

# References

- ANDERSON, T. (1984). *An Introduction to Multivariate Statistical Analysis*. 2nd ed. Wiley.
- AUDRINO, F. and BÜHLMANN, P. (2003). Volatility estimation with functional gradient descent for very high-dimensional financial time series. *Journal of Computational Finance* **6** 65–89.
- BACH, F. (2008). Consistency of the group Lasso and multiple kernel learning. *Journal of Machine Learning Research* **9** 1179–1225.
- BALL, K. and PAJOR, A. (1990). The entropy of convex bodies with few extreme points. *London Mathematical Society Lecture Note Series* **158** 25–32.
- BANERJEE, O., EL GHAOUI, L. and D'ASPREMONT, A. (2008). Model selection through sparse maximum likelihood estimation for multivariate Gaussian or binary data. *Journal of Machine Learning Research* **9** 485–516.
- BARRON, A., BIRGÉ, L. and MASSART, P. (1999). Risk bounds for model selection via penalization. *Probability Theory and Related Fields* **113** 301–413.
- BARTLETT, P., MENDELSON, S. and NEEMAN, J. (2009).  $\ell_1$ -regularized regression: persistence and oracle inequalities. Manuscript.
- BEER, M. and TAVAZOIE, S. (2004). Predicting gene expression from sequence. *Cell* **117** 185–198.
- BENJAMINI, Y. and HOCHBERG, Y. (1995). Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society Series B* **57** 289–300.
- BENJAMINI, Y. and YEKUTIELI, D. (2001). The control of the false discovery rate in multiple testing under dependency. *Annals of Statistics* **29** 1165–1188.
- BENNET, G. (1962). Probability inequalities for sums of independent random variables. *Journal of the American Statistical Association* **57** 33–45.
- BERTSEKAS, D. (1995). *Nonlinear Programming*. Athena Scientific, Belmont, MA.
- BICKEL, P., RITOV, Y. and TSYBAKOV, A. (2009). Simultaneous analysis of Lasso and Dantzig selector. *Annals of Statistics* **37** 1705–1732.

- BISSANTZ, N., HOHAGE, T., MUNK, A. and RUYMGAART, F. (2007). Convergence rates of general regularization methods for statistical inverse problems and applications. *SIAM Journal of Numerical Analysis* **45** 2610–2636.
- BLANCHARD, G. and ROQUAIN, E. (2008). Two simple sufficient conditions for FDR control. *Electronic Journal of Statistics* **2** 963–992.
- BOUSQUET, O. (2002). A Bennet concentration inequality and its application to suprema of empirical processes. *Comptes Rendus de l'Académie des Sciences, Paris* **334** 495–550.
- BOYD, S. and VANDENBERGHE, L. (2004). *Convex Optimization*. Cambridge University Press, New York.
- BREIMAN, L. (1995). Better subset regression using the nonnegative garrote. *Technometrics* **37** 373–384.
- BREIMAN, L. (1996). Bagging predictors. *Machine Learning* **24** 123–140.
- BREIMAN, L. (1998). Arcing classifiers (with discussion). *Annals of Statistics* **26** 801–849.
- BREIMAN, L. (1999). Prediction games and arcng algorithms. *Neural Computation* **11** 1493–1517.
- BREIMAN, L. (2001). Random forests. *Machine Learning* **45** 5–32.
- BREIMAN, L., FRIEDMAN, J., OLSHEN, R. and STONE, C. (1984). *Classification and Regression Trees*. Wadsworth.
- BROCKWELL, P. and DAVIS, R. (1991). *Time Series: Theory and Methods*. 2nd ed. Springer.
- BÜHLMANN, P. (2004). Bagging, boosting and ensemble methods. In *Handbook of Computational Statistics: Concepts and Methods* (J. Gentle, W. Härdle and Y. Mori, eds.). Springer, 877–907.
- BÜHLMANN, P. (2006). Boosting for high-dimensional linear models. *Annals of Statistics* **34** 559–583.
- BÜHLMANN, P. and HOTHORN, T. (2007). Boosting algorithms: regularization, prediction and model fitting (with discussion). *Statistical Science* **22** 477–505.
- BÜHLMANN, P., KALISCH, M. and MAATHUIS, M. (2010). Variable selection in high-dimensional linear models: partially faithful distributions and the PC-simple algorithm. *Biometrika* **97** 261–278.
- BÜHLMANN, P. and MEIER, L. (2008). Discussion of “One-step sparse estimates in nonconcave penalized likelihood models” (auths H. Zou and R. Li). *Annals of Statistics* **36** 1534–1541.
- BÜHLMANN, P. and YU, B. (2002). Analyzing bagging. *Annals of Statistics* **30** 927–961.
- BÜHLMANN, P. and YU, B. (2003). Boosting with the  $L_2$  loss: regression and classification. *Journal of the American Statistical Association* **98** 324–339.
- BÜHLMANN, P. and YU, B. (2006). Sparse boosting. *Journal of Machine Learning Research* **7** 1001–1024.
- BUNEA, F. (2008). Honest variable selection in linear and logistic regression models via  $\ell_1$  and  $\ell_1 + \ell_2$  penalization. *Electronic Journal of Statistics* **2** 1153–1194.

- BUNEA, F., TSYBAKOV, A. and WEGKAMP, M. (2006). Aggregation and sparsity via  $\ell_1$ -penalized least squares. In *Proceedings of 19th Annual Conference on Learning Theory, COLT 2006. Lecture Notes in Artificial Intelligence*. Springer Verlag.
- BUNEA, F., TSYBAKOV, A. and WEGKAMP, M. (2007a). Aggregation for Gaussian regression. *Annals of Statistics* **35** 1674.
- BUNEA, F., TSYBAKOV, A. and WEGKAMP, M. (2007b). Sparse density estimation with  $\ell_1$  penalties. In *Proceedings of 20th Annual Conference on Learning Theory, COLT 2007. Lecture Notes in Artificial Intelligence*. Springer.
- BUNEA, F., TSYBAKOV, A. and WEGKAMP, M. (2007c). Sparsity oracle inequalities for the Lasso. *Electronic Journal of Statistics* **1** 169–194.
- BURGE, C. (1998). Modeling dependencies in pre-mRNA splicing signals. In *Computational Methods in Molecular Biology* (S. Salzberg, D. Searls and S. Kasif, eds.), chap. 8. Elsevier Science, 129–164.
- BURGE, C. and KARLIN, S. (1997). Prediction of complete gene structures in human genomic DNA. *Journal of Molecular Biology* **268** 78–94.
- CANDÈS, E., ROMBERG, J. and TAO, T. (2006). Stable signal recovery from incomplete and inaccurate measurements. *Communications on Pure and Applied Mathematics* **59** 1207–1223.
- CANDÈS, E. and TAO, T. (2005). Decoding by linear programming. *IEEE Transactions on Information Theory* **51** 4203–4215.
- CANDÈS, E. and TAO, T. (2007). The Dantzig selector: statistical estimation when p is much larger than n. *Annals of Statistics* **35** 2313–2351.
- CARUANA, R. (1997). Multitask learning. *Machine Learning* **28** 41–75.
- CHESNEAU, C. and HEBIRI, M. (2008). Some theoretical results on the grouped variable Lasso. *Mathematical Methods of Statistics* **17** 317–326.
- CONLON, E., LIU, X., LIEB, J. and LIU, J. (2003). Integrating regulatory motif discovery and genome-wide expression analysis. *Proceedings of the National Academy of Sciences* **100** 3339–3344.
- DAHINDEN, C., KALISCH, M. and BÜHLMANN, P. (2010). Decomposition and model selection for large contingency tables. *Biometrical Journal* **52** 233–252.
- DAHINDEN, C., PARMIGIANI, G., EMERICK, M. and BÜHLMANN, P. (2007). Penalized likelihood for sparse contingency tables with an application to full-length cDNA libraries. *BMC Bioinformatics* **8** 1–11.
- DEMPSTER, A., LAIRD, N. and RUBIN, D. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society Series B* **39** 1–38.
- DEVORE, R. and TEMLYAKOV, V. (1996). Some remarks on greedy algorithms. *Advances in Computational Mathematics* **5** 173–187.
- DiMARZIO, M. and TAYLOR, C. (2008). On boosting kernel regression. *Journal of Statistical Planning and Inference* **138** 2483–2498.
- DONOHO, D. (2006). For most large underdetermined systems of linear equations the minimal  $\ell_1$ -norm solution is also the sparsest solution. *Communications on Pure and Applied Mathematics* **59** 797–829.
- DONOHO, D. and ELAD, M. (2003). Uncertainty principles and ideal atomic decomposition. *Proceedings of the National Academy of Sciences* **100** 2197–2202.

- DONOHO, D. and HUO, X. (2001). Uncertainty principles and ideal atomic decomposition. *IEEE Transactions on Information Theory* **47** 2845–2862.
- DONOHO, D. and JOHNSTONE, I. (1994). Ideal spatial adaptation by wavelet shrinkage. *Biometrika* **81** 425–455.
- DUDLEY, R. (1987). Universal Donsker classes and metric entropy. *Annals of Probability* **15** 1306–1326.
- DUDOIT, S., SHAFFER, J. and BOLDRICK, J. (2003). Multiple hypothesis testing in microarray experiments. *Statistical Science* **18** 71–103.
- DÜMBGEN, L., VAN DE GEER, S., VERAAR, M. and WELLNER, J. (2010). Nemirovski's inequalities revisited. *The American Mathematical Monthly* **117** 138–160.
- EDWARDS, D. (2000). *Introduction to Graphical Modelling*. 2nd ed. Springer Verlag.
- EFRON, B. (2004). The estimation of prediction error: covariance penalties and cross-validation. *Journal of the American Statistical Association* **99** 619–632.
- EFRON, B., HASTIE, T., JOHNSTONE, I. and TIBSHIRANI, R. (2004). Least angle regression (with discussion). *Annals of Statistics* **32** 407–451.
- FAN, J., FENG, Y. and WU, Y. (2009a). Network exploration via the adaptive Lasso and SCAD penalties. *Annals of Applied Statistics* **3** 521–541.
- FAN, J. and LI, R. (2001). Variable selection via nonconcave penalized likelihood and its oracle properties. *Journal of the American Statistical Association* **96** 1348–1360.
- FAN, J. and Lv, J. (2008). Sure independence screening for ultra-high dimensional feature space (with discussion). *Journal of the Royal Statistical Society Series B* **70** 849–911.
- FAN, J., SAMWORTH, R. and WU, Y. (2009b). Ultrahigh dimensional variable selection: beyond the linear model. *Journal of Machine Learning Research* **10** 1989–2014.
- FISHER, R. (1924). The distribution of the partial correlation coefficient. *Metron* **3** 329–332.
- FREEDMAN, D. (1977). A remark on the difference between sampling with and without replacement. *Journal of the American Statistical Association* **72** 681.
- FREUND, Y. and SCHAPIRE, R. (1996). Experiments with a new boosting algorithm. In *Proceedings of the Thirteenth International Conference on Machine Learning*. Morgan Kaufmann Publishers Inc., San Francisco, CA.
- FREUND, Y. and SCHAPIRE, R. (1997). A decision-theoretic generalization of on-line learning and an application to boosting. *Journal of Computer and System Sciences* **55** 119–139.
- FRIEDMAN, J. (2001). Greedy function approximation: a gradient boosting machine. *Annals of Statistics* **29** 1189–1232.
- FRIEDMAN, J., HASTIE, T., HÖFLING, H. and TIBSHIRANI, R. (2007a). Pathwise coordinate optimization. *Annals of Applied Statistics* **1** 302–332.
- FRIEDMAN, J., HASTIE, T. and TIBSHIRANI, R. (2000). Additive logistic regression: a statistical view of boosting (with discussion). *Annals of Statistics* **28** 337–407.
- FRIEDMAN, J., HASTIE, T. and TIBSHIRANI, R. (2007b). Sparse inverse covariance estimation with the graphical Lasso. *Biostatistics* **9** 432–441.
- FRIEDMAN, J., HASTIE, T. and TIBSHIRANI, R. (2010). Regularized paths for generalized linear models via coordinate descent. *Journal of Statistical Software* **33** 1–22.

- FU, W. (1998). Penalized regressions: the Bridge versus the Lasso. *Journal of Computational and Graphical Statistics* **7** 397–416.
- FUCHS, J. (2004). On sparse representations in arbitrary redundant bases. *IEEE Transactions on Information Theory* **50** 1341–1344.
- GATU, C., YANEV, P. and KONTOGHIORGHES, E. (2007). A graph approach to generate all possible regression submodels. *Computational Statistics & Data Analysis* **52** 799–815.
- GREEN, P. and SILVERMAN, B. (1994). *Nonparametric Regression and Generalized Linear Models: A Roughness Penalty Approach*. Chapman & Hall, New York.
- GREENSTEIN, E. (2006). Best subset selection, persistence in high dimensional statistical learning and optimization under  $\ell_1$  constraint. *Annals of Statistics* **34** 2367–2386.
- GREENSTEIN, E. and RITOY, Y. (2004). Persistence in high-dimensional predictor selection and the virtue of over-parametrization. *Bernoulli* **10** 971–988.
- GUÉDON, O., MENDELSON, S., PAJOR, A. and TOMCZAK-JAEGERMANN, N. (2007). Subspaces and orthogonal decompositions generated by bounded orthogonal systems. *Positivity* **11** 269–283.
- HASTIE, T. and TIBSHIRANI, R. (1990). *Generalized Additive Models*. Chapman & Hall, London.
- HASTIE, T., TIBSHIRANI, R. and FRIEDMAN, J. (2001). *The Elements of Statistical Learning; Data Mining, Inference and Prediction*. Springer, New York.
- HEBIRI, M. and VAN DE GEER, S. (2010). The smooth Lasso and other  $\ell_1 + \ell_2$ -penalized methods. ArXiv:1003.4885.
- HOEFFDING, W. (1963). Probability inequalities for sums of bounded variables. *Journal of the American Statistical Association* **58** 13–30.
- HOFMANN, M., GATU, C. and KONTOGHIORGHES, E. (2007). Efficient algorithms for computing the best subset regression models for large-scale problems. *Computational Statistics & Data Analysis* **52** 16–29.
- HOTELLING, H. (1953). New light on the correlation coefficient and its transforms. *Journal of the Royal Statistical Society Series B* **15** 193–232.
- HUANG, J., MA, S. and ZHANG, C.-H. (2008). Adaptive Lasso for sparse high-dimensional regression models. *Statistica Sinica* **18** 1603–1618.
- HUANG, J. and ZHANG, T. (2010). The benefit of group sparsity. *Annals of Statistics* **38** 1978–2004.
- KALISCH, M. and BÜHLMANN, P. (2007). Estimating high-dimensional directed acyclic graphs with the PC-algorithm. *Journal of Machine Learning Research* **8** 613–636.
- KING, G. and ZENG, L. (2001). Logistic regression in rare events data. *Political Analysis* **9** 137–163.
- KOLTCHINSKII, V. (2009a). Sparsity in penalized empirical risk minimization. *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques* **45** 7–57.
- KOLTCHINSKII, V. (2009b). The Dantzig selector and sparsity oracle inequalities. *Bernoulli* **15** 799–828.
- KOLTCHINSKII, V., TSYBAKOV, A. and LOUNICI, K. (2010b). Nuclear norm penalization and optimal rates for noisy low rank matrix completion. ArXiv:1011.6256.

- KOLTCHINSKII, V. and YUAN, M. (2008). Sparse recovery in large ensembles of kernel machines. In *Proceedings of the 21st Annual Conference on Learning Theory, COLT 2008. Lecture Notes in Artificial Intelligence*. Springer.
- KOLTCHINSKII, V. and YUAN, M. (2010). Sparsity in multiple kernel learning. *Annals of Statistics* **38** 3660–3695.
- LAURITZEN, S. (1996). *Graphical Models*. Oxford University Press.
- LEDOUX, M. (1996). Talagrand deviation inequalities for product measures. *ESAIM: Probability and Statistics* **1** 63–87.
- LEDOUX, M. and TALAGRAND, M. (1991). *Probability in Banach Spaces: Isoperimetry and Processes*. Springer Verlag, New York.
- LEEB, H. and PÖTSCHER, B. (2003). The finite-sample distribution of post-model-selection estimators and uniform versus nonuniform approximations. *Econometric Theory* **19** 100–142.
- LEEB, H. and PÖTSCHER, B. (2005). Model selection and inference: facts and fiction. *Econometric Theory* **21** 21–59.
- LIU, X., BRUTLAG, D. and LIU, J. (2002). An algorithm for finding protein-DNA binding sites with applications to chromatin-immunoprecipitation microarray experiments. *Nature Biotechnology* **20** 835–839.
- LOUBES, J.-M. and VAN DE GEER, S. (2002). Adaptive estimation in regression, using soft thresholding type penalties. *Statistica Neerlandica* **56** 453–478.
- LOUNICI, K. (2008). Sup-norm convergence rate and sign concentration property of Lasso and Dantzig estimators. *Electronic Journal of Statistics* **2** 90–102.
- LOUNICI, K., PONTIL, M., TSYBAKOV, A. and VAN DE GEER, S. (2009). Taking advantage of sparsity in multi-task learning. In *Proceedings of 22th Annual Conference on Learning Theory, COLT 2009. Lecture Notes in Artificial Intelligence*. Springer.
- LOUNICI, K., PONTIL, M., VAN DE GEER, S. and TSYBAKOV, A. (2010). Oracle inequalities and optimal inference under group sparsity. ArXiv:1007.1771.
- MALLAT, S. and ZHANG, Z. (1993). Matching pursuits with time-frequency dictionaries. *IEEE Transactions on Signal Processing* **41** 3397–3415.
- MASSART, P. (2000a). About the constants in Talagrand's concentration inequalities for empirical processes. *Annals of Probability* **28** 863–884.
- MASSART, P. (2000b). Some applications of concentration inequalities to statistics. *Annales de la Faculté des Sciences de Toulouse* **9** 245–303.
- MCCULLAGH, P. and NELDER, J. (1989). *Generalized Linear Models*. 2nd ed. Chapman & Hall, London.
- MCLACHLAN, G. and PEEL, D. (2000). *Finite Mixture Models*. Wiley, New York.
- MEIER, L. and BÜHLMANN, P. (2007). Smoothing  $\ell_1$ -penalized estimators for high-dimensional time-course data. *Electronic Journal of Statistics* **1** 597–615.
- MEIER, L., VAN DE GEER, S. and BÜHLMANN, P. (2008). The group Lasso for logistic regression. *Journal of the Royal Statistical Society Series B* **70** 53–71.
- MEIER, L., VAN DE GEER, S. and BÜHLMANN, P. (2009). High-dimensional additive modeling. *Annals of Statistics* **37** 3779–3821.
- MEINSHAUSEN, N. (2007). Relaxed Lasso. *Computational Statistics & Data Analysis* **52** 374–393.

- MEINSHAUSEN, N. (2008). A note on the Lasso for graphical Gaussian model selection. *Statistics and Probability Letters* **78** 880–884.
- MEINSHAUSEN, N. and BÜHLMANN, P. (2006). High-dimensional graphs and variable selection with the Lasso. *Annals of Statistics* **34** 1436–1462.
- MEINSHAUSEN, N. and BÜHLMANN, P. (2010). Stability selection (with discussion). *Journal of the Royal Statistical Society Series B* **72** 417–473.
- MEINSHAUSEN, N., MEIER, L. and BÜHLMANN, P. (2009). P-values for high-dimensional regression. *Journal of the American Statistical Association* **104** 1671–1681.
- MEINSHAUSEN, N. and YU, B. (2009). Lasso-type recovery of sparse representations for high-dimensional data. *Annals of Statistics* **37** 246–270.
- NARDI, Y. and RINALDO, A. (2008). On the asymptotic properties of the group Lasso estimator for linear models. *Electronic Journal of Statistics* **2** 605–633.
- OSBORNE, M., PRESNELL, B. and TURLACH, B. (2000). A new approach to variable selection in least squares problems. *IMA Journal of Numerical Analysis* **20** 389–403.
- PINHEIRO, J. and BATES, D. (2000). *Mixed-Effects Models in S and S-Plus*. Springer, New York.
- POLLARD, D. (1984). *Convergence of Stochastic Processes*. Springer.
- POLLARD, D. (1990). *Empirical Processes: Theory and Applications*. IMS Lecture Notes.
- RAVIKUMAR, P., LAFFERTY, J., LIU, H. and WASSERMAN, L. (2009a). Sparse additive models. *Journal of the Royal Statistical Society Series B* **71** 1009–1030.
- RAVIKUMAR, P., WAINWRIGHT, M. and LAFFERTY, J. (2009b). High-dimensional Ising model selection using  $\ell_1$ -regularized logistic regression. *Annals of Statistics* **38** 1287–1319.
- RAVIKUMAR, P., WAINWRIGHT, M., RASKUTTI, G. and YU, B. (2008). High-dimensional covariance estimation by minimizing  $\ell_1$ -penalized log-determinant divergence. ArXiv:0811.3628.
- RIDGEWAY, G. (1999). The state of boosting. *Computing Science and Statistics* **31** 172–181.
- ROSSET, S. and ZHU, J. (2007). Piecewise linear regularized solution paths. *Annals of Statistics* **35** 1012–1030.
- ROTHMAN, A., BICKEL, P., LEVINA, E. and ZHU, J. (2008). Sparse permutation invariant covariance estimation. *Electronic Journal of Statistics* **2** 494–515.
- SCHAPIRE, R. (2002). The boosting approach to machine learning: an overview. In *MSRI Workshop on Nonlinear Estimation and Classification* (D. Denison, M. Hansen, C. Holmes, B. Mallick and B. Yu, eds.). Springer.
- SCHELDDORFER, J., BÜHLMANN, P. and VAN DE GEER, S. (2011). Estimation for high-dimensional linear mixed-effects models using  $\ell_1$ -penalization. *Scandinavian Journal of Statistics* (to appear).
- SCHMID, M. and HOTHORN, T. (2008). Boosting additive models using component-wise p-splines as base-learners. *Computational Statistics & Data Analysis* **53** 298–311.
- SCHÖLKOPF, B. and SMOLA, A. (2002). *Learning with Kernels: Support Vector Machines, Regularization, Optimization, and Beyond*. MIT Press, Cambridge.

- SHawe-Taylor, J. and Sun, S. (2010). Discussion of “Stability selection” (auths N. Meinshausen and P. Bühlmann). *Journal of the Royal Statistical Society Series B* **72** 451–453.
- Southwell, R. (1946). *Relaxation Methods in Theoretical Physics*. Oxford University Press.
- Spirites, P., Glymour, C. and Scheines, R. (2000). *Causation, Prediction, and Search*. 2nd ed. MIT Press.
- Städler, N., Bühlmann, P. and van de Geer, S. (2010).  $\ell_1$ -penalization for mixture regression models (with discussion). *Test* **19** 209–285.
- Sun, T. and Zhang, C.-H. (2010). Discussion of “ $\ell_1$ -penalization for mixture regression models” (auths N. Städler, P. Bühlmann and S. van de Geer). *Test* **19** 270–275.
- Talagrand, M. (1995). Concentration of measure and isoperimetric inequalities in product spaces. *Publications Mathématiques de l’IHES* **81** 73–205.
- Talagrand, M. (2005). *The generic chaining: upper and lower bounds of stochastic processes*. Springer Verlag.
- Tarigan, B. and van de Geer, S. (2006). Classifiers of support vector machine type with  $\ell_1$  complexity regularization. *Bernoulli* **12** 1045–1076.
- Temlyakov, V. (2000). Weak greedy algorithms. *Advances in Computational Mathematics* **12** 213–227.
- Temlyakov, V. (2008). Nonlinear methods of approximation. *Foundations of Computational Mathematics* **3** 33–107.
- Tibshirani, R. (1996). Regression analysis and selection via the Lasso. *Journal of the Royal Statistical Society Series B* **58** 267–288.
- Tropp, J. (2004). Greed is good: algorithmic results for sparse approximation. *IEEE Transactions on Information Theory* **50** 2231–2242.
- Tropp, J. and Gilbert, A. (2007). Signal recovery from random measurements via orthogonal matching pursuit. *IEEE Transactions on Information Theory* **53** 4655–4666.
- Tseng, P. (2001). Convergence of a block coordinate descent method for nonsmooth separable minimization. *Journal of Optimization Theory and Applications* **109** 475–494.
- Tseng, P. and Yun, S. (2009). A coordinate gradient descent method for nonsmooth separable minimization. *Mathematical Programming, Series B* **117** 387–423.
- Tsybakov, A. (2004). Optimal aggregation of classifiers in statistical learning. *Annals of Statistics* **32** 135–166.
- Tukey, J. (1977). *Exploratory Data Analysis*. Addison-Wesley, Reading, MA.
- Van de Geer, S. (2000). *Empirical Processes in M-Estimation*. Cambridge University Press.
- Van de Geer, S. (2001). Least squares estimation with complexity penalties. *Mathematical Methods of Statistics* **10** 355–374.
- Van de Geer, S. (2002). M-estimation using penalties or sieves. *Journal of Statistical Planning and Inference* **32** 55–69.
- Van de Geer, S. (2007). The deterministic Lasso. In *JSM proceedings, 2007*, 140. American Statistical Association.

- VAN DE GEER, S. (2008). High-dimensional generalized linear models and the Lasso. *Annals of Statistics* **36** 614–645.
- VAN DE GEER, S. (2010). The Lasso with within group structure. In *IMS Collections: Festschrift for Jana Jurečková*. IMS, 235–244.
- VAN DE GEER, S. and BÜHLMANN, P. (2009). On the conditions used to prove oracle results for the Lasso. *Electronic Journal of Statistics* **3** 1360–1392.
- VAN DE GEER, S., BÜHLMANN, P. and ZHOU, S. (2010). The adaptive and thresholded Lasso for potentially misspecified models. ArXiv:1001.5176.
- VAN DE WIEL, M., BERKHOF, J. and VAN WIERINGEN, W. (2009). Testing the prediction error difference between two predictors. *Biostatistics* **10** 550–560.
- VAN DER VAART, A. and WELLNER, J. (1996). *Weak Convergence and Empirical Processes*. Springer Series in Statistics, Springer-Verlag, New York.
- VAPNIK, V. (2000). *The Nature of Statistical Learning Theory*. 2nd ed. Statistics for Engineering and Information Science, Springer-Verlag, New York.
- VIENS, F. and VIZCARRA, A. (2007). Supremum concentration inequality and modulus of continuity for sub-nth chaos processes. *Journal of Functional Analysis* **248** 1–26.
- WAHBA, G. (1990). *Spline models for observational data*. CBMS-NSF Regional Conference Series in Applied Mathematics, 59, SIAM.
- WAINWRIGHT, M. (2007). Information-theoretic limitations on sparsity recovery in the high-dimensional and noisy setting. *IEEE Transactions on Information Theory* **55** 5728–5741.
- WAINWRIGHT, M. (2009). Sharp thresholds for high-dimensional and noisy sparsity recovery using  $\ell_1$ -constrained quadratic programming (Lasso). *IEEE Transactions on Information Theory* **55** 2183–2202.
- WALLACE, D. (1959). Bounds for normal approximations of Student's t and the chi-square distributions. *Annals of Mathematical Statistics* **30** 1121–1130.
- WASSERMANN, L. and ROEDER, K. (2009). High dimensional variable selection. *Annals of Statistics* **37** 2178–2201.
- WEST, M., BLANCHETTE, C., DRESSMAN, H., HUANG, E., ISHIDA, S., SPANG, R., ZUZAN, H., OLSON, J., MARKS, J. and NEVINS, J. (2001). Predicting the clinical status of human breast cancer by using gene expression profiles. *Proceedings of the National Academy of Sciences* **98** 11462–11467.
- WILLE, A. and BÜHLMANN, P. (2006). Low-order conditional independence graphs for inferring genetic networks. *Statistical Applications in Genetics and Molecular Biology* **5** 1–32.
- WILLE, A., ZIMMERMANN, P., VRANOVÁ, E., FÜRHLZ, A., LAULE, O., BLEULER, S., HENNIG, L., PRELIĆ, A., VON ROHR, P., THIELE, L., ZITZLER, E., GRUISEM, W. and BÜHLMANN, P. (2004). Sparse graphical Gaussian modeling for genetic regulatory network inference. *Genome Biology* **5** R92, 1–13.
- WOOD, S. (2006). *Generalized Additive Models: An Introduction with R*. Chapman & Hall.
- WU, C. (1983). On the convergence properties of the EM algorithm. *Annals of Statistics* **11**.
- YAO, Y., ROSASCO, L. and CAPONNETTO, A. (2007). On early stopping in gradient descent learning. *Constructive Approximation* **26** 289–315.

- YEO, G. and BURGE, C. (2004). Maximum entropy modeling of short sequence motifs with applications to RNA splicing signals. *Journal of Computational Biology* **11** 475–494.
- YUAN, M. and LIN, Y. (2006). Model selection and estimation in regression with grouped variables. *Journal of the Royal Statistical Society Series B* **68** 49.
- ZHANG, C. (2010). Nearly unbiased variable selection under minimax concave penalty. *Annals of Statistics* **38** 894–942.
- ZHANG, C. and HUANG, J. (2008). The sparsity and bias of the Lasso selection in high-dimensional linear regression. *Annals of Statistics* **36** 1567–1594.
- ZHANG, T. (2009a). On the consistency of feature selection using greedy least squares regression. *Journal of Machine Learning Research* **10** 555–568.
- ZHANG, T. (2009b). Some sharp performance bounds for least squares regression with L1 regularization. *Annals of Statistics* **37** 2109–2144.
- ZHAO, P. and YU, B. (2006). On model selection consistency of Lasso. *Journal of Machine Learning Research* **7** 2541–2563.
- ZHOU, S. (2009a). Restricted eigenvalue conditions on subgaussian random matrices. ArXiv:0912.4045.
- ZHOU, S. (2009b). Thresholding procedures for high dimensional variable selection and statistical estimation. In *Advances in Neural Information Processing Systems 22*. MIT Press.
- ZHOU, S. (2010). Thresholded Lasso for high dimensional variable selection and statistical estimation. ArXiv:1002.1583.
- ZHOU, S., RÜTIMANN, P., XU, M. and BÜHLMANN, P. (2010). High-dimensional covariance estimation based on Gaussian graphical models. ArXiv:1009.0530.
- ZOU, H. (2006). The adaptive Lasso and its oracle properties. *Journal of the American Statistical Association* **101** 1418–1429.
- ZOU, H. and HASTIE, T. (2005). Regularization and variable selection via the Elastic Net. *Journal of the Royal Statistical Society Series B* **67** 301–320.
- ZOU, H., HASTIE, T. and TIBSHIRANI, R. (2007). On the “degrees of freedom” of the Lasso. *Annals of Statistics* **35** 2173–2192.
- ZOU, H. and LI, R. (2008). One-step sparse estimates in nonconcave penalized likelihood models (with discussion). *Annals of Statistics* **36** 1509–1566.