G. Semerjian (2006) *On the dynamics of the glass transition on Bethe lattices*, *Journal of Statistical Physics* 124, 103
- A. Montanari (2005), *Tight bounds for LDPC and LDGM codes under MAP decoding*, *IEEE Transactions on Information Theory*, 51, 3221-3246
- A. Montanari, T. Rizzo (2005), *How to Compute Loop Corrections to Bethe Approximation*, *Journal of Statistical Mechanics*, P10011

- A. Montanari, G. Semerjian (2005), *From Large Scale Rearrangements to Mode Coupling Phenomenology*, Physical Review Letters 94, 247201
- A. Montanari, G. Parisi, F. Ricci-Tersenghi (2004), *Instability of one-step replica-symmetry-broken phase in satisfiability problems*, Journal of Physics A: 37, 2073
- A. Montanari, F. Ricci-Tersenghi (2004), *On the cooling-schedule dependence of the dynamics of mean-field glasses*, Physical Review B 70, 134406 (2004)
- M. Mueller, A. Montanari, M. Mezard (2004), *Glassy phases in Random Heteropolymers with correlated sequences*. Journal of Chemical Physics 120, 11233
- A. Montanari, M. Mueller, M. Mezard (2004), *The Phase Diagram of Random Heteropolymers*, Physical Review Letters 92, 185509
- A. Montanari and F. Ricci-Tersenghi (2003), *Aging dynamics of heterogeneous spin models*, Physical Review B 68, 224429
- G. Semerjian, L. F. Cugliandolo, and A. Montanari (2004), *On the stochastic dynamics of disordered spin models*, Journal of Statistical Physics 115, 493
- A. Montanari and F. Ricci-Tersenghi (2003), *On the nature of the low-temperature phase in discontinuous mean-field spin glasses*, The European Physical Journal B 33, 339
- A. Montanari and F. Ricci-Tersenghi (2003), *A microscopic description of the aging dynamics: fluctuation-dissipation relations, effective temperature and heterogeneities*, Physical Review Letters 90, 017203
- S. Franz, M. Leone, A. Montanari, and F. Ricci-Tersenghi (2002), *The dynamic phase transition for decoding algorithms*, Physical Review E 66, 046120
- A. Montanari and R. Zecchina (2002), *Optimizing searches via rare events*, Physical Review Letters 88, 178701
- A. Montanari (2001), *The glassy phase of Gallager codes*, The European Physical Journal B 23, 121
- S. Caracciolo, A. Montanari, and A. Pelissetto (2001), *Asymptotically free models and discrete non-Abelian groups*, Physics Letters B513, 223-231
- A. Montanari and M. Mézard (2001), *Hairpin formation and elongation of biomolecules*, Physical Review Letters 86, 2178
- A. Montanari and N. Sourlas (2000), *The statistical mechanics of turbo codes*, The European Physical Journal B 18, 107
- A. Montanari (2000), *Turbo codes: the phase transition*, The European Physical Journal B 18, 121

S. Caracciolo, A. Montanari, and A. Pelissetto (2000), *Operator product expansion on the lattice: a numerical test in the two-dimensional non-linear sigma-model*, Journal of High Energy Physics 09, 045

S. Caracciolo, A. Montanari, and A. Pelissetto (1999), *Testing the efficiency of different improvement programs*, Nuclear Physics B 556, 295

Conference Papers

M.A. Erdogdu, A. Montanari (2015), *Convergence rates of sub-sampled Newton methods*, Advances in Neural Information Processing Systems (NIPS)

A. Montanari, D. Reichman, and O. Zeitouni (2015), *On the limitation of spectral methods: From the Gaussian hidden clique problem to rank one perturbations of Gaussian tensors*, Advances in Neural Information Processing Systems (NIPS)

Y. Deshpande and A. Montanari (2015), *Improved sum-of-squares lower bounds for hidden clique and hidden submatrix problems*, Conference on Learning Theory (COLT)

A. Montanari and E. Richard (2014), *A Statistical Model for Tensor PCA*, Advances in Neural Information Processing Systems (NIPS)

Y. Deshpande and A. Montanari (2014), *Sparse PCA via covariance thresholding* Advances in Neural Information Processing Systems (NIPS)

Y. Deshpande, A. Montanari and E. Richard (2014), *Cone-Constrained Principal Component Analysis* Advances in Neural Information Processing Systems (NIPS)

Y. Deshpande and A. Montanari (2014), *Information-theoretically optimal sparse PCA*, Proceedings of the IEEE International Symposium on Information Theory

S. Ioannidis, A. Montanari, Y. Sun (2014) *Learning Mixtures of Linear Classifiers*, ICML, Beijing

S. Ioannidis, A. Montanari, U. Weinsberg, S. Bhagat, N. Fawaz, N. Taft (2014) *Privacy tradeoffs in predictive analytics*, Sigmetrics, Austin, TX

M. Bayati, M. Erdoglu and A. Montanari (2013), *Estimating LASSO Risk and Noise Level* Advances in Neural Information Processing Systems (NIPS)

A. Javanmard and A. Montanari (2013), *Model Selection for High-Dimensional Regression under the Generalized Irrepresentability Condition*, Advances in Neural Information Processing Systems (NIPS)

E. Abbe and A. Montanari (2013), *Conditional Random Fields, Planted Constraint Satisfaction and Entropy Concentration*, Approx/Random

- M. Ibrahimi, Y. Kanoria, M. Kraning, A. Montanari (2013), *The Set of Solutions of Random XORSAT Formulae*, Symposium of Discrete Algorithms (SODA),
- A. Zhang, N. Fawaz, S. Ioannidis, A. Montanari (2012), *Guess who rated this movie: Identifying users through subspace clustering*, Uncertainty in Artificial Intelligence (UAI)
- M. Ibrahimi, A. Montanari and G.S. Moore (2012), *Accelerated time-of-flight mass spectrometry*, IEEE Statistical Signal Processing Workshop
- D. Donoho, A. Javanmard and A. Montanari (2012), *Information-theoretically optimal compressed sensing via spatial coupling and approximate message passing*, Proceedings of the IEEE International Symposium on Information Theory
- A. Javanmard and A. Montanari (2012), *Subsampling at information theoretically optimal rates*, Proceedings of the IEEE International Symposium on Information Theory
- A. Javanmard and A. Montanari (2011), *Localization from incomplete noisy distance measurements*, Proceedings of the IEEE International Symposium on Information Theory
- J. Bento, N. Fawaz, A. Montanari, S. Ioannidis (2011), *Identifying users from their rating patterns*, ACM Conference on Recommender Systems (RecSys)
- S. Korada, A. Montanari and S. Oh (2011), *Gossip PCA*, Sigmetrics, San Jose, USA.
- Y. Kanoria, M. Bayati, C. Borgs, J. Chayes and A. Montanari (2011), *A Natural Dynamics for Bargaining on Exchange Networks*, Proceedings of Symposium of Discrete Algorithms (SODA), San Francisco, USA.
- J. Bento, M. Ibrahimi and A. Montanari (2010), *Learning Networks of Stochastic Differential Equations*, Advances in Neural Information Processing Systems (NIPS)
- M. Bayati, J. Bento and A. Montanari (2010), *The LASSO risk: asymptotic results and real world examples*, Advances in Neural Information Processing Systems (NIPS)
- M. Dietzfelbinger, A. Goerdt, M. Mitzenmacher, A. Montanari, R. Pagh, M. Rink (2010), *Tight Thresholds for Cuckoo Hashing via XORSAT*, International Colloquium on Automata, Languages and Programming Bordeaux, France, July 2010
- S.B. Korada, E. Telatar, A. Montanari and R. Urbanke (2010), *An Empirical Scaling Law for Polar Codes*, Proceedings of the IEEE International Symposium on Information Theory, Austin, TX, June 2010
- M. Bayati and A. Montanari (2010), *The dynamics of message passing on dense graphs, with applications to compressed sensing*, Proceedings of the IEEE International Symposium on Information Theory, Austin, TX, June 2010

- R.H. Keshavan and A. Montanari (2010), *Regularization for Matrix Completion*, Proceedings of the IEEE International Symposium on Information Theory, Austin, TX, June 2010
- Y. Kanoria and A. Montanari (2010), *On the deletion channel with small deletion probability*, Proceedings of the IEEE International Symposium on Information Theory, Austin, TX, June 2010
- Y. Kanoria, S. Mitra, and A. Montanari, (2010) *Statistical Static Timing Analysis using Markov Chain Monte Carlo*, Design, Automation & Test in Europe (DATE)
- S. Oh, A. Karbasi, and A. Montanari (2009), *Sensor Network Localization from Local Connectivity: Performance Analysis for the MDS-MAP Algorithm*, Proceedings of the IEEE Information Theory Workshop, Cairo, Egypt
- D. L. Donoho, A. Maleki, and A. Montanari, (2009), *Message Passing Algorithms for Compressed Sensing: I. Motivation and Construction*, Proceedings of the IEEE Information Theory Workshop, Cairo, Egypt
- D. L. Donoho, A. Maleki, and A. Montanari, (2009), *Message Passing Algorithms for Compressed Sensing: II. Analysis and Validation*, Proceedings of the IEEE Information Theory Workshop, Cairo, Egypt
- J. Bento, A. Montanari, (2009), *Which Graphical Models are Difficult to Learn?*, Advances in Neural Information Processing Systems (NIPS), 2009.
- R. H. Keshavan, A. Montanari, and S. Oh (2009), *Matrix Completion from Noisy Entries*, Advances in Neural Information Processing Systems (NIPS), 2009.
- R.H. Keshavan, A. Montanari and S. Oh (2010), *Low-rank Matrix Completion with Noisy Observations: a Quantitative Comparison*, 46th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- M. Bayati, R.H. Keshavan, A. Montanari, S. Oh, and A. Saberi, *Generating random Tanner-graphs with large girth*, Proceedings of the IEEE Information Theory Workshop, Taormina, Italy
- A. Montanari and A. Saberi (2008), *Convergence to Equilibrium in Local Interaction Games*, 50th Annual IEEE Symposium on Foundations of Computer Science (FOCS), Atlanta, USA.
- R. Keshavan, A. Montanari and S. Oh (2009), *Matrix Completion from a Few Entries*, Proceedings of the IEEE International Symposium on Information Theory, Seoul, Korea.
- S. Jalali, A. Montanari and T. Weissman (2009), *An iterative scheme for near optimal and universal lossy compression*, Proceedings of the Information Theory Workshop, Volos, Greece.

- S. Jalali, A. Montanari and T. Weissman (2009), *An Implementable Scheme for Universal Lossy Compression of Discrete Markov Sources*, Data Compression Conference, Snowbird, Utah, USA.
- M. Bayati, A. Montanari and A. Saberi (2009), *Generating Random Graphs with Large Girth*, Proceedings of Symposium of Discrete Algorithms (SODA), New York, USA.
- Y. Lu, A. Montanari, B. Prabhakar, S. Dharmapurikar, and A. Kabbani (2008), *Counter Braids: A Novel Counter Architecture for Per-Flow Measurement*, Proceedings of ACM Sigmetrics, Annapolis, Maryland, USA (Best paper award).
- R. Keshavan, A. Montanari and S. Oh (2008), *Learning low rank matrices from $O(n)$ entries*, 46th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- Y. Lu, A. Montanari and B. Prabhakar (2008), *Counter Braids: Asymptotic Optimality of the Message Passing Decoding Algorithm*, 46th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- A. Montanari and E. Mossel (2008) *Smooth compression, Gallager bound and Nonlinear sparse graph codes*, Proceedings of the IEEE International Symposium on Information Theory, Toronto, Canada.
- J. Ezri, A. Montanari, S. Oh, and R. Urbanke (2008), *The Slope Scaling Parameter for General Channels, Decoders and Ensembles*, Proceedings of the IEEE International Symposium on Information Theory, Toronto, Canada.
- J. Ezri, A. Montanari, S. Oh, and R. Urbanke (2008), *Computing the threshold shift for general channels*, Proceedings of the IEEE International Symposium on Information Theory, Toronto, Canada.
- A. Gerschenfeld and A. Montanari (2007), *Reconstruction for models on random graphs*, 48th Annual IEEE Symposium on Foundations of Computer Science (FOCS), Providence, USA.
- A. Montanari, F. Ricci-Tersenghi and G. Semerjian (2007), *Solving Constraint Satisfaction Problems through Belief Propagation-guided Decimation*, 45th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- Y. Lu, A. Montanari, C. Measson (2007), *TP Decoding*, 45th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- Y. Lu, A. Montanari and B. Prabhakar (2007), *Detailed Network Measurements Using Sparse Graph Counters: The Theory*, 45th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.

- C. Measson, A. Montanari, and R. Urbanke (2007), *Asymptotic Rate versus Design Rate*, Proceedings of the IEEE International Symposium on Information Theory, Nice, France.
- J. Ezri, A. Montanari, and R. Urbanke (2007), *A Generalization of the Finite-Length Scaling Approach Beyond the BEC*, Proceedings of the IEEE International Symposium on Information Theory, Nice, France.
- A. Montanari (2006), *The Asymptotic Error Floor of LDPC Ensembles Under BP Decoding*, 44th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- J. Ezri, A. Montanari, and R. Urbanke (2006), *Finite-Length Scaling for Gallager A* 44th Allerton Conference on Communications, Control and Computing, Monticello, Illinois, USA.
- A. Montanari, D. Shah (2007) *Counting Good Truth Assignments for Random Satisfiability Formulae*, Proceedings of Symposium of Discrete Algorithms (SODA), New Orleans, USA.
- A. Montanari, D. Tse (2006), *Analysis of Belief Propagation for Non-Linear Problems: The Example of CDMA (or: How to Prove Tanaka's Formula)*, Proceedings of the IEEE Information Theory Workshop, Punta del Este, Uruguay.
- C. Measson, A. Montanari, R. Urbanke (2005), *Maximum a posteriori decoding and turbo codes for general memoryless channels*, Proceedings of the IEEE International Symposium on Information Theory, Adelaide, Australia.
- C. Measson, A. Montanari, R. Urbanke (2005), *Why We Can Not Surpass Capacity: The Matching Condition*, Proceedings of the Allerton Conference on Communication, Control and Computing, Monticello, USA.
- A. Montanari, B. Prabhakar, D. Tse (2005), *Belief Propagation Based Multi-User Detection*, Proceedings of the Allerton Conference on Communication, Control and Computing, Monticello, USA.
- C. Measson, A. Montanari, T. Richardson, R. Urbanke (2004), *Life Above Threshold: From List Decoding to Area Theorem and MSE*, Proceedings of the IEEE Information Theory Workshop, San Antonio, USA.
- A. Amraoui, A. Montanari, T. Richardson, and R. Urbanke (2004), *Finite-Length Scaling and Finite-Length Shift for Low-Density Parity-Check Codes*, Proceedings of the Allerton Conference on Communication, Control and Computing, Monticello, USA.
- C. Di, A. Montanari, and R. Urbanke (2004), *Weight Distributions of LDPC code ensembles: Combinatorics meets statistical physics*, Proceedings of the IEEE International Symposium on Information Theory, Chicago, USA, pag. 102.

C. Measson, A. Montanari, and R. Urbanke (2004), *Maxwell construction: The hidden bridge between maximum likelihood and iterative decoding*, Proceedings of the IEEE International Symposium on Information Theory, Chicago, USA, pag. 225.

A. Amraoui, A. Montanari, T. Richardson, and R. Urbanke (2004), *Further results on finite-length scaling for iteratively decoded LDPC ensembles*, Proceedings of the IEEE International Symposium on Information Theory, Chicago, USA, pag. 103.

A. Montanari (2004), *Tight bounds for LDPC codes under MAP decoding* Proceedings of the IEEE International Symposium on Information Theory, Chicago, USA, pag. 476.

A. Amraoui, A. Montanari, T. Richardson, and R. Urbanke (2003), *Finite-length scaling for iteratively decoded LDPC ensembles*. Proceedings of the Allerton Conference on Communication, Control and Computing, Monticello, USA.

A. Montanari (2001), *Finite-size scaling and metastable states of good codes*. Proceedings of the Allerton Conference on Communication, Control and Computing, Monticello, USA.

A. Montanari and N. Sourlas (2001), *Statistical mechanics and turbo codes*. Proceedings of the 2nd International Symposium on Turbo Codes & Related Topics, Brest, France.

S. Caracciolo, A. Montanari, and A. Pelissetto (2001), *Discrete non-Abelian groups and asymptotically free models*, Proceedings of HEP01 Budapest.

S. Caracciolo, A. Montanari, and A. Pelissetto (2002), *Spin models on Platonic solids and asymptotic freedom* Nuclear Physics Proceedings Supplement 106, 902

S. Caracciolo, A. Montanari, and A. Pelissetto (2000), *Composite operators from operator product expansion: what can go wrong?* Nuclear Physics Proceeding Supplement 83, 875-877

S. Caracciolo, A. Montanari, and A. Pelissetto (1999), *Operator product expansion and non-perturbative renormalization*, Nuclear Physics Proceeding Supplement 73, 273

S. Caracciolo, A. Montanari, and A. Pelissetto (1998), *Improved actions for the two-dimensional σ -model*, Nuclear Physics Proceedings Supplement 63, 916

Papers under Review

A. Dembo, A. Montanari and S. Sen, *Extremal cuts of sparse random graphs*, submitted, 2015

A. Javanmard and A. Montanari *On Online Control of False Discovery Rate*, submitted, 2015

D. Donoho and A. Montanari, *Variance Breakdown of Hüber (M)-Estimators: $n/pm \in (1, \infty)$* , submitted, 2015

A Montanari and S. Sen, *Semidefinite Programs on Sparse Random Graphs*, submitted, 2015

Z. Fan and A. Montanari, *The Spectral Norm of Random Inner-Product Kernel Matrices*, submitted, 2015

Y. Deshpande, E. Abbe, and A. Montanari, *Asymptotic mutual information for the two-groups stochastic block model*, submitted, 2015

A. Javanmard and A. Montanari, *De-biasing the Lasso: Optimal Sample Size for Gaussian Designs*, submitted, 2015