

# Bibliography

- Abramowitz, Milton and Irene A. Stegun (eds.) (1964). *Handbook of Mathematical Functions*. Washington, D.C.: National Bureau of Standards. URL <http://www.math.sfu.ca/~cbm/aands/>.
- Algoet, Paul (1992). “Universal Schemes for Prediction, Gambling and Portfolio Selection.” *The Annals of Probability*, **20**: 901–941. URL <http://links.jstor.org/sici?&sici=0091-1798%28199204%2920%3A2%3C901%3AUSFPGA%3E2.0.CO%3B2-J>. Correction, *The Annals of Probability*, **23** (1995): 474–478, JSTOR.
- Algoet, Paul H. and Thomas M. Cover (1988). “A Sandwich Proof of the Shannon-McMillan-Breiman Theorem.” *The Annals of Probability*, **16**: 899–909. URL <http://links.jstor.org/sici?&sici=0091-1798%28198804%2916%3A2%3C899%3AASPOTS%3E2.0.CO%3B2-M>.
- Amari, Shun-ichi and Hiroshi Nagaoka (1993/2000). *Methods of Information Geometry*. Providence, Rhode Island: American Mathematical Society. Translated by Daishi Harada. As *Joho Kika no Hoho*, Tokyo: Iwanami Shoten Publishers.
- Arnol'd, V. I. (1973). *Ordinary Differential Equations*. Cambridge, Massachusetts: MIT Press. Trans. Richard A. Silverman from *Obyknovennye differentsiyal'nye Uravneniya*.
- (1978). *Mathematical Methods of Classical Mechanics*. Berlin: Springer-Verlag. First published as *Matematicheskie metody klassicheskoi mekhaniki*, Moscow: Nauka, 1974.
- Arnol'd, V. I. and A. Avez (1968). *Ergodic Problems of Classical Mechanics*. Mathematical Physics Monograph Series. New York: W. A. Benjamin.
- Badino, Massimiliano (2004). “An Application of Information Theory to the Problem of the Scientific Experiment.” *Synthese*, **140**: 355–389. URL <http://philsci-archive.pitt.edu/archive/00001830/>.
- Baldi, Pierre and Søren Brunak (2001). *Bioinformatics: The Machine Learning Approach*. Cambridge, Massachusetts: MIT Press, 2nd edn.

- Banks, J., J. Brooks, G. Cairns, G. Davis and P. Stacy (1992). "On Devaney's Definition of Chaos." *American Mathematical Monthly*, **99**: 332–334.
- Bartlett, M. S. (1955). *An Introduction to Stochastic Processes, with Special Reference to Methods and Applications*. Cambridge, England: Cambridge University Press.
- Basharin, Gely P., Amy N. Langville and Valeriy A. Naumov (2004). "The Life and Work of A. A. Markov." *Linear Algebra and its Applications*, **386**: 3–26. URL <http://decision.cs1.uiuc.edu/~meyn/pages/Markov-Work-and-life.pdf>.
- Biggers, Earl Derr (1928). *Behind That Curtain*. New York: Grosset and Dunlap.
- Billingsley, Patrick (1961). *Statistical Inference for Markov Processes*. Chicago: University of Chicago Press.
- Blackwell, David and M. A. Girshick (1954). *Theory of Games and Statistical Decisions*. New York: Wiley.
- Bosq, Denis (1998). *Nonparametric Statistics for Stochastic Processes: Estimation and Prediction*. Berlin: Springer-Verlag, 2nd edn.
- Caires, S. and J. A. Ferreira (2005). "On the Non-parametric Prediction of Conditionally Stationary Sequences." *Statistical Inference for Stochastic Processes*, **8**: 151–184. Correction, vol. 9 (2006), pp. 109–110.
- Charniak, Eugene (1993). *Statistical Language Learning*. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam (1957). *Syntactic Structures*. The Hague: Mouton.
- Courant, Richard and David Hilbert (1953). *Methods of Mathematical Physics*. New York: Wiley.
- Cover, Thomas M. and Joy A. Thomas (1991). *Elements of Information Theory*. New York: Wiley.
- Cramér, Harald (1945). *Mathematical Methods of Statistics*. Uppsala: Almqvist and Wiksell.
- Dembo, Amir and Ofer Zeitouni (1998). *Large Deviations Techniques and Applications*. New York: Springer Verlag, 2nd edn.
- Devaney, Robert L. (1992). *A First Course in Chaotic Dynamical Systems: Theory and Experiment*. Reading, Mass.: Addison-Wesley.
- Doob, Joseph L. (1953). *Stochastic Processes*. Wiley Publications in Statistics. New York: Wiley.

- Doukhan, Paul (1995). *Mixing: Properties and Examples*. New York: Springer-Verlag.
- Durbin, James and Siem Jan Koopman (2001). *Time Series Analysis by State Space Methods*. Oxford: Oxford University Press.
- Durrett, Richard (1991). *Probability: Theory and Examples*. Belmont, California: Duxbury.
- Dynkin, E. B. (1978). “Sufficient statistics and extreme points.” *Annals of Probability*, **6**: 705–730. URL <http://links.jstor.org/sici?&sici=0091-1798%28197810%296%3A5%3C705%3ASSAEP%3E2.0.C0%3B2-D>.
- Eckmann, Jean-Pierre and David Ruelle (1985). “Ergodic Theory of Chaos and Strange Attractors.” *Reviews of Modern Physics*, **57**: 617–656.
- Eichinger, L., J. A. Pachebat, G. Glockner *et al.* (2005). “The genome of the social amoeba *Dictyostelium discoideum*.” *Nature*, **435**: 43–57.
- Ellis, Richard S. (1985). *Entropy, Large Deviations, and Statistical Mechanics*. Berlin: Springer-Verlag.
- (1988). “Large Deviations for the Empirical Measure of a Markov Chain with an Application to the Multivariate Empirical Measure.” *The Annals of Probability*, **16**: 1496–1508. URL <http://links.jstor.org/sici?&sici=0091-1798%28198810%2916%3A4%3C1496%3ALDFTEM%3E2.0.C0%3B2-S>.
- Embrechts, Paul and Makoto Maejima (2002). *Selfsimilar processes*. Princeton, New Jersey: Princeton University Press.
- Ethier, Stewart N. and Thomas G. Kurtz (1986). *Markov Processes: Characterization and Convergence*. New York: Wiley.
- Eyink, Gregory L. (1996). “Action principle in nonequilibrium statistical dynamics.” *Physical Review E*, **54**: 3419–3435.
- Fisher, Ronald Aylmer (1958). *The Genetical Theory of Natural Selection*. New York: Dover, 2nd edn. First edition published Oxford: Clarendon Press, 1930.
- Forster, Dieter (1975). *Hydrodynamic Fluctuations, Broken Symmetry, and Correlation Functions*. Reading, Massachusetts: Benjamin Cummings.
- Freidlin, M. I. and A. D. Wentzell (1998). *Random Perturbations of Dynamical Systems*. Berlin: Springer-Verlag, 2nd edn. First edition first published as *Fluktuatsii v dinamicheskikh sistemakh pod deistviem malykh sluchainykh vozmushchenii*, Moscow: Nauka, 1979.
- Frisch, Uriel (1995). *Turbulence: The Legacy of A. N. Kolmogorov*. Cambridge, England: Cambridge University Press.

- Fristedt, Bert and Lawrence Gray (1997). *A Modern Approach to Probability Theory*. Probability Theory and Its Applications. Boston: Birkhäuser.
- Gikhman, I. I. and A. V. Skorokhod (1965/1969). *Introduction to the Theory of Random Processes*. Philadelphia: W. B. Saunders. Trans. Richard Silverman from *Vvedenie v teoriu sluchainikh protsessov*, Moscow: Nauka; reprinted Mineola, New York: Dover, 1996.
- Gillespie, John H. (1998). *Population Genetics: A Concise Guide*. Baltimore: Johns Hopkins University Press.
- Gnedenko, B. V. and A. N. Kolmogorov (1954). *Limit Distributions for Sums of Independent Random Variables*. Cambridge, Massachusetts: Addison-Wesley. Translated from the Russian and annotated by K. L. Chung, with an Appendix by J. L. Doob.
- Gray, Robert M. (1988). *Probability, Random Processes, and Ergodic Properties*. New York: Springer-Verlag. URL <http://ee-www.stanford.edu/~gray/arp.html>.
- (1990). *Entropy and Information Theory*. New York: Springer-Verlag. URL <http://www-ee.stanford.edu/~gray/it.html>.
- Haldane, J. B. S. (1932). *The Causes of Evolution*. Longmans, Green and Co. Reprinted Princeton: Princeton University Press, 1990.
- Halmos, Paul R. (1950). *Measure Theory*. New York: Van Nostrand.
- Hille, Einer (1948). *Functional Analysis and Semi-Groups*. New York: American Mathematical Society.
- Howard, Ronald A. (1971). *Markov Models*, vol. 1 of *Dynamic Probabilistic Systems*. New York: Wiley.
- Ibragimov, I. A. and R. Z. Has'minskii (1979/1981). *Statistical Estimation: Asymptotic Theory*. New York: Springer-Verlag. Translated by Samuel Kotz from *Asimptoticheskaya teoriya otsenivaniia*, Moscow: Nauka.
- Jakubowski, A. and Z. S. Szewczak (1990). “A normal convergence criterion for strongly mixing stationary sequences.” In *Limit Theorems in Probability and Statistics* (I. Berkes and Endre Csáki and Pal Révész, eds.), vol. 57 of *Colloquia mathematica Societatis Janos Bolyai*, pp. 281–292. New York: North-Holland. Proceedings of the Third Hungarian Colloquium on Limit Theorems in Probability and Statistics, held in Pécs, Hungary, July 3–7, 1989 and sponsored by the Bolyai János Mathematical Society.
- Kac, Mark (1947). “On the Notion of Recurrence in Discrete Stochastic Processes.” *Bulletin of the American Mathematical Society*, **53**: 1002–1010. Reprinted in Kac (1979), pp. 231–239.

- (1979). *Probability, Number Theory, and Statistical Physics: Selected Papers*. Cambridge, Massachusetts: MIT Press. Edited by K. Baclawski and M. D. Donsker.
- Kallenberg, Olav (2002). *Foundations of Modern Probability*. New York: Springer-Verlag, 2nd edn.
- Kass, Robert E. and Paul W. Vos (1997). *Geometrical Foundations of Asymptotic Inference*. Wiley Series in Probability and Statistics. New York: Wiley.
- Katzenelson, I. and B. Weiss (1982). “A simple proof of some ergodic theorems.” *Israel Journal of Mathematics*, **42**: 291–296.
- Keizer, Joel (1987). *Statistical Thermodynamics of Nonequilibrium Processes*. New York: Springer-Verlag.
- Khinchin, Aleksandr Iakovlevich (1949). *Mathematical Foundations of Statistical Mechanics*. New York: Dover Publications. Translated from the Russian by G. Gamow.
- Knight, Frank B. (1975). “A Predictive View of Continuous Time Processes.” *Annals of Probability*, **3**: 573–596. URL <http://links.jstor.org/sici? sici=0091-1798%28197508%293%3A4%3C573%3AAPVOCT%3E2.0.CO%3B2-N>.
- (1992). *Foundations of the Prediction Process*. Oxford: Clarendon Press.
- Kolmogorov, A. N. and S. V. Fomin (1975). *Introductory Real Analysis*. New York: Dover. Translated and edited by Richard A. Silverman.
- Kontoyiannis, I., P. H. Algoet, Yu. M. Suhov and A. J. Wyner (1998). “Non-parametric entropy estimation for stationary processes and random fields, with applications to English text.” *IEEE Transactions on Information Theory*, **44**: 1319–1327. URL <http://www.dam.brown.edu/people/yiannis/PAPERS/suhov2.pdf>.
- Küchler, Uwe and Michael Sørensen (1997). *Exponential Families of Stochastic Processes*. Berlin: Springer-Verlag.
- Kulhavý, Rudolf (1996). *Recursive Nonlinear Estimation: A Geometric Approach*, vol. 216 of *Lecture Notes in Control and Information Sciences*. Berlin: Springer-Verlag.
- Kullback, Solomon (1968). *Information Theory and Statistics*. New York: Dover Books, 2nd edn.
- Kurtz, Thomas G. (1970). “Solutions of Ordinary Differential Equations as Limits of Pure Jump Markov Processes.” *Journal of Applied Probability*, **7**: 49–58. URL <http://links.jstor.org/sici? sici=0021-9002%28197004%297%3A1%3C49%3AS00DEA%3E2.0.CO%3B2-P>.

- (1971). “Limit Theorems for Sequences of Jump Markov Processes Approximating Ordinary Differential Processes.” *Journal of Applied Probability*, **8**: 344–356. URL <http://links.jstor.org/sici?doi=0021-9002%28197106%298%3A2%3C344%3ALTFS0J%3E2.0.CO%3B2-M>.
- (1975). “Semigroups of Conditioned Shifts and Approximation of Markov Processes.” *The Annals of Probability*, **3**: 618–642. URL <http://links.jstor.org/sici?doi=0091-1798%28197508%293%3A4%3C618%3ASOCSAA%3E2.0.CO%3B2-C>.
- Kushner, Harold J. (1984). *Approximation and Weak Convergence Methods for Random Processes, with Applications to Stochastic Systems Theory*. Cambridge, Massachusetts: MIT Press.
- Lamperti, John (1962). “Semi-Stable Stochastic Processes.” *Transactions of the American Mathematical Society*, **104**: 62–78. URL <http://links.jstor.org/sici?doi=0002-9947%28196207%29104%3A1%3C62%3ASSP%3E2.0.CO%3B2-I>.
- Lasota, Andrzej and Michael C. Mackey (1994). *Chaos, Fractals, and Noise: Stochastic Aspects of Dynamics*. Berlin: Springer-Verlag. First edition, *Probabilistic Properties of Deterministic Systems*, Cambridge University Press, 1985.
- Lehmann, E. L. and George Casella (1998). *Theory of Point Estimation*. Springer Texts in Statistics. Berlin: Springer-Verlag, 2nd edn.
- Liptser, Robert S. and Albert N. Shiryaev (2001). *Statistics of Random Processes*. Berlin: Springer-Verlag, 2nd edn. Two volumes. Trans. A. B. Aries. First English edition 1977–1978. First published as *Statistika sluchainykh protessov*, Moscow: Nauka, 1974.
- Loève, Michel (1955). *Probability Theory*. New York: D. Van Nostrand Company, 1st edn.
- Mackey, Michael C. (1992). *Time’s Arrow: The Origins of Thermodynamic Behavior*. Berlin: Springer-Verlag.
- Moretti, Franco (2005). *Graphs, Maps, Trees: Abstract Models for a Literary History*. London: Verso.
- Øksendal, Bernt (1995). *Stochastic Differential Equations: An Introduction with Applications*. Berlin: Springer-Verlag, 4th edn.
- Olivieri, Enzo and Maria Eulália Vares (2005). *Large Deviations and Metastability*. Cambridge, England: Cambridge University Press.
- Ornstein, Donald S. and Benjamin Weiss (1990). “How Sampling Reveals a Process.” *Annals of Probability*, **18**: 905–930. URL <http://links.jstor.org/sici?doi=0091-1798%28199007%2918%3A3%3C905%3AHSRAP%3E2.0.CO%3B2-J>.

- Pearl, Judea (1988). *Probabilistic Reasoning in Intelligent Systems*. New York: Morgan Kaufmann.
- Peres, Yuval and Paul Shields (2005). “Two New Markov Order Estimators.” E-print, arxiv.org. URL <http://arxiv.org/abs/math.ST/0506080>.
- Pollard, David (2002). *A User’s Guide to Measure Theoretic Probability*. Cambridge, England: Cambridge University Press.
- Pullum, Geoffrey K. (1991). *The Great Eskimo Vocabulary Hoax, and Other Irreverent Essays on the Study of Language*. Chicago: University of Chicago Press.
- Rabiner, Lawrence R. (1989). “A Tutorial on Hidden Markov Models and Selected Applications in Speech Recognition.” *Proceedings of the IEEE*, **77**: 257–286. URL <http://dx.doi.org/10.1109/5.18626>.
- Rockafellar, R. T. (1970). *Convex Analysis*. Princeton: Princeton University Press.
- Rogers, L. C. G. and David Williams (1994). *Foundations*, vol. 1 of *Diffusions, Markov Processes and Martingales*. New York: John Wiley, 2nd edn. Reprinted Cambridge, England: Cambridge University Press, 2000.
- (2000). *Itô Calculus*, vol. 2 of *Diffusions, Markov Processes and Martingales*. Cambridge, England: Cambridge University Press, 2nd edn.
- Rosenblatt, Murray (1956). “A Central Limit Theorem and a Strong Mixing Condition.” *Proceedings of the National Academy of Sciences (USA)*, **42**: 43–47. URL <http://www.pnas.org/cgi/reprint/42/1/43>.
- (1971). *Markov Processes. Structure and Asymptotic Behavior*. Berlin: Springer-Verlag.
- Schroeder, Manfred (1991). *Fractals, Chaos, Power Laws: Minutes from an Infinite Paradise*. San Francisco: W. H. Freeman.
- Selmecki, David, Simon F. Tolic-Norrelykke, Erik Schaeffer, Peter H. Hagedorn, Stephan Mosler, Kirstine Berg-Sorensen, Niels B. Larsen and Henrik Flyvbjerg (2006). “Brownian Motion after Einstein: Some new applications and new experiments.” In *Controlled Nanoscale Motion in Biological and Artificial Systems* (H. Linke and A. Mansson, eds.), vol. 131 of *Proceedings of the Nobel Symposium*, p. forthcoming. Berlin: Springer. URL <http://arxiv.org/abs/physics/0603142>.
- Shalizi, Cosma Rohilla and James P. Crutchfield (2001). “Computational Mechanics: Pattern and Prediction, Structure and Simplicity.” *Journal of Statistical Physics*, **104**: 817–879. URL <http://arxiv.org/abs/cond-mat/9907176>.

- Shannon, Claude E. (1948). "A Mathematical Theory of Communication." *Bell System Technical Journal*, **27**: 379–423. URL <http://cm.bell-labs.com/cm/ms/what/shannonday/paper.html>. Reprinted in Shannon and Weaver (1963).
- Shannon, Claude E. and Warren Weaver (1963). *The Mathematical Theory of Communication*. Urbana, Illinois: University of Illinois Press.
- Shiryayev, Albert N. (1999). *Essentials of Stochastic Finance: Facts, Models, Theory*. Singapore: World Scientific. Trans. N. Kruzhilin.
- Spirites, Peter, Clark Glymour and Richard Scheines (2001). *Causation, Prediction, and Search*. Cambridge, Massachusetts: MIT Press, 2nd edn.
- Taniguchi, Masanobu and Yoshihide Kakizawa (2000). *Asymptotic Theory of Statistical Inference for Time Series*. Berlin: Springer-Verlag.
- Tuckwell, Henry C. (1989). *Stochastic Processes in the Neurosciences*. Philadelphia: SIAM.
- Tyran-Kamińska, Marta (2005). "An Invariance Principle for Maps with Polynomial Decay of Correlations." *Communications in Mathematical Physics*, **260**: 1–15. URL <http://arxiv.org/abs/math.DS/0408185>.
- von Plato, Jan (1994). *Creating Modern Probability: Its Mathematics, Physics and Philosophy in Historical Perspective*. Cambridge, England: Cambridge University Press.
- Wax, Nelson (ed.) (1954). *Selected Papers on Noise and Stochastic Processes*. Dover.
- Wiener, Norbert (1949). *Extrapolation, Interpolation, and Smoothing of Stationary Time Series: With Engineering Applications*. Cambridge, Massachusetts: The Technology Press of the Massachusetts Institute of Technology.
- (1958). *Nonlinear Problems in Random Theory*. Cambridge, Massachusetts: The Technology Press of the Massachusetts Institute of Technology.
- (1961). *Cybernetics: Or, Control and Communication in the Animal and the Machine*. Cambridge, Massachusetts: MIT Press, 2nd edn. First edition New York: Wiley, 1948.
- Wu, Wei Biao (2005). "Nonlinear system theory: Another look at dependence." *Proceedings of the National Academy of Sciences (USA)*, **102**: 14150–14154.