

# Publications

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## Book chapters

- [1] M. Pesavento and F. Bahlke, “Machine learning for optimal resource allocation,” in *Machine Learning for Future Wireless Communications*. John Wiley & Sons, Ltd, 2020, ch. 5, pp. 85–103, ISBN: 9781119562306.
- [2] C. Steffens and M. Pesavento, “Collaborative sensing techniques,” in *Spectrum sharing: The next frontier in wireless networks*. Wiley-IEEE Press, 2020, ch. 7, pp. 121–145, ISBN: 9781119551492.
- [3] M. Haardt, M. Pesavento, F. Roemer, and M. N. El Korso, “Subspace methods and exploitation of special array structures,” in *Academic Press Library in Signal Processing*. Elsevier, 2014, vol. 3, pp. 651–717.

## Journal articles

- [1] G. Allevalo, J. Hinrichs, M. Rutsch, J. Adler, A. Jäger, M. Pesavento, and M. Kupnik, “Real-time 3D imaging using an air-coupled ultrasonic phased-array,” *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, pp. 1–1, 2020.
- [2] G. K. Papageorgiou, K. Voulgaris, K. Ntougias, D. K. Ntaikos, M. M. Butt, C. Galiotto, N. Marchetti, V. Frascolla, H. Annouar, A. Gomes, A. J. Morgado, M. Pesavento, T. Ratnarajah, K. Gopala, F. Kaltenberger, D. T. M. Slock, F. A. Khan, and C. B. Papadias, “Advanced dynamic spectrum 5G mobile networks employing licensed shared access,” *IEEE Communications Magazine*, vol. 58, no. 7, pp. 21–27, 2020.
- [3] D. Schenck, X. Mestre, and M. Pesavento, “Probability of resolution of partially relaxed deterministic maximum likelihood: An asymptotic approach,” *IEEE Transactions on Signal Processing*, pp. 1–1, 2020.
- [4] M. Trinh-Hoang, M. Viberg, and M. Pesavento, “Cramér-Rao bound for DOA estimators under the partial relaxation framework: Derivation and comparison,” *IEEE Transactions on Signal Processing*, vol. 68, pp. 3194–3208, 2020.

- [5] Y. Yang, M. Pesavento, Z. Luo, and B. Ottersten, “Inexact block coordinate descent algorithms for nonsmooth nonconvex optimization,” *IEEE Transactions on Signal Processing*, vol. 68, pp. 947–961, 2020.
- [6] G. Hegde, C. Masouros, and M. Pesavento, “Coordinated hybrid precoding for interference exploitation in heterogeneous networks,” *IEEE Communications Letters*, vol. 23, no. 11, pp. 2109–2113, 2019.
- [7] —, “Interference Exploitation-Based hybrid precoding with robustness against phase errors,” *IEEE Transactions on Wireless Communications*, vol. 18, no. 7, pp. 3683–3696, 2019.
- [8] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten, “Energy efficiency optimization in MIMO interference channels: A successive pseudoconvex approximation approach,” *IEEE Transactions on Signal Processing*, vol. 67, no. 15, pp. 4107–4121, 2019.
- [9] F. Bahlke, O. D. Ramos-Cantor, S. Henneberger, and M. Pesavento, “Optimized cell planning for network slicing in heterogeneous wireless communication networks,” *IEEE Communications Letters*, 2018.
- [10] M. Brossard, M. N. El Korso, M. Pesavento, R. Boyer, P. Larzabal, and S. J. Wijnholds, “Parallel multi-wavelength calibration algorithm for radio astronomical arrays,” *Signal Processing*, vol. 145, pp. 258–271, 2018.
- [11] B. Mériaux, X. Zhang, M. N. El Korso, and M. Pesavento, “Iterative marginal maximum likelihood DOD and DOA estimation for MIMO radar in the presence of SIRP clutter,” *Signal Processing*, 2018.
- [12] C. Steffens and M. Pesavento, “Block- and rank-sparse recovery for direction finding in partly calibrated arrays,” *IEEE Transactions on Signal Processing*, vol. 66, no. 2, pp. 384–399, 2018.
- [13] C. Steffens, M. Pesavento, and M. E. Pfetsch, “A compact formulation for the  $\ell_{2,1}$  mixed-norm minimization problem,” *IEEE Transactions on Signal Processing*, vol. 66, no. 6, pp. 1483–1497, 2018.
- [14] W. Suleiman, P. Parvazi, M. Pesavento, and A. M. Zoubir, “Non-coherent direction-of-arrival estimation using partly calibrated arrays,” *IEEE Transactions on Signal Processing*, 2018.
- [15] M. Trinh-Hoang, M. Viberg, and M. Pesavento, “Partial relaxation approach: An eigenvalue-based DOA estimator framework,” *IEEE Transactions on Signal Processing*, 2018.
- [16] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten, “Successive convex approximation algorithms for sparse signal estimation with non-convex regularizations,” *IEEE Journal of Selected Topics in Signal Processing*, 2018.
- [17] K. L. Law, I. Wajid, and M. Pesavento, “Optimal downlink beamforming for statistical CSI with robustness to estimation errors,” *Signal Processing*, vol. 131, pp. 472–482, 2017.

- [18] K. L. Law, C. Masouros, and M. Pesavento, "Transmit precoding for interference exploitation in the underlay cognitive radio z-channel," *IEEE Transactions on Signal Processing*, vol. 65, no. 14, pp. 3617–3631, 2017.
- [19] Y. Liu, L. Li, G. C. Alexandropoulos, and M. Pesavento, "Securing relay networks with artificial noise: An error performance-based approach," *Entropy*, vol. 19, no. 8, p. 384, 2017.
- [20] F. Nikolay, M. Pesavento, G. Kritikos, and N. Typas, "Learning directed acyclic graphs from large-scale genomics data," *EURASIP Journal on Bioinformatics and Systems Biology*, vol. 2017, no. 1, p. 10, 2017.
- [21] V. Ollier, M. N. El Korso, R. Boyer, P. Larzabal, and M. Pesavento, "Robust calibration of radio interferometers in non-Gaussian environment," *IEEE Transactions on Signal Processing*, vol. 65, no. 21, pp. 5649–5660, 2017.
- [22] O. D. Ramos-Cantor, J. Belschner, G. Hegde, and M. Pesavento, "Centralized coordinated scheduling in LTE-advanced networks," *EURASIP Journal on Wireless Communications and Networking*, vol. 2017, no. 1, p. 122, 2017.
- [23] Y. Yang and M. Pesavento, "A unified successive pseudoconvex approximation framework," *IEEE Transactions on Signal Processing*, vol. 65, no. 13, pp. 3313–3328, 2017.
- [24] X. Zhang, M. N. El Korso, and M. Pesavento, "MIMO radar target localization and performance evaluation under SIRP clutter," *Signal Processing*, vol. 130, pp. 217–232, 2017.
- [25] W. Suleiman, M. Pesavento, and A. M. Zoubir, "Performance analysis of the decentralized eigendecomposition and ESPRIT algorithm," *IEEE Transactions on Signal Processing*, vol. 64, no. 9, pp. 2375–2386, 2016.
- [26] Y. Yang, M. Pesavento, M. Zhang, and D. P. Palomar, "An online parallel algorithm for recursive estimation of sparse signals," *IEEE Transactions on Signal and Information Processing over Networks*, vol. 2, no. 3, pp. 290–305, 2016.
- [27] Y. Yang, G. Scutari, D. P. Palomar, and M. Pesavento, "A parallel decomposition method for nonconvex stochastic multi-agent optimization problems," *IEEE Transactions on Signal Processing*, vol. 64, no. 11, pp. 2949–2964, 2016.
- [28] N. Bornhorst and M. Pesavento, "Filter-and-forward beamforming with adaptive decoding delays in asynchronous multi-user relay networks," *Signal Processing*, vol. 109, pp. 132–147, 2015.
- [29] Y. Cheng and M. Pesavento, "Joint discrete rate adaptation and down-link beamforming using mixed integer conic programming.," *IEEE Trans. Signal Processing*, vol. 63, no. 7, pp. 1750–1764, 2015.

- [30] K. L. Law, X. Wen, M. T. Vu, and M. Pesavento, "General rank multiuser downlink beamforming with shaping constraints using real-valued OSTBC.," *IEEE Trans. Signal Processing*, vol. 63, no. 21, pp. 5758–5771, 2015.
- [31] A. Schad, K. L. Law, and M. Pesavento, "Rank-two beamforming and power allocation in multicasting relay networks.," *IEEE Trans. Signal Processing*, vol. 63, no. 13, pp. 3435–3447, 2015.
- [32] L. Li, F. Khan, M. Pesavento, T. Ratnarajah, and S. Prakriya, "Sequential search based power allocation and beamforming design in overlay cognitive radio networks," *Signal Processing*, vol. 97, pp. 221–231, 2014.
- [33] S. Alabed, M. Pesavento, and A. Klein, "Non-coherent distributed space-time coding techniques for two-way wireless relay networks," *Signal Processing*, vol. 93, no. 12, pp. 3371–3381, 2013.
- [34] A Buchmann, M Pesavento, K Hofmann, M Hollick, R Jakoby, A Klein, S Santini, S Ulbrich, T Weiland, A Zoubir, *et al.*, "C6. 1-cocoon: Cooperative sensorcommunication—a new approach towards wireless communication in sensor networks," *Proceedings SENSOR 2013*, pp. 437–441, 2013.
- [35] Y. Cheng and M. Pesavento, "An optimal iterative algorithm for codebook-based downlink beamforming," *IEEE Signal Processing Letters*, vol. 20, no. 8, pp. 775–778, 2013.
- [36] Y. Cheng, M. Pesavento, and A. Philipp, "Joint network optimization and downlink beamforming for comp transmissions using mixed integer conic programming," *IEEE Transactions on Signal Processing*, vol. 61, no. 16, pp. 3972–3987, 2013.
- [37] M. Pesavento, Y. I. Abramovich, F. Gini, N. Sidiropoulos, and A. M. Zoubir, "Special issue on advances in sensor array processing in memory of Alex B. Gershman," *Signal Processing*, vol. 12, no. 93, pp. 3261–3263, 2013.
- [38] M. Rubsamen and M. Pesavento, "Maximally robust Capon beamformer," *IEEE Transactions on Signal Processing*, vol. 61, no. 8, pp. 2030–2041, 2013.
- [39] I. Wajid, M. Pesavento, Y. C. Eldar, and D. Ciochina, "Robust downlink beamforming with partial channel state information for conventional and cognitive radio networks," *IEEE Transactions on signal processing*, vol. 61, no. 14, pp. 3656–3670, 2013.
- [40] N. Bornhorst, M. Pesavento, and A. B. Gershman, "Distributed beamforming for multi-group multicasting relay networks," *IEEE Transactions on Signal Processing*, vol. 60, no. 1, pp. 221–232, 2012.
- [41] H. Du, T. Ratnarajah, M. Pesavento, and C. B. Papadias, "Joint transceiver beamforming in MIMO cognitive radio network via second-order cone programming," *IEEE Transactions on Signal Processing*, vol. 60, no. 2, pp. 781–792, 2012.

- [42] P. Parvazi, M. Pesavento, and A. B. Gershman, "Rooting-based harmonic retrieval using multiple shift-invariances: The complete and the incomplete sample cases," *IEEE Transactions on Signal Processing*, vol. 60, no. 4, pp. 1556–1570, 2012.
- [43] A. B. Gershman, M. RübSamen, and M. Pesavento, "One- and two-dimensional direction-of-arrival estimation: An overview of search-free techniques," *Signal Processing*, vol. 90, no. 5, pp. 1338–1349, 2010.
- [44] L. Li, M. Pesavento, and A. B. Gershman, "Downlink opportunistic scheduling with low-rate channel state feedback: Error rate analysis and optimization of the feedback parameters," *IEEE Transactions on Communications*, vol. 58, no. 10, pp. 2871–2880, 2010.
- [45] M. Pesavento, C. F. Mecklenbräuker, and J. F. Böhme, "Multidimensional rank reduction estimator for parametric MIMO channel models," *EURASIP Journal on Applied Signal Processing*, vol. 2004, pp. 1354–1363, 2004.
- [46] A. Gershman, P. Stoica, M. Pesavento, and E. G. Larsson, "Stochastic Cramér-Rao bound for direction estimation in unknown noise fields," *IEEE Radar, Sonar and Navigation conference*, vol. 149, no. 1, pp. 2–8, 2002.
- [47] M. Pesavento, A. B. Gershman, and Z.-Q. Luo, "Robust array interpolation using second-order cone programming," *IEEE Signal Processing Letters*, vol. 9, no. 1, pp. 8–11, 2002.
- [48] M. Pesavento, A. B. Gershman, and K. M. Wong, "Direction finding in partly calibrated sensor arrays composed of multiple subarrays," *IEEE Transactions on Signal Processing*, vol. 50, no. 9, pp. 2103–2115, 2002.
- [49] A. B. Gershman, M. Pesavento, and M. G. Amin, "Estimating parameters of multiple wideband polynomial-phase sources in sensor arrays," *IEEE Transactions on Signal Processing*, vol. 49, no. 12, pp. 2924–2934, 2001.
- [50] M. Pesavento and A. B. Gershman, "Maximum-likelihood direction-of-arrival estimation in the presence of unknown nonuniform noise," *IEEE Transactions on Signal Processing*, vol. 49, no. 7, pp. 1310–1324, 2001.
- [51] M. Pesavento, A. Gershman, and M. Haardt, "Multichannel signal processing applications-unitary root-MUSIC with a real-valued eigendecomposition: A theoretical and experimental performance study," *IEEE Transactions on Signal Processing*, vol. 48, no. 5, pp. 1306–1314, 2000.
- [52] M. Pesavento, A. B. Gershman, and M. Haardt, "Unitary root-MUSIC with a real-valued eigendecomposition: A theoretical and experimental performance study," *IEEE Transactions on Signal Processing*, vol. 48, no. 5, pp. 1306–1314, 2000.

## Conference proceedings

- [1] G. Allevato, M. Rutsch, J. Hinrichs, E. Sarradj, M. Pesavento, and M. Kupnik, “Spiral air-coupled ultrasonic phased array for high resolution 3D imaging,” in *International Ultrasonics Symposium (IUS)*, IEEE, 2020, pp. 1–4.
- [2] Y. Fan, G. Hegde, C. Masouros, and M. Pesavento, “Interference exploitation-based hybrid precoding with robustness against channel errors,” in *11th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2020, pp. 1–5.
- [3] G. Hegde, C. Masouros, and M. Pesavento, “Robust hybrid precoding for interference exploitation in massive MIMO systems,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2020)*, IEEE, 2020, pp. 5290–5294.
- [4] —, “Robust hybrid precoding for interference exploitation in massive MIMO systems,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2020)*, 2020.
- [5] G. Kushe, Y. Yang, and M. Pesavento, “A block successive convex approximation framework for multidimensional harmonic retrieval and imperfect measurements,” in *WSA 2020; 24th International ITG Workshop on Smart Antennas*, 2020, pp. 1–5.
- [6] R. Müller, D. Schenck, G. Allevato, M. Rutsch, J. Hinrichs, M. Kupnik, and M. Pesavento, “Dictionary-based learning for 3D-imaging with air-coupled ultrasonic phased arrays,” in *International Ultrasonics Symposium (IUS)*, IEEE, 2020, pp. 1–4.
- [7] O. Rekik, K. Abed-Meraim, M. Pesavento, and A. Mokraoui, “Semi-blind sparse channel estimation and data detection by successive convex approximation,” in *21st International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2020, pp. 1–5.
- [8] D. Schenck, X. Mestre, and M. Pesavento, “Asymptotic stochastic analysis of partially relaxed DML,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2020)*, IEEE, 2020, pp. 4920–4924.
- [9] D. Taleb and M. Pesavento, “General rank beamforming using full rate real-value OSTBC for multicasting networks,” in *WSA 2020; 24th International ITG Workshop on Smart Antennas*, 2020, pp. 1–5.
- [10] —, “Rank regularized beamforming in single group multicasting networks,” in *11th IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, 2020, pp. 1–5.
- [11] M. Trinh-Hoang, W. Ma, and M. Pesavento, “A partial relaxation DOA estimator based on orthogonal matching pursuit,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2020)*, IEEE, 2020, pp. 4806–4810.

- [12] X. Wang, T. Liu, M. Trinh-Hoang, and M. Pesavento, “GPU-accelerated parallel optimization for sparse regularization,” in *11th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2020, pp. 1–5.
- [13] K. Ardah, M. Pesavento, and M. Haardt, “A novel sensing matrix design for compressed sensing via mutual coherence minimization,” in *8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2019, pp. 66–70.
- [14] G. Kushe, Y. Yang, C. Steffens, and M. Pesavento, “A parallel sparse regularization method for structured multilinear low-rank tensor decomposition,” in *27th European Signal Processing Conference (EUSIPCO)*, 2019, pp. 1–5.
- [15] A. Ladaycia, M. Pesavento, A. Mokraoui, K. Abed-Meraim, and A. Belouchrani, “Decision feedback semi-blind estimation algorithm for specular OFDM channels,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2019)*, IEEE, 2019, pp. 4664–4668.
- [16] T. Liu, M. T. Hoang, Y. Yang, and M. Pesavento, “A block coordinate descent algorithm for sparse Gaussian graphical model inference with laplacian constraints,” in *8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2019, pp. 236–240.
- [17] —, “A parallel optimization approach on the infinity norm minimization problem,” in *27th European Signal Processing Conference (EUSIPCO)*, 2019, pp. 1–5.
- [18] D. Schenck, X. Mestre, and M. Pesavento, “Probability of resolution of partially relaxed DML an asymptotic approach,” in *8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2019, pp. 410–414.
- [19] D. Schenck, M. Trinh, H. X. Mestre, M. Viberg, and M. Pesavento, “Full covariance fitting DoA estimation using partial relaxation framework,” in *27th European Signal Processing Conference (EUSIPCO)*, 2019, pp. 1–5.
- [20] M. Trinh-Hoang, M. Viberg, and M. Pesavento, “Cramér-Rao bound for DOA estimators under the partial relaxation framework,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2019)*, IEEE, 2019, pp. 4469–4473.
- [21] Y. Yang, M. Pesavento, Y. C. Eldar, and B. Ottersten, “Parallel coordinate descent algorithms for sparse phase retrieval,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2019)*, IEEE, 2019, pp. 7670–7674.
- [22] Y. Yang, M. Pesavento, Z. Luo, and B. Ottersten, “Block successive convex approximation algorithms for nonsmooth nonconvex optimization,” in *2019 53rd Asilomar Conference on Signals, Systems, and Computers*, 2019, pp. 660–664.

- [23] X. Zheng, G. Hegde, and M. Pesavento, “Interference exploitation-based hybrid precoding with low-resolution DACs,” in *8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2019, pp. 604–608.
- [24] F. Bahlke and M. Pesavento, “Optimized small cell range expansion in mobile communication networks using multi-class support vector machines,” in *26th European Signal Processing Conference (EUSIPCO)*, 2018, pp. 430–434.
- [25] F. Bahlke, J. Yang, and M. Pesavento, “Activity scheduling for energy harvesting small cells in 5G wireless communication networks,” in *29th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, IEEE, 2018, pp. 1–6.
- [26] F. Bahlke and M. Pesavento, “Decentralized load balancing in mobile communication networks,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2018)*, IEEE, 2018, pp. 3564–3568.
- [27] T. Fischer, G. Hegde, F. Matter, M. Pesavento, M. E. Pfetsch, and A. M. Tillmann, “Joint antenna selection and phase-only beamforming using mixed-integer nonlinear programming,” in *WSA 2018; 22nd International ITG Workshop on Smart Antennas*, VDE, 2018, pp. 1–7.
- [28] G. Hegde, C. Masouros, and M. Pesavento, “Analog beamformer design for interference exploitation based hybrid beamforming,” in *10th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2018, pp. 109–113.
- [29] G. Hegde and M. Pesavento, “Joint user selection and hybrid analog-digital beamforming in massive MIMO systems,” in *10th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2018, pp. 553–557.
- [30] F. Nikolay and M. Pesavento, “Learning dags using multiclass support vector machines,” in *Statistical Signal Processing Workshop (SSP)*, IEEE, 2018, pp. 75–79.
- [31] M. Trinh-Hoang, M. Viberg, and M. Pesavento, “An improved DOA estimator based on partial relaxation approach,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2018)*, IEEE, 2018, pp. 3246–3250.
- [32] Y. Yang and M. Pesavento, “A parallel best-response algorithm with exact line search for nonconvex sparsity-regularized rank minimization,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2018)*, IEEE, 2018, pp. 6323–6327.
- [33] —, “Energy efficiency in MIMO interference channels: Social optimality and max-min fairness,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2018)*, IEEE, 2018, pp. 3689–3693.



- [34] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten, “Parallel and hybrid soft-thresholding algorithms with line search for sparse nonlinear regression,” in *26th European Signal Processing Conference (EUSIPCO)*, IEEE, 2018.
- [35] G. Hegde, Y. Cheng, and M. Pesavento, “Hybrid beamforming for large-scale MIMO systems using uplink-downlink duality,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2017)*, IEEE, 2017, pp. 3484–3488.
- [36] G. Hegde, M. Pesavento, and M. E. Pfetsch, “Joint active device identification and symbol detection using sparse constraints in massive MIMO systems,” in *25th European Signal Processing Conference (EUSIPCO)*, IEEE, 2017, pp. 703–707.
- [37] A. Kariminezhad, A. Sezgin, and M. Pesavento, “Power efficiency of improper signaling in MIMO full-duplex relaying for k-user interference networks,” in *International Conference on Communications (ICC)*, IEEE, 2017, pp. 1–6.
- [38] K. L. Law, C. Masouros, and M. Pesavento, “Bivariate probabilistic constrained programming for interference exploitation in the cognitive radio,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2017)*, IEEE, 2017, pp. 3390–3394.
- [39] V. Ollier, M. N. El Korso, R. Boyer, P. Larzabal, and M. Pesavento, “Algorithme de calibration robuste dans un contexte de radio interférométrie,” in *25ème colloque GRETSI*, 2017.
- [40] O. D. Ramos-Cantor and M. Pesavento, “Decentralized coordinated scheduling with muting in LTE-advanced networks,” in *18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2017, pp. 1–5.
- [41] D. Schenck, D. Taleb, M. Pesavento, and A. Sezgin, “General rank beamforming using high order OSTBC for multicasting networks,” in *WSA 2017; 21th International ITG Workshop on Smart Antennas*, VDE, 2017, pp. 1–7.
- [42] C. Steffens, M. Pesavento, and M. E. Pfetsch, “A compact formulation for the  $\ell_{21}$  mixed-norm minimization problem,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2017)*, IEEE, 2017, pp. 4730–4734.
- [43] C. Steffens, W. Suleiman, A. Sorg, and M. Pesavento, “Gridless compressed sensing under shift-invariant sampling,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2017)*, IEEE, 2017, pp. 4735–4739.
- [44] W. Suleiman, C. Steffens, A. Sorg, and M. Pesavento, “Gridless compressed sensing for fully augmentable arrays,” in *25th European Signal Processing Conference (EUSIPCO)*, IEEE, 2017, pp. 1986–1990.

- [45] M. Trinh-Hoang, M. Viberg, and M. Pesavento, “Improved DOA estimators using partial relaxation approach,” in *7th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2017, pp. 1–5.
- [46] A. C. Walewski, C. Steffens, and M. Pesavento, “Off-grid parameter estimation based on joint sparse regularization,” in *SCC 2017; 11th International ITG Conference on Systems, Communications and Coding; Proceedings of, VDE*, 2017, pp. 1–6.
- [47] Y. Yang and M. Pesavento, “Energy efficient transmission in MIMO interference channels with QoS constraints,” in *7th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2017, pp. 1–5.
- [48] F. Bahlke, Y. Liu, and M. Pesavento, “Stochastic load scheduling for risk-limiting economic dispatch in smart microgrids,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2016)*, IEEE, 2016, pp. 2479–2483.
- [49] M. Brossard, M. N. El Korso, M. Pesavento, R. Boyer, and P. Larzabal, “Calibration of radio interferometers using a sparse DoA estimation framework,” in *24th European Signal Processing Conference (EUSIPCO)*, IEEE, 2016, pp. 275–279.
- [50] G. Hegde, O. D. Ramos-Cantor, Y. Cheng, and M. Pesavento, “Optimal resource block allocation and muting in heterogeneous networks,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2016)*, IEEE, 2016, pp. 3581–3585.
- [51] G. Hegde, Y. Yang, C. Steffens, and M. Pesavento, “Parallel low-complexity M-PSK detector for large-scale MIMO systems,” in *Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2016, pp. 1–5.
- [52] Y. Liu, G. C. Alexandropoulos, L. Li, and M. Pesavento, “Artificial noise design for secure multi-relay networks over generalized fading channels,” in *23rd International Conference on Telecommunications (ICT)*, IEEE, 2016, pp. 1–5.
- [53] F. Nikolay and M. Pesavento, “Learning directed-acyclic-graphs from large-scale double-knockout experiments,” in *24th European Signal Processing Conference (EUSIPCO)*, IEEE, 2016, pp. 46–50.
- [54] V. Ollier, M. N. El Korso, R. Boyer, P. Larzabal, and M. Pesavento, “Joint ML calibration and DOA estimation with separated arrays,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2016)*, IEEE, 2016, pp. 2996–3000.
- [55] V. Ollier, M. N. El Korso, R. Boyer, P. Larzabal, and M. Pesavento, “Relaxed concentrated mle for robust calibration of radio interferometers,” in *24th European Signal Processing Conference (EUSIPCO)*, IEEE, 2016, pp. 280–284.

- [56] O. D. Ramos-Cantor, J. Belschner, and M. Pesavento, "Improved link adaptation with coordinated scheduling in non-fully loaded wireless networks," in *17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2016, pp. 1–6.
- [57] C. Steffens, Y. Yang, and M. Pesavento, "Multidimensional sparse recovery for MIMO channel parameter estimation," in *24th European Signal Processing Conference (EUSIPCO)*, 2016, pp. 66–70.
- [58] J. Steinwandt, F. Roemer, C. Steffens, M. Haardt, and M. Pesavento, "Gridless super-resolution direction finding for strictly non-circular sources based on atomic norm minimization," in *50th Asilomar Conference on Signals, Systems and Computers*, IEEE, 2016, pp. 1518–1522.
- [59] J. Steinwandt, C. Steffens, M. Pesavento, and M. Haardt, "Sparsity-aware direction finding for strictly non-circular sources based on rank minimization," in *Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2016, pp. 1–5.
- [60] W. Suleiman, M. Pesavento, and A. M. Zoubir, "Decentralized cooperative detection based on averaging consensus," in *Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2016, pp. 1–5.
- [61] D. Taleb, Y. Liu, and M. Pesavento, "Full-rate general rank beamforming in single-group multicasting networks using non-orthogonal STBC," in *24th European Signal Processing Conference (EUSIPCO)*, IEEE, 2016, pp. 2365–2369.
- [62] X. Wen and M. Pesavento, "Long-term general rank multiuser downlink beamforming with shaping constraints using QOSTBC," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2016)*, IEEE, 2016, pp. 3561–3565.
- [63] X. Zhang, M. N. El Korso, and M. Pesavento, "Maximum likelihood and maximum a posteriori direction-of-arrival estimation in the presence of sirp noise," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2016)*, IEEE, 2016, pp. 3081–3085.
- [64] F. Bahlke, O. D. Ramos-Cantor, and M. Pesavento, "Budget constrained small cell deployment planning for heterogeneous LTE networks," in *16th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2015, pp. 1–5.
- [65] M. Fozi, B. H. Khalaj, and M. Pesavento, "Differentially encoded blind multicell multiuser massive MIMO," in *International Conference on Communication Workshop (ICCW)*, IEEE, 2015, pp. 1054–1059.
- [66] A Morgado, A Gomes, V Frascolla, K Ntougias, C Papadias, D Slock, E Avdic, N Marchetti, N Haziza, H Anouar, *et al.*, "Dynamic LSA for 5G networks," in *Proc. European Conf. Networks and Communications*, 2015.

- [67] A. Schad, S. J. Alabed, H. Degenhardt, and M. Pesavento, “Bi-directional differential beamforming for multi-antenna relaying,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2015)*, IEEE, 2015, pp. 2884–2888.
- [68] W. Suleiman, M. Pesavento, and A. Zoubir, “Performance analysis of direction-of-arrival estimation using the decentralized root-MUSIC,” in *6th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2015, pp. 329–332.
- [69] W. Suleiman, M. Pesavento, and A. M. Zoubir, “Decentralized cooperative DOA tracking using non-hermitian generalized eigendecomposition,” in *23rd European Signal Processing Conference (EUSIPCO)*, IEEE, 2015, pp. 2626–2630.
- [70] D. Taleb, S. Alabed, and M. Pesavento, “Optimal general-rank transmit beamforming technique for single-group multicasting service in modern wireless networks using STTC,” in *19th International ITG Workshop on Smart Antennas (WSA 2015)*, VDE, 2015, pp. 1–7.
- [71] Y. Yang and M. Pesavento, “A novel iterative convex approximation method,” in *6th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2015, pp. 297–300.
- [72] F. Bahlke, R. Zemmari, U. Nickel, and M. Pesavento, “Mismatch loss constrained instrumental variable filtering for gsm passive bistatic radar,” in *8th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2014, pp. 313–316.
- [73] D. Ciochina and M. Pesavento, “A clustering approach for admission control and optimal beamforming in cognitive radio networks,” in *Globecom Workshops (GC Wkshps), 2014*, IEEE, 2014, pp. 1192–1197.
- [74] Y. Liu, L. Li, and M. Pesavento, “Enhancing physical layer security in untrusted relay networks with artificial noise: A symbol error rate based approach,” in *8th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2014, pp. 261–264.
- [75] A. Philipp, S. Ulbrich, Y. Cheng, and M. Pesavento, “Multiuser downlink beamforming with interference cancellation using a SDP-based branch-and-bound algorithm,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2014)*, IEEE, 2014, pp. 7724–7728.
- [76] O. D. Ramos-Cantor, J. Belschner, and M. Pesavento, “A cooperative power control scheme for interference management in LTE-Advanced based cognitive radio networks,” in *6th International Symposium on Communications, Control and Signal Processing (ISCCSP)*, IEEE, 2014, pp. 530–533.
- [77] O. D. Ramos-Cantor, M. Lossow, H. Droste, G. Kadel, and M. Pesavento, “A network simulation tool for user traffic modeling and quality of experience analysis in a hybrid access architecture,” in *WTC 2014; World Telecommunications Congress 2014; Proceedings of*, VDE, 2014, pp. 1–6.

- [78] C. Steffens, P. Parvazi, and M. Pesavento, "Direction finding and array calibration based on sparse reconstruction in partly calibrated arrays," in *8th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2014, pp. 21–24.
- [79] W. Suleiman, P. Parvazi, M. Pesavento, and A. Zoubir, "Decentralized direction finding using Lanczos method," in *8th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2014, pp. 9–12.
- [80] Y. Yang, M. Zhang, M. Pesavento, and D. P. Palomar, "An online parallel algorithm for spectrum sensing in cognitive radio networks," in *48th Asilomar Conference on Signals, Systems and Computers*, IEEE, 2014, pp. 1801–1805.
- [81] X. Zhang, M. N. El Korso, and M. Pesavento, "MIMO radar performance analysis under k-distributed clutter," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2014)*, IEEE, 2014.
- [82] S. Alabed, M. Pesavento, and A. Klein, "Distributed differential space-time coding for two-way relay networks using analog network coding," in *21th European Signal Processing Conference (EUSIPCO)*, IEEE, 2013, pp. 1–5.
- [83] —, "Relay selection based space-time coding for two-way wireless relay networks using digital network coding," in *Tenth International Symposium on Wireless Communication Systems (ISWCS 2013)*, VDE, 2013, pp. 1–5.
- [84] N. Bornhorst and M. Pesavento, "Filter-and-forward beamforming in asynchronous relay networks," in *14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2013, pp. 375–379.
- [85] Y. Cheng and M. Pesavento, "Predistortion and precoding vector assignment in codebook-based downlink beamforming," in *14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2013, pp. 445–449.
- [86] —, "Robust codebook-based downlink beamforming using mixed integer conic programming," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2013)*, IEEE, 2013, pp. 4187–4191.
- [87] D. Ciochina, M. Pesavento, and K. M. Wong, "Worst case robust downlink beamforming on the Riemannian manifold," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2013)*, IEEE, 2013, pp. 3801–3805.
- [88] K. L. Law, X. Wen, and M. Pesavento, "General-rank transmit beamforming for multi-group multicasting networks using OSTBC," in *14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2013, pp. 475–479.

- [89] W. Suleiman, M. Pesavento, and A. Zoubir, "Decentralized direction finding using partly calibrated arrays," in *21th European Signal Processing Conference (EUSIPCO)*, IEEE, 2013, pp. 1–5.
- [90] L. Xu, K. M. Wong, J.-K. Zhang, D. Ciochina, and M. Pesavento, "A Riemannian distance for robust downlink beamforming," in *14th Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2013, pp. 465–469.
- [91] X. Zhang, M. N. El Korso, and M. Pesavento, "Angular resolution limit for deterministic correlated sources," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2013)*, IEEE, 2013, pp. 5539–5543.
- [92] S. Alabed and M. Pesavento, "A simple distributed differential transmit beamforming technique for two-way wireless relay networks," in *International ITG Workshop on Smart Antennas (WSA)*, IEEE, 2012, pp. 243–247.
- [93] N. Bornhorst, P. Davarmanesh, and M. Pesavento, "An extended interior-point method for transmit beamforming in multi-group multicasting," in *20th European Signal Processing Conference (EUSIPCO)*, IEEE, 2012, pp. 6–10.
- [94] N. Bornhorst and M. Pesavento, "Beamforming for multi-group multicasting with statistical channel state information using second-order cone programming," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2012)*, IEEE, 2012, pp. 3237–3240.
- [95] Y. Cheng, S. Drewes, A. Philipp, and M. Pesavento, "Joint network optimization and beamforming for coordinated multi-point transmission using mixed integer programming," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2012)*, IEEE, 2012, pp. 3217–3220.
- [96] Y. Cheng, A. Philipp, and M. Pesavento, "Dynamic rate adaptation and multiuser downlink beamforming using mixed integer conic programming," in *20th European Signal Processing Conference (EUSIPCO)*, IEEE, 2012, pp. 824–828.
- [97] D. Ciochina and M. Pesavento, "Joint user selection and beamforming in interference limited cognitive radio networks," in *20th European Signal Processing Conference (EUSIPCO)*, IEEE, 2012, pp. 1389–1393.
- [98] M. N. El Korso, F. Pascal, and M. Pesavento, "On the resolvability of closely spaced targets using a colocated MIMO radar.," in *ACSCC*, 2012, pp. 23–26.
- [99] M. N. El Korso and M. Pesavento, "Performance analysis for near field source localization," in *7th Workshop on Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2012, pp. 197–200.

- [100] K. L. Law, I. Wajid, and M. Pesavento, “Robust downlink beamforming in multi-group multicasting using trace bounds on the covariance mismatches,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2012)*, IEEE, 2012, pp. 3229–3232.
- [101] L. Li and M. Pesavento, “A game theoretical approach for spectrum sharing in cognitive radio systems with payoff perturbations,” in *OFDM 2012, 17th International OFDM Workshop 2012 (InOWo’12); Proceedings of*, VDE, 2012, pp. 1–5.
- [102] M. RübSamen and M. Pesavento, “Steering vector non-identifiability in covariance matrix fitting based beamforming,” in *7th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2012, pp. 433–436.
- [103] A. Schad, B. Khalaj, and M. Pesavento, “Precoding in relay networks with frequency selective channels,” in *Forty Sixth Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, IEEE, 2012, pp. 537–541.
- [104] A. Schad, K. L. Law, and M. Pesavento, “A convex inner approximation technique for rank-two beamforming in multicasting relay networks,” in *20th European Signal Processing Conference (EUSIPCO)*, IEEE, 2012, pp. 1369–1373.
- [105] A. Schad and M. Pesavento, “Max-min fair transmit beamforming for multi-group multicasting,” in *International ITG Workshop on Smart Antennas (WSA)*, IEEE, 2012, pp. 115–118.
- [106] —, “Time division multiple access methods in bi-directional cooperative relay networks,” in *7th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2012, pp. 89–92.
- [107] C. Steffens and M. Pesavento, “A physical layer average consensus algorithm for wireless sensor networks,” in *International ITG Workshop on Smart Antennas (WSA)*, IEEE, 2012, pp. 70–77.
- [108] X. Wen, K. L. Law, S. J. Alabed, and M. Pesavento, “Rank-two beamforming for single-group multicasting networks using OSTBC,” in *7th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, IEEE, 2012, pp. 69–72.
- [109] J. Zhang, N. Bornhorst, F. Roemer, M. Haardt, and M. Pesavento, “Optimal and suboptimal beamforming for multi-operator two-way relaying with a MIMO amplify-and-forward relay,” in *International ITG Workshop on Smart Antennas (WSA)*, IEEE, 2012, pp. 307–311.
- [110] X. Zhang, M. N. El Korso, and M. Pesavento, “On the asymptotic resolvability of far-field stochastic sources.,” in *20th European Signal Processing Conference (EUSIPCO)*, 2012, pp. 889–893.

- [111] A. Abdelkader, M. Pesavento, and A. B. Gershman, “Orthogonalization techniques for single group multicasting in cooperative amplify-and-forward networks,” in *4th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2011, pp. 225–228.
- [112] S. J. Alabed, M. Pesavento, and A. B. Gershman, “Distributed differential space-time coding techniques for two-way wireless relay networks,” in *4th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2011, pp. 221–224.
- [113] N. Bornhorst and M. Pesavento, “An iterative convex approximation approach for transmit beamforming in multi-group multicasting,” in *12th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2011, pp. 426–430.
- [114] N. Bornhorst, M. Pesavento, and A. B. Gershman, “Distributed beamforming for multiuser peer-to-peer and multi-group multicasting relay networks,” IEEE, 2011, pp. 2800–2803.
- [115] L. Li, P. I. Derwin, and M. Pesavento, “Symbol error rate analysis in multiuser underlay cognitive radio systems,” in *22nd International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC)*, IEEE, 2011, pp. 681–684.
- [116] L. Li, F. A. Khan, M. Pesavento, and T. Ratnarajah, “Power allocation and beamforming in overlay cognitive radio systems,” in *73rd Vehicular Technology Conference (VTC Spring)*, IEEE, 2011, pp. 1–5.
- [117] L. Li and M. Pesavento, “Link reliability of underlay cognitive radio: Symbol error rate analysis and optimal power allocation,” in *Proceedings of the 4th International Conference on Cognitive Radio and Advanced Spectrum Management*, ACM, 2011, p. 70.
- [118] —, “The sum capacity of underlay cognitive broadcast channel,” in *Sixth International ICST Conference on Cognitive Radio Oriented Wireless Networks and Communications (CROWNCOM)*, IEEE, 2011, pp. 390–394.
- [119] P. Parvazi and M. Pesavento, “A new direction-of-arrival estimation and calibration method for arrays composed of multiple identical subarrays,” in *12th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2011, pp. 171–175.
- [120] P. Parvazi, M. Pesavento, and A. B. Gershman, “Direction-of-arrival estimation and array calibration for partly-calibrated arrays,” in *International Conference on Acoustics, Speech and Signal Processing (ICASSP’2011)*, IEEE, 2011, pp. 2552–2555.
- [121] —, “Exploiting multiple shift-invariances in harmonic retrieval: The incomplete data case,” in *Statistical Signal Processing Workshop (SSP)*, IEEE, 2011, pp. 729–732.



- [122] F. Roemer, N. Sarmadi, B. Song, M. Haardt, M. Pesavento, and A. B. Gershman, "Tensor-based semi-blind channel estimation for MIMO OSTBC-coded systems," in *Forty Fifth Asilomar Conference on Signals, Systems and Computers (ASILOMAR)*, IEEE, 2011, pp. 449–453.
- [123] N. Sarmadi and M. Pesavento, "Closed-form blind channel estimation in orthogonally coded MIMO-ofdm systems: A simple strategy to resolve non-scalar ambiguities," in *12th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, IEEE, 2011, pp. 321–325.
- [124] A. Schad and M. Pesavento, "Multiuser bi-directional communications in cooperative relay networks," in *4th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), 2011*, IEEE, 2011, pp. 217–220.
- [125] J. Vinogradova, N. Sarmadi, and M. Pesavento, "Subspace-based semibind channel estimation method for fast fading orthogonally coded MIMO-ofdm systems," in *4th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, IEEE, 2011, pp. 153–156.
- [126] I. Wajid, H. Nikolaeva, and M. Pesavento, "Iterative robust downlink beamforming in cognitive radio networks," in *Sixth International ICST Conference on Cognitive Radio Oriented Wireless Networks and Communications (CROWNCOM)*, IEEE, 2011, pp. 375–379.
- [127] L. Li, M. Pesavento, and A. B. Gershman, "On ergodic sum capacity of underlay cognitive broadcast channels," in *21st International Symposium on Personal Indoor and Mobile Radio Communications (PIMRC)*, IEEE, 2010, pp. 2710–2714.
- [128] M. Pesavento, D. Ciochina, and A. B. Gershman, "Iterative dual downlink beamforming for cognitive radio networks," in *Fifth International Conference on Cognitive Radio Oriented Wireless Networks & Communications (CROWNCOM), 2010*, IEEE, 2010, pp. 1–5.
- [129] M. Pesavento, "Exploiting multiple shift invariances in harmonic retrieval," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2009)*, IEEE, 2009, pp. 2101–2104.
- [130] M. Pesavento, S. Shahbazpanahi, J. F. Böhme, and A. B. Gershman, "Exploiting multiple shift invariances in multidimensional harmonic retrieval of damped exponentials.," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2005)*, IEEE, 2005, pp. 1017–1020.
- [131] M. Buhren, M. Pesavento, and J. F. Bohme, "Virtual array design for array interpolation using differential geometry," in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP'04)*, IEEE, vol. 2, 2004, pp. ii–229.

- [132] K. N. Mokios, N. D. Sidiropoulos, M. Pesavento, and C. Mecklenbrauker, "On 3d harmonic retrieval for wireless channel sounding," in *International Conference on Acoustics, Speech, and Signal Processing*, IEEE, 2004, pp. ii–89.
- [133] M. Pesavento and J. F. Bohme, "Rooting versus joint diagonalization in 2-d harmonic retrieval," in *Sensor Array and Multichannel Signal Processing Workshop Proceedings, 2004*, IEEE, 2004, pp. 303–307.
- [134] M. Buhren, M. Pesavento, and J. Bohme, "A new approach to array interpolation by generation of artificial shift invariances: Interpolated esprit," in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP'03)*, IEEE, vol. 5, 2003, pp. V–205.
- [135] M. Pesavento, K. Gulati, and J. Bohme, "Estimating parameters of two-dimensional damped exponential mixtures," in *3rd International Symposium on Signal Processing and Information Technology, ISSPIT 2003*, IEEE, 2003, pp. 455–458.
- [136] M. Pesavento, C. Mecklenbrauker, and J. Bohme, "Md-harmonic retrieval: Exploiting algebraic structure in parameter estimation and association," in *Workshop on Statistical Signal Processing*, IEEE, 2003, pp. 129–132.
- [137] M. Pesavento, C. F. Mecklenbrauker, and J. Bohme, "New results on almost-sure identifiability of 2d-harmonic retrieval," in *Workshop on Statistical Signal Processing*, IEEE, 2003, pp. 133–136.
- [138] M. Pesavento, C. Mecklenbrauker, and J. F. Bohme, "Multi-dimensional harmonic estimation using KD RARE in application to MIMO channel estimation," in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP'03)*, IEEE, vol. 4, 2003, pp. IV–644.
- [139] M. Pesavento, C. F. Mecklenbräuker, and J. F. Böhme, "Tree-structured multidimensional RARE for MIMO channel estimation," in *COST-273, Meeting No. 6, COST-273 TD (03)*, vol. 20, 2003.
- [140] M. Pesavento and J. Bohme, "Eigenstructure-based azimuth and elevation estimation in sparse uniform rectangular arrays," in *Sensor Array and Multichannel Signal Processing Workshop*, IEEE, 2002, pp. 327–331.
- [141] M. Pesavento, C. Mecklenbrauker, and J. Bohme, "Double-directional radio channel estimation using mD-RARE," in *Thirty-Sixth Asilomar Conference on Signals, Systems and Computers*, IEEE, vol. 1, 2002, pp. 594–598.
- [142] M. Pesavento, A. B. Gershman, and K. M. Wong, "On uniqueness of direction of arrival estimates using rank reduction estimator (RARE)," in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP'2002)*, IEEE, vol. 3, 2002, pp. III–3021.
- [143] A. B. Gershman, M. Pesavento, P. Stoica, and E. G. Larsson, "The stochastic crb for array processing in unknown noise fields," in *International Conference on Acoustics, Speech and Signal Processing (ICASSP'2001)*, IEEE, vol. 5, 2001, pp. 2989–2992.

- [144] M. Pesavento, A. B. Gershman, and Z.-Q. Luo, “A robust technique for array interpolation using second-order cone programming,” in *11th IEEE Signal Processing Workshop on Statistical Signal Processing*, IEEE, 2001, pp. 217–220.
- [145] M. Pesavento, A. B. Gershman, and K. M. Wong, “Direction of arrival estimation in partly calibrated time-varying sensor arrays,” in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP’01)*, IEEE, vol. 5, 2001, pp. 3005–3008.
- [146] A. Gershman, M. Amin, and M. Pesavento, “High-resolution sensor array processing in the presence of multiple wideband chirp signals,” in *Thirty-Fourth Asilomar Conference on Signals, Systems and Computers*, IEEE, vol. 1, 2000, pp. 41–45.
- [147] A. B. Gershman, M. Pesavento, and M. G. Amin, “Estimating the parameters of multiple wideband chirp signals in sensor arrays,” in *Tenth Workshop on Statistical Signal and Array Processing*, IEEE, 2000, pp. 467–471.
- [148] M. Pesavento and A. B. Gershman, “Array processing in the presence of unknown nonuniform sensor noise: A maximum likelihood direction finding algorithm and Cramér-Rao bounds,” in *Tenth Workshop on Statistical Signal and Array Processing*, IEEE, 2000, pp. 78–82.
- [149] M. Pesavento, A. B. Gershman, and M. Haardt, “A theoretical and experimental performance study of a root-MUSIC algorithm based on a real-valued eigendecomposition,” in *International Conference on Acoustics, Speech, and Signal Processing (ICASSP’00)*, IEEE, vol. 5, 2000, pp. 3049–3052.
- [150] —, “Sensor array processing using a unitary root-MUSIC direction finding algorithm,” in *Proceedings of the International Symposium on Antennas and Propagation Japan*, vol. 2, 2000, pp. 677–680.
- [151] A. Lorenz, A. Pesavento, M. Pesavento, and H. Ermert, “Three-dimensional strain imaging and related strain artifacts using an ultrasonic 3D abdominal probe,” in *Ultrasonics Symposium*, IEEE; 1998, vol. 2, 1999, pp. 1657–1660.

## Tutorials

- [1] M. Pesavento, M. Trinh-Hoang, and M. Viberg, *Four decades of array signal processing research: An optimization relaxation technique perspective*, 11th IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM), 2020.
- [2] —, *Four decades of array signal processing research: An optimization relaxation technique perspective*, 28th European Signal Processing Conference (EUSIPCO), Amsterdam, Netherlands, 2020.

- [3] Y. Yang and M. Pesavento, *Exploiting structure and pseudo-convexity in iterative parallel optimization algorithms for real-time and large scale applications*, 25th European Signal Processing Conference (EUSIPCO), Kos Island, Greece, 2017.
- [4] M. Pesavento, Y. Cheng, and M. E. Pfetsch, *Mixed-integer programming in signal processing and communications*, IEEE International Conference on Acoustics, Speech and Signal Processing (IEEE ICASSP 2015), Brisbane, Australia, 2015.
- [5] M. Pesavento and W. Mulder, *LTE-A PHY layer overview and femto design challenges*, Befemto Winter School, ctfc, Barcelona, Spain, 2012.
- [6] —, *LTE tutorial part 1: LTE basics*, Femto Forum Plenary, Reading (UK), 2010.
- [7] —, *LTE tutorial part 2: LTE MIMO techniques*, Femto Forum Plenary, Reading (UK), 2010.
- [8] —, *LTE tutorial: LTE MIMO*, COST2100 Training School “MIMO: From theory to implementation”, Paris, France, 2009.