References

[1] A.J. Rockmore, A. Macovski. "A maximum likelihood approach to emission image reconstruction from projections." *IEEE Trans Nucl Sci*, 1976; NS-23: 1428-1432

[2] A.P. Dempster, N.M. Laird, D.B. Rubin "Maximum likelihood from incomplete data via the EM algorithm." *J R Stat Soc Series B*, 1977; 39: 1-38.

[3] LS Shepp, Y Vardi. "Maximum likelihood reconstruction for emission tomography," *IEEE Trans Med Imaging*, 1982; MI-1: 113-122.

[4] K.Lange, R.Carson. "EM reconstruction algorithms for emission and transmission tomography," *J Comput Assist Tomogr*, 1984; 8: 306-316.

[5] M.I. Miller, D.L. Snyder, T.R.Miller. "Maximum-likelihood reconstruction for single-photon emission computed-tomography." *IEEE Trans Nucl Sci*, 1985; NS-32: 769-778

[6] Y. Vardi, A. Shepp, L. Kaufman "A statistical model for positron emission tomography." *J American Statistical Assoc*, 1985; 80: 8-37

[7] K. Lange, M. Bahn, R. Little. "A theoretical study of some maximum likelihood algorithms for emission and transmission tomography." *IEEE Trans Med Imaging* 1987; MI-6: 106-114

[8] S.H. Manglos, F.D. Thomas, R.B. Capone. "Attenuation compensation of cone beam SPECT images using maximum likelihood reconstruction." *IEEE Trans Med Imaging* 1991; 10: 66-73.

[9] R.J. Jaszczak, J. Li, H. Wang, R.E. Coleman. "Three-dimensional SPECT reconstruction of combined cone beam and parallel beam data." *Phys Med Biol* 1992; 37: 535-548

[10] AR De Pierro. "A modified expectation maximization algorithm for penalized likelhood estimation in emission tomography," *IEEE Trans Med Imaging*, 1995; 14: 132-137.

[11] MM Anderson, BA Mair, M Rao, CH Wu. "Weighted least-squares reconstruction methods for positron emission tomography." *IEEE Trans Med Imaging*, 1997; 16: 159-165.

[12] P Schmidlin, ME Belleman, G Brix. "Iterative reconstruction of PET images using a high-overrelaxation single-projection algorithm." *Phys Med Biol* 1997; 42: 569-582.

[13] JA Fessler. "Penalized weighted least-squares image reconstruction for positron emission tomography." *IEEE Trans Med Imaging*, 1994; 13: 290-300.

[14] C Kamphuis, F Beekman, PP van Rijk, MA Viergever. "Dual matrix ordered subsets reconstruction for accelerated 3D scatter compensation in single-photon emission tomography." *Eur J Nucl Med* 1998; 25:8-18.

[15] SJ Glick, EJ Soares. "Noise characteristics of SPECT iterative reconstruction with a mis-matched projector-backprojector pair." *IEEE Trans Nucl Sci* 1998; 45: 2183-2188.

[16] DG Politte, DL Snyder. "Corrections for accidental coincidences and attenuation in maximum-likelihood image reconstruction for positron-emission tomography." *IEEE Trans Med Imaging*, 1991; 10: 82-89.

[17] BF Hutton, V Baccarne. "Efficient scatter modelling for incorporation in maximum likelihood reconstruction." *Eur J Nucl Med* 1998; 25: 1658-1665.

[18] DL Snyder, MI Miller. "The use of sieves to stabilize images produced with the EM algorithm for emission tomography." *IEEE Trans Nucl Sci* 1985; NS-32: 3864-3872

[19] D.L. Snyder, M.I. Miller, L.J. Thomas, D.G. Politte. "Noise and edge artifacts in maximum likelihood reconstructions for emission tomography." *IEEE Trans Med Imaging*, 1987; MI-6: 228-238

[20] E Veklerov, J Llacer. "Stopping rule for the MLE algorithm based on statistical hypothesis testing." *IEEE Trans Med Imaging*, 1987; MI-6, 313-319.

[21] J. Llacer, E. Veklerov. "Feasible images and practical stopping rules for iterative algorithms in emission tomography." *IEEE Trans Med Imaging* 1989; 8: 186-193.

[22] JS Liow, SC Strother. "The convergence of object dependent resolution in maximum likelihood based tomographic image reconstruction." *Phys Med Biol* 1993; 38: 55-70

[23] HH Barrett, DW Wilson, BMW Tsui. "Noise properties of the EM algorithm: I. Theory." *Phys Med Biol* 1994; 39: 833-846.

[24] DW Wilson, BMW Tsui, HH Barrett. "Noise properties of the EM-algorithm: II. Monte Carlo simulations." *Phys Med Biol* 1994; 39: 847-871.

[25] P Desmedt. "Bayesiaanse beeldreconstructie in positron-emissietomography", PhD dissertation, 1994.

[26] L Kaufman. "Maximum likelihood, least squares and penalized least squares for PET," *IEEE Trans Med Imaging*, 1993; 12: 200-214.

[27] K Sauer, C Bouman. "A local update strategy for iterative reconstruction from projections." *IEEE Trans Signal Processing* 1993; 41: 534-548.

[28] MH Hudson, RS Larkin. "Accelerated image reconstruction using ordered subsets of projection data," *IEEE Trans Med Imaging* 1994; 13: 601-609.

[29] J Browne, A De Pierro. "A row-action alternative to the EM algorithm for maximizing likelihoods in emission tomography." *IEEE Trans Med Imaging* 1996; 15: 687-699.

[30] CL Byrne. "Block-iterative methods for image reconstruction from projections", *IEEE Trans Med Imaging* 1996; 5: 792-794.

[31] EJ Soares, CL Byrne, SJ Glick. "Noise characterization of block-iterative reconstruction algorithms: I. Theory." *IEEE Trans Med Imaging* 2000; 19: 261-270.

[32] CA Johnson, J Seidel, A Sofer. "Interior-point methodology for 3-D PET reconstruction." *IEEE Trans Med Imaging* 2000; 19: 271-285.

[33] DS Lalush, EC Frey, BMW Tsui. "Fast maximum entropy approximation in SPECT using RBI-MAP algorithm." *IEEE Trans Med Imaging* 2000; 19: 286-294.

[34] SC Strother, ME Casey, EJ Hoffman. "Measuring PET scanner sensitivity: relating count rates to image signal-to-noise ratios using noise-equivalent counts." *IEEE Trans Nucl Sci*, 1990; 37: 783-788.

[35] M Yavuz, JA Fessler. "Statistical image reconstruction methods for randoms-precorrected PET scans." *Med Image Anal*, 1997; 2: 369-378.

[36] C Michel, M Sibomana, A Bol, X Bernard, M Defrise, C Comtat, PE Kinahan, D Townsend. "Preserving Poisson characteristics of PET data with weighted OSEM Reconstruction." *Conf rec of the IEEE NSS-MIC*, 1998, M8-61.

[37] L Parra, HH Barrett. "List-mode likelihood: EM-algorithm and image quality estimation demonstrated on 2D PET." *IEEE Trans Med Imaging*, 1998; 17: 228-235.

[38] AJ Reader, K Erlandsson, RJ Ott, MA FLower. "Attenuation and scatter correction of list-mode data driven iterative and analytic image reconstruction algorithms for rotating 3D PET systems." *IEEE Trans Nucl Sci,* 1999; 46: 2218-2226.

[39] C Comtat, PE Kinahan, M Defrise, C Michel, DW Townsend. "Fast reconstruction of 3D PET data with accurate statistical modeling." *IEEE Trans Nucl Sci* 1998; 45: 1083-1089.

[40] SH Manglos, GM Gagne, DA Bassano. "Quantitative analysis of image truncation in focal-beam CT." *Phys Med Biol* 1993; 38: 1443-1457

[41] JM Ollinger. "Maximum-likelihood reconstruction of transmission images in emission computed tomography via the EM algorithm," *IEEE Trans Med Imaging* 1994; 13: 89-101.

[42] JA Fessler. "Penalized weighted least-squares image reconstruction for positron emission tomography." *IEEE Trans Med Imaging,* 1994; 13: 290-300.

[43] S.H.Manglos, G.M.Gagne, A.Krol, F.D.Thomas, R.Narayanaswamy. "Transmission maximum-likelihood reconstruction with ordered subsets for cone beam CT," *Phys Med Biol* 1995; 40: 1225-1241.

[44] JA Fessler, EP Ficaro, NH Clinthorne, K Lange. "Grouped-coordinate ascent algorithms for penalized-likelihood transmission image reconstruction," *IEEE Trans Med Imaging* 1997; 16: 166-175.

[45] J Nuyts, B De Man, P Dupont, M Defrise, P Suetens, L Mortelmans. "Iterative reconstruction for helical CT: a simulation study," *Phys Med Biol*, 1998; 43: 729-737.

[46] S. Geman, D. Geman. "Stochastic relaxation, Gibbs distributions, and the Bayesian restoration of images." *IEEE Trans. Pattern Anal. Machine Intell.* 1984; PAMI-6: 721-741.

[47] S. Geman, D.E. McClure. "Statistical methods for tomographic image reconstruction." *Bull. Int. Stat. Inst.* 1987; 52-4: 5-21.

[48] T Hebert, R Leahy. "A generalized EM algorithm for 3-D Bayesian reconstruction from Poisson data using Gibbs priors." *IEEE Trans Med Imaging* 1989; 8: 194-202

[49] PJ Green. "Bayesian reconstruction from emission tomography data using a modified EM algorithm." *IEEE Trans Med imaging* 1990; 9: 84-93

[50] K Sauer, C Bouman. "Bayesian estimation of transmission tomograms using segmentation based optimization." *IEEE Trans Nucl Sci* 1992; 4: 1144-1152.

[51] Z Liang, J Ye. "Reconstruction of Object-Specific Attenuation Map for Quantitative SPECT," *Proceeding of the 1993 IEEE-MIC*, vol.2, 1231-1235, 1994.

[52] K Lange, J Fessler. "Globally convergent algorithms for maximum a posteriori transmission tomography." *IEEE Trans Image Processing* 1995; 4: 1430-1438.

[53] EÜ Mumcuoğlu, R Leahy, SR Cherry. "Bayesian reconstruction of PET images: methodology and performance analysis," *Phys Med Biol* 1996; 41: 1777-1807.

[54] S. Alenius, U. Ruotsalainen. "Bayesian image reconstruction for emission tomography based on median root prior," *Eur J Nucl Med* 1997; 24: 258-265.

[55] J Nuyts, P Dupont, S Stroobants, A Maes, L Mortelmans, P Suetens. "Evaluation of maximum-likelihood based attenuation correction in positron emission tomography." *IEEE Trans Nucl Sci* 1999; 46: 1136-1141.

[56] RM Leahy, J Qi. "Statistical approaches in quantitative positron emission tomography." *Stat Comput* 2000; 10: 147-165.

[57] R Leahy, C Byrne. "Editorial: Recent developments in iterative image reconstruction for PET and SPECT." *IEEE Trans Med Imaging* 2000; 4: 257-260.

[58] JA Fessler. "Mean and variance of implicitely defined biased estimators (such as penalized maximum likelihood): applications to tomography." *IEEE Trans Image Processing* 1996; 5: 493-506.

[59] JA Fessler, WL Rogers. "Spatial resolution properties of penalized-likelihood image reconstruction: space-invariant tomographs." *IEEE Trans Image Processing*, 1996; 5: 1346-1358.

[60] J Qi, RM Leahy. "A theoretical study of the contrast recovery and variance of MAP reconstructions from PET data." *IEEE Trans Med Imaging*, 1999; 18: 293-305.

[61] JA Browne, JM Boone, TJ Holmes, "Maximum-likelihood x-ray computed-tomography finite-beamwidth considerations", *Applied Optics* 1995; 34: 5199-5209.

[62] G Wang, DL Snyder, JA O'Sullivan, MW Vannier, "Iterative Deblurring for CT Metal Artifact Reduction", *IEEE Trans Med Imaging* 1996; 15: 657-664.

[63] DD Robertson, J Yuan, G Wang, MW Vannier, "Total Hip Prosthesis Metal-Artifact Suppression Using Iterative Deblurring Reconstruction", *J Comput Assist Tomog* 1997; 21: 293-298.

[64] H Guan, MW Gaber, FA DiBianca, Y Zhu, "CT Reconstruction by Using the MLS-ART Technique and the KCD Imaging System - I: Low-Energy X-Ray Studies", *IEEE Trans Med Imaging* 1999; 18: 355-358.

[65] G Wang, T Frei, MW Vannier, "A fast iterative algorithm for metal artifact reduction in x-ray CT", *Academic Radiology* 2000; 7: 607-614.

[66] CH Yan, RT Whalen, GS Beaupré, SY Yen, S Napel, "Reconstruction Algorithm for Polychromatic CT Imaging: Application to Beam Hardening Correction", *IEEE Trans Med Imaging* 2000; 19: 1-11,.

[67] B. De Man, J Nuyts, P. Dupont, G. Marchal, P. Suetens. "Reduction of metal streak artifacts in x-ray computed tomography using a transmission maximum a posteriori algorithm", *IEEE Trans Nucl Sci*, 2000; 47: 977-981.

[68] B De Man, J Nuyts, P Dupont, G Marchal, P Suetens. "IMPACT: iterative maximum-likelihood polychromatic algorithm for CT." Submitted to *IEEE Trans Med Imaging.*

[69] C. Michel, A. Bol, A.G. De Volder, A.M Goffinet. "Online brain attenuation correction in PET: towards a fully automated data handling in a clinical environment." *Eur J Nucl Med* 1989; 15: 712-718.

[70] J. Nuyts, P. Dupont, V. Van den Maegdenbergh, S. Vleugels, P. Suetens, L. Mortelmans. "A study of the liver-heart artifact in emission tomography." *J Nucl Med* 1995; 36: 133-139.

[71] R Kluge, B Sattler, A Seese, WH Kna. "Attenuation correction by simultaneous emission-transmission myocardial single-photon emission tomography using a technetium-99m-labelled radiotracer: impact on diagnostic accuracy" *Eur J Nucl Med* 1997; 24: 1107-1114.

[72] S Jang, RJ Jaszczak, BMW Tsui, CE Metz, DR Gilland, TG Turkington, RE Coleman. "ROC evaluation of SPECT myocardial lesion detectability with and without single iteration non-uniform Chang attenuation compensation using an anthropomorphic female phantom." *IEEE Trans Nucl Sci* 1998; 45: 2080-2088.

[73] M Lonneux, T Borbath, A Bol, A Coppens, M Sibomana, R Bausart, M Defrise, S Pauwels, C Michel. "Attenuation correction in whole-body FDG oncological studies: the role of statistical reconstruction," *Eur J Nucl Med* 1999; 26: 591-598.

[74] Farquhar TH, Llacer J, Hoh CK, Czernin J , Gambhir SS, Seltzer MA, Silverman DH, Qi J, Hsu C, Hoffman EJ. "ROC and localization ROC analyses of lesion detection in whole-body FDG PET: effects of acquisition mode, attenuation correction and reconstruction algorithm." *J Nucl Med* 1999; 40: 2043-2052

[75] R Vidal, I Buvat, J Darcourt, O Migneco, P Desvignes, M Baudouy , F Bussiere. "Impact of attenuation correction by simultaneous emission/transmission tomography on visual assessment of 201Tl myocardial perfusion images." *J Nucl Med* 1999; 40: 1301 1309.

[76] J Kotzerke, A Guhlmann, F Moog, N Frickhofen, SN Reske. "Role of attenuation correction for fluorine-18 fluorodeoxyglucose positron emission tomography in the primary staging of malignant lymphoma." *Eur J Nucl Med* 1999; 26: 31-38.

[77] C Bleckmann, J Dose, KH Bohuslavizki, R Buchert, S Klutmann, J Mester, F Jänicke, M Clausen. "Effect of attenuation correction on lesion detectability in FDG PET of breast cancer." *J Nucl Med* 1999; 40: 2021-2024.

[78] RL Wahl. "To AC or not to AC: that is the question (editorial)." *J Nucl Med* 1999; 40: 2025-2028.

[79] SR Meikle, M Dahlbom, SR Cherry. "Attenuation correction using count-limited transmission data in positron emission tomography," *J Nucl Med* 1993; 34: 143-144,.

[80] Y.-C. Tai, K.-P. Lin, M. Dahlbom, E.J. Hoffman. "A hybrid attenuation correction technique to compensate for lung density in 3D total body PET." *IEEE Trans Nucl Sci* 1996; 43: 323-330.

[81] M. Xu, P.D. Cutler, W.K. Luk. "Adaptive, segmented attenuation correction for whole-body PET imaging." *IEEE Trans Nucl Sci* 1996; 43: 331-336.

[82] Y. Censor, D.E. Gustafson, A. Lent, H. Tuy. "A new approach to the emission computerized tomography problem: simultaneous calculation of attenuation and activity coefficients." *IEEE Trans Nucl Sci* 1979; NS-26: 2775-2779.

[83] N.H. Clinthorne, J.A. Fessler, G.D. Hutchins, W.L Rogers. "Joint maximum likelihood estimation of emission and attenuation densities in PET." *Conf rec of the IEEE Nucl Sci Symposium and Med Imaging Conf.* vol 3, 1927-1932, 1991.

[84] F. Natterer. "Determination of tissue attenuation in emission tomography of optically dense media." *Inverse Problems* 1993; 9: 731-736.

[85] S.H. Manglos, T.M. Young, "Constrained IntraSPECT reconstruction from SPECT projections." *Proceeding of the 1993 IEEE-MIC*, 1605-1609, 1994.

[86] A. Krol, S.H. Manglos, J.F. Bowsher, T. Young, D.A. Bassano, F.D. Thomas. "Attenuation compensation in SPECT cardiac imaging using EM-IntraSPECT Method." *J Nucl Med* 1995; 36: 50P.

[87] H. Erdoğan, J.A. Fessler. "Statistical image reconstruction methods for simultaneous emission/transmission PET scans." *Conf rec of the IEEE Nucl Sci Symposium and Med Imaging Conf.* vol 3, 1579-1583, 1996.

[88] A. Welch, R. Clack, F. Natterer, G.T. Gullberg. "Toward accurate attenuation correction in SPECT without transmission measurements." *IEEE Trans Med Imaging* 1997; 16: 532-541.

[89] T.-S. Pan, M.A. King, D.J. de Vries, M. Ljunberg. "Segmentation of the body and lungs from Compton scatter and photopeak window data in SPECT: a Monte Carlo investigation." *IEEE Trans Med Imaging* 1996; 15: 13-24.

[90] S.C. Moore, M.F. Kijewski, S.P. Mueller, "A general approach to non-uniform attenuation correction using emission data alone." *J Nucl Med* 1997; 38: 68P.

[91] J Nuyts, P Dupont, S Stroobants, R Benninck, L Mortelmans, P Suetens. "Simultaneous maximum a-posteriori reconstruction of attenuation and activity distributions from emission sinograms." *IEEE Trans Med Imaging*, 1999; 18 (5): 393-403.

[92] A Bronnikov. "Numerical solution of the identification problem for the attenuated Radon transform." *Inverse Problems* 1999; 15: 1315-1324.

[93] C Mennessier, F Noo, R Clackdoyle, G Bal, L Desbat. "Attenuation correction in SPECT using consistency conditions for the exponential ray transform." *Phys Med Biol* 1999; 44: 2483-2510.

[94] W Wang, G Gindi. "Noise analysis of MAP-EM algorithms for emission tomography." *Phys Med Biol* 1997; 42: 2215-2232

[95] WF Jones, WM Digby, WK Luk, ME Casey, LG Byars. "Optimizing rod window width in positron emission tomography," *IEEE Trans Med Imaging* 1995; 14: 266-270.