

Bibliographie

- [1] C. Shannon and W. Weaver, "The mathematical theory of communication," *Bell System Technical Journal*, vol. 27, pp. 379–423, 623–656, 1948.
- [2] E. T. Jaynes, "Prior probabilities," *IEEE Transactions on Systems Science and Cybernetics*, vol. SSC-4, pp. 227–241, September 1968.
- [3] E. T. Jaynes, "On the rationale of maximum-entropy methods," *Proceedings of the IEEE*, vol. 70, pp. 939–952, September 1982.
- [4] E. T. Jaynes, "Where do we go from here?," in *Maximum-Entropy and Bayesian Methods in Inverse Problems* (J. C.R. Smith & T. Grandy, ed.), pp. 21–58, 1985.
- [5] R. Balian, *Du microscopique au macroscopique, cours de physique statistique de l'École Polytechnique*, vol. 1. Paris: Ellipses, 1982.
- [6] R. Johnson and J. Shore, "Which is better entropy expression for speech processing: -slogs or logs?," *IEEE Transactions on Acoustics Speech and Signal Processing*, vol. ASSP-32, pp. 129–137, 1984.
- [7] S. Geman and D. Geman, "Stochastic relaxation, Gibbs distributions, and the Bayesian restoration of images," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-6, pp. 721–741, November 1984.
- [8] D. Geman, *École d'Été de Probabilités de Saint-Flour XVIII - 1988*, vol. 1427, ch. Random fields and inverse problems in imaging, pp. 117–193. Springer-Verlag, lecture notes in mathematics ed., 1990.
- [9] S. Geman and G. Reynolds, "Constrained restoration and recovery of discontinuities," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-14, pp. 367–383, March 1992.
- [10] J. E. Besag, "Spatial interaction and the statistical analysis of lattice systems (with discussion)," *Journal of the Royal Statistical Society B*, vol. 36, no. 2, pp. 192–236, 1974.
- [11] J. E. Besag, "On the statistical analysis of dirty pictures (with discussion)," *Journal of the Royal Statistical Society B*, vol. 48, no. 3, pp. 259–302, 1986.
- [12] J. E. Besag, "Digital image processing: Towards Bayesian image analysis," *Journal of Applied Statistics*, vol. 16, no. 3, pp. 395–407, 1989.
- [13] J. E. Besag and P. Green, "Spatial statistics and Bayesian computation," *J. R. Statist. Soc. B*, vol. 55, pp. 25–37, 1993.

- [14] A. Blake and A. Zisserman, *Visual reconstruction*. Cambridge: The MIT Press, 1987.
- [15] M. Nikolova and A. Mohammad-Djafari, "Eddy current tomography using a binary Markov model," *Signal Processing*, vol. 49, pp. 119–132, 1996. Mila Signal Processing.
- [16] A. Tikhonov and V. Arsenin, *Solutions of Ill-Posed Problems*. Washington DC: Winston, 1977.
- [17] D. M. Titterton, "General structure of regularization procedures in image reconstruction," *Å*, vol. 144, pp. 381–387, 1985.
- [18] M. Bertero, C. De Mol, and E. Pike, "Linear inverse problems with discrete data: II. stability and regularization," *Inverse Problems*, vol. 4, p. 3, 1988.
- [19] M. Bertero, T. Poggio, and V. Torre, "Ill-posed problems in early vision," *Proceedings of the IEEE*, vol. 76, pp. 869–889, August 1988.
- [20] J. Cullum, "Numerical differentiation and regularization," *SIAM Journal of Numerical Analysis*, vol. 8, pp. 254–265, 1971.
- [21] N. Karayiannis and A. Venetsanopoulos, "Regularization theory in image restoration – the stabilizing functional approach," *IEEE Transactions on Acoustics Speech and Signal Processing*, vol. ASSP-38, pp. 1155–1179, July 1990.
- [22] G. Demoment, "Image reconstruction and restoration: Overview of common estimation structure and problems," *IEEE Transactions on Acoustics Speech and Signal Processing*, vol. ASSP-37, pp. 2024–2036, December 1989.
- [23] G. Demoment and A. Lannes, "Les problèmes inverses," *Le Courrier du CNRS*, vol. 77, pp. –, juin 1991. numéro spécial sur le traitement du signal et de l'image.
- [24] G. Demoment, "Problèmes inverses," *Flux*, pp. 42–43, novembre 1991.
- [25] L. Landweber, "An iteration formula for fredholm integral equations of the first kind," *Amer. J. Math.*, vol. 73, pp. 615–624, 1951.
- [26] H. Bialy, "Iterative behandlung linearen funktionalgleichungen," *Arch. Ration. Mech. Anal.*, vol. 4, pp. 166–176, 1959.
- [27] M. Nashed and G. Wahba, "Generalized inverses in reproducing kernel spaces: An approach to regularization of linear operators equations," *SIAM Journal of Mathematical Analysis*, vol. 5, pp. 974–987, 1974.
- [28] M. Nashed, "Operator-theoretic and computational approaches to ill-posed problems with applications to antenna theory," *IEEE Transactions on Antennas and Propagation*, vol. 29, pp. 220–231, 1981.
- [29] D. Saint-Félix, *Restauration d'image : régularisation d'un problème mal-posé et algorithmique associée*. PhD thesis, Thèse de doctorat d'État, Université de Paris-Sud, septembre 1987.
- [30] G. Box and G. Tiao, *Bayesian inference in statistical analysis*. Addison-Wesley publishing, 1972.

- [31] D. Keren and M. Werman, "Probabilistic analysis of regularization," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-15, no. 10, pp. 982–995, 1993.
- [32] J. Cullum, "The effective choice of the smoothing norm in regularization," *Math. Comp.*, vol. 33, pp. 149–170, 1979.
- [33] N. Galatsanos and A. Katsaggelos, "Methods for choosing the regularization parameter and estimating the noise variance in image restoration and their relation," *IEEE Transactions on Image Processing*, vol. IP-1, pp. 322–336, July 1992. JFG.
- [34] G. H. Golub, M. Heath, and G. Wahba, "Generalized cross-validation as a method for choosing a good ridge parameter," *Technometrics*, vol. 21, pp. 215–223, mai 1979. JFG.
- [35] A. Thompson, J. C. Brown, J. W. Kay, and D. M. Titterton, "A study of methods of choosing the smoothing parameter in image restoration by regularization," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-13, pp. 326–339, April 1991.
- [36] D. M. Titterton, "Common structure of smoothing techniques in statistics," *International Statistical Review*, vol. 53, no. 2, pp. 141–170, 1985. JFG,Mila.
- [37] P. Hall and D. M. Titterton, "Common structure of techniques for choosing smoothing parameter in regression problems," *Journal of the Royal Statistical Society B*, vol. 49, no. 2, pp. 184–198, 1987. JFG.
- [38] N. Fortier, G. Demoment, and Y. Goussard, "GCV and ML methods of determining parameters in image restoration by regularization: Fast computation in the spatial domain and experimental comparison," *Journal of Visual Communication and Image Representation*, vol. 4, pp. 157–170, June 1993.
- [39] E. Gassiat, F. Monfront, and Y. Goussard, "On simultaneous signal estimation and parameter identification using a generalized likelihood approach," *IEEE Transactions on Information Theory*, vol. IT-38, pp. 157–162, January 1992.
- [40] J.-M. Dinten, "Tomographic reconstruction with a limited number of projections: regularization using a ^Markov model," tech. rep., Université de Paris-Sud, 1988.
- [41] J.-M. Dinten, *Tomographie à partir d'un nombre limité de projections: régularisation par champs markoviens*. PhD thesis, Université de Paris-Sud, janvier 1990.
- [42] D. Geman and C. Yang, "Nonlinear image recovery with half-quadratic regularization," *IEEE Transactions on Image Processing*, vol. IP-4, pp. 932–946, July 1995.
- [43] T. J. Hebert and R. Leahy, "Statistic-based MAP image reconstruction from poisson data using ^Gibbs prior," *IEEE Transactions on Signal Processing*, vol. SP-40, pp. 2290–2303, September 1992.
- [44] V. Johnson, W. Wong, X. Hu, and C.-T. Chen, "Image restoration using ^Gibbs priors: Boundary modeling, treatment of blurring, and selection of hyperparameter," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-13, no. 5, pp. 413–425, 1984.

- [45] L. Younès, “Estimation and annealing for Gibbsian fields,” *Annales de l’institut Henri Poincaré*, vol. 24, pp. 269–294, février 1988.
- [46] M. Nikolova, *Inversion markovienne de problèmes linéaires mal posés. application à l’imagerie tomographique*. PhD thesis, Université de Paris-Sud, Orsay, février 1995.
- [47] M. Gökmen and C.-C. Li, “Edge detection and surface reconstruction using refined regularization,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-15, pp. 492–499, May 1993.
- [48] D. Lee and T. Pavlidis, “One-dimensional regularization with discontinuities,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-10, pp. 417–438, November 1988.
- [49] D. Terzopoulos, “Regularization of inverse visual problems involving discontinuities,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-8, pp. 413–424, July 1986.
- [50] D. Terzopoulos, “The computation of visual surface representations,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. PAMI-10, no. 4, pp. 417–438, 1988.
- [51] P. G. Ciarlet, *Introduction à l’analyse numérique et à l’optimisation*. Paris: Masson, 1982.
- [52] P. G. Ciarlet, *Introduction à l’analyse numérique matricielle et à l’optimisation*. Collection mathématiques appliquées pour la maîtrise, Paris: Masson, 1988. JFG.
- [53] G. Golub and C. Van Loan, *Matrix computations (2nd Edition)*. xxx: xxx, 1989.
- [54] G. Demoment, “Déconvolution des signaux,” Cours de l’ESE 3086, GPI-LSS, 1985.
- [55] G. Demoment and R. Reynaud, “Fast minimum-variance deconvolution,” *IEEE Transactions on Acoustics Speech and Signal Processing*, vol. ASSP-33, pp. 1324–1326, 1985.
- [56] D. Commenges, “The deconvolution problem : Fast algorithms including the preconditioned conjugate-gradient to compute a MAP estimator,” *IEEE Transactions on Automatic and Control*, vol. AC-29, pp. 229–243, 1984.
- [57] G. Demoment and R. Reynaud, “Fast RLS algorithms and chandrasekhar equations,” in *Adaptive Signal Processing* (S. Haykin, ed.), (San Diego), pp. 357–367, SPIE Conf., July 1991.
- [58] Hogbom, “Aperture synthesis with a non-regular distribution of interferometer baselines,” *Astron. Astrophys. Suppl.*, vol. 15, pp. 417–426, 1974.
- [59] A. Benveniste, M. Goursat, and G. Ruget, “Robust identification of nonminimum phase system : Blind adjustment of a linear equalizer in data communications,” *IEEE Transactions on Automatic and Control*, vol. AC-25, 1980.
- [60] Y. Goussard, “Blind deconvolution of sparse spike trains using stochastic optimization,” in *Proceedings of IEEE ICASSP*, vol. IV, pp. 593–596, 1992.

- [61] Holmes, "Blind deconvolution of quantum-limited incoherent imagery: Maximum-likelihood approach," *Journal of the Optical Society of America*, vol. 9, July 1993.
- [62] Schultz, "Multiframe blind deconvolution of astronomical images," *Journal of the Optical Society of America*, vol. 10, May 1993.
- [63] J. Liu and R. Chen, "Blind deconvolution via sequential imputations," *Biometrika*, vol. 90, no. 430, pp. 567–576, 1995. MF.
- [64] C. Chi, J. Goustias, and J. M. Mendel, "A fast maximum-likelihood estimation and detection algorithm for B ernoulli- G aussian processes," in *Proceedings of IEEE ICASSP*, pp. 1297–1300, 1985.
- [65] M. Lavielle, " B ayesian deconvolution of B ernoulli- G aussian processes," *Signal Processing*, vol. 33, pp. 67–79, 1993.
- [66] F. Champagnat, J. Idier, and G. Demoment, "Deconvolution of sparse spike trains accounting for wavelet phase shifts and colored noise," in *Proceedings of IEEE ICASSP*, vol. III, (Minneapolis, U.S.A.), pp. 452–455, 1993.
- [67] F. Champagnat, *Déconvolution impulsionnelle et extensions pour la caractérisation des milieux inhomogènes en échographie*. PhD thesis, Université de Paris-Sud, Orsay, décembre 1993.
- [68] J. Idier and Y. Goussard, "Stack algorithm for recursive deconvolution of B ernoulli- G aussian processes," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-28, pp. 975–978, September 1990.
- [69] J. Idier, *Imagerie des milieux stratifiés: modélisation markovienne, application à la déconvolution sismique*. PhD thesis, Université de Paris-Sud, Orsay, septembre 1991.
- [70] J. Idier and Y. Goussard, " M arkov modeling for B ayesian restoration of two-dimensional layered structures," *IEEE Transactions on Information Theory*, vol. IT-39, pp. 1356–1373, July 1993.
- [71] J. Idier and Y. Goussard, "Multichannel seismic deconvolution," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-31, pp. 961–979, September 1993.
- [72] P. Hua, E. Woo, J. Webster, and W. Tompkins, "Iterative reconstruction methods using regularization and optimal current patterns in electrical impedance tomography," *IEEE Transactions on Medical Imaging*, vol. MI-10, pp. 621–628, December 1991.
- [73] R. V. Kohn and A. McKenney, "Numerical implementation of a variational method for electrical impedance tomography," *Inverse Problems*, pp. 389–414, 1990.
- [74] J. Webster, *Electrical Impedance Tomography*. Adam Hilger, IOP Publishing Ltd, 1990.
- [75] J. Greenleaf, "Computerized tomography with ultrasound," *Proceedings of the IEEE*, vol. 71, p. 330, 1983.

- [76] D. Hiller and H. Hermert, "System analysis of ultrasound reflection mode computerized tomography," *IEEE Transactions on Sonics and Ultrasonics*, vol. SU-31, pp. 240–250, 1984.
- [77] A. C. Kak, "Computerized tomography with X-ray, emission, and ultrasound sources," *Proceedings of the IEEE*, vol. 67, pp. 1245–1272, September 1979.
- [78] J. Lefebvre, "La tomographie d'impédance acoustique," *Traitement du Signal*, vol. 2, pp. 103–110, 1985.
- [79] M. Moshfeghi, "Ultrasound reflection-mode tomography using fan-shaped-beam insonification," *IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control*, vol. UFFC-33, pp. 299–314, 1986.
- [80] C. Schueler, H. Lee, and G. Wade, "Fundamentals of digital ultrasonic imaging," *IEEE Transactions on Sonics and Ultrasonics*, vol. SU-31, pp. 195–217, 1984.
- [81] R. Bracewell, "Strip integration in radio astronomy," *Aust. J. Phys.*, vol. 9, pp. 198–201, 1956.
- [82] L. B. Lucy, "An iterative technique for the rectification of observed distributions," *The Astronomical Journal*, vol. 79, no. 6, pp. 745–754, 1974.
- [83] J. Fienup, "Phase retrieval algorithms: a comparison," *Applied Optics*, vol. 21, pp. 2758–2769, August 1982.
- [84] T. J. Pearson and A. C. S. Readhead, "Image formation by self-calibration in radio astronomy," *Ann. Rev. Astron. Astrophys.*, vol. 22, pp. 97–130, 1984.
- [85] Lannes, "Backprojection mechanisms in phase-closure imaging. bispectral analysis of the phase-restoration process," *Experimental Astronomy*, vol. 1, pp. 47–76, 1989.
- [86] A. Lannes, "Phase and amplitude calibration in aperture synthesis. algebraic structures," *Inverse Problems*, vol. 7, pp. 261–298, 1991.
- [87] Thompson, Moran, and Swenson, *Interferometry and Synthesis in Radio-astronomy*. New-York: Wiley Interscience, 1984.
- [88] J. Navaza, "On the maximum-entropy estimate of the electron density function," *Acta Crystallographica*, vol. A-41, pp. 232–244, 1985.
- [89] J. Navaza, "The use of non-local constraints in maximum-entropy electron density reconstruction," *Acta Crystallographica*, vol. A-42, pp. 212–223, 1986.
- [90] J. Navaza, "Accurate solutions of the maximum entropy equations. their impact on the foundations of direct methods.," in *Int. School Comp.*, (Bishenberg, Germany), 1990.
- [91] M. Adams and A. Anderson, "Synthetic aperture tomographic (sat) imaging for microwave diagnostics," *Proceedings of the IEE*, vol. 129, pp. 83–88, 1982.
- [92] J. A. O'Sullivan, "Divergence penalty for image regularization," in *Proceedings of IEEE ICASSP*, vol. V, (Adelaide, Australia), pp. 541–544, April 1994.

- [93] J. A. O'Sullivan, "Roughness penalties on finite domains," *IEEE Transactions on Image Processing*, vol. IP-4, pp. 1258–1268, September 1995.
- [94] Zellner, "Maximal data information prior distributions," in *New Developments in the Applications of Bayesian Methods* (A. Aykac and C. Brumat, eds.), pp. 211–232, Amsterdam: North-Holland, 1977.
- [95] A. Mohammad-Djafari and G. Demoment, *Image restoration and reconstruction using entropy as a regularization functional*, vol. 2, pp. 341–355. Dordrecht, The Netherlands: Kluwer Academic Publishers, 1988.
- [96] A. Mohammad-Djafari and G. Demoment, "Utilisation de l'entropie dans les problèmes de restauration et de reconstruction d'images," *Traitement du Signal*, vol. 5, no. 4, pp. 235–248, 1988.
- [97] N. Saito, "Superresolution of noisy band-limited data by data adaptive regularization and its application to seismic trace inversion," in *Proceedings of IEEE ICASSP*, (Albuquerque, U.S.A.), pp. 1237–1240, April 1990.
- [98] V. Arya and H. Holden, "Deconvolution of seismic data-an overview," *IEEE Transactions on Geoscience and Remote Sensing*, vol. GE-16, pp. 95–98, 1978.
- [99] L. M. Bregman, "The relaxation method of finding the common point of convex sets and its application to the solution of problems in convex programming," *Zh. vĭchisl. Mat. mat. Fiz.*, vol. 7, pp. 147–156, 1967.
- [100] L. M. Bregman, "The relaxation method of finding the common point of convex sets and its application to the solution of problems in convex programming," *U.S.S.R. Computational Mathematics and Mathematical Physics*, vol. 7, pp. 200–217, 1967.
- [101] M. I. Sezan and H. Stark, "Image restoration by the method of convex projections: Part 2 - applications and numerical results," *IEEE Transactions on Medical Imaging*, vol. MI-1, pp. 95–101, October 1982.
- [102] P. L. Combettes, "The foundation of set theoretic estimation," *Proceedings of the IEEE*, vol. 81, pp. 182–208, February 1993.
- [103] R. Bryan and J. Skilling, "Deconvolution by maximum entropy as illustrated by application to the jet of m87," *Monthly Notices of the Royal Astronomical Society*, vol. 191, pp. 69–79, 1980.
- [104] R. Bryan, M. Bansal, W. Folkhard, C. Nave, and D. Marvin, "Maximum-entropy calculation of the electron density at 4 a resolution of pfl filamentous bacteriophage," *Proc. Natl. Acad. Sci. USA*, vol. 80, pp. 4728–4731, 1983.
- [105] A. Mohammad-Djafari and G. Demoment, "Maximum entropy diffraction tomography," in *Proceedings of IEEE ICASSP*, (Tokyo, Japan), pp. 1–34, 1986.
- [106] A. Mohammad-Djafari and G. Demoment, "Maximum entropy ^Fourier synthesis with application to diffraction tomography," *Applied Optics*, vol. 26, no. 10, pp. 1745–1754, 1987.

- [107] A. Mohammad-Djafari and G. Demoment, "Tomographie de diffraction et synthèse de Fourier à maximum d'entropie," *Revue de Physique Appliqué*, vol. 22, pp. 153–167, 1987.
- [108] A. Mohammad-Djafari and G. Demoment, "Maximum entropy reconstruction in X ray and diffraction tomography," *IEEE Transactions on Medical Imaging*, vol. MI-7, no. 4, pp. 345–354, 1988.
- [109] A. Mohammad-Djafari, "Maximum d'entropie et problèmes inverses en imagerie," *Traitement du Signal*, pp. 87–116, 1994.
- [110] J.-F. Bercher, *Développement de critères de nature entropique pour la résolution des problèmes inverses linéaires*. PhD thesis, Université de Paris-Sud, Orsay, février 1995.
- [111] G. Le Besnerais, *Méthode du maximum d'entropie sur la moyenne, critères de reconstruction d'image et synthèse d'ouverture en radio-astronomie*. PhD thesis, Université de Paris-Sud, Orsay, décembre 1993.