

Bibliography

- [1] ADLER, R. *The Geometry of Random Fields*. Wiley, New York, 1981.
- [2] AGTERBERG, F. P. Appreciation of contributions by Georges Matheron and John Tuckey to a mineral-resources research project. *Natural Resources Research* 10 (2001), 287–295.
- [3] AHMED, S., AND DE MARSILY, G. Comparison of geostatistical methods for estimating transmissivity using data on transmissivity and specific capacity. *Water Resources Research* 23 (1987), 1717–1737.
- [4] AITCHISON, J., AND BROWN, J. A. C. *The Lognormal Distribution: with Special Reference to its Uses in Economics*. Cambridge University Press, Cambridge, 1957.
- [5] AKIN, H., AND SIEMES, H. *Praktische Geostatistik*. Springer-Verlag, Heidelberg, 1988.
- [6] AMANI, A., AND LEBEL, T. Lagrangian kriging for the Sahelian rainfall at small time steps. *Journal of Hydrology* 192 (1997), 125–157.
- [7] AMBROISE, C., DANG, M., AND G, G. Clustering of spatial data by the EM algorithm. In Soares et al. [306], pp. 493–504.
- [8] ANDERSON, T. W. *An Introduction to Multivariate Statistical Analysis*. Wiley, New York, 1984.
- [9] ANSELIN, L. *Spatial Econometrics: Methods and Models*. Kluwer, Amsterdam, 1988.
- [10] ARMSTRONG, M. Problems with universal kriging. *Mathematical Geology* 16 (1984), 101–108.
- [11] ARMSTRONG, M., Ed. *Geostatistics*. Kluwer, Amsterdam, 1989.
- [12] ARMSTRONG, M. *Linear Geostatistics*. Springer-Verlag, Berlin, 1998.
- [13] ARMSTRONG, M., AND DOWD, P. A., Eds. *Geostatistical Simulation*. Kluwer, Amsterdam, 1994.
- [14] ARMSTRONG, M., AND MATHERON, G. Disjunctive kriging revisited: part I. *Mathematical Geology* 18 (1986), 711–728.
- [15] ARMSTRONG, M., AND MATHERON, G. Disjunctive kriging revisited: part II. *Mathematical Geology* 18 (1986), 729–742.

- [16] ARMSTRONG, M., AND MATHERON, G. Isofactorial models for granulodensimetric data. *Mathematical Geology* 18 (1986), 743–757.
- [17] ARMSTRONG, M., AND WACKERNAGEL, H. The influence of the covariance function on the kriged estimator. *Sciences de la Terre, Série Informatique* 27 (1988), 245–262.
- [18] ASKEY, R. *Orthogonal Polynomials and Special Functions*. Society for Industrial and Applied Mathematics, Philadelphia, 1975.
- [19] BAAFI, E. Y., AND SCHOFIELD, N. A., Eds. *Geostatistics Wollongong '96*. Kluwer, Amsterdam, 1997.
- [20] BAILEY, T. C., AND KRZANOWSKI, W. J. Extensions to spatial factor methods with illustrations in geochemistry. *Mathematical Geology* 32 (2000), 657–682.
- [21] BALABDOUI, F., BOCQUET-APPEL, J. P., LAJAUNIE, C., AND IRUDAYA RAJAN, S. Space-time evolution of the fertility transition in india 1961-1991. *International Journal of Population Geography* 7 (2001), 129–148.
- [22] BARNES, R. J., AND JOHNSON, T. B. Positive kriging. In Verly et al. [331], pp. 231–244.
- [23] BENNETT, R. J. *Spatial Time Series*. Pion, London, 1979.
- [24] BENZÉCRI, J. P. *L'Analyse des Données: l'Analyse des Correspondances*, vol. 2. Dunod, Paris, 1973.
- [25] BERMAN, M. The statistical properties of three noise removal procedures for multi-channel remotely sensed data. Tech. Rep. NSW/85/31/MB9, CSIRO, Lindfield, 1985.
- [26] BERTINO, L. *Assimilation de Données pour la Prédiction de Paramètres Hydrodynamiques et Ecologiques: Cas de la Lagune de l'Oder*. Doctoral thesis, Ecole des Mines de Paris, Fontainebleau, 2001.
- [27] BERTINO, L., EVENSEN, G., AND WACKERNAGEL, H. Combining geostatistics and Kalman filtering for data assimilation in an estuarine system. *Inverse problems* 18 (2002), 1–23.
- [28] BIAU, G., ZORITA, E., VON STORCH, H., AND WACKERNAGEL, H. Estimation of precipitation by kriging in the EOF space of the sea level pressure field. *Journal of Climate* 12 (1999), 1070–1085.
- [29] BOURGAULT, G., AND MARCOTTE, D. Multivariable variogram and its application to the linear model of coregionalization. *Mathematical Geology* 23 (1991), 899–928.
- [30] BOX, G. E. P., AND JENKINS, G. M. *Time Series Analysis: Forecasting and Control*. Holden-Day, San Francisco, 1970.
- [31] BRAS, R. L., AND RODRÍGUEZ-ITURBE, I. *Random Functions and Hydrology*. Addison-Wesley, Reading, 1985.
- [32] BROWN, P. J., LE, N. D., AND ZIDEK, J. V. Multivariate spatial interpolation and exposure to air pollutants. *The Canadian Journal of Statistics* 22 (1994), 489–509.

- [33] BRUNO, R., AND RASPA, G. Geostatistical characterization of fractal models of surfaces. In Armstrong [11], pp. 77–89.
- [34] BRUNO, R., AND RASPA, G. *La Pratica della Geostatistica Lineare*. Guerini, Milano, 1994.
- [35] BUESO, M. C., ANGULO, J. M., CRUZ-SANJULIÁN, J., AND GARCÍA-ARÓSTEGUI, F. Optimal spatial sampling design in a multivariate framework. *Mathematical Geology* 31 (1999), 507–525.
- [36] CASSIRAGA, E. F., AND GOMEZ-HERNANDEZ, J. Improved rainfall estimation by integration of radar data: a geostatistical approach. In Soares et al. [306], pp. 363–374.
- [37] CASTELIER, E. La dérive externe vue comme une régression linéaire. Tech. Rep. N-34/92/G, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1992.
- [38] CASTELIER, E. Dérive externe et régression linéaire. In *Cahiers de Géostatistique* (Paris, 1993), vol. 3, Ecole des Mines de Paris, pp. 47–59.
- [39] CASTELIER, E. *Estimation d'un Champ de Perméabilité à partir de Mesures de Charge Hydraulique*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1995.
- [40] CHAMPION, R., LENARD, C. T., AND MILLS, T. M. An introduction to abstract splines. *Mathematical Scientist* 21 (1996), 8–26.
- [41] CHATFIELD, C. *Statistics for Technology*. Chapman & Hall, London, 1983.
- [42] CHAUVET, P. The variogram cloud. In *17th APCOM* (New York, 1982), T. B. Johnson and R. J. Barnes, Eds., Society of Mining Engineers, pp. 757–764.
- [43] CHAUVET, P. Réflexions sur les pondérateurs négatifs du krigeage. *Sciences de la Terre, Série Informatique* 28 (1988), 65–113.
- [44] CHAUVET, P. *Aide Mémoire de Géostatistique Linéaire*. Les Presses, Ecole des Mines de Paris, 1999.
- [45] CHAUVET, P., AND GALLI, A. Universal kriging. Tech. Rep. C-96, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1982.
- [46] CHAUVET, P., PAILLEUX, J., AND CHILÈS, J. P. Analyse objective des champs météorologiques par cokrigeage. *La Météorologie* 6, 4 (1976), 37–54.
- [47] CHICA-OLMO, M., AND ABARCA-HERNANDEZ, F. Radiometric coregionalization of Landsat TM and SPOT HRV images. *International Journal of Remote Sensing* 19 (1998), 997–1005.
- [48] CHILÈS, J. *Géostatistique des Phénomènes Non Stationnaires (dans le plan)*. PhD thesis, Université de Nancy I, Nancy, 1977.
- [49] CHILÈS, J., AND GUILLEN, A. Variogrammes et krigeages pour la gravimétrie et le magnétisme. *Sciences de la Terre, Série Informatique* 20 (1984), 455–468.

- [50] CHILÈS, J. P. Application du krigeage avec dérive externe à l'implantation d'un réseau de mesures piézométriques. *Sciences de la Terre, Série Informatique* 30 (1991), 131–147.
- [51] CHILÈS, J. P., AND DELFINER, P. *Geostatistics: Modeling Spatial Uncertainty*. Wiley, New York, 1999.
- [52] CHILÈS, J. P., AND LIAO, H. T. Estimating the recoverable reserves of gold deposits: comparison between disjunctive kriging and indicator kriging. In Soares [305], pp. 1053–1064.
- [53] CHOQUET, G. *Lectures on Analysis*, vol. 3. Benjamin, New York, 1967.
- [54] CHRISTAKOS, G. *Random Field Models in Earth Sciences*. Academic Press, San Diego, 1992.
- [55] CHRISTENSEN, R. *Plane Answers to Complex Questions: the Theory of Linear Models*. Springer-Verlag, New York, 1987.
- [56] CHRISTENSEN, R. *Linear Models for Multivariate, Time Series and Spatial Data*. Springer-Verlag, New York, 1991.
- [57] CHRISTENSEN, R., JOHNSON, W., AND PEARSON, L. M. Covariance function diagnostics for spatial linear models. *Mathematical Geology* 25 (1993), 145–160.
- [58] COOK, R. D., AND WEISBERG, S. *Residuals and Influence in Regression*. Chapman and Hall, New York, 1982.
- [59] COX, D. R., AND ISHAM, V. A simple spatial-temporal model of rainfall. *Proceedings of the Royal Society of London A* 415 (1988), 317–328.
- [60] COX, D. R., AND ISHAM, V. Stochastic models of precipitation. In *Statistics for the Environment 2: Water Related Issues* (New York, 1994), V. Barnett and K. Turkman, Eds., Wiley, pp. 3–19.
- [61] CRAMER, H. On the theory of stationary random processes. *Annals of Mathematics* 41 (1940), 215–230.
- [62] CRAMER, H. *Mathematical Methods of Statistics*. Princeton University Press, Princeton, 1945.
- [63] CRESSIE, N. The origins of kriging. *Mathematical Geology* 22 (1990), 239–252.
- [64] CRESSIE, N. *Statistics for Spatial Data*, revised ed. Wiley, New York, 1993.
- [65] CRESSIE, N. Change of support and the modifiable areal unit problem. *Geographical Systems* 3 (1996), 159–180.
- [66] CRESSIE, N., AND WIKLE, C. K. The variance-based cross-variogram: you can add apples and oranges. *Mathematical Geology* 30 (1998), 789–800.
- [67] CREUTIN, J. D., AND OBLED, C. Objective analysis and mapping techniques for rainfall fields: an objective analysis. *Water Resources Research* 18 (1982), 413–431.

- [68] DAGAN, G. Stochastic modeling of groundwater flow by unconditional and conditional probabilities: the inverse problem. *Water Resources Research* 21 (1985), 65–72.
- [69] DAGAN, G. *Flow and Transport in Porous Formations*. Springer-Verlag, Berlin, 1989.
- [70] DALEY, R. *Atmospheric Data Analysis*. Cambridge University Press, Cambridge, 1991.
- [71] DALY, C. *Application de la Géostatistique à quelques Problèmes de Filtrage*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1991.
- [72] DALY, C., JEULIN, D., AND BENOIT, D. Nonlinear statistical filtering and applications to segregation in steels from microprobe images. *Scanning Microscopy Supplement 6* (1992), 137–145.
- [73] DALY, C., JEULIN, D., BENOIT, D., AND AUCLAIR, G. Application of multivariate geostatistics to macroprobe mappings in steels. *ISIJ International* 30 (1990), 529–534.
- [74] DALY, C., LAJAUNIE, C., AND JEULIN, D. Application of multivariate kriging to the processing of noisy images. In Armstrong [11], pp. 749–760.
- [75] DAVID, M. *Geostatistical Ore Reserve Estimation*. Elsevier, Amsterdam, 1977.
- [76] DAVIS, J. *Statistics and Data Analysis in Geology*. Wiley, New York, 1973.
- [77] DE FOUQUET, C., AND MANDALLAZ, D. Using geostatistics for forest inventory with air cover: an example. In Soares et al. [306], pp. 875–886.
- [78] DE MARSILY, G. *Quantitative Hydrogeology*. Academic Press, London, 1986.
- [79] DE WIJS, H. J. Statistics of ore distribution, part I: frequency distribution of assay values. *Geologie en Mijnbouw* 13 (1951), 365–375.
- [80] DELFINER, P. Linear estimation of non stationary spatial phenomena. In Guarascio et al. [132], pp. 49–68.
- [81] DELFINER, P., AND CHILÈS, J. P. Conditional simulation: a new Monte-Carlo approach to probabilistic evaluation of hydrocarbon in place. Tech. Rep. N-526, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1977.
- [82] DELFINER, P., DELHOMME, J. P., AND PELISSIER-COMBESCURE, J. Application of geostatistical analysis to the evaluation of petroleum reservoirs with well logs. In *24th Annual Logging Symposium of the SPWLA* (Calgary, June 27–30 1983).
- [83] DELFINER, P., AND MATHERON, G. Les fonctions aléatoires intrinsèques d'ordre k . Tech. Rep. C-84, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1980.
- [84] DELHOMME, J. Réflexions sur la prise en compte simultanée des données de forages et des données sismiques. Tech. Rep. LHM/RC/79/41, Centre d'Informatique Géologique, Ecole des Mines de Paris, Fontainebleau, 1979.
- [85] DELHOMME, J. P. Kriging in the hydrosciences. *Advances in Water Resources* 1 (1978), 251–266.

- [86] DELHOMME, J. P., BOUCHER, M., MEUNIER, G., AND JENSEN, F. Apport de la géostatistique à la description des stockages de gaz en aquifère. *Revue de l'Institut Français du Pétrole* 36 (1981), 309–327.
- [87] DEMANGE, C., LAJAUNIE, C., LANTUÉJOUL, C., AND RIVOIRARD, J. Global recoverable reserves: testing various change of support models on uranium data. In Matheron and Armstrong [222], pp. 187–208.
- [88] DESBARATS, A. J., AND DIMITRAKOPOULOS, R. Geostatistical simulation of regionalized pore-size distributions using min/max autocorrelation factors. *Mathematical Geology* 32 (2000), 919–942.
- [89] DHI. *MIKE 12 Version 3.02 General Reference Manual*. Danish Hydraulic Institute, Copenhagen, 1992.
- [90] DIGGLE, P. J., LIANG, K. Y., AND ZEGER, S. L. *Analysis of Longitudinal Data*. Clarendon Press, Oxford, 1994.
- [91] DIGGLE, P. J., TAWN, J. A., AND MOYEED, R. A. Model-based geostatistics (with discussion). *Applied Statistics* 47 (1998), 299–350.
- [92] DIMITRAKOPOULOS, R., Ed. *Geostatistics for the Next Century*. Kluwer, Amsterdam, 1994.
- [93] DONG, A. *Estimation Géostatistique des Phénomènes régis par des Equations aux Dérivées Partielles*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1990.
- [94] DOWD, P. A. Generalized cross-covariances. In Armstrong [11], pp. 151–162.
- [95] DOYEN, P. M. Porosity from seismic data: a geostatistical approach. *Geophysics* 53 (1988), 1263–1275.
- [96] DUBRULE, O. Cross-validation of kriging in a unique neighborhood. *Mathematical Geology* 15 (1983), 687–699.
- [97] DUBRULE, O. Comparing splines and kriging. *Computers & Geosciences* 10 (1984), 327–338.
- [98] ESPOSITO, E. Statistical investigation about the radar backscatter intensity. Tech. Rep. S-434, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 2002.
- [99] FELLER, W. *An Introduction to Probability Theory and its Applications*, 3rd ed., vol. I. Wiley, New York, 1968.
- [100] FEYNMAN, R. P., LEIGHTON, R. B., AND SANDS, M. *The Feynman Lectures on Physics*, vol. 1. Addison Wesley, Reading, 1963.
- [101] FRANÇOIS-BONGARÇON, D. Les corégionalisations, le cokrigeage. Tech. Rep. C-86, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1981.
- [102] GALLI, A., GERDIL-NEUILLET, F., AND DADOU, C. Factorial kriging analysis: a substitute to spectral analysis of magnetic data. In Verly et al. [331], pp. 543–557.

- [103] GALLI, A., AND MEUNIER, G. Study of a gas reservoir using the external drift method. In Matheron and Armstrong [222], pp. 105–119.
- [104] GASPARI, G., AND COHN, S. E. Construction of correlation functions in two and three dimensions. *Quarterly Journal of the Royal Meteorological Society* 126 (1999), 723–762.
- [105] GELFAND, A. E., ZHU, L., AND CARLIN, B. P. On the change of support problem for spatio-temporal data. *Biostatistics* 2 (2001), 31–45.
- [106] GENTON, M. G. Highly robust variogram estimation. *Mathematical Geology* 30 (1998), 213–221.
- [107] GENTON, M. G. The correlation structure of Matheron's classical variogram estimator under elliptically contoured distributions. *Mathematical Geology* 32 (2000), 127–137.
- [108] GIFI, A. *Nonlinear Multivariate Analysis*. Wiley, New York, 1990.
- [109] GIHMAN, I. I., AND SKOROHOD, A. V. *The Theory of Stochastic Processes I*. Springer-Verlag, Berlin, 1974.
- [110] GITTINS, R. *Canonical Analysis: a Review with Applications in Ecology*. Springer-Verlag, Berlin, 1985.
- [111] GNEITING, T. *Symmetric Positive Definite Functions with Applications in Spatial Statistics*. PhD thesis, University of Bayreuth, Bayreuth, 1997.
- [112] GNEITING, T. The correlation bias for two-dimensional simulation by turning bands. *Mathematical Geology* 31 (1999), 195–211.
- [113] GNEITING, T. Correlation functions for atmospheric data analysis. *Quarterly Journal of the Royal Meteorological Society* 125 (1999), 2449–2464.
- [114] GNEITING, T., SASVÁRI, Z., AND SCHLATHER, M. Analogies and correspondences between variograms and covariance functions. *Advances in Applied Probability* 33 (2001), 617–630.
- [115] GNEITING, T., AND SCHLATHER, M. Space-time covariance models. In *Encyclopedia of Environmetrics* (2001), A. H. El-Shaarawi and W. W. Piegorsch, Eds., vol. 4, Wiley, pp. 2041–2045.
- [116] GOMEZ-HERNANDEZ, J., SOARES, A., AND FROIDEVAUX, R., Eds. *GeoENV II – Geostatistics for Environmental Applications*. Kluwer, Amsterdam, 1999.
- [117] GONZÁLEZ DEL RÍO, J., FALCO, S., SIERRA, J. P., RODILLA, M., SÁNCHEZ-ARCILLA, A., ROMERO, I., RODRIGO, J., MARTÍNEZ, R., BENEDITO, V., APARISI, F., MÖSSO, C., AND MOVELLÁN, E. Nutrient behaviour in Ebro river estuary. *Hydrobiologia* (2000), 24p. Submitted.
- [118] GOODALL, C., AND MARDIA, K. V. Challenges in multivariate spatio-temporal modeling. In *Proceedings of XVIIth International Biometrics Conference* (Hamilton, Ontario, 1994), vol. 1, pp. 1–17.

- [119] GOOVAERTS, P. Factorial kriging analysis: a useful tool for exploring the structure of multivariate spatial information. *Journal of Soil Science* 43 (1992), 597–619.
- [120] GOOVAERTS, P. Study of spatial relationships between two sets of variables using multivariate geostatistics. *Geoderma* 62 (1994), 93–107.
- [121] GOOVAERTS, P. *Geostatistics for Natural Resources Evaluation*. Oxford University Press, Oxford, 1997.
- [122] GOOVAERTS, P. Ordinary cokriging revisited. *Mathematical Geology* 30 (1998), 21–42.
- [123] GOOVAERTS, P., SONNET, P., AND NAVARRE, A. Factorial kriging analysis of spring-water contents in the Dyle river basin, Belgium. *Water Resources Research* 29 (1993), 2115–2125.
- [124] GOOVAERTS, P., AND WEBSTER, R. Scale-dependent correlation between topsoil copper and cobalt concentrations in Scotland. *European Journal of Soil Science* 45 (1994), 79–95.
- [125] GOULARD, M. *Champs Spatiaux et Statistique Multidimensionnelle*. PhD thesis, Université des Sciences et Techniques du Languedoc, Montpellier, 1988.
- [126] GOULARD, M. Inference in a coregionalization model. In Armstrong [11], pp. 397–408.
- [127] GOULARD, M., AND VOLTZ, M. Linear coregionalization model: tools for estimation and choice of multivariate variograms. *Mathematical Geology* 24 (1992), 269–286.
- [128] GREENACRE, M. J. *Theory and Applications of Correspondence Analysis*. Academic Press, London, 1984.
- [129] GRUNSKI, E. C., AND AGTERBERG, F. P. Spatial relationships of multivariate data. *Mathematical Geology* 24 (1992), 731–758.
- [130] GRZEBYK, M. *Ajustement d'une Corégionalisation Stationnaire*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1993.
- [131] GRZEBYK, M., AND WACKERNAGEL, H. Challenges in multivariate spatio-temporal modeling. In *Proceedings of XVIIth International Biometrics Conference* (Hamilton, Ontario, 1994), vol. 1, pp. 19–33.
- [132] GUARASCIO, M., DAVID, M., AND HUIJBREGTS, C., Eds. *Advanced Geostatistics in the Mining Industry*, vol. C24 of *NATO ASI Series*. Reidel, Dordrecht, 1976.
- [133] GUTTORP, P., AND SAMPSON, P. D. Methods for estimate heterogeneous spatial covariance functions with environmental applications. In *Environmental Statistics* (Amsterdam, 1994), G. P. Patil and C. R. Rao, Eds., vol. 12 of *Handbook of Statistics*, North-Holland, pp. 661–689.
- [134] HAAS, T. Local prediction of a spatio-temporal process with an application to wet sulfate deposition. *Journal of the American Statistical Association* 90 (1995), 1189–1199.

- [135] HAAS, T. Multivariate spatial prediction in the presence of non-linear trend and covariance non-stationarity. *Environmetrics* 7 (1996), 145–165.
- [136] HAGEN, D. The application of principal components analysis to seismic data sets. *Geoexploration* 20 (1982), 93–111.
- [137] HAINING, R. *Spatial Data Analysis in the Social and Environmental Sciences*. Cambridge University Press, Cambridge, 1990.
- [138] HASLETT, J. Space time modeling in meteorology: a review. In *Proceedings of 47th Session* (Paris, 1989), International Statistical Institute, pp. 229–246.
- [139] HASLETT, J., BRADLEY, R., CRAIG, P. S., WILLS, G., AND UNWIN, A. R. Dynamic graphics for exploring spatial data, with application to locating global and local anomalies. *The American Statistician* 45 (1991), 234–242.
- [140] HASLETT, J., AND POWER, G. M. Interactive computer graphics for a more open exploration of stream sediment geochemical data. *Computers & Geosciences* 21 (1995), 77–87.
- [141] HOHN, M. E. *Geostatistics and Petroleum Geology*. Kluwer, Dordrecht, 1999.
- [142] HU, L. Y. *Mise en oeuvre du modèle gamma pour l'estimation des distributions spatiales*. Doctoral thesis, Ecole des Mines de Paris, Fontainebleau, 1988.
- [143] HU, L. Y. Comparing gamma isofactorial disjunctive kriging and indicator kriging for estimating local spatial distributions. In Armstrong [11], pp. 335–346.
- [144] HU, L. Y., AND LANTUÉJOUL, C. Recherche d'une fonction d'anamorphose pour la mise en oeuvre du krigeage disjonctif isofactoriel gamma. *Sciences de la Terre, Série Informatique* 28 (1988), 145–173.
- [145] HUANG, H. C., AND CRESSIE, N. Spatio-temporal prediction of snow water equivalent using the Kalman filter. *Computational Statistics* 22 (1996), 159–175.
- [146] HUDSON, G., AND WACKERNAGEL, H. Mapping temperature using kriging with external drift: theory and an example from Scotland. *International Journal of Climatology* 14 (1994), 77–91.
- [147] HUTCHINSON, M. F., AND GESSLER, P. E. Splines — more than just a smooth interpolator. *Geoderma* 62 (1994), 45–67.
- [148] ISAAKS, E. H., AND SRIVASTAVA, R. M. *Applied Geostatistics*. Oxford University Press, Oxford, 1989.
- [149] ISO. *Acoustics: Guidelines for the measurement and assessment of exposure to noise in a working environment*, ISO/DIS 9612.2. International Organization for Standardization, Geneva, 1995.
- [150] JAQUET, O. Factorial kriging analysis applied to geological data from petroleum exploration. *Mathematical Geology* 21 (1989), 683–691.

- [151] JAQUET, O., AND CARNIEL, R. Stochastic modelling at Stromboli: a volcano with remarkable memory. *Journal of Volcanology and Geothermal Research* 105 (2001), 249–262.
- [152] JEULIN, D., AND RENARD, D. Practical limits of the deconvolution of images by kriging. *Micros. Microanal. Microstruct.* 3 (1992), 333–361.
- [153] JOLLIFFE, I. T. *Principal Component Analysis*. Springer-Verlag, New York, 1986.
- [154] JOURNAL, A. G. Geostatistics for conditional simulation of orebodies. *Economic Geology* 69 (1974), 673–687.
- [155] JOURNAL, A. G. Markov models for cross-covariances. *Mathematical Geology* 31 (1999), 931–954.
- [156] JOURNAL, A. G., AND HUIJBREGTS, C. J. *Mining Geostatistics*. Academic Press, London, 1978.
- [157] KENDALL, M., AND STUART, A. *The Advanced Theory of Statistics*, vol. 1. Griffin, London, 1977.
- [158] KITANIDIS, P. K. Statistical estimation of polynomial generalized covariance functions and hydrologic applications. *Water Resources Research* 19 (1983), 909–921.
- [159] KITANIDIS, P. K. *Introduction to Geostatistics: Applications to Hydrogeology*. Cambridge University Press, Cambridge, 1997.
- [160] KLEINGELD, W. J. *La Géostatistique pour des Variables Discrètes*. Doctoral thesis, Ecole des Mines de Paris, Fontainebleau, 1987.
- [161] KLEINGELD, W. J., AND KRIGE, D. G., Eds. *Geostats 2000 – Cape Town*. Geostatistical Association of South Africa, Cape Town, 2000.
- [162] KRIGE, D. G. A statistical approach to some mine valuation and allied problems on the Witwatersrand. Master's thesis, University of Witwatersrand, 1951.
- [163] KRIGE, D. G. A statistical analysis of some of the borehole values in the Orange free state gold field. *Journal of the Chemical and Metallurgical Society of South Africa* 53, 47–64 (1952).
- [164] KRIGE, D. G., GUARASCIO, M., AND CAMISANI-CALZOLARI, F. A. Early South African geostatistical techniques in today's perspective. In Armstrong [11], pp. 1–19.
- [165] KÜNSCH, H. R., PAPRITZ, A., AND BASSI, F. Generalized cross-covariances and their estimation. *Mathematical Geology* 29 (1997), 779–799.
- [166] KYRIAKIDIS, P. C., AND JOURNAL, A. G. Geostatistical space-time models: a review. *Mathematical Geology* 31 (1999), 651–684.
- [167] LAJAUNIE, C. A geostatistical approach to air pollution modeling. In Verly et al. [331], pp. 877–891.
- [168] LAJAUNIE, C. L'estimation géostatistique non linéaire. Tech. Rep. C-152, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1993.

- [169] LAJAUNIE, C. Kriging and mass balance. In Baafi and Schofield [19], pp. 80–91.
- [170] LAJAUNIE, C., AND BÉJAOUÏ, R. Sur le krigeage des fonctions complexes. Tech. Rep. N-23/91/G, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1991.
- [171] LAJAUNIE, C., COURRIOUX, G., AND MANUEL, L. Foliation fields and 3D cartography in geology. *Mathematical Geology* 29 (1997), 571–584.
- [172] LAJAUNIE, C., AND LANTUÉJOUL, C. Setting up the general methodology for discrete isofactorial models. In Armstrong [11], pp. 323–334.
- [173] LAJAUNIE, C., WACKERNAGEL, H., THIÉRY, L., AND GRZEBYK, M. Sampling multiphase noise exposure time series. In Gomez-Hernandez et al. [116], pp. 101–112.
- [174] LANDAU, L. D., AND LIFSCHITZ, E. M. *Quantum Mechanics*. Pergamon Press, Oxford, 1977.
- [175] LANTUÉJOUL, C. Some stereological and statistical consequences derived from Cartier's formula. *Journal of Microscopy* 151 (1988), 265–276.
- [176] LANTUÉJOUL, C. Cours de sélectivité. Tech. Rep. C-140, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1990.
- [177] LANTUÉJOUL, C. Ergodicity and integral range. *Journal of Microscopy* 161 (1991), 387–403.
- [178] LANTUÉJOUL, C. *Geostatistical Simulation: Models and Algorithms*. Springer-Verlag, Berlin, 2001.
- [179] LARSEN, R. I. A new mathematical model of air pollutant concentration averaging time and frequency. *Journal of the Air Pollution Control Association* 19 (1969), 24–30.
- [180] LE, N. D., SUN, W., AND ZIDEK, J. V. Bayesian multivariate spatial interpolation with data missing by design. *Journal of the Royal Statistical Society B* 59 (1997), 501–510.
- [181] LEFÈBVRE, J., ROUSSEL, H., WALTER, E., LECOINTE, D., AND TABBARA, W. Prediction from wrong models: the kriging approach. *Antennas & Propagation Magazine IEEE* 38 (1996), 35–45.
- [182] LIAO, H. T. *Estimation des Réserves Récupérables de Gisements d'Or: Comparaison entre Krigeage Disjonctif et Krigeage des Indicatrices*. No. 202 in Documents du BRGM. Editions du BRGM, Orléans, 1991.
- [183] LINDNER, S., AND WACKERNAGEL, H. Statistische Definition eines Lateritpanzer-Index für SPOT/Landsat-Bilder durch Redundanzanalyse mit bodengeochemischen Daten. In *Beiträge zur Mathematischen Geologie und Geoinformatik* (Köln, 1993), G. Peschel, Ed., vol. Bd 5, Sven-von-Loga Verlag, pp. 69–73.
- [184] LUMLEY, J. L. *Stochastic Tools in Turbulence*. Academic Press, London, 1970.
- [185] MA, Y. Z., AND ROYER, J. J. Local geostatistical filtering: application to remote sensing. *Sciences de la Terre, Série Informatique* 27 (1988), 17–36.

- [186] MALCHAIRE, J., AND PIETTE, A. A comprehensive strategy for the assessment of noise exposure and risk of hearing impairment. *Annals of Occupational Hygiene* 41 (1997), 467–484.
- [187] MARBEAU, J. P. *Géostatistique Forestière*. PhD thesis, Université de Nancy, Nancy, 1976.
- [188] MARCOTTE, D., AND DAVID, M. The bi-gaussian approach: a simple method for recovery estimation. *Mathematical Geology* 17 (1985), 625–644.
- [189] MARDIA, K. V., GOODALL, C., REDFERN, E., AND ALONSO, F. J. The kriged Kalman filter (with discussion). *Test* 7 (1998), 217–285.
- [190] MARDIA, K. V., KENT, J. T., AND BIBBY, J. M. *Multivariate Analysis*. Academic Press, London, 1979.
- [191] MARDIA, K. V., KENT, J. T., GOODALL, C. R., AND LITTLE, J. A. Kriging and splines with derivative information. *Biometrika* 83 (1996), 207–221.
- [192] MARÉCHAL, A. Cokrigage et régression en corrélation intrinsèque. Tech. Rep. N-205, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1970.
- [193] MARÉCHAL, A. Kriging seismic data in presence of faults. In Verly et al. [331], pp. 271–294.
- [194] MATERN, B. *Spatial Variation*. Springer-Verlag, Berlin, 1960.
- [195] MATHERON, G. Application des méthodes statistiques à l'évaluation des gisements. *Annales des Mines* 144 (12) (1955), 50–75.
- [196] MATHERON, G. *Traité de Géostatistique Appliquée*, vol. 1. Technip, Paris, 1962.
- [197] MATHERON, G. Principles of geostatistics. *Economic Geology* 58 (1963), 1246–1266.
- [198] MATHERON, G. *Les Variables Régionalisées et leur Estimation*. Masson, Paris, 1965.
- [199] MATHERON, G. *Le Krigeage Universel: Recherche d'Opérateurs Optimaux en Présence d'une Dérive*. No. 1 in Les Cahiers du Centre de Morphologie Mathématique. Ecole des Mines de Paris, Fontainebleau, 1969.
- [200] MATHERON, G. *The Theory of Regionalized Variables and its Applications*. No. 5 in Les Cahiers du Centre de Morphologie Mathématique. Ecole des Mines de Paris, Fontainebleau, 1970.
- [201] MATHERON, G. La théorie des fonctions aléatoires intrinsèques généralisées. Tech. Rep. N-252, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1971.
- [202] MATHERON, G. Leçons sur les fonctions aléatoires d'ordre 2. Tech. rep., Ecole des Mines de Paris, Paris, 1972.
- [203] MATHERON, G. The intrinsic random functions and their applications. *Advances in Applied Probability* 5 (1973), 439–468.

- [204] MATHERON, G. Effet proportionnel et lognormalité ou: le retour du serpent de mer. Tech. Rep. N-374, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1974.
- [205] MATHERON, G. Les fonctions de transfert des petits panneaux. Tech. Rep. N-395, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1974.
- [206] MATHERON, G. Compléments sur les modèles isofactoriels. Tech. Rep. N-432, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1975.
- [207] MATHERON, G. Forecasting block grade distributions: the transfert functions. In Guarascio et al. [132], pp. 237–251.
- [208] MATHERON, G. Les concepts de base et l'évolution de la géostatistique minière. In Guarascio et al. [132], pp. 3–10.
- [209] MATHERON, G. A simple substitute for conditional expectation: the disjunctive kriging. In Guarascio et al. [132], pp. 221–236.
- [210] MATHERON, G. Comment traduire les catastrophes: la structure des F.A.I. générales. Tech. Rep. N-617, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1979.
- [211] MATHERON, G. Recherche de simplification dans un problème de cokrigage. Tech. Rep. N-628, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1979.
- [212] MATHERON, G. Splines and kriging: their formal equivalence. In *Down-to-Earth Statistics: Solutions Looking for Geological Problems* (New York, 1981), D. F. Merriam, Ed., no. 8 in Geology Contribution, Syracuse University, pp. 77–95.
- [213] MATHERON, G. La sélectivité des distributions. Tech. Rep. N-686, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1982.
- [214] MATHERON, G. Pour une analyse krigeante des données régionalisées. Tech. Rep. N-732, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1982.
- [215] MATHERON, G. Modèle isofactoriel et changement de support. *Sciences de la Terre, Série Informatique* 18 (1983), 71–123.
- [216] MATHERON, G. Isofactorial models and change of support. In Verly et al. [331], pp. 449–467.
- [217] MATHERON, G. Pour une méthodologie générale des modèles isofactoriels discrets. *Sciences de la Terre, Série Informatique* 21 (1984), 1–64.
- [218] MATHERON, G. The selectivity of distributions and “the second principle of geostatistics”. In Verly et al. [331], pp. 421–433.
- [219] MATHERON, G. Sur la positivité des poids de krigeage. Tech. Rep. N-30/86/G, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1986.
- [220] MATHERON, G. *Estimating and Choosing*. Springer-Verlag, Berlin, 1989.
- [221] MATHERON, G. Two classes of isofactorial models. In Armstrong [11], pp. 309–322.

- [222] MATHERON, G., AND ARMSTRONG, M., Eds. *Geostatistical Case Studies*. Reidel, Dordrecht, 1987.
- [223] MATHERON, G., ROTH, C., AND DE FOUQUET, C. Modélisation et cokrigage de la charge et de la transmissivité avec conditions aux limites à distance finie. In *Cahiers de Géostatistique* (Fontainebleau, 1993), vol. 3, Ecole des Mines de Paris, pp. 61–76.
- [224] MEIER, S., AND KELLER, W. *Geostatistik: eine Einführung in die Theorie der Zufallprozesse*. Springer-Verlag, Vienna, 1990.
- [225] MONESTIEZ, P., ALLARD, D., AND FROIDEVAUX, R., Eds. *GeoENV III – Geostatistics for Environmental Applications*. Kluwer, Amsterdam, 2001.
- [226] MONESTIEZ, P., ALLARD, D., NAVARRO-SANCHEZ, I., AND COURAULT, D. Kriging with categorical external drift: use of thematic maps in spatial prediction and application to local climate interpolation for agriculture. In Gomez-Hernandez et al. [116], pp. 163–174.
- [227] MONESTIEZ, P., GOULARD, M., CHARMET, G., AND BALFOURIER, F. Analysing spatial genetic structures of wild populations of perennial ryegrass (*Lolium perenne*). In Baafi and Schofield [19], pp. 1197–1208.
- [228] MONESTIEZ, P., SAMPSON, P., AND GUTTORP, P. Modeling of heterogeneous spatial correlation structure by spatial deformation. In *Cahiers de Géostatistique* (Fontainebleau, 1993), vol. 3, Ecole des Mines de Paris, pp. 35–46.
- [229] MONESTIEZ, P., AND SWITZER, P. Semiparametric estimation of nonstationary spatial covariance models by multidimensional scaling. Tech. Rep. 165, Stanford University, Stanford, 1991.
- [230] MORRISON, D. F. *Multivariate Statistical Methods*. McGraw-Hill International, Auckland, 1978.
- [231] MYERS, D. E. Matrix formulation of cokriging. *Mathematical Geology* 14 (1982), 249–258.
- [232] MYERS, D. E. Estimation of linear combinations and cokriging. *Mathematical Geology* 15 (1983), 633–637.
- [233] MYERS, D. E. Pseudo-cross variograms, positive-definiteness, and cokriging. *Mathematical Geology* 23 (1991), 805–816.
- [234] NAOURI, J. C. Analyse factorielle des correspondances continues. *Publications de l'Institut de Statistique de la Université de Paris XIX*, 1 (1970), 1–100.
- [235] OLIVER, M. A., LAJAUNIE, C., WEBSTER, R., MUIR, K. R., AND MANN, J. R. Estimating the risk of childhood cancer. In Soares et al. [306], pp. 899–910.
- [236] OLIVER, M. A., AND WEBSTER, R. A geostatistical basis for spatial weighting in multivariate classification. *Mathematical Geology* 21 (1989), 15–35.

- [237] OLIVER, M. A., WEBSTER, R., LAJAUNIE, C., MUIR, K. R., PARKES, S. E., CAMERON, A. H., STEVENS, M. C. G., AND MANN, J. R. Binomial cokriging for estimating and mapping the risk of childhood cancer. *IMA Journal of Mathematics Applied in Medicine and Biology* 15 (1998), 279–297.
- [238] ORFEUIL, J. P. Interprétation statistique du modèle de larsen. Tech. Rep. N-413, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1973.
- [239] ORFEUIL, J. P. Etude, mise en oeuvre et test d'un modèle de prédiction à court terme de pollution atmosphérique. Tech. Rep. N-498, Centre de Géostatistique, Ecole des Mines de Paris, Fontainebleau, 1977.
- [240] PAPRITZ, A., AND FLÜHLER, H. Temporal change of spatially autocorrelated soil properties: optimal estimation by cokriging. *Geoderma* 62 (1994), 43.
- [241] PAPRITZ, A., KÜNSCH, H. R., AND WEBSTER, R. On the pseudo cross-variogram. *Mathematical Geology* 25 (1993), 1015–1026.
- [242] PARDO-IGUZQUIZA, E. GCINFE: a computer program for inference of polynomial generalized covariance functions. *Computers & Geosciences* 23 (1997), 163–174.
- [243] PARKER, H. The volume-variance relationship: a useful tool for mine planning. *Engineering and Mining Journal* 180, 10 (1979), 106–123.
- [244] PAWLOWSKY, V. Cokriging of regionalized compositions. *Mathematical Geology* 21 (1989), 513–521.
- [245] PAWLOWSKY, V., OLEA, R. A., AND DAVIS, J. C. Estimation of regionalized compositions: a comparison of three methods. *Mathematical Geology* 27 (1995), 105–127.
- [246] PERRIN, O. *Modèle de Covariance d'un Processus Non-Stationnaire par Déformation de l'Espace et Statistique*. PhD thesis, University of Paris I Panthéon-Sorbonne, Paris, 1997.
- [247] PETITGAS, P. Use of a disjunctive kriging to model areas of high pelagic fish density in acoustic fisheries surveys. *Aquatic Living Resources* 6 (1993), 201–209.
- [248] PETITGAS, P. Geostatistics in fisheries survey design and stock assessment: models, variances and applications. *Fish and Fisheries* 2 (2001), 231–249.
- [249] PILZ, J., SPOECK, G., AND SCHIMECK, M. G. Taking account of uncertainty in spatial covariance estimation. In Baafi and Schofield [19], pp. 302–313.
- [250] PRÉAT, B. Application of geostatistical methods for estimation of the dispersion variance of occupational exposures. *American Industrial Hygiene Association Journal* 48 (1987), 877–884.
- [251] PRIESTLEY, M. *Spectral Analysis and Time Series*. Academic Press, London, 1981.
- [252] RANNOU, V., BROUAYE, F., HÉLIER, M., AND TABBARA, W. Kriging the quantile: application to a simple transmission line model. *Inverse Problems* 18 (2002), 37–48.
- [253] RAO, C. R. The use and interpretation of principal component analysis in applied research. *Sankhya Series A* (1964), 329–358.

- [254] RAO, C. R. *Linear Statistical Inference and its Applications*. Wiley, New York, 1973.
- [255] RASMUSSEN, E. K., SEHESTED-HANSEN, I., ERICHSEN, A. C., MUHLENSTEIN, D., AND DØRGE, J. 3D model system for hydrodynamics, eutrophication and nutrient transport. In *Environmental Coastal Regions III* (Southampton, 2000), G. E. Rodrigues, C. A. Brebbia, and E. Perez-Martell, Eds., WIT Press.
- [256] RASPA, G., BRUNO, R., DOSI, P., PHILIPPI, N., AND PATRIZI, G. Multivariate geostatistics for soil classification. In Soares [305], pp. 793–804.
- [257] RASPA, G., TUCCI, M., AND BRUNO, R. Reconstruction of rainfall fields by combining ground raingauges data with radar maps using external drift method. In Baafi and Schofield [19], pp. 1306–1315.
- [258] REMACRE, A. Z. Conditionnement uniforme. *Sciences de la Terre, Série Informatique* 18 (1984), 125–139.
- [259] REMACRE, A. Z. Conditioning by the panel grade for recovery estimation of non-homogeneous orebodies. In Matheron and Armstrong [222], pp. 135–147.
- [260] RENARD, D., AND NAI-HSIEN, M. Utilisation de dérivées externes multiples. *Sciences de la Terre, Série Informatique* 28 (1988), 281–301.
- [261] RENARD, D., AND RUFFO, P. Depth, dip and gradient. In Soares [305], pp. 167–178.
- [262] RIPLEY, B. D. *Spatial Statistics*. Wiley, New York, 1981.
- [263] RIPLEY, B. D. *Stochastic Simulation*. Wiley, New York, 1987.
- [264] RIVOIRARD, J. *Le Comportement des Poids de Krigeage*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1984.
- [265] RIVOIRARD, J. Convergence des développements en polynômes d'Hermite. *Sciences de la Terre, Série Informatique* 24 (1985), 129–159.
- [266] RIVOIRARD, J. Modèles à résidus d'indicatrices autokrigeables. *Sciences de la Terre, Série Informatique* 28 (1988), 303–326.
- [267] RIVOIRARD, J. Models with orthogonal indicator residuals. In Armstrong [11], pp. 91–107.
- [268] RIVOIRARD, J. A review of lognormal estimators for in situ reserves. *Mathematical Geology* 22 (1990), 213–221.
- [269] RIVOIRARD, J. Relations between the indicators related to a regionalized variable. In Soares [305], pp. 273–284.
- [270] RIVOIRARD, J. *Introduction to Disjunctive Kriging and Non-Linear Geostatistics*. Oxford University Press, Oxford, 1994.
- [271] RIVOIRARD, J. Which models for collocated cokriging? *Mathematical Geology* 33 (2001), 117–131.

- [272] RIVOIRARD, J., SIMMONDS, J., FOOTE, K. G., FERNANDES, P., AND BEZ, N. *Geostatistics for Estimating Fish Abundance*. Blackwell Science, London, 2000.
- [273] ROQUIN, C., DANDJINO, T., FREYSSINET, P., AND PION, J. C. The correlation between geochemical data and SPOT satellite imagery of lateritic terrain in Southern Mali. *Journal of Geochemical Exploration* 32 (1989), 149–168.
- [274] ROQUIN, C., FREYSSINET, P., ZEEGERS, H., AND TARDY, Y. Element distribution patterns in laterites of southern Mali: Consequence for geochemical prospection and mineral exploration. *Applied Geochemistry* 5 (1990), 303–315.
- [275] ROTH, C. Is lognormal kriging suitable for local estimation? *Mathematical Geology* 30 (1998), 999–1009.
- [276] ROTH, C., AND CHILÈS, J. P. Modélisation géostatistique des écoulements souterrains: comment prendre en compte les lois physiques [with a detailed summary in english]. *Hydrogéologie* (1997), 23–32.
- [277] ROUHANI, S., SRIVASTAVA, R. M., DESBARATS, A. J., CROMER, M. V., AND JOHNSON, A. I., Eds. *Geostatistics for Environmental and Geotechnical Applications*, vol. STP 1283. American Society for Testing and Materials, West Conshohocken, 1996.
- [278] ROUHANI, S., AND WACKERNAGEL, H. Multivariate geostatistical approach to space-time data analysis. *Water Resources Research* 26 (1990), 585–591.
- [279] ROYER, J. J. Proximity analysis: a method for multivariate geodata processing. *Sciences de la Terre, Série Informatique* 20 (1984), 223–243.
- [280] ROYER, J. J. *Analyse Multivariable et Filtrage des Données Régionalisées*. PhD thesis, Institut National Polytechnique de Lorraine, Nancy, 1988.
- [281] RYTOV, S. M., KRAVTSOV, Y. A., AND TATARSKII, V. I. *Principles of Statistical Radiophysics 1: Elements of Random Process Theory*. Springer-Verlag, Berlin, 1987.
- [282] RYTOV, S. M., KRAVTSOV, Y. A., AND TATARSKII, V. I. *Principles of Statistical Radiophysics 2: Correlation Theory of Random Processes*. Springer-Verlag, Berlin, 1988.
- [283] RYTOV, S. M., KRAVTSOV, Y. A., AND TATARSKII, V. I. *Principles of Statistical Radiophysics 3: Elements of Random Fields*. Springer-Verlag, Berlin, 1989.
- [284] SABOURIN, R. Application of two methods for the interpretation of the underlying variogram. In Guarascio et al. [132], pp. 101–109.
- [285] SACKS, J., WELCH, W. J., MITCHELL, T. J., AND WYNN, H. P. Design and analysis of computer experiments. *Statistical Science* 4 (1989), 409–435.
- [286] SAMPSON, P., AND GUTTORP, P. Nonparametric estimation of nonstationary spatial structure. *Journal of the American Statistical Association* 87 (1992), 108–119.
- [287] SANDJIVY, L. Analyse krigéante de données géochimiques. *Sciences de la Terre, Série Informatique* 18 (1983), 141–172.

- [288] SANDJIVY, L. The factorial kriging analysis of regionalized data. In Verly et al. [331], pp. 559–571.
- [289] SAPORTA, G. *Probabilités, Analyse des Données et Statistique*. Technip, Paris, 1990.
- [290] SCHAFFRIN, B. Kriging with soft unbiasedness. In Baafi and Schofield [19], pp. 69–79.
- [291] SCHNEIDER, T., HOLM PETERSEN, O., AASBERG NIELSEN, A., AND WINDFELD, K. A geostatistical approach to indoor surface sampling strategies. *Journal of Aerosol Science* 21 (1990), 555–567.
- [292] SCHOENBERG, I. J. Metric spaces and completely monotone functions. *Annals of Mathematics* 39 (1938), 811–841.
- [293] SCHULZ-OHLBERG, J. Die Anwendung geostatistischer Verfahren zur Interpretation von gravimetrischen und magnetischen Felddaten. Tech. Rep. 1989–6, Deutsches Hydrographisches Institut, Hamburg, 1989.
- [294] SEBER, G. A. F. *Multivariate Observations*. Wiley, New York, 1984.
- [295] SÉGURET, S. *Géostatistique des Phénomènes à Tendance Périodique (dans l'Espace-Temps)*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1991.
- [296] SÉGURET, S. Analyse krigeante spatio-temporelle appliquée à des données aéromagnétiques. In *Cahiers de Géostatistique* (Fontainebleau, 1993), vol. 3, Ecole des Mines de Paris, pp. 115–138.
- [297] SÉGURET, S., AND HUCHON, P. Trigonometric kriging: a new method for removing the diurnal variation from geomagnetic data. *Journal of Geophysical Research* 32, B13 (1990), 21.383–21.397.
- [298] SÉNÉGAS, J., WACKERNAGEL, H., ROSENTHAL, W., AND WOLF, T. Error covariance modeling in sequential data assimilation. *Stochastic Environmental Research and Risk Assessment* 15 (2001), 65–86.
- [299] SERRA, J. Les structures gigognes: morphologie mathématique et interprétation métallogénique. *Mineralium Deposita* 3 (1968), 135–154.
- [300] SHILOV, G. E., AND GUREVICH, B. L. *Integral, Measure and Derivative: a Unified Approach*. Dover, New York, 1977.
- [301] SICHEL, H. S. New methods in the statistical evaluation of mine sampling data. *Transactions of the Institution of Mining and Metallurgy* (1952).
- [302] SICHEL, H. S. The estimation of means and associated confidence limits for small samples from lognormal populations. *Journal of the South African Institute of Mining and Metallurgy March* (1966), 106–122.
- [303] SIERRA, J. P., GONZÁLEZ DEL RÍO, J., SÁNCHEZ-ARCILLA, A., FLOS, J., MOVELÁN, E., RODILLA, M., MÖSSO, C., FALCO, S., ROMERO, I., AND CRUZADO, A. Spatial distribution of nutrients in the Ebro estuary and plume. *Continental Shelf Research* (2001), 30p. in press.

- [304] SIERRA, J. P., GONZÁLEZ DEL RÍO, J., SÁNCHEZ-ARCILLA, A., MOVELLÁN, E., RODILLA, M., MÖSSO, C., MARTÍNEZ, R., FALCO, S., ROMERO, I., AND MAROTTA, L. Dynamics of the Ebro river estuary and plume in the Mediterranean Sea. In *Proceedings of 10th International Biennial Conference on Physics of Estuaries and Coastal Seas* (Norfolk, Virginia, 2000).
- [305] SOARES, A., Ed. *Geostatistics Tróia '92*. Kluwer, Amsterdam, 1993.
- [306] SOARES, A., GOMEZ-HERNANDEZ, J., AND FROIDEVAUX, R., Eds. *GeoENV I: Geostatistics for Environmental Applications*. Kluwer, Amsterdam, 1997.
- [307] SOUSA, A. J. Geostatistical data analysis: an application to ore typology. In Armstrong [11], pp. 851–860.
- [308] SPARKS, R., ADOLPHSON, A., AND PHATAK, A. Multivariate process monitoring using the dynamic biplot. *International Statistical Review* 65 (1997), 325–349.
- [309] SPECTOR, A., AND BHATTACHARYYA, B. K. Energy density spectrum and autocorrelation functions due to simple magnetic models. *Geophysical Prospecting* 14 (1966), 242–272.
- [310] SPECTOR, A., AND GRANT, F. S. Statistical models for interpreting aeromagnetic data. *Geophysics* 35 (1970), 293–302.
- [311] STEIN, A., STARISKY, I. G., AND J, B. Simulation of moisture deficits and areal interpolation by universal cokriging. *Water Resources Research* 27 (1991), 1963–1973.
- [312] STEIN, A., VAN EINJSBERGEN, A. C., AND BARENDREGT, L. G. Cokriging nonstationary data. *Mathematical Geology* 23 (1991), 703–719.
- [313] STEIN, M. L. A simple model for spatial-temporal processes. *Water Resources Research* 22 (1986), 2107–2110.
- [314] STEIN, M. L. *Interpolation of Spatial Data: Some Theory for Kriging*. Springer-Verlag, New York, 1999.
- [315] STOYAN, D. *Stochastik für Ingenieure und Naturwissenschaftler*. Akademie-Verlag, Berlin, 1993.
- [316] STOYAN, D., AND STOYAN, H. *Fractals, Random Shapes and Point Fields*. Wiley, New York, 1994.
- [317] STOYAN, D., STOYAN, H., AND JANSEN, U. *Umweltstatistik: statistische Verarbeitung und Analyse von Umweltdaten*. Teubner, Stuttgart, 1997.
- [318] STRANG, G. *Linear Algebra and its Applications*. Academic Press, London, 1984.
- [319] STRANG, G. *Introduction to Applied Mathematics*. Wellesley-Cambridge Press, Wellesley, 1986.
- [320] SWITZER, P., AND GREEN, A. A. Min/max autocorrelation factors for multivariate spatial imagery. Tech. Rep. 6, Department of Statistics, Stanford University, Stanford, 1984.

- [321] SZEGÖ, G. *Orthogonal Polynomials*, 4th ed. American Mathematical Society, Providence, 1975.
- [322] THIÉBAUX, H. J. The power of duality in spatial-temporal estimation. *Journal of Climate* 10 (1997), 567–573.
- [323] THIÉBAUX, H. J., MORONE, L. L., AND WOBUS, R. L. Global forecast error correlation. part 1: isobaric wind and geopotential. *Monthly Weather Review* 118 (1990), 2117–2137.
- [324] THIÉBAUX, H. J., AND PEDDER, M. A. *Spatial Objective Analysis: with Applications in Atmospheric Science*. Academic Press, London, 1987.
- [325] TYLER, D. E. On the optimality of the simultaneous redundancy transformations. *Psychometrika* 47 (1982), 77–86.
- [326] VAN DOORN, E. *Stochastic Monotonicity and Queueing Applications of Birth-Death Processes*. Springer-Verlag, New York, 1981.
- [327] VARGAS-GUZMÁN, J. A., WARRICK, A. W., AND MYERS, D. E. Scale effect on principal component analysis for vector random functions. *Mathematical Geology* 31 (1999), 701–722.
- [328] VARGAS-GUZMÁN, J. A., AND YEH, T. C. J. Sequential kriging and cokriging: two powerful geostatistical approaches. *Stochastic Environmental Research and Risk Assessment* 13 (1999), 416–435.
- [329] VENABLES, W. N., AND RIPLEY, B. D. *Modern Applied Statistics with S-Plus*. Springer-Verlag, New York, 1994.
- [330] VER HOEF, J. M., AND CRESSIE, N. Multivariable spatial prediction. *Mathematical Geology* 25 (1993), 219–240.
- [331] VERLY, G., DAVID, M., AND JOURNEL, A. G., Eds. *Geostatistics for Natural Resources Characterization*, vol. C-122 of NATO ASI Series C-122. Reidel, Dordrecht, 1984.
- [332] VINCENT, R., GRZEBYK, M., WACKERNAGEL, H., AND LAJAUNIE, C. Application de la géostatistique à l'hygiène industrielle: Evaluation d'un cas d'exposition professionnelle au trichloroéthylène. *Cahiers de Notes Documentaires* 174, ND 2094-174-99 (1999), 5–13.
- [333] VOLLE, M. *Analyse des Données*. Economica, Paris, 1985.
- [334] VON STORCH, H., AND NAVARRA, A., Eds. *Analysis of Climate Variability*. Springer-Verlag, Berlin, 1995.
- [335] VON STORCH, H., AND ZWIERS, F. *Statistical Analysis in Climate Research*. Cambridge University Press, Cambridge, 1999.
- [336] WACKERNAGEL, H. *L'inférence d'un Modèle Linéaire en Géostatistique Multivariable*. PhD thesis, Ecole des Mines de Paris, Fontainebleau, 1985.

- [337] WACKERNAGEL, H. Geostatistical techniques for interpreting multivariate spatial information. In *Quantitative Analysis of Mineral and Energy Resources* (Dordrecht, 1988), C. F. Chung, Ed., vol. C-223 of *NATO ASI Series*, Reidel, pp. 393–409.
- [338] WACKERNAGEL, H. Description of a computer program for analyzing multivariate spatially distributed data. *Computers & Geosciences* 15 (1989), 593–598.
- [339] WACKERNAGEL, H. Cokriging versus kriging in regionalized multivariate data analysis. *Geoderma* 62 (1994), 83–92.
- [340] WACKERNAGEL, H., AND BUTENUTH, C. Caractérisation d'anomalies géochimiques par la géostatistique multivariable. *Journal of Geochemical Exploration* 32 (1989), 437–444.
- [341] WACKERNAGEL, H., LAJAUNIE, C., THIÉRY, L., AND GRZEBYK, M. Evaluation de l'exposition sonore en milieu professionnel: Application de méthodes géostatistiques à l'estimation du Leq et conséquences sur les stratégies de mesurage. Tech. Rep. MAV-NT-373/LT, Institut National de Recherche et de Sécurité, Vandoeuvre-Les-Nancy, 1998.
- [342] WACKERNAGEL, H., LAJAUNIE, C., THIÉRY, L., VINCENT, R., AND GRZEBYK, M. Applying geostatistics to exposure monitoring data in industrial hygiene. In Soares et al. [306], pp. 463–476.
- [343] WACKERNAGEL, H., PETITGAS, P., AND TOUFFAIT, Y. Overview of methods for coregionalization analysis. In Armstrong [11], pp. 409–420.
- [344] WACKERNAGEL, H., AND SANGUINETTI, H. Gold prospecting with factorial cokriging in the Limousin, France. In *Computers in Geology: 25 years of progress* (Oxford, 1992), J. C. Davis and U. C. Herzfeld, Eds., vol. 5 of *Studies in Mathematical Geology*, Oxford University Press, pp. 33–43.
- [345] WACKERNAGEL, H., THIÉRY, L., AND GRZEBYK, M. The Larsen model from a de Wijsian perspective. In Gomez-Hernandez et al. [116], pp. 125–135.
- [346] WACKERNAGEL, H., WEBSTER, R., AND OLIVER, M. A. A geostatistical method for segmenting multivariate sequences of soil data. In *Classification and Related Methods of Data Analysis* (Amsterdam, 1988), H. H. Bock, Ed., Elsevier (North-Holland), pp. 641–650.
- [347] WAHBA, G. *Spline Models for Observational Data*. Society for Industrial and Applied Mathematics, Philadelphia, 1990.
- [348] WALTER, E., AND PRONZATO, L. *Identification of Parametric Models from Experimental Data*. Springer-Verlag, Berlin, 1997.
- [349] WARNES, J. J. A sensitivity analysis of universal kriging. *Mathematical Geology* 18 (1986), 653–676.
- [350] WEBSTER, R. Optimally partitioning soil transects. *Journal of Soil Science* 29 (1978), 388–402.

- [351] WEBSTER, R., ATTEIA, O., AND DUBOIS, J. P. Coregionalization of trace metals in the soil in the Swiss jura. *European Journal of Soil Science* 45 (1994), 205–218.
- [352] WEBSTER, R., AND OLIVER, M. A. *Statistical Methods in Soil and Land Resource Survey*. Oxford University Press, Oxford, 1990.
- [353] WEBSTER, R., OLIVER, M. A., MUIR, K. R., AND MANN, J. R. Kriging the local risk of a rare disease from a register of diagnoses. *Geographical Analysis* 26 (1990), 168–185.
- [354] WELLMER, F. W. *Statistical Evaluations in Exploration for Mineral Deposits*. Springer-Verlag, Berlin, 1998.
- [355] WHITTAKER, J. *Graphical Models in Applied Multivariate Analysis*. Wiley, New York, 1990.
- [356] WIKLE, C. K., AND CRESSIE, N. A dimension-reduced approach to space-time Kalman filtering. *Biometrika* 86 (1999), 815–829.
- [357] WILD, P., HORDAN, R., LEPLAY, A., AND VINCENT, R. Confidence intervals for probabilities of exceeding threshold limits with censored log-normal data. *Environmetrics* 7 (1996), 247–259.
- [358] WOLF, T., SÉNÉGAS, J., BERTINO, L., AND WACKERNAGEL, H. Application of data assimilation to three-dimensional hydrodynamics: the case of the Odra lagoon. In Monestiez et al. [225], pp. 157–168.
- [359] WU, Z. Compactly supported positive definite radial functions. *Advances in Computational Mathematics* 4 (1995), 283–292.
- [360] XU, W., TRAN, T. T., SRIVASTAVA, R. M., AND JOURNEL, A. G. Integrating seismic data in reservoir modeling: the collocated cokriging alternative. In *Proceedings of 67th Annual Technical Conference of the Society of Petroleum Engineers* (Washington, 1992), no. 24742 in SPE, pp. 833–842.
- [361] YAGLOM, A. M. *An Introduction to the Theory of Stationary Random Functions*. Dover, New York, 1962.
- [362] YAGLOM, A. M. *Correlation Theory of Stationary and Related Random Functions*. Springer-Verlag, Berlin, 1986.
- [363] YAO, T., AND JOURNEL, A. G. Automatic modelling of (cross)covariance tables using Fast Fourier Transform. *Mathematical Geology* 30 (1998), 589–615.
- [364] YAO, T., AND JOURNEL, A. G. Note and corrections to: Automatic modelling of (cross)covariance tables using Fast Fourier Transform. *Mathematical Geology* 32 (2000), 147–148.
- [365] YAO, T., MUKERJI, T., JOURNEL, A. G., AND MAVKO, G. Scale matching with factorial kriging for improved porosity estimation from seismic data. *Mathematical Geology* 31 (1999), 23–46.

- [366] YARUS, J. M., AND CHAMBERS, R. L., Eds. *Stochastic Modelling and Geostatistics: Principles, Methods and Case Studies*. American Association of Petroleum Geologists, Tulsa, 1994.
- [367] ZIMMERMANN, D. L. Computationally efficient restricted maximum likelihood estimation of generalized covariance functions. *Mathematical Geology* 21 (1989), 655-672.
- [368] YAO, T., MIKURU, T., JOURNEL, A. G., AND MARKO, G. State tracking with Kalman filtering for improved geostatistical estimation. *Mathematical Geology* 31 (1999), 33-46.
- [369] YAO, T., AND JOURNEL, A. G. New and efficient fast Fourier transform (cross-covariance tables using Fast Fourier Transform. *Mathematical Geology* 32 (2000), 1123-1148.
- [370] YAO, T., AND JOURNEL, A. G. Automatic modeling of correlation functions using Fast Fourier Transform. *Mathematical Geology* 30 (1998), 385-415.
- [371] YAGLOM, A. M. *Covariance Theory of Stationary and Related Random Functions*. Springer-Verlag, Berlin, 1984.
- [372] YAGLOM, A. M. An introduction to the theory of stationary random functions. *Journal of the Royal Statistical Society B* 28 (1966), 1-42.
- [373] XU, W., TRAK, T. T., SRIVASTAVA, R. M., AND JOURNEL, A. G. Integrating seismic data in reservoir modeling: the collected collocated alternative. In *Proceedings of the 45th Annual Technical Conference of the Society of Petroleum Engineers (Washington, DC, 1992)*, pp. 2472-2477. SPE, 1992.
- [374] WU, J. Geometrically smoothed positive definite radial functions. *Statistics in Computing* 13 (2003), 283-287.
- [375] WU, J., AND WACKERLAGE, H. Application of the Matérn covariance function to geostatistical problems. *International Journal of Geographical Information Science* 17 (2003), 531-550.
- [376] WU, J., TANG, C. H., AND WACKERLAGE, H. A dimension-reduced approach to space-time kriging. *Biometrika* 90 (2003), 815-828.
- [377] WITTAKER, J. *Graphical Models in Applied Multivariate Analysis*. Wiley, New York, 1990.
- [378] WESTER, K., AND OLIVER, M. A. *Statistical Methods in Soil and Water Science*. John Wiley & Sons, New York, 1992.