Bibliography

[Abe93]   J.S. Abel, "A bound on mean-square-estimate error", *IEEE Trans. on Information Theory*, Vol. 39, nº 5, pags. 1675–1680, Sept. 1993.

[Alb73]   J.P.A. Albuquerque, "The barankin bound: A geometric interpretation", *IEEE Trans. on Information Theory*, Vol. 19, nº 4, pags. 559–561, Jul. 1973.

[Alb89]   T. Alberty, V. Hespelt, "A new pattern jitter free frequency error detector", *IEEE Trans. on Communications*, Vol. 37, pags. 159–163, Feb. 1989.

[Ama98]   S.I. Amari, "Natural gradient works efficiently in learning", *Neural Computation*, Vol. 10, pags. 251–276, 1998.

[And79]   B.D.O. Anderson, J.B. Moore, *Optimal Filtering*, Prentice-Hall, New Jersey, 1979.

[And90]   A.N.D' Andrea, U. Mengali, R. Reggiannini, "A digital approach to clock recovery in generalized minimum shift keying", *Proc. of the IEEE Trans. on Vehicular Technology*, Vol. 39, nº 3, pags. 227–234, Aug. 1990.

[And93]   A.N.D' Andrea, U. Mengali, "Design of quadricorrelators for automatic frequency control systems", *IEEE Trans. on Communications*, Vol. 41, pags. 988–997, Jun. 1993.

[And94]   A.N.D' Andrea, U. Mengali, R. Reggiannini, "The modified Cramér-Rao bound and its application to synchronization problems", *IEEE Transactions on Communications*, Vol. 42, nº 2, pags. 1391–1399, Feb.-Apr. 1994.

[And96]   A.N.D' Andrea, M. Luise, "Optimization of symbol timing recovery for QAM data demodulators", *IEEE Trans. on Communications*, Vol. 44, pags. 399–406, Mar 1996.

[Bah74]   L. Bahl, J. Cocke, F. Jelinek, , J. Raviv, "Optimal decoding of linear codes for minimizing the symbol error rate", *IEEE Trans. on Information Theory*, pags. 284–287, Mar. 1974.

[Bar49]   E.W. Barankin, "On some analogues of the amount of information and their use in statistical estimation", *Annals of Mathematical Statistics*, Vol. 20, pags. 477–501, 1949.

[Bat46]   A. Battacharyya, "On some analogues of the amount of information and their use in statistical estimation", *Sankya*, Vol. 8, pags. 1–14, 1946.

[Bel74]   S. Bellini, G. Tartara, "Bounds on error in signal parameter estimation", *IEEE Trans. on Communications*, Vol. 22, pags. 340–342, Mar. 1974.

[Bel97]   K. L. Bell, Y. Steinberg, Y. Ephraim, H. L. Van Trees, "Extended Ziv-Zakai lower bound for vector parameter estimation", *IEEE Trans. on Information Theory*, Vol. 43, nº 2, pags. 624–637, Mar. 1997.

[Ben84]   A. Benveniste, M. Goursat, "Blind equalizers", *IEEE Trans. on Communications*, Vol. 32, nº 8, pags. 871–883, Aug. 1984.

[Ber93]   C. Berrou, P. Glavieux, P. Thitimajshima, "Near Shannon limit error-correcting coding and decoding: Turbo-codes", *Proc. of the IEEE Int. Conf. on Communications (ICC)*, Geneva (Switzerland), 1993.

[Bie80]   G. Bienvenu, L. Kopp, "Adaptivity to background noise spatial coherence for high resolution passive methods", *Proc. of IEEE Int. Conf. on Accoustics, Speech and Signal Processing*, pags. 307–310, Apr. 1980.

[Bob76]   B.Z. Bobrovsky, M. Zakai, "A lower bound on the estimation error for certain diffusion processes", *IEEE Trans. on Information Theory*, Vol. 22, nº 1, pags. 45–52, Jan. 1976.

[Bou02a] N. Bourdeau, S. Di Girolamo, J. Riba, F. Barcelo, M. Burri, M. Gibeaux, , F. Sansone, "System architecture definition report", Tech. Rep. Deliverable D6, IST-2000-26040 EMILY, Nov. 2002.

[Bou02b] N. Bourdeau, S. Di Girolamo, J. Riba, M. Gibeaux, M. Burri, F. Sansone, "System performance definition report", Tech. Rep. Deliverable D7, IST-2000-26040 EMILY, April 2002.

[Boy04]   S. Boyd, L. Vandenberghe, *Convex Optimization*, Cambridge University Press, Cambridge, 2004.

[Bra83]   B.A. D.H. Brandwood, "A complex gradient operator and its application in adaptive array theory", *Proceedings of the IEE*, Vol. 130, F and H, pags. 11–16, Feb. 1983.

[Bra01]   M.S. Braasch, "Performance comparison of multipath mitigating receiver architectures", *Proc. of the IEEE Aerospace Conference*, pags. 3.1309–3.1315, Mar. 2001.

[Cah77]   C.R. Cahn, "Improving frequency acquisition of a Costas loop", *IEEE Trans. on Communications*, Vol. 25, pags. 1453–1459, Feb. 1977.

[Car94]   J.F. Cardoso, E. Moulines, "A robustness property of DOA estimators based on co-variance", *IEEE Trans. on Signal Processing*, Vol. 42, nº 11, pags. 3285–3287, Nov. 1994.

[Car97]   E. de Carvalho, D.T.M. Slock, "Cramer-Rao bounds for semi-blind, blind and training sequence based channel estimation", *Proc. of the IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pags. 129–132, Paris (France), Apr. 1997.

[Car00]   E. Carvalho, J. Cioffi, D. Slock, "Cramer-Rao bounds for blind multichannel estimation", *Proc. of the IEEE Int. Conf. on Global Communications (GLOBECOM)*, Nov 2000.

[Cha51]   D.G. Chapman, H. Robbins, "Minimum variance estimation without regularity assumptions", *Annals of Mathematical Statistics*, Vol. 22, pags. 581–586, 1951.

[Cha75]   D. Chazan, M. Zakai, J. Ziv, "Improved lower bounds on signal parameter estimation", *IEEE Trans. on Information Theory*, Vol. 21, nº 1, pags. 90–93, Mar. 1975.

[Chi94]   P.C Ching, H.C So, "Two adaptive algorithms for multipath time delay estimation", *IEEE Journal of Oceanic Engineering*, Jul. 1994.

[Chu91]   J.C.-I. Chuang, N.R. Sollenberger, "Burst coherent demodulation with combined symbol timing, frequency offset estimation, and diversity selection", *IEEE Trans. on Communications*, Vol. 39, pags. 1157–1164, Jul. 1991.

[Dem77]   A.P. Dempster, N.M. Laird, D.B. Rubin, "Maximum likelihood from incomplete data via the EM algorithm", *Annals of the Royal Statistic Society*, Vol. 39, pags. 1–38, Dec. 1977.

[Fed88]   M. Feder, E. Weinstein, "Parameter estimation of superimposed signals using the EM algorithm", *IEEE Trans. on Signal Processing*, Vol. 36, pags. 477–489, April 1988.

[Fen59]   A.V. Fend, "On the attainment of Cramér-Rao and Bhattacharyya bounds for the variances of an estimate", *Annals of Mathematical Statistics*, Vol. 30, pags. 381–388, 1959.

[Fis98]   S. Fischer, H. Grubeck, A. Kangas, H. Koorapaty, E. Larsson, P. Lundqvist, "Time of arrival estimation of narrowband TDMA signals for mobile positioning", *Proc. of the IEEE Int. Symp. on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pags. 451–455, Sep. 1998.

[For72]   G.D. Jr Forney, "Maximum-likelihood sequence estimation of digital sequences in the presence of intersymbol interference", *IEEE Trans. on Information Theory*, Vol. 18, nº 5, pags. 363–378, May 1972.

[For02]   P. Forster, P. Larzabal, "On lower bounds for deterministic parameter estimation", *Proc. of the IEEE Int. Conf. on Accoustics, Speech and Signal Processing (ICASSP)*, Vol. II, pags. 1137–1140, Orlando (Florida, USA), May 2002.

[Gar86a]   F.M. Gardner, "A BPSK/QPSK timing-error detector for sampled receivers", *IEEE Trans. on Communications*, Vol. 5, pags. 423–685, May 1986.

[Gar86b]   W.A. Gardner, "The role of spectral correlation in design and performance analysis of synchronizers", *IEEE Trans. on Communications*, Vol. 34, pags. 1089–1095, Nov. 1986.

[Gar88a]   F.M. Gardner, "Demodulator reference recovery techniques suited for digital implementation", Tech. Rep. Final Report, ESTEC Contract No. 6847/86/NL/DG, European Space Agency, Aug. 1988.

[Gar88b]   W.A. Gardner, "Simplification of MUSIC and ESPRIT by exploitation of cyclostationarity", *Proceedings of the IEEE*, Vol. 76, nº 7, pags. 845–847, Jul. 1988.

[Gar90]   F.M. Gardner, "Frequency detectors for digital demodulators via maximum-likelihood derivation", Tech. Rep. Final Report, Part II, ESTEC Contract No. 8022/88/NL/DG, European Space Agency, Jun. 1990.

[Gar94]   W.A. Gardner, *Cyclostatonarity in Communications and Signal Processing*, IEEE Press, 1994.

[Gel00]   G. Gelli, L. Paura, A.R.P. Ragozini, "Blind widely linear multiuser detection", *IEEE Communications Letters*, Vol. 4, pags. 187–189, Jun. 2000.

[Ger01]   W.H. Gerstacker, R. Schober, A. Lampe, "Equalization with widely linear filtering", *Proc. of Int. Symposium on Information Theory*, pag. 265, Washington, USA, Jun. 2001.

[Gia89]   G. Giannakis, J. Mendel, "Identification of non-minimum phase systems via higher-order statistics", *IEEE Trans. on Accoustics, Speech and Signal Processing*, Vol. 38, pags. 360–377, Mar. 1989.

[Gia97]   G. Giannakis, S.D. Halford, "Asymptotically optimal blind fractionally spaced channel estimation and performance analysis", *IEEE Trans. on Signal Processing*, Vol. 45, nº 7, pags. 1815–1830, Jul. 1997.

[God80]   D.N. Godard, "Self-recovering equalization and carrier tracking in two-dimensional data communication systems", *IEEE Trans. on Communications*, Vol. 28, nº 11, pags. 1867–1875, Nov. 1980.

[Gor90]   J.D. Gorman, A.O. Hero, "Lower bounds for parametric estimation with constraints", *IEEE Trans. on Information Theory*, Vol. 26, nº 6, pags. 1285–1301, Nov. 1990.

[Gor91]   J.D. Gorman, A.O. Hero, "On the application of Cramér-Rao type lower bounds for constrained estimation", *Proc. of the IEEE Int. Conf. on Accoustics and Signal Processing (ICASSP)*, pags. Vol. 2, 1333–1336, Toronto (Canada), April 1991.

[Gor97]   A. Gorokhov, P. Loubaton, "Semi-blind second order identification of convolutive channels", *Proc. of IEEE Int. Conf. on Accoustics, Speech and Signal Processing*, pags. 3905–3908, Munich (Germany), Apr. 1997.

[Gra81]   A. Graham, *Kronecker Products and Matrix Calculus: with Applications*, John Wiley and Sons, New Jersey, 1981.

[Gre92]   D. Greenwood, L. Hanzo, *Mobile Radio Communications*, chap. Characterization of Mobile Radio Channels (chapter 2), pags. 93–185, John Wiley and Sons, 1992, Editor: R. Steele.

[Ham50]   J.M. Hammersley, "On estimating restricted parameters", *Annals of the Royal Statistics Society (Series B)*, Vol. 12, pags. 192–240, 1950.

[Hay91]   S. Haykin, *Adaptive Filter Theory*, Prentice-Hall International, 1991.

[Jul97]   S.J.. Julier, J.K.. Uhlmann, "A new extension of the Kalman filter to nonlinear systems", *Proc. of the Aerosense: The 11th Int. Symposium on Aerospace/Defence Sensing, Simulation and Controls.*, Orlando, Florida, 1997.

[Kai00]   T. Kailath, A.H. Sayed, B. Hassibi, *Linear Estimation*, Prentice Hall, 2000.

[Kay93a] S.M. Kay, *Fundamentals of Statistical Signal Processing: Detection Theory*, Prentice Hall, New Jersey, 1993.

[Kay93b] S.M. Kay, *Fundamentals of Statistical Signal Processing: Estimation Theory*, Prentice Hall, New Jersey, 1993.

[Kie52]   J. Kiefer, "On minimum variance estimators", *Annals in Mathematical Statistics*, Vol. 23, pags. 629–632, 1952.

[Kno99]   L. Knockaert, "On the effect of nuisance parameters on the threshold SNR value of the Barankin bound", *IEEE Trans. on Signal Processing*, Vol. 47, nº 2, pags. 523–527, Feb. 1999.

[Kot59]   V.A. Kotelnikov, *The Theory of Optimum Noise Immunity*, McGraw-Hill, New York, 1959.

[Kri96]   H. Krim, M. Viberg, "Two decades of array signal processing research. The parametric approach", *IEEE Signal Processing Magazine*, pags. 67–95, Jul. 1996.

[Lau86]   P.A. Laurent, "Exact and approximate construction of digital phase modulations by superposition of amplitude modulated pulses", *IEEE Trans. on Communications*, Vol. 34, pags. 150–160, Feb. 1986.

[Li99]   H. Li, P. Stoica, J. Li, "Computationally efficient maximum likelihood estimation of structured covariance matrices", *IEEE Trans. on Signal Processing*, Vol. 47, $n^{\underline{o}}$ 5, pags. 1314–1323, May 1999.

[Liu93]   H. Liu, G. Xu, L. Tong, "A deterministic approach to blind identification of multi-channel FIR systems", *Proc. of the Int. 27th Asilomar Conf. Signals, Systems and Computers*, Oct. 1993.

[LS04]   J.A. Lopez-Salcedo, G. Vazquez, "Frequency domain iterative pulse shape estimation based on second-order statistics", *Proc. of 5th IEEE Int. Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Lisbon, Portugal, Jul. 2004.

[LS05a]   J.A. Lopez-Salcedo, G. Vazquez, "Asymptotic equivalence between the unconditional maximum likelihood and the square-law nonlinearity symbol timing estimation", *IEEE Trans. on Signal Processing*, 2005, to appear.

[LS05b]   J.A. Lopez-Salcedo, G. Vazquez, "Low-SNR subspace-compressed approach to waveform estimation in digital communications", *IEEE Trans. on Signal Processing*, May 2005, submitted.

[Lue84]   D. Luenberger, *Linear and Nonlinear Programming*, Addison Wesley, Massachusetts, 1984.

[Mag98]   J.R. Magnus, H. Neudecker, *Matrix Differential Calculus with Applications in Statistics and Econometrics*, John Wiley and Sons, England, 1998.

[Mar97]   T.L. Marzetta, "Computing the Barankin bound, by solving an unconstrained quadratic optimization problem", *Proc. of the IEEE Int. Conf. on Accoustics, Speech and Signal Processing (ICASSP)*, pags. 3829–3832, Munich (Germany), April 1997.

[McW93]   L.T. McWhorter, L.L. Scharf, "Properties of quadratic covariance bounds", *Proc. of the 27th Asilomar Conference on Signals, Systems and Computers*, Oct. 1993.

[Men95]   U. Mengali, M. Morelli, "Decomposition of M-ary CPM signals into PAM waveforms", *IEEE Trans. on Information Theory*, Vol. 41, pags. 1265–1275, Sept. 1995.

[Men97]   U. Mengali, A. D'Andrea, *Synchronization Techniques for Digital Receivers*, Plenum Press, 1997.

[Mer00]   R. van der Merwe, N. de Freitas, A. Doucet, E. Wan, "The unscented particle filter", Technical Report CUED/F-INFENG/TR 380, Cambridge University Engineering Department, Aug. 2000.

[Mer01]   R. van der Merwe, N. de Freitas, A. Doucet, E. Wan, "The unscented particle filter", *Advances in Neural Information Processing Systems*, Vol. 13, Nov. 2001.

[Mer03]   R. van der. Merwe, E.A.. Wan, "Sigma-point Kalman filters for probabilistic inference in dynamic state-space models", *Proc. of the Workshop on Advances in Machine Learning*, Montreal, Canada, Jun. 2003.

[Mes79]   D.G. Messerschmitt, "Frequency detectors for PLL acquisition in timing and carrier recovery", *IEEE Trans. on Communications*, Vol. 27, pags. 1288–1295, Sep. 1979.

[Mes02]   X. Mestre, *Space Processing and Channel Estimation: Performance Analysis and Asymptotic Results*, PhD Thesis, Dept. of Signal Theory and Communications, Technical University of Catalonia (Spain), Nov. 2002.

[Mey90]   H. Meyr, G. Ascheid, *Synchronization in Digital Communications. Phase-, Frequency-Locked Loops, and Amplitude Control*, John Wiley and Sons, 1990.

[Mie00]   B. Mielczarek, *Synchronization in Turbo Coded Systems*, Licentiate thesis, Dept. of Signals and Systems, Chalmers University of Technology (Sweden), April 2000, chalmers technical report 342L.

[Mit97]   T.M. Mitchell, *Machine Learning*, McGraw-Hill, 1997.

[Moe92]   M. Moeneclaey, "Overview of digital algorithms for carrier frequency synchronization", *Proc. of the Int. European Space Agency Conf. on Digital Signal Processing for Space Communications*, pags. 1.1–1.7, Sep. 1992.

[Moe94]   M. Moeneclaey, G. de Jonghe, "ML-oriented NDA carrier synchronization for general rotationally symmetric signal constellations", *IEEE Trans. on Communications*, Vol. 42, pags. 2531–2533, Aug. 1994.

[Moe98]   M. Moeneclaey, "On the true and modified Cramer-Rao bounds for the estimation of a scalar parameter in the presence of nuisance parameters", *IEEE Trans. on Communications*, Vol. 46, pags. 1536–1544, Nov. 1998.

[Mog03]   P.P Moghaddam, H. So, R.L. Kirlin, "A new time-delay estimation in multipath", *IEEE Trans. on Signal Processing*, May 2003.

[Mor00]   M. Morelli, G.M. Vitetta, "Joint phase and timing recovery for MSK-type signals", *IEEE Trans. on Communications*, Vol. 48, pags. 1997–1999, Dec. 2000.

[Mou95]   E. Moulines, P. Duhamel, J. Cardoso, S. Mayrargue, "Subspace methods for blind identification of multichannel FIR filters", *IEEE Trans. on Signal Processing*, Vol. 43, pags. 516–526, Feb. 1995.

[Nik92]   C. Nikias, "Blind deconvolution using higher-order statistics", *Proc. of the Int. 2nd Int. Conf. of Higher-Order Statistics (Elsevier)*, pags. 49–56, 1992.

[Noe03]   N. Noels, C. Herzet, A. Dejonghe, V. Lottici, H. Steendam, M. Moeneclaey, M Luise, L. Vandendorpe, "Turbo synchronization: an EM algorithm interpretation", *Proc. of the IEEE Int. Conf. on Communications (ICC)*, 2003.

[Oer88]   M. Oerder, H. Meyr, "Digital filter and square timing recovery", *IEEE Trans. on Communications*, Vol. 36, pags. 605–612, May 1988.

[Ott92]   B. Ottersten, M. Viberg, T. Kailath, "Analysis of subspace fitting and ML techniques for parameter estimation from sensor array data", *IEEE Trans. on Signal Processing*, Vol. 40, pags. 590–600, Mar. 1992.

[Ott93]   B. Ottersten, M. Viberg, P. Stoica, *Radar Array Processing*, chap. Exact and Large Sample Maximum Likelihood Techniques for Parameter Estimation and Detection, Springer-Verlag, 1993.

[Pic87]   G. Picci, G. Prati, "Blind equalization and carrier recovery using a stop-and-go decision directed algorithm", *IEEE Trans. on Communications*, Vol. 35, nº 9, pags. 877–887, Sept. 1987.

[Pic94]   B. Picinbono, "On circularity", *IEEE Trans. on Signal Processing*, Vol. 42, pags. 3473–3482, Dec. 1994.

[Pic95]   B. Picinbono, P. Chevalier, "Widely linear estimation with complex data", *IEEE Trans. on Signal Processing*, Vol. 43, pags. 2030–2033, Aug. 1995.

[Pic96]   B. Picinbono, "Second-order complex random vectors and normal distributions", *IEEE Trans. on Signal Processing*, Vol. 44, pags. 2637–2640, Jul. 1996.

[Pis73]   V.F. Pisarenko, "The retrieval of harmonics from a covariance function", *Journal of the Royal Astronomy Society*, Vol. 33, pags. 347–366, 1973.

[Pol95]   A. Polydoros, R. Raheli, C.K. Tzou, "Per-Survivor-Processing: A general approach to MLSE in uncertain enviroments", *IEEE Trans. on Communications*, Vol. 43, pags. 354–364, Feb./March/April 1995.

[Pro95]   J.G. Proakis, *Digital Communications*, McGraw-Hill, 1995.

[Rib94]   J. Riba, G. Vazquez, "Bayesian recursive estimation of frequency and timing exploiting the cyclostationary property", *EURASIP Signal Processing*, Vol. 40, pags. 21–37, Oct. 1994.

[Rib96]   J. Riba, J. Goldberg, G. Vazquez, "Signal selective DOA tracking for multiple moving targets", *Proc. of IEEE Int. Conf. on Accoustics, Speech and Signal Processing*, pags. 2559–2562, May 1996.

[Rib97]   J. Riba, *Procesado de Senal Bayesiano en Estimación Conjunta de Frequencia y Tiempo de Llegada*, PhD Thesis, Dept. of Signal Theory and Communications, Technical University of Catalonia (Spain), Feb. 1997.

[Rib01a]   J. Riba, "Parameter estimation of binary CPM signals", *Proc. of the IEEE Int. Conf. on Accoustics, Speech and Signal Processing (ICASSP)*, Salt Lake City (Utah, USA), 2001.

[Rib01b]   J. Riba, J. Sala, G. Vazquez, "Conditional maximum likelihood timing recovery: Estimators and bounds", *IEEE Trans. on Signal Processing*, Vol. 49, pags. 835–850, April 2001.

[Rib02]   J. Riba, A. Urruela, "A robust multipath mitigation technique for time-of-arrival estimation", *Proc. of the IEEE Vehicular Technology Conference (VTC)*, pags. 2263–2267, Sep. 2002.

[Rif74]   D.C. Rife, R.R. Boorstyn, "Single-tone parameter estimation from discrete-time observations", *IEEE Trans. on Information Theory*, Vol. 20, pags. 378–392, Sep. 1974.

[Rif75]   D.C. Rife, M. Goldstein, R.R. Boorstyn, "A unification of Cramér-Rao type bounds", *IEEE Trans. on Information Theory*, Vol. 21, nº 3, pags. 330–332, May 1975.

[Roy89]   R. Roy, T. Kailath, "ESPRIT - estimation of signal parameters via rotational invariance techniques", *IEEE Trans. on Accoustics, Speech and Signal Processing*, Vol. 37, nº 7, pags. 984–995, Jul. 1989.

[Sal97]   J. Sala, G. Vazquez, "Statistical reference criteria for adaptive signal processing in digital communications", *Proc. of the IEEE*, Vol. 45, nº 1, pags. 14–31, Jan. 1997.

[Sar88]   H. Sari, S. Moridi, "New phase and frequency detectors for carrier recovery in PSK and QAM systems", *IEEE Trans. on Communications*, Vol. 36, pags. 1035–1043, Sep. 1988.

[Sat75]   Y. Sato, "A method of self-recovering equalization for multilevel amplitude-modulation", *IEEE Trans. on Communications*, Vol. 23, nº 6, pags. 679–682, Jun. 1975.

[Sch79]   R.O. Schmidt, "Multiple emitter location and signal parameter estimation", *Proc. of RADC Spectral Estimation Workshop*, pags. 243–258, 1979.

[Sch89]   S.V. Schell, R.A. Calabretta, W.A. Gardner, B.G. Agee, "Cyclic MUSIC algorithms for signal-selective direction finding", *Proc. of the IEEE Int. Conf. on Accoustics, Speech and Signal Processing (ICASSP)*, pags. 2278–2281, Glasgow (Scotland), May 1989.

[Sch91a] L.L. Scharf, *Statistical Signal Processing. Detection, Estimation, and Time Analysis*, Addison Wesley, 1991.

[Sch91b] L.L. Scharf, "The SVD and reduced-rank signal processing", R.J. Vaccaro (ed.), *SVD and Signal Processing, II: Algorithms, Analysis and Applications*, pags. 3–31, Elsevier Science Publishers B.V. (North-Holland), 1991.

[Sch94]   S.V. Schell, D.L. Smith, S. Roy, "Blind channel identification using subchannel response matching", *Proc. of the Int. 26th Conf. Information Sciences and Systems*, Princeton (NJ), Mar. 1994.

[Sch03]   P.J. Schreier, L.L. Scharf, "Second-order analysis of improper complex random vectors and processes", *IEEE Trans. on Signal Processing*, Vol. 51, nº 3, pags. 714–725, Mar. 2003.

[Sec00]   G. Seco, *Antenna Arrays for Multipath and Interference Mitigation in GNSS Receivers*, PhD Thesis, Dept. of Signal Theory and Communications, Technical University of Catalunya (Spain), Jul. 2000.

[Ser01]   E. Serpedin, P. Ciblat, G.B. Giannakis, P. Loubaton, "Performance analysis of blind carrier phase estimators for general QAM constellations", *IEEE Trans. on Signal Processing*, Vol. 49, pags. 1816–1823, Aug. 2001.

[Sha90]   O. Shalvi, E. Weinstein, "New criteria for blind deconvolution of nonminimum phase systems (channels)", *IEEE Trans. on Information Theory*, Vol. 36, nº 2, pags. 312–320, Mar. 1990.

[Sic92]   G.L. Sicuranza, "Quadratics filters for signal processing", *Proceedings of the IEEE*, Vol. 80, 1992.

[Söd89]   T. Söderström, P. Stoica, *System Identification*, Prentice Hall, London, 1989.

[Ste01]   H. Steendam, M. Moeneclaey, "Low-SNR limit of the Cramer-Rao bound for estimating the time delay of a PSK, QAM, or PAM waveform", *IEEE Communications Letters*, Vol. 5, nº 1, pags. 31–33, Jan. 2001.

[Sto89]   P. Stoica, A. Nehorai, "MUSIC, Maximum Likelihood, and Cramér-Rao Bound", *IEEE Trans. on Acoustics, Speech and Signal Processing*, Vol. 37, nº 5, pags. 720–741, May 1989.

[Sto90a]   P. Stoica, A. Nehorai, "Performance study of conditional and unconditional direction-of-arrival estimation", *IEEE Trans. on Accoustics and Signal Processing*, Vol. 38, nº 10, pags. 1783–1795, Oct. 1990.

[Sto90b]   P. Stoica, K. Sharman, "Maximum likelihood methods for direction-of-arrival estimation", *IEEE Trans. on Accoustics, Speech and Signal Processing*, Vol. 38, nº 7, pags. 1132–1143, Jul. 1990.

[Sto97]   P. Stoica, R.L. Moses, *Introduction to Spectral Analysis*, Prentice Hall, 1997.

[Sto01]   P. Stoica, T. Marzetta, "Parameter estimation problems with singular information matrices", *IEEE Trans. on Signal Processing*, Vol. 49, pags. 87–90, Jan. 2001.

[Ton91]   L. Tong, G. Xu, T. Kailath, "A new approach to blind identification and equalization of multipath channels", *Proc. of the 25th Asilomar Conference*, pags. 856–860, Pacific Grove (CA), Nov. 1991.

[Ton94]   L. Tong, G. xu, T. Kailath, "Blind channel identification and equalization based on second-order statistics: A time domain approach", *IEEE Trans. on Information Theory*, Vol. 40, nº 2, pags. 340–349, Mar. 1994.

[Ton95]   L. Tong, G. xu, B. Hassibi, T. Kailath, "Blind channel identification based on second-order statistics: A frequency-domain approach", *IEEE Trans. on Information Theory*, Vol. 41, nº 1, pags. 329–334, Jan. 1995.

[Tre68]   H.L. Van Trees, *Detection, Estimation and Modulation Theory. Part I*, Wiley, New York, 1968.

[Tre83]   J.R. Treichler, B.G. Agee, "A new approach to multipath correction of constant modulus signals", *IEEE Trans. on Accoustics, Speech and Signal Processing*, Vol. 31, nº 2, pags. 459–472, Apr. 1983.

[Tug95]   J.K. Tugnait, "On blind identifiability of multipath channels using fractional sampling and second-order cyclostationary statistics", *IEEE Trans. on Information Theory*, Vol. 41, nº 1, pags. 308–311, Jan. 1995.

[Tul00]   A.M. Tulino, S. Verdu, "Improved linear receivers for BPSK-CDMA subject to fad-
           ing", *Proc. of Allerton Conf. on Communications, Control and Computation*, pags.
           11–21, Monticello, IL, Oct. 2000.

[Ung76]   G. Ungerboeck, "Fractional tap-spacing equalizer and consequences for clock recovery
           in data modems", *IEEE Trans. on Communications*, Vol. 24, nº 8, pags. 856–864,
           Aug. 1976.

[Vaz00]   G. Vazquez, J. Riba, *Signal Processing Advances in Wireless Communications. Trends
           in Single and Multi-user Systems*, Vol. II, chap. Non-Data-Aided Digital Synchroniza-
           tion, pags. 357–402, Prentice-Hall, 2000, Editors: G.B. Giannakis, Y. Hua, P. Stoica
           and L. Tong.

[Vaz01]   G. Vazquez, J. Villares, "Optimal quadratic NDA synchronization", *Proc. of the 7th
           Int. European Spacial Agency Conf. on Digital Signal Processing for Space Commu-
           nications*, Lisbon, Portugal, Sept. 2001.

[Vib91]   M. Viberg, B. Ottersten, T. Kailath, "Detection and estimation in sensor arrays using
           weighted subspace fitting", *IEEE Transactions on Signal Processing*, Vol. 39, nº 11,
           pags. 2435–2449, Nov. 1991.

[Vib95]   M. Viberg, A. Nehorai B. Ottersten, "Performance analysis of direction finding with
           large arrays and finite data", *IEEE Trans. on Signal Processing*, Vol. 43, nº 2,
           pags. 469–477, Feb. 1995.

[Vil01a]   J. Villares, G. Vazquez, "Best quadratic unbiased estimator (BQUE) for timing and
           frequency synchronization", *Proc. of the IEEE Statistical Signal Processing Workshop*,
           Singapore, Aug. 2001.

[Vil01b]   J. Villares, G. Vazquez, J. Riba, "Fourth order non data aided synchronization", *Proc.
           of the IEEE Int. Conf. on Accoustics and Signal Processing (ICASSP)*, May 2001.

[Vil02a]   J. Villares, G. Vazquez, "Optimal quadratic non-assisted parameter estimation for
           digital synchronisation", *Proc. of Int. Zurich Seminar on Broadband Communications
           (IZS)*, Zurich (Switzerland), Feb. 2002.

[Vil02b]   J. Villares, G. Vazquez, "Sample covariance matrix based parameter estimation for
           digital synchronization", *Proc. of the IEEE Global Communications Conference 2002
           (Globecom)*, Taipei (Taiwan), Nov. 2002.

[Vil03a]   J. Villares, G. Vazquez, "Sample covariance matrix parameter estimation: Carrier
           frequency, a case study", *Proc. of the IEEE Int. Conf. on Accoustics and Signal
           Processing (ICASSP)*, pags. Vol.6, 725–728, Hong Kong (China), Apr. 2003.

[Vil03b]   J. Villares, G. Vazquez, "Second-order DOA estimation from digitally modulated signals", *Proc. of the Int. 37th Asilomar Conf. Signals, Systems and Computers*, Pacific Grove (USA), Nov. 2003.

[Vil03c]   J. Villares, G. Vazquez, M. Lamarca, "Maximum likelihood blind carrier synchronization in space-time coded OFDM systems", *Proc. of the IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, Rome (Italy), Jun. 2003.

[Vil04a]   J. Villares, G. Vazquez, "On the quadratic extended Kalman filter", *Proc. of the Third IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, Barcelona (Spain), Jul. 2004.

[Vil04b]   J. Villares, G. Vazquez, "Self-noise free second-order carrier phase synchronization of MSK-type signals", *Proc. of the IEEE Int. Conf. on Communications (ICC)*, Paris (France), Jun. 2004.

[Vil05]   J. Villares, G. Vazquez, "Second-order parameter estimation", *IEEE Transactions on Signal Processing*, Jul. 2005.

[Wan00]   E.A. Wan, R. van der Merwe, "The unscented kalman filter for nonlinear estimation", *Proc. of IEEE Symposium 2000 (AS-SPCC)*, Lake Louise, Alberta, Canada, Oct. 2000.

[Wei83]   A.J. Weiss, E. Weinstein, "Fundamentals limitations in passive time delay estimation - part I: Narrow-band systems", *IEEE Trans. on Accoustics, Speech, and Signal Processing*, Vol. 31, nº 2, pags. 472–486, Apr. 1983.

[Wei84]   E. Weinstein, A.J. Weiss, "Fundamentals limitations in passive time delay estimation - part II: Wide-band systems", *IEEE Trans. on Accoustics, Speech, and Signal Processing*, Vol. 32, nº 5, pags. 1064–1078, Oct. 1984.

[Wei85]   A.J. Weiss, E. Weinstein, "A lower bound on the mean square error in random parameter estimation", *IEEE Trans. on Information Theory*, Vol. 31, nº 5, pags. 680–682, Sept. 1985.

[Wei88a]   E. Weinstein, "Relations between Bellini-Tartara, Chazan-Zakai-Ziv, and Waz-Ziv lower bounds", *IEEE Trans. on Information Theory*, Vol. 34, pags. 342–343, Mar. 1988.

[Wei88b]   E. Weinstein, A.J. Weiss, "A general class of lower bounds in parameter estimation", *IEEE Trans. on Information Theory*, Vol. 34, pags. 338–342, Mar. 1988.

[Win00]   J. Winter, C. Wengerter, "High resolution estimation of the time of arrival for GSM location", *Proc. of the IEEE Vehicular Technology Conference (VTC)*, pags. 1343–1347, May 2000.

[Xu92]   G. Xu, T. Kailath, "Direction-of-arrival estimation via exploitation of cyclostationarity - a combination of temporal and spatial processing", *IEEE Transactions on Signal Processing*, Vol. 7, n⁰ 40, pags. 1775–1786, Jul. 1992.

[Zei93]   A. Zeira, P.M. Schultheiss, "Realizable lower bounds for time delay estimation", *IEEE Trans. on Signal Processing*, Vol. 41, n⁰ 11, pags. 3102–3113, Nov. 1993.

[Zei94]   A. Zeira, P.M. Schultheiss, "Realizable lower bounds for time delay estimation: Part 2 - threshold phenomena", *IEEE Trans. on Signal Processing*, Vol. 42, n⁰ 5, pags. 1001–1007, May 1994.

[Zen97a] H.H. Zeng, L. Tong, "Blind channel estimation using the second-order statistics: Algorithms", *IEEE Trans. on Signal Processing*, Vol. 48, n⁰ 8, pags. 1919–1930, Aug. 1997.

[Zen97b] H.H. Zeng, L. Tong, "Blind channel estimation using the second-order statistics: Asymptotic performance and limitantions", *IEEE Trans. on Signal Processing*, Vol. 48, n⁰ 8, pags. 2060–2071, Aug. 1997.

[Ziv69]   J. Ziv, M. Zakai, "Some lower bounds on signal parameter estimation", *IEEE Trans. on Information Theory*, Vol. 15, n⁰ 3, pags. 386–391, May 1969.