

Bibliography

- [1] S. Haykin, *Adaptive Filter Theory*, Third Edition, Prentice Hall Inc., NJ, 1996.
- [2] K. Ozeki and T. Umeda, "An Adaptive Filtering Algorithm Using an Orthogonal Projection to an Affine Subspace and Its Properties," *Electronics and Communications in Japan*, Vol. 67-A, No. 5, pp. 19 – 27, 1984.
- [3] D. R. Morgan and S. G. Kratzer, "On a Class of Computationally Efficient, Rapidly Converging, Generalized NLMS Algorithms," *IEEE Signal Processing Letters*, Vol. 3, No. 8, pp. 245 – 247, August 1996.
- [4] D. T. M. Slock, "On the Convergence Behavior of the LMS and the Normalized LMS Algorithms," *IEEE Transactions on Signal Processing*, Vol. 41, No. 9, pp. 2811 – 2825, September 1993.
- [5] M. Tarrab and A. Feuer, "Convergence and Performance Analysis of the Normalized LMS Algorithm with Uncorrelated Gaussian Data," *IEEE Transactions on Information Theory*, Vol. 34, No. 4, pp. 680 - 691, July 1988.
- [6] C. T. Mullis and R. A. Roberts, "Synthesis of Minimum Round-Off Noise Fixed Point Digital Filters," *IEEE Transactions on Circuits and Systems*, Vol. CAS-23, No. 9, pp. 551 - 562, September 1976.
- [7] L. Thiele, "Design of Sensitivity and Round-Off Noise Optimal State-Space Discrete Systems," *Circuit Theory and Applications*, Vol. 12, pp. 39 – 46, 1984.
- [8] V. Tavsanoglu and L. Thiele, "Optimal Design of State-Space Digital Filters by Simultaneous Minimization of Sensitivity and Round-Off Noise," *IEEE Transactions on Circuits and Systems*, Vol. CAS-31, No. 10, pp. 884 – 888, October 1984.
- [9] V. E. DeBrunner and A. A. (Louis) Beex, "Sensitivity Analysis of Digital Filter Structures," *SIAM Journal on Matrix Analysis and Applications*, Vol. 9, No. 1, pp. 106 - 125, January 1988.
- [10] V. E. DeBrunner, "Parameter Sensitivity, Estimation and Convergence -- An Information Approach," *Ph.D. Dissertation*, Virginia Tech, Blacksburg, VA, April 1990.
- [11] V. E. DeBrunner and A. A. (Louis) Beex, "Model Structure Incorporated into Recursive Partial Realization Strategies," *Signal Processing*, Vol. 43, pp. 79 – 91, 1995.
- [12] P. A. Regalia, *Adaptive IIR Filtering in Signal Processing and Control*, Marcel Dekker, New York, 1995.
- [13] B. C. Moore, "Principal Component Analysis in Linear Systems: Controllability, Observability, and Model Reduction," *IEEE Transactions on Automatic Control*, Vol. AC-26, No. 1, pp. 17 - 32, February 1981.
- [14] R. J. Ober, "Balanced Realizations: Canonical Form, Parametrization, Model Reduction," *International Journal of Control*, Vol. 46, No. 2, pp. 643 - 670, 1987.
- [15] M. Gevers and G. Li, *Parametrizations in Control, Estimation, and Filtering Problems*, Springer-Verlag, London, 1993.
- [16] M. S. Bazaraa, H. D. Sherali, and C. M. Shetty, *Nonlinear Programming: Theory and Algorithms*, John Wiley & Sons, Inc., 1993.
- [17] G. H. Golub and C. F. Van Loan, *Matrix Computations*, The Johns Hopkins University Press, 1996.
- [18] Z. Pritzker and A. Feuer, "Variable Length Stochastic Gradient Algorithm," *IEEE Transactions on Signal Processing*, Vol. 39, No. 4, pp. 997 – 1001, April 1991.

- [19] S. L. Gay and S. Tavathia, "The Fast Affine Projection Algorithm," *Proceedings of ICASSP*, Detroit, MI, pp. 3023 – 3026, May 1995.
- [20] M. Rupp, "A Family of Adaptive Filter Algorithms with Decorrelating Properties," *IEEE Transactions on Signal Processing*, Vol. 46, No. 3, pp. 771 – 775, September 1993.
- [21] P. Strobach, *Linear Prediction Theory*, Springer-Verlag, Berlin, Heidelberg, 1990.
- [22] P. Strobach, "New Forms of Levinson and Schur Algorithms," *IEEE Signal Processing Magazine*, Vol. 8, No. 1, pp. 12 – 36, January 1991.
- [23] M. Montazeri, and P. Duhamel, "A Set of Algorithms Linking NLMS and Block RLS Algorithms," *IEEE Transactions on Signal Processing*, Vol. 43, No. 2, pp. 444 – 453, February 1995.
- [24] J. A. Apolinario, M. L. R. de Campos, and P. S. R. Diniz, "The Binormalized Data-Reusing LMS Algorithm," *Proceedings of XV Simposio Brasileiro de Telecomunicacoes*, Recife, Brazil, pp. 77 – 80, September 1997.
- [25] J. A. Apolinario, M. L. R. de Campos, and P. S. R. Diniz, "Convergence Analysis of the Binormalized Data-Reusing LMS Algorithm," *Proceedings of the European Conference on Circuit Theory and Design*, Budapest, Hungary, pp. 972 – 977, September 1997.
- [26] M. L. R. de Campos, J. A. Apolinario, and P. S. R. Diniz, "Mean-Squared Error Analysis of the Binormalized Data-Reusing LMS Algorithm using a Discrete-Angular-Distribution Model for the Input Signal," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Seattle, WA, pp. 1677 – 1680, May 1998.
- [27] B. A. Schnaufer and W. K. Jenkins, "New Data-Reusing LMS Algorithms for Improved Convergence," *Proceedings of Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, pp. 1584 – 1588, May 1993.
- [28] D. T. M. Slock, "The Block Underdetermined Covariance (BUC) Fast Transversal Filter (FTF) Algorithm for Adaptive Filtering," *Proceedings of Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, pp. 550 – 554, May 1992.
- [29] K. Maouche and D. T. M. Slock, "A Fast Instrumental Variable Affine Projection Algorithm," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Seattle, WA, pp. 2386 – 2389, May 1988.
- [30] R. A. Soni, K. A. Sullivan, and W. K. Jenkins, "Projection Methods for Improved Performance in FIR Filters," *Proceedings of Midwest Symposium on Circuits and Systems*, Sacramento, CA, pp. 746 – 749, 1997.
- [31] Y. Kaneda, M. Tanaka, and J. Kojima, "An Adaptive Algorithm with Fast Convergence for Multi-Input Sound Control," *Proceedings of Active 95*, Newport Beach, CA, pp. 993 – 1004, 6-8 July 1995.
- [32] J. Y. Zhang and W. Steenaart, "Realization and Implementation of Adaptive State-Space Recursive Filters," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Glasgow, UK, pp. 956 - 959, 1989.
- [33] A. J. M. Van Overbeek and L. Ljung, "On-line Structure Selection for Multivariable State-Space Models," *Automatica*, Vol. 18, No. 5, pp. 529 – 543, 1982.
- [34] V. Wertz, M. Gevers, and E. J. Hannan, "The Determination of Optimum Structures for the State Space Representation of Multivariate Stochastic Processes," *IEEE Transactions on Automatic Control*, Vol. AC-27, No. 6, December 1982.
- [35] M. Gevers and V. Wertz, "Uniquely Identifiable State-space and ARMA Parameterizations for Multivariable Linear Systems," *Automatica*, Vol. 20, No. 3, pp. 333-347, 1984.

- [36] J. M. Mendel, *Lessons in Estimation Theory for Signal Processing, Communications, and Control*, Prentice Hall, New Jersey, 1995.
- [37] D. A. Johns, W. M. Snelgrove, and A. S. Sedra, "Adaptive Recursive State-Space Filters Using a Gradient-Based Algorithm," *IEEE Transactions on Circuits and Systems*, Vol. 37, No. 6, pp. 673 - 684, June 1990.
- [38] G. Goodwin, "Some Observations on Robust Stochastic Estimation," *Proceedings of the eighth IFAC/IFORS Symposium on Identification and System Parameter Estimation*, Beijing, China, pp. 22 - 32, 1988.
- [39] C. R. Johnson, "Adaptive IIR Filtering: Current Results and Open Issues," *IEEE Transactions on Information Theory*, Vol. IT-30, No. 2, March 1994.
- [40] D. Slock, "The block underdetermined covariance (BUC) fast transversal filter (FTF) algorithm for adaptive filtering," *Proceedings of the Twenty Sixth Asilomar Conference On Signals, Systems, and Computers*, Pacific Grove, CA, pp. 550-554, 1992.
- [41] B. Baykal, O. Tanrikulu, and A. G. Constantinides, "Asymptotic Analysis of the Underdetermined Recursive Least-Squares Algorithm," *Proceedings of EUSIPCO-96*, Trieste, Italy, pp. 1397-1400, 1996.
- [42] K. Steiglitz and L. E. McBride, "A Technique for the Identification of Linear Systems," *IEEE Transactions on Automatic Control*, Vol. AC-10, No.4, pp. 461-464, October 1965.
- [43] L. Ljung, *System Identification: Theory for the User*, PTR Prentice Hall, New Jersey, 1987.
- [44] P. A. Regalia, "An Unbiased Equation Error Identifier and Reduced Order Approximations," *IEEE Transactions on Signal Processing*, Vol. 42, No. 6, pp. 1397-1412, June 1994.
- [45] K. C. Ho and Y. T. Chan, "Bias Removal in Equation Error Adaptive IIR Filters," *IEEE Transactions on Signal Processing*, vol. 43, no. 1, pp. 51 - 62, January 1995.
- [46] C. E. Davila, "An Algorithm for Efficient, Unbiased, Equation-Error Infinite Impulse Response Adaptive Filtering," *IEEE Transactions on Signal Processing*, vol. 42, no. 5, pp. 1221 - 1226, May 1994.
- [47] L. Ljung and T. Söderström, *Theory and Practice of Recursive Identification*, The MIT press, Cambridge, MA, 1986.
- [48] S. M. Kay, *Modern Spectral Estimation: Theory and Application*, Prentice Hall, NJ, 1988.
- [49] B. Farhang-Boroujeny, *Adaptive Filters: Theory and Applications*, John Wiley & Sons, Chichester, 1999.
- [50] S. G. Sankaran, "Implementation and Evaluation of Echo Cancellation Algorithms," *Master's Thesis*, Virginia Tech, Blacksburg, VA, December 1996.
- [51] M. M. Sondhi, D. R. Morgan, and J. L. Hall, "Stereophonic Acoustic Echo Cancellation-- An Overview of the Fundamental Problem," *IEEE Signal Processing Letters*, Vol. 2, No. 5, pp. 148-151, August 1995.
- [52] S. Shimauchi and S. Makino, "Stereo Projection Echo Canceller with True Echo Path Estimation," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Detroit, MI, pp. 3059-3062, May 1995.
- [53] Y. Joncour and A. Sugiyama, "A Stereo Echo Canceller with Pre-processing for Correct Echo-Path Identification," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Seattle, WA, pp. 3677-3680, May 1998.
- [54] M. Ali, "Stereophonic Acoustic Echo Cancellation System Using Time-Varying All-Pass Filtering for Signal Decorrelation," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Seattle, WA, pp. 3689-3692, May 1998.

- [55] S. Shimauchi, S. Makino, Y. Haneda, A. Nakagawa, S. Sakauchi, "A Stereo Echo Canceller Implemented Using a Stereo Shaker and a Duo-Filter Control System," *Proceedings of International Conference on Acoustics, Speech, and Signal Processing*, Phoenix, AZ, pp. 857-860, March 1999.
- [56] R. A. Soni, "Projection Methods for Improved Performance in Adaptive Systems," *Doctoral Dissertation*, University of Illinois at Urbana-Champaign, Urbana, IL, 1998.