

# Björn Ottersten – Publications

## Peer Reviewed Journal Articles

- [J1] Yaxiong Yuan, Lei Lei, Thang Xuan Vu, Symeon Chatzinotas, Sumei Sun, and Björn Ottersten. Energy minimization in UAV-aided networks: Actor-critic learning for constrained scheduling optimization. *IEEE Transactions on Vehicular Technology*, pages 1–1, 2021.
- [J2] Sajad Mehrizi, Thang X. Vu, Symeon Chatzinotas, and Björn Ottersten. Trend-aware proactive caching via tensor train decomposition: A Bayesian viewpoint. *IEEE Open Journal of the Communications Society*, 2:975–989, 2021.
- [J3] S. Sedighi, K. V. Mishra, B. S. Mysore R, and B. Ottersten. Localization with one-bit passive radars in narrowband internet-of-things using multivariate polynomial optimization. *IEEE Transactions on Signal Processing*, pages 1–1, 2021.
- [J4] S. Kisseleff, W. A. Martins, S. Chatzinotas, and B. Ottersten. Symbol-level precoding with constellation rotation in the finite block length regime. *IEEE Communications Letters*, pages 1–1, 2021.
- [J5] S. H. Dokhanchi, B. Shankar, M. Alaei Kerahroodi, and B. Ottersten. Adaptive waveform design for automotive joint radar-communication systems. *IEEE Transactions on Vehicular Technology*, pages 1–1, 2021.
- [J6] D. D. Tran, S. Sharma, S. Chatzinotas, I. Woungang, and B. Ottersten. Short-packet communications for MIMO NOMA systems over Nakagami-m fading: BLER and minimum block-length analysis. *IEEE Transactions on Vehicular Technology*, 70(4):3583–3598, 2021.
- [J7] R. Hu, B. S. Mysore R, A. Murtada, M. Alaei-Kerahroodi, and B. Ottersten. Automotive squint-forward-looking SAR: High resolution and early warning. *IEEE Journal of Selected Topics in Signal Processing*, pages 1–1, 2021.
- [J8] S. Domouchtsidis, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Joint symbol level precoding and combining for MIMO-OFDM transceiver architectures based on one-bit DACs and ADCs. *IEEE Transactions on Wireless Communications*, pages 1–1, 2021.
- [J9] A. Haqiqatnejad, J. Krivochiza, J. M. Duncan, S. Chatzinotas, and B. Ottersten. Design optimization for low-complexity FPGA implementation of symbol-level multiuser precoding. *IEEE Access*, 9:30698–30711, 2021.
- [J10] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Energy-efficient hybrid symbol-level precoding for large-scale mmwave multiuser MIMO systems. *IEEE Transactions on Communications*, pages 1–1, 2021.
- [J11] B. Shankar, M. E. Lagunas, S. Chatzinotas, and B. Ottersten. Precoding for satellite communications: Why, how and what next? *IEEE Communications Letters*, pages 1–1, 2021.
- [J12] T. X. Vu, S. Chatzinotas, V. D. Nguyen, D. T. Hoang, D. N. Nguyen, M. Di Renzo, and B. Ottersten. Machine learning-enabled joint antenna selection and precoding design: From offline complexity to online performance. *IEEE Transactions on Wireless Communications*, pages 1–1, 2021.
- [J13] A. Wang, L. Lei, E. Lagunas, S. Chatzinotas, and B. Ottersten. Completion time minimization in NOMA systems: Learning for combinatorial optimization. *IEEE Networking Letters*, 3(1):15–18, 2021.
- [J14] S. Gautam, E. Lagunas, S. Chatzinotas, and B. Ottersten. Feasible point pursuit and successive convex approximation for transmit power minimization in SWIPT-multigroup multicasting systems. *IEEE Transactions on Green Communications and Networking*, pages 1–1, 2021.
- [J15] L. Kong, Y. Ai, S. Chatzinotas, and B. Ottersten. Effective rate evaluation of RIS-assisted communications using the sums of cascaded  $\alpha$ - $\mu$  random variates. *IEEE Access*, 9:5832–5844, 2021.

- [J16] J. C. M. Duncan, L. Martinez-Marrero, J. Querol, S. Kumar, A. Camps, S. Chatzinotas, and B. Ottersten. A remote carrier synchronization technique for coherent distributed remote sensing systems. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 14:1909–1922, 2021.
- [J17] A. Wang, L. Lei, E. Lagunas, A. Perez-Neira, S. Chatzinotas, and B. Ottersten. NOMA-enabled multi-beam satellite systems: Joint optimization to overcome offered-requested data mismatches. *IEEE Transactions on Vehicular Technology*, 70(1):900–913, 2021.
- [J18] C. Hammes, B. S. Mysore, and B. Ottersten. A generalized multiplexed waveform design framework for cost-optimized MIMO radar. *IEEE Transactions on Signal Processing*, 69:88–102, 2021.
- [J19] G. Lewenfus, W. A. Martins, S. Chatzinotas, and B. Ottersten. Joint forecasting and interpolation of time-varying graph signals using deep learning. *IEEE Transactions on Signal and Information Processing over Networks*, 6:761–773, 2020.
- [J20] Y. Yuan, G. Zheng, K. K. Wong, B. Ottersten, and Z. Q. Luo. Transfer learning and meta learning based fast downlink beamforming adaptation. *IEEE Transactions on Wireless Communications*, 20(3):1742–1755, 2021.
- [J21] S. Kisseleff, W. A. Martins, H. Al-Hraishawi, S. Chatzinotas, and B. Ottersten. Reconfigurable intelligent surfaces for smart cities: Research challenges and opportunities. *IEEE Open Journal of the Communications Society*, 1:1781–1797, 2020.
- [J22] S. K. Sharma, J. Querol, N. Maturo, S. Chatzinotas, and B. Ottersten. System modelling and design aspects of next generation high throughput satellites. *IEEE Communications Letters*, pages 1–1, 2020.
- [J23] S. Kisseleff, E. Lagunas, T. S. Abdu, S. Chatzinotas, and B. Ottersten. Radio resource management techniques for multibeam satellite systems. *IEEE Communications Letters*, pages 1–1, 2020.
- [J24] T. Van Chien, L. T. Tu, S. Chatzinotas, and B. Ottersten. Coverage probability and ergodic capacity of intelligent reflecting surface-enhanced communication systems. *IEEE Communications Letters*, 25(1):69–73, 2021.
- [J25] O. K. Oyedotun, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Improved highway network block for training very deep neural networks. *IEEE Access*, 8:176758–176773, 2020.
- [J26] V. D. Nguyen, S. K. Sharma, T. X. Vu, S. Chatzinotas, and B. Ottersten. Efficient federated learning algorithm for resource allocation in wireless IoT networks. *IEEE Internet of Things Journal*, 8(5):3394–3409, 2021.
- [J27] S. Gautam, E. Lagunas, S. K. Sharma, S. Chatzinotas, B. Ottersten, and L. Vandendorpe. Weighted sum-SINR and fairness optimization for SWIPT-multigroup multicasting systems with heterogeneous users. *IEEE Open Journal of the Communications Society*, 1:1470–1484, 2020.
- [J28] A. Bandi, M. R. B. Shankar, S. Chatzinotas, and B. Ottersten. Joint user grouping, scheduling, and precoding for multicast energy efficiency in multigroup multicast systems. *IEEE Transactions on Wireless Communications*, 19(12):8195–8210, 2020.
- [J29] S. Mehrizi, S. Chatterjee, S. Chatzinotas, and B. Ottersten. Online spatiotemporal popularity learning via variational Bayes for cooperative caching. *IEEE Transactions on Communications*, 68(11):7068–7082, 2020.
- [J30] C. T. Nguyen, Y. M. Saputra, N. Van Huynh, N. Nguyen, T. V. Khoa, B. M. Tuan, D. N. Nguyen, D. T. Hoang, T. X. Vu, E. Dutkiewicz, S. Chatzinotas, and B. Ottersten. A comprehensive survey of enabling and emerging technologies for social distancing—Part II: Emerging technologies and open issues. *IEEE Access*, 8:154209–154236, 2020.

- [J31] C. T. Nguyen, Y. M. Saputra, N. V. Huynh, N. Nguyen, T. V. Khoa, B. M. Tuan, D. N. Nguyen, D. T. Hoang, T. X. Vu, E. Dutkiewicz, S. Chatzinotas, and B. Ottersten. A comprehensive survey of enabling and emerging technologies for social distancing—Part I: Fundamentals and enabling technologies. *IEEE Access*, 8:153479–153507, 2020.
- [J32] S. Bommaraveni, T. X. Vu, S. Chatzinotas, and B. Ottersten. Active content popularity learning and caching optimization with hit ratio guarantees. *IEEE Access*, 8:151350–151359, 2020.
- [J33] R. Hu, B. S. M. R. Rao, M. Alae-Kerahroodi, and B. Ottersten. Orthorectified polar format algorithm for generalized spotlight SAR imaging with DEM. *IEEE Transactions on Geoscience and Remote Sensing*, 59(5):3999–4007, 2021.
- [J34] L. Lei, E. Lagunas, Y. Yuan, M. G. Kibria, S. Chatzinotas, and B. Ottersten. Beam illumination pattern design in satellite networks: Learning and optimization for efficient beam hopping. *IEEE Access*, 8:136655–136667, 2020.
- [J35] O.K. Oyedotun, A.E.R. Shabayek, D. Aouada, Chatzinotas, and B. Ottersten. Deep network compression with teacher latent subspace learning and LASSO. *Applied Intelligence*, 2020.
- [J36] S. Domouchtsidis, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Constant envelope MIMO-OFDM precoding for low complexity large-scale antenna array systems. *IEEE Transactions on Wireless Communications*, 19(12):7973–7985, 2020.
- [J37] Z. Wei, C. Masouros, F. Liu, S. Chatzinotas, and B. Ottersten. Energy- and cost-efficient physical layer security in the era of IoT: The role of interference. *IEEE Communications Magazine*, 58(4):81–87, 2020.
- [J38] D. H. Tran, T. X. Vu, S. Chatzinotas, S. Shahbazpanahi, and B. Ottersten. Coarse trajectory design for energy minimization in UAV-enabled wireless communications with latency constraints. *IEEE Transactions on Vehicular Technology*, 69(9):9483–9496, 2020.
- [J39] H. V. Nguyen, V. Nguyen, O. A. Dobre, S. K. Sharma, S. Chatzinotas, B. Ottersten, and O. Shin. On the spectral and energy efficiencies of full-duplex cell-free massive MIMO. *IEEE Journal on Selected Areas in Communications*, 38(8):1698–1718, 2020.
- [J40] L. You, K. Li, J. Wang, X. Gao, X. Xia, and B. Ottersten. Massive MIMO transmission for leo satellite communications. *IEEE Journal on Selected Areas in Communications*, 38(8):1851–1865, 2020.
- [J41] L. Kong, S. Chatzinotas, and B. Ottersten. Unified framework for secrecy characteristics with mixture of gaussian (MoG) distribution. *IEEE Wireless Communications Letters*, 9(10):1625–1628, 2020.
- [J42] A. Mayouche, D. Spano, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Learning-assisted eavesdropping and symbol-level precoding countermeasures for downlink MU-MISO systems. *IEEE Open Journal of the Communications Society*, 1:535–549, 2020.
- [J43] E. Ghorbel, G. Demisse, D. Aouada, and B. Ottersten. Fast adaptive reparametrization (FAR) with application to human action recognition. *IEEE Signal Processing Letters*, 27:580–584, 2020.
- [J44] R. Rahimi, S. ShahbazPanahi, and B. Ottersten. Proof of the equivalency of the MSE-constrained power optimization and rate-constrained power optimization approaches to distributed bi-directional beamforming. *IEEE Transactions on Signal and Information Processing over Networks*, 6:460–478, 2020.
- [J45] S. Kisseleff, S. Chatzinotas, and B. Ottersten. Random access-based reliable uplink communication and power transfer using dynamic power splitting. *IEEE Transactions on Wireless Communications*, 19(6):4307–4320, 2020.

- [J46] A. Li, D. Spano, J. Krivochiza, S. Domouchtsidis, C. G. Tsinos, C. Masouros, S. Chatzinotas, Y. Li, B. Vucetic, and B. Ottersten. A tutorial on interference exploitation via symbol-level precoding: Overview, state-of-the-art and future directions. *IEEE Communications Surveys Tutorials*, 22(2):796–839, 2020.
- [J47] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Robust SINR-constrained symbol-level multiuser precoding with imperfect channel knowledge. *IEEE Transactions on Signal Processing*, 68:1837–1852, 2020.
- [J48] P. Korrai, E. Lagunas, S. K. Sharma, S. Chatzinotas, A. Bandi, and B. Ottersten. A RAN resource slicing mechanism for multiplexing of eMBB and URLLC services in OFDMA based 5G wireless networks. *IEEE Access*, 8:45674–45688, 2020.
- [J49] Konstantinos Papadopoulos, Girum Demisse, Enjie Ghorbel, Michel Antunes, Djamila Aouada, and Bjorn Ottersten. Localized trajectories for 2D and 3D action recognition. *Sensors*, 19(16), 2019.
- [J50] C. G. Tsinos, S. Domouchtsidis, S. Chatzinotas, and B. Ottersten. Symbol level precoding with low resolution DACs for constant envelope OFDM MU-MIMO systems. *IEEE Access*, 8:12856–12866, 2020.
- [J51] S. Gautam, E. Lagunas, A. Bandi, S. Chatzinotas, S. K. Sharma, T. X. Vu, S. Kisseleff, and B. Ottersten. Multigroup multicast precoding for energy optimization in SWIPT systems with heterogeneous users. *IEEE Open Journal of the Communications Society*, 1:92–108, Dec 2020.
- [J52] W. A. Martins, M. R. B. Shankar, and B. Ottersten. Oversampled DFT-modulated biorthogonal filter banks: Perfect reconstruction designs and multiplierless approximations. *IEEE Transactions on Circuits and Systems II: Express Briefs*, 67(11):2777–2781, 2020.
- [J53] Y. Yang, M. Pesavento, Z. Luo, and B. Ottersten. Inexact block coordinate descent algorithms for nonsmooth nonconvex optimization. *IEEE Transactions on Signal Processing*, 68:947–961, 2020.
- [J54] A. Arora, C. G. Tsinos, B. S. M. R. Rao, S. Chatzinotas, and B. Ottersten. Hybrid transceivers design for large-scale antenna arrays using majorization-minimization algorithms. *IEEE Transactions on Signal Processing*, 68:701–714, 2020.
- [J55] S. Sedighi, B. S. M. R. Rao, and B. Ottersten. An asymptotically efficient weighted least squares estimator for co-array-based DoA estimation. *IEEE Transactions on Signal Processing*, 68:589–604, 2020.
- [J56] T. X. Vu, S. Chatzinotas, B. Ottersten, and A. V. Trinh. Full-duplex enabled mobile edge caching: From distributed to cooperative caching. *IEEE Transactions on Wireless Communications*, 19(2):1141–1153, Feb 2020.
- [J57] A. Bandi, B. Shankar M. R., S. Chatzinotas, and B. Ottersten. A joint solution for scheduling and precoding in multiuser MISO downlink channels. *IEEE Transactions on Wireless Communications*, 19(1):475–490, Jan 2020.
- [J58] L. Lei, L. You, Y. Yang, D. Yuan, S. Chatzinotas, and B. Ottersten. Load coupling and energy optimization in multi-cell and multi-carrier NOMA networks. *IEEE Transactions on Vehicular Technology*, 68(11):11323–11337, Nov 2019.
- [J59] K. V. Mishra, M. R. Bhavani Shankar, V. Koivunen, B. Ottersten, and S. A. Vorobyov. Toward millimeter-wave joint radar communications: A signal processing perspective. *IEEE Signal Processing Magazine*, 36(5):100–114, Sep. 2019.
- [J60] X. Zhang, M. R. Nakhai, G. Zheng, S. Lambotharan, and B. Ottersten. Calibrated learning for online distributed power allocation in small-cell networks. *IEEE Transactions on Communications*, 67(11):8124–8136, Nov 2019.
- [J61] C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Hybrid analog-digital transceiver designs for multi-user MIMO mmWave cognitive radio systems. *IEEE Transactions on Cognitive Communications and Networking*, 6(1):310–324, March 2020.

- [J62] S. Mehrizi, A. Tsakmalis, S. Chatzinotas, and B. Ottersten. A Bayesian Poisson-Gaussian process model for popularity learning in edge-caching networks. *IEEE Access*, 7:92341–92354, 2019.
- [J63] 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*, 67(15):4107–4121, Aug 2019.
- [J64] T. X. Vu, L. Lei, S. Chatzinotas, B. Ottersten, and A. V. Trinh. On the successful delivery probability of full-duplex-enabled mobile edge caching. *IEEE Communications Letters*, 23(6):1016–1020, June 2019.
- [J65] S. Gautam, E. Lagunas, S. Chatzinotas, and B. Ottersten. Relay selection and resource allocation for SWIPT in multi-user OFDMA systems. *IEEE Transactions on Wireless Communications*, 18(5):2493–2508, May 2019.
- [J66] L. Lei, L. You, Q. He, T. X. Vu, S. Chatzinotas, D. Yuan, and B. Ottersten. Learning-assisted optimization for energy-efficient scheduling in deadline-aware NOMA systems. *IEEE Transactions on Green Communications and Networking*, 3(3):615–627, Sep. 2019.
- [J67] Ahmad Gharanjik, Mojtaba Soltanalian, M. R. Bhavani Shankar, and Björn Ottersten. Grab-n-Pull: A max-min fractional quadratic programming framework with applications in signal and information processing. *Signal Processing*, 160:1 – 12, July 2019.
- [J68] S. H. Dokhanchi, B. S. Mysore, K. V. Mishra, and B. Ottersten. A mmWave automotive joint radar-communications system. *IEEE Transactions on Aerospace and Electronic Systems*, 55(3):1241–1260, June 2019.
- [J69] J. Krivochiza, J. Merlano Duncan, S. Andrenacci, S. Chatzinotas, and B. Ottersten. FPGA acceleration for computationally efficient symbol-level precoding in multi-user multi-antenna communication systems. *IEEE Access*, 7:15509–15520, 2019. **IEEE Access Best Multimedia Award.**
- [J70] S. Domouchtsidis, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Symbol-level precoding for low complexity transmitter architectures in large-scale antenna array systems. *IEEE Transactions on Wireless Communications*, 18(2):852–863, Feb 2019.
- [J71] O. Tervo, L. Tran, H. Pennanen, S. Chatzinotas, B. Ottersten, and M. Juntti. Energy-efficient multicell multigroup multicasting with joint beamforming and antenna selection. *IEEE Transactions on Signal Processing*, 66(18):4904–4919, Sept 2018.
- [J72] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten. Successive convex approximation algorithms for sparse signal estimation with nonconvex regularizations. *IEEE Journal of Selected Topics in Signal Processing*, 12(6):1286–1302, Dec 2018.
- [J73] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Symbol-level precoding design based on distance preserving constructive interference regions. *IEEE Transactions on Signal Processing*, 66(22):5817–5832, Nov 2018.
- [J74] S. Gautam, T. X. Vu, S. Chatzinotas, and B. Ottersten. Cache-aided simultaneous wireless information and power transfer (SWIPT) with relay selection. *IEEE Journal on Selected Areas in Communications*, 37(1):187–201, Jan 2019.
- [J75] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Power minimizer symbol-level precoding: A closed-form suboptimal solution. *IEEE Signal Processing Letters*, 25(11):1730–1734, Nov 2018.
- [J76] Z. Chang, L. Lei, H. Zhang, T. Ristaniemi, S. Chatzinotas, B. Ottersten, and Z. Han. Energy-efficient and secure resource allocation for multiple-antenna NOMA with wireless power transfer. *IEEE Transactions on Green Communications and Networking*, 2(4):1059–1071, Dec 2018.
- [J77] D. Spano, M. Alodeh, S. Chatzinotas, and B. Ottersten. Faster-than-nyquist signaling through spatio-temporal symbol-level precoding for the multiuser MISO downlink channel. *IEEE Transactions on Wireless Communications*, 17(9):5915–5928, Sept 2018.

- [J78] L. Lei, E. Lagunas, S. Chatzinotas, and B. Ottersten. NOMA aided interference management for full-duplex self-backhauling hetnets. *IEEE Communications Letters*, 22(8):1696–1699, Aug 2018.
- [J79] Spano Danilo, Chatzinotas Symeon, Andrenacci Stefano, Krause Jens, and Ottersten Björn. Per-antenna power minimization in symbol-level precoding for the multibeam satellite downlink. *International Journal of Satellite Communications and Networking*, 37(1):15–30.
- [J80] Zohair Abu-Shaban, Hani Mehrpouyan, Bhavani Shankar M. R., and Björn Ottersten. Reduced complexity satellite broadcast receiver with interference mitigation in correlated noise. *International Journal of Satellite Communications and Networking*, 36(5):402–415.
- [J81] M. Alodeh, D. Spano, A. Kalantari, C. G. Tsinos, D. Christopoulos, S. Chatzinotas, and B. Ottersten. Symbol-level and multicast precoding for multiuser multiantenna downlink: A state-of-the-art, classification, and challenges. *IEEE Communications Surveys Tutorials*, 20(3):1733–1757, thirdquarter 2018.
- [J82] C. Politis, S. Maleki, J. M. Duncan, J. Krivochiza, S. Chatzinotas, and B. Ottesten. SDR implementation of a testbed for real-time interference detection with signal cancellation. *IEEE Access*, 6:20807–20821, 2018.
- [J83] L. You, D. Yuan, L. Lei, S. Sun, S. Chatzinotas, and B. Ottersten. Resource optimization with load coupling in multi-cell NOMA. *IEEE Transactions on Wireless Communications*, 17(7):4735–4749, July 2018.
- [J84] A. Gharanjik, M. R. B. Shankar, F. Zimmer, and B. Ottersten. Centralized rainfall estimation using carrier to noise of satellite communication links. *IEEE Journal on Selected Areas in Communications*, 36(5):1065–1073, May 2018.
- [J85] S. Vuppala, T. X. Vu, S. Gautam, S. Chatzinotas, and B. Ottersten. Cache-aided millimeter wave ad hoc networks with contention-based content delivery. *IEEE Transactions on Communications*, 66(8):3540–3554, Aug 2018.
- [J86] Jevgenij Krivochiza, J.C. Merlano-Duncan, Stefano Andrenacci, Symeon Chatzinotas, and Björn Ottersten. Computationally and energy efficient symbol-level precoding communications demonstrator. *Physical Communication*, 2018.
- [J87] T. X. Vu, S. Chatzinotas, and B. Ottersten. Edge-caching wireless networks: Performance analysis and optimization. *IEEE Transactions on Wireless Communications*, 17(4):2827–2839, April 2018.
- [J88] Hassan Afzal, Djamila Aouada, Bruno Mirbach, and Björn Ottersten. Full 3D reconstruction of non-rigidly deforming objects. *ACM Trans. Multimedia Comput. Commun. Appl.*, 14(1s):24:1–24:23, March 2018.
- [J89] Girum G. Demisse, Djamila Aouada, and Björn Ottersten. Deformation-based 3D facial expression representation. *ACM Trans. Multimedia Comput. Commun. Appl.*, 14(1s):17:1–17:22, March 2018.
- [J90] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Constructive interference for generic constellations. *IEEE Signal Processing Letters*, 25(4):586–590, April 2018.
- [J91] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Constrained Bayesian active learning of interference channels in cognitive radio networks. *IEEE Journal of Selected Topics in Signal Processing*, 12(1):6–19, Feb 2018.
- [J92] C. G. Tsinos and B. Ottersten. An efficient algorithm for unit-modulus quadratic programs with application in beamforming for wireless sensor networks. *IEEE Signal Processing Letters*, 25(2):169–173, Feb 2018.
- [J93] D. Spano, M. Alodeh, S. Chatzinotas, and B. Ottersten. Symbol-level precoding for the nonlinear multiuser MISO downlink channel. *IEEE Transactions on Signal Processing*, 66(5):1331–1345, March 2018.

- [J94] T. X. Vu, S. Chatzinotas, B. Ottersten, and T. Q. Duong. Energy minimization for cache-assisted content delivery networks with wireless backhaul. *IEEE Wireless Communications Letters*, 7(3):332–335, June 2018.
- [J95] S. K. Sharma, T. E. Bogale, L. B. Le, S. Chatzinotas, X. Wang, and B. Ottersten. Dynamic spectrum sharing in 5G wireless networks with full-duplex technology: Recent advances and research challenges. *IEEE Communications Surveys Tutorials*, 20(1):674–707, Firstquarter 2018.
- [J96] O. Tervo, H. Pennanen, D. Christopoulos, S. Chatzinotas, and B. Ottersten. Distributed optimization for coordinated beamforming in multicell multigroup multicast systems: Power minimization and SINR balancing. *IEEE Transactions on Signal Processing*, 66(1):171–185, Jan 2018.
- [J97] C. G. Tsinos, S. Maleki, S. Chatzinotas, and B. Ottersten. On the energy-efficiency of hybrid analog-digital transceivers for single- and multi-carrier large antenna array systems. *IEEE Journal on Selected Areas in Communications*, 35(9):1980–1995, Sept 2017.
- [J98] S. He, J. Wang, Y. Huang, B. Ottersten, and W. Hong. Codebook-based hybrid precoding for millimeter wave multiuser systems. *IEEE Transactions on Signal Processing*, 65(20):5289–5304, Oct 2017.
- [J99] C. Politis, S. Maleki, C. G. Tsinos, K. P. Liolis, S. Chatzinotas, and B. Ottersten. Simultaneous sensing and transmission for cognitive radios with imperfect signal cancellation. *IEEE Transactions on Wireless Communications*, 16(9):5599–5615, Sept 2017.
- [J100] M. Alodeh, S. Chatzinotas, and B. Ottersten. Symbol-level multiuser MISO precoding for multi-level adaptive modulation. *IEEE Transactions on Wireless Communications*, 16(8):5511–5524, Aug 2017.
- [J101] G. G. Demisse, D. Aouada, and B. Ottersten. Deformation based curved shape representation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(6):1338–1351, June 2018.
- [J102] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Interference constraint active learning with uncertain feedback for cognitive radio networks. *IEEE Transactions on Wireless Communications*, 16(7):4654–4668, July 2017.
- [J103] Thang X. Vu, Pierre Duhamel, Symeon Chatzinotas, and Bjorn Ottersten. Finite-SNR analysis for partial relaying cooperation with channel coding and opportunistic relay selection. *EURASIP Journal on Advances in Signal Processing*, 2017(1):30, 2017.
- [J104] A. K. Papazafeiropoulos, S. K. Sharma, S. Chatzinotas, and B. Ottersten. Ergodic capacity analysis of AF DH MIMO relay systems with residual transceiver hardware impairments: Conventional and large system limits. *IEEE Transactions on Vehicular Technology*, 66(8):7010–7025, Aug 2017.
- [J105] M. A. Vazquez, A. Perez-Neira, D. Christopoulos, S. Chatzinotas, B. Ottersten, P. D. Arapoglou, A. Ginesi, and G. Tarocco. Precoding in multibeam satellite communications: Present and future challenges. *IEEE Wireless Communications*, 23(6):88–95, December 2016.
- [J106] A. Pourmoghadas, S. K. Sharma, S. Chatzinotas, and B. Ottersten. On the spectral coexistence of GSO and NGSO FSS systems: power control mechanisms and a methodology for inter-site distance determination. *International Journal of Satellite Communications and Networking*, pages –, 2016.
- [J107] S. Maleki, P. Ciblat, S. Chatzinotas, M.R. Bhavani Shankar, and B. Ottersten. Cooperative estimation of power and direction of transmission for a directive source. *IEEE Transactions on Cognitive Communications and Networking*, 2(4):343–357, December 2016.
- [J108] K. Al Ismaeil, D. Aouada, T. Solognac, B. Mirbach, and B. Ottersten. Real-time enhancement of dynamic depth videos with non-rigid deformations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 39(10):2045–2059, Oct 2017.

- [J109] Mohammad Patwary, Shree Krishna Sharma, Symeon Chatzinotas, Yunfei Chen, Mohamed Abdel-Maguid, Raed Abd-Alhameed, James Noras, and Björn Ottersten. Universal intelligent small cell (UnISCell) for next generation cellular networks. *Digital Communications and Networks*, pages –, 2016.
- [J110] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Centralized power control in cognitive radio networks using modulation and coding classification feedback. *IEEE Transactions on Cognitive Communications and Networking*, 2(3):223–237, September 2016.
- [J111] A. Kaushik, S. K. Sharma, S. Chatzinotas, B. Ottersten, and F. K. Jondral. On the performance analysis of underlay cognitive radio systems: A deployment perspective. *IEEE Transactions on Cognitive Communications and Networking*, 2(3):273–287, September 2016.
- [J112] A. Kalantari, M. Soltanalian, S. Maleki, S. Chatzinotas, and B. Ottersten. Directional modulation via symbol-level precoding: A way to enhance security. *IEEE Journal of Selected Topics in Signal Processing*, 10(8):1478–1493, December 2016.
- [J113] M. M. Naghsh, M. Soltanalian, P. Stoica, M. Masjedi, and B. Ottersten. Efficient sum-rate maximization for medium-scale MIMO AF-relay networks. *IEEE Transactions on Wireless Communications*, 15(9):6400–6411, September 2016.
- [J114] J. Zhang, Y. Huang, J. Wang, B. Ottersten, and L. Yang. Per-antenna constant envelope precoding and antenna subset selection: A geometric approach. *IEEE Transactions on Signal Processing*, 64(23):6089–6104, December 2016.
- [J115] Kassem Al Ismaeil, Djamila Aouada, Bruno Mirbach, and Björn Ottersten. Enhancement of dynamic depth scenes by upsampling for precise super-resolution (UP-SR). *Computer Vision and Image Understanding*, 147:38 – 49, 2016. Special Issue: Spontaneous Facial Behaviour Analysis.
- [J116] A. Kaushik, S. K. Sharma, S. Chatzinotas, B. Ottersten, and F. K. Jondral. Sensing-throughput tradeoff for interweave cognitive radio system: A deployment-centric viewpoint. *IEEE Transactions on Wireless Communications*, 15(5):3690–3702, May 2016.
- [J117] M. Alodeh, S. Chatzinotas, and B. Ottersten. Energy-efficient symbol-level precoding in multiuser MISO based on relaxed detection region. *IEEE Transactions on Wireless Communications*, 15(5):3755–3767, May 2016.
- [J118] S. K. Sharma, E. Lagunas, S. Chatzinotas, and B. Ottersten. Application of compressive sensing in cognitive radio communications: A survey. *IEEE Communications Surveys Tutorials*, 18(3):1838–1860, thirdquarter 2016.
- [J119] Alejandro Correa Bahnsen, Djamila Aouada, Aleksandar Stojanovic, and Bjorn Ottersten. Feature engineering strategies for credit card fraud detection. *Expert Systems with Applications*, 51:134–142, 2016.
- [J120] E. Zenteno, R. Piazza, M.R. Bhavani Shankar, D. Rönnow, and B. Ottersten. Low complexity predistortion and equalization in nonlinear multicarrier satellite communications. *Eurasip Journal on Advances in Signal Processing*, 2015(1):1–15, 2015.
- [J121] A. Kalantari, G. Zheng, Z. Gao, Z. Han, and B. Ottersten. Secrecy analysis on network coding in bidirectional multibeam satellite communications. *IEEE Transactions on Information Forensics and Security*, 10(9):1862–1874, Sept 2015.
- [J122] E. Lagunas, S. K. Sharma, S. Maleki, S. Chatzinotas, and B. Ottersten. Resource allocation for cognitive satellite communications with incumbent terrestrial networks. *IEEE Transactions on Cognitive Communications and Networking*, 1(3):305–317, Sept 2015. **FNR Award, Outstanding Scientific Publication.**
- [J123] S. He, Y. Huang, L. Yang, B. Ottersten, and W. Hong. Energy efficient coordinated beamforming for multicell system: Duality-based algorithm design and massive MIMO transition. *Communications, IEEE Transactions on*, 63(12):4920–4935, Dec 2015.



- [J124] S.K. Sharma, T.E. Bogale, S. Chatzinotas, B. Ottersten, L.B. Le, and X. Wang. Cognitive radio techniques under practical imperfections: A survey. *Communications Surveys Tutorials, IEEE*, 17(4):1858–1884, 2015.
- [J125] Efrain Zenteno, Roberto Piazza, M.R. Bhavani Shankar, Daniel Rönnow, and Bjorn Ottersten. Multiple-input multiple-output symbol rate signal digital predistorter for non-linear multi-carrier satellite channels. *IET Communications*, pages 1–7, September 2015.
- [J126] R. Piazza, M.R. Bhavani Shankar, and B. Ottersten. Multi-gateway data predistortion for non-linear satellite channels. *Communications, IEEE Transactions on*, 63(10):3789–3802, Oct 2015.
- [J127] D. Christopoulos, S. Chatzinotas, and B. Ottersten. Multicast multigroup precoding and user scheduling for frame-based satellite communications. *Wireless Communications, IEEE Transactions on*, 14(9):4695–4707, Sept 2015.
- [J128] S. Maleki, G. Leus, S. Chatzinotas, and B. Ottersten. To AND or to OR: On energy-efficient distributed spectrum sensing with combined censoring and sleeping. *Wireless Communications, IEEE Transactions on*, 14(8):4508–4521, Aug 2015.
- [J129] Frederic Garcia, Djamila Aouada, Bruno Mirbach, Thomas Solignac, and Bjorn Ottersten. Unified multi-lateral filter for real-time depth map enhancement. *Image and Vision Computing*, 41:26 – 41, 2015.
- [J130] Alejandro Correa Bahnsen, Djamila Aouada, and Bjorn Ottersten. Example-dependent cost-sensitive decision trees. *Expert Systems with Applications*, 42(19):6609 – 6619, 2015.
- [J131] Alejandro Correa Bahnsen, Djamila Aouada, and Bjorn Ottersten. A novel cost-sensitive framework for customer churn predictive modeling. *Decision Analytics*, 2(1):5, 2015.
- [J132] A.I. Aravanis, B. Shankar, Pantelis-Daniel Arapoglou, G. Danoy, P. Cottis, and B. Ottersten. Power allocation in multibeam satellite systems: A two-stage multi-objective optimization. *Wireless Communications, IEEE Transactions on*, 14(6):3171–3182, June 2015.
- [J133] M. Alodeh, S. Chatzinotas, and B. Ottersten. Constructive multiuser interference in symbol level precoding for the MISO downlink channel. *Signal Processing, IEEE Transactions on*, 63(9):2239–2252, May 2015.
- [J134] A. Kalantari, S. Maleki, G. Zheng, S. Chatzinotas, and B. Ottersten. Joint power control in wiretap interference channels. *Wireless Communications, IEEE Transactions on*, 14(7):3810–3823, July 2015.
- [J135] S. Maleki, S. Chatzinotas, J. Krause, K. Liolis, and B. Ottersten. Cognitive zone for broadband satellite communication in 17.3-17.7 GHz band. *Wireless Communications Letters, IEEE*, 4(3):305–308, June 2015.
- [J136] M.M. Butt, E.A. Jorswieck, and B. Ottersten. Maximizing energy efficiency in multiple access channels by exploiting packet dropping and transmitter buffering. *Wireless Communications, IEEE Transactions on*, 14(8):4129–4141, Aug 2015.
- [J137] M. Alodeh, S. Chatzinotas, and B. Ottersten. Spatial DCT-based channel estimation in multi-antenna multi-cell interference channels. *Signal Processing, IEEE Transactions on*, 63(6):1404–1418, March 2015.
- [J138] A. Gharanjik, B. Shankar, P.-D. Arapoglou, and B. Ottersten. Multiple gateway transmit diversity in Q/V band feeder links. *Communications, IEEE Transactions on*, 63(3):916–926, March 2015.
- [J139] R. Piazza, M.R.B. Shankar, and B. Ottersten. Data predistortion for multicarrier satellite channels based on direct learning. *Signal Processing, IEEE Transactions on*, 62(22):5868–5880, Nov 2014.

- [J140] E. Bjornson, E. Jorswieck, M. Debbah, and B. Ottersten. Multiobjective signal processing optimization: The way to balance conflicting metrics in 5G systems. *Signal Processing Magazine, IEEE*, 31(6):14–23, Nov 2014.
- [J141] D. Christopoulos, S. Chatzinotas, and B. Ottersten. Weighted fair multicast multigroup beamforming under per-antenna power constraints. *Signal Processing, IEEE Transactions on*, 62(19):5132–5142, Oct 2014.
- [J142] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. In-line interference mitigation techniques for spectral coexistence of GEO and N GEO satellites. *International Journal of Satellite Communications and Networking*, 34(1):11–39, 2014.
- [J143] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Compressive sparsity order estimation for wideband cognitive radio receiver. *Signal Processing, IEEE Transactions on*, 62(19):4984–4996, Oct 2014.
- [J144] E. Tsakonas, J. Jalden, N.D. Sidiropoulos, and B. Ottersten. Convergence of the Huber regression M-estimate in the presence of dense outliers. *Signal Processing Letters, IEEE*, 21(10):1211–1214, Oct 2014.
- [J145] J. Arnau, D. Christopoulos, S. Chatzinotas, C. Mosquera, and B. Ottersten. Performance of the multibeam satellite return link with correlated rain attenuation. *Wireless Communications, IEEE Transactions on*, 13(11):6286–6299, Nov 2014.
- [J146] E. Bjornson, M. Bengtsson, and B. Ottersten. Optimal multiuser transmit beamforming: A difficult problem with a simple solution structure [lecture notes]. *Signal Processing Magazine, IEEE*, 31(4):142–148, July 2014. **Best Column Award 2019.**
- [J147] Stelios Timotheou, Ioannis Krikidis, Gan Zheng, and Bjorn Ottersten. Beamforming for MISO interference channels with QoS and RF energy transfer. *Wireless Communications, IEEE Transactions on*, 13(5):2646–2658, May 2014.
- [J148] S. Jarmyr, B. Ottersten, and E.A. Jorswieck. Statistical framework for optimization in the multi-user MIMO uplink with ZF-DFE. *Signal Processing, IEEE Transactions on*, 62(10):2730–2745, May 2014.
- [J149] Gan Zheng, Z. Ho, E.A. Jorswieck, and B. Ottersten. Information and energy cooperation in cognitive radio networks. *Signal Processing, IEEE Transactions on*, 62(9):2290–2303, May 2014.
- [J150] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Cognitive beamhopping for spectral coexistence of multibeam satellites. *International Journal of Satellite Communications and Networking*, 33(1):69–91, 2015. doi:10.1002/sat.1073.
- [J151] S. He, Y. Huang, L. Yang, and B. Ottersten. Coordinated multicell multiuser precoding for maximizing weighted sum energy efficiency. *Signal Processing, IEEE Transactions on*, 62(3):741–751, 2014.
- [J152] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. SNR estimation for multi-dimensional cognitive receiver under correlated channel/noise. *Wireless Communications, IEEE Transactions on*, 12(12):6392–6405, 2013.
- [J153] F. Garcia, D. Aouada, T. Solognac, B. Mirbach, and B. Ottersten. Real-time depth enhancement by fusion for RGB-D cameras. *Computer Vision, IET*, 7(5):335–345, 2013.
- [J154] E. Tsakonas, J. Jalden, N.D. Sidiropoulos, and B. Ottersten. Sparse conjoint analysis through maximum likelihood estimation. *Signal Processing, IEEE Transactions on*, 61(22):5704–5715, 2013.
- [J155] Gan Zheng, I. Krikidis, Jiangyuan Li, A.P. Petropulu, and B. Ottersten. Improving physical layer secrecy using full-duplex jamming receivers. *Signal Processing, IEEE Transactions on*, 61(20):4962–4974, 2013.

- [J156] Ali A. Nasir, Hani Mehrpouyan, Salman Durrani, Steven D. Blostein, Rodney A. Kennedy, and Bjorn Ottersten. Optimal training sequences for joint timing synchronization and channel estimation in distributed communication networks. *Communications, IEEE Transactions on*, 61(7):3002–3015, 2013.
- [J157] Ahmad Gharanjik, Bhavani Shankar Mysore Rama Rao, Pantelis-Daniel Arapoglou, and Bjorn Ottersten. Gateway switching in Q/V band satellite feeder links. *Communications Letters, IEEE*, 17(7):1384–1387, 2013.
- [J158] Dimitrios Christopoulos, Jesus Arnau, Symeon Chatzinotas, Carlos Mosquera, and Bjorn Ottersten. MMSE performance analysis of generalized multibeam satellite channels. *Communications Letters, IEEE*, 17(7):1332–1335, 2013.
- [J159] E. Bjornson, M. Kountouris, M. Bengtsson, and B. Ottersten. Receive combining vs. multi-stream multiplexing in downlink systems with multi-antenna users. *Signal Processing, IEEE Transactions on*, 61(13):3431–3446, 2013.
- [J160] Le-Nam Tran, M. Juntti, M. Bengtsson, and B. Ottersten. Weighted sum rate maximization for MIMO broadcast channels using dirty paper coding and zero-forcing methods. *Communications, IEEE Transactions on*, 61(6):2362–2373, 2013.
- [J161] Gan Zheng, Shenghui Song, Kai-Kit Wong, and B. Ottersten. Cooperative cognitive networks: Optimal, distributed and low-complexity algorithms. *Signal Processing, IEEE Transactions on*, 61(11):2778–2790, 2013.
- [J162] M.M. Butt, D. Kapetanovic, and B. Ottersten. Maximizing minimum throughput guarantees: The small violation probability region. *Wireless Communications Letters, IEEE*, 2(3):271–274, 2013.
- [J163] Gan Zheng, Ioannis Krikidis, and Bjorn Ottersten. Full-duplex cooperative cognitive radio with transmit imperfections. *Wireless Communications, IEEE Transactions on*, 12(5):2498–2511, 2013.
- [J164] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Eigenvalue-based sensing and SNR estimation for cognitive radio in presence of noise correlation. *Vehicular Technology, IEEE Transactions on*, 62(8):3671–3684, 2013.
- [J165] A.A. Nasir, H. Mehrpouyan, S. Durrani, S.D. Blostein, R.A. Kennedy, and B. Ottersten. Transceiver design for distributed STBC based AF cooperative networks in the presence of timing and frequency offsets. *Signal Processing, IEEE Transactions on*, 61(12):3143–3158, 2013.
- [J166] I. Krikidis and B. Ottersten. Diversity fairness in Tomlinson-Harashima precoded multiuser MIMO through retransmission. *Signal Processing Letters, IEEE*, 20(4):375–378, April 2013.
- [J167] Shree Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Interference alignment for spectral coexistence of heterogeneous networks. *EURASIP Journal on Wireless Communications and Networking*, 2013(1):46, 2013. **Best Paper Award 2018.**
- [J168] E. Bjornson, P. Zetterberg, M. Bengtsson, and B. Ottersten. Capacity limits and multiplexing gains of MIMO channels with transceiver impairments. *Communications Letters, IEEE*, 17(1):91–94, January 2013.
- [J169] I. Krikidis and B. Ottersten. Secrecy sum-rate for orthogonal random beamforming with opportunistic scheduling. *Signal Processing Letters, IEEE*, 20(2):141–144, 2013.
- [J170] J. Wang, M. Bengtsson, B. Ottersten, and D.P. Palomar. Robust MIMO precoding for several classes of channel uncertainty. *Signal Processing, IEEE Transactions on*, 61(12):3056–3070, 2013.
- [J171] Le-Nam Tran, Markku Juntti, Mats Bengtsson, and Bjorn Ottersten. Beamformer designs for MISO broadcast channels with zero-forcing dirty paper coding. *Wireless Communications, IEEE Transactions on*, 12(3):1173–1185, 2013.

- [J172] F. Garcia, D. Aouada, B. Mirbach, and B. Ottersten. Real-time distance-dependent mapping for a hybrid ToF multi-camera rig. *IEEE Journal on Selected Topics in Signal Processing*, 6(5):425–436, 2012.
- [J173] Gan Zheng, Symeon Chatzinotas, and Björn Ottersten. Generic optimization of linear precoding in multibeam satellite systems. *IEEE Transactions on Wireless Communications*, 11(6):2308–2320, 2012.
- [J174] Emil Björnson, Mats Bengtsson, and Björn Ottersten. Pareto characterization of the multicell mimo performance region with simple receivers. *IEEE Transactions on Signal Processing*, 60(8):4464–4469, 2012.
- [J175] B. Shankar, P.-D. Arapoglou, and B. Ottersten. Space-frequency coding for dual polarized hybrid mobile satellite systems. *IEEE Transactions on Wireless Communications*, 11(8):2806–2814, 2012.
- [J176] Y. Huang, G. Zheng, M. Bengtsson, K.-K. Wong, L. Yang, and B. Ottersten. Distributed multicell beamforming design approaching pareto boundary with max-min fairness. *IEEE Transactions on Wireless Communications*, 11(8):2921–2933, 2012.
- [J177] Dimitrios Christopoulos, Symeon Chatzinotas, Gan Zheng, Joel Grotz, and Björn Ottersten. Linear and nonlinear techniques for multibeam joint processing in satellite communications. *EURASIP Journal on Wireless Communications and Networking*, 2012(1):162, 2012.
- [J178] Le-Nam Tran, Mats Bengtsson, and Björn Ottersten. Iterative precoder design and user scheduling for block-diagonalized systems. *IEEE Transactions on Signal Processing*, 60(7):3726–3739, 2012.
- [J179] Symeon Chatzinotas and Bjorn Ottersten. Interference mitigation techniques for clustered multicell joint decoding systems. *EURASIP Journal on Wireless Communications and Networking, Special Issue on Multicell Cooperation for Next Generation Communication Systems*, 132, 2011.
- [J180] Gan Zheng, P.-D. Arapoglou, and B. Ottersten. Physical layer security in multibeam satellite systems. *Wireless Communications, IEEE Transactions on*, 11(2):852–863, February 2012.
- [J181] E.E. Tsakonas, J. Jalden, and B. Ottersten. Semidefinite relaxations of robust binary least squares under ellipsoidal uncertainty sets. *Signal Processing, IEEE Transactions on*, 59(11):5169–5180, November 2011.
- [J182] E. Bjornson, Gan Zheng, M. Bengtsson, and B. Ottersten. Robust monotonic optimization framework for multicell MISO systems. *Signal Processing, IEEE Transactions on*, 60(5):2508–2523, May 2012.
- [J183] Symeon Chatzinotas and Bjorn Ottersten. Free probability based capacity calculation of multiantenna gaussian fading channels with cochannel interference. *Elsevier Physical Communication, Special Issue on Recent Advances in Cooperative Communications for Wireless Systems*, 2011.
- [J184] Yongming Huang, Luxi Yang, Mats Bengtsson, and Bjorn Ottersten. Exploiting long-term channel correlation in limited feedback SDMA through channel phase codebook. *IEEE Transactions on Signal Processing*, 59:1217–1228, March 2011.
- [J185] E. Bjornson, N. Jalden, M. Bengtsson, and B. Ottersten. Optimality properties, distributed strategies, and measurement-based evaluation of coordinated multicell ofdma transmission. *Signal Processing, IEEE Transactions on*, 59(12):6086–6101, December 2011.
- [J186] Yongming Huang, Gan Zheng, Mats Bengtsson, Kai-Kit Wong, Luxi Yang, and Björn Ottersten. Distributed multicell beamforming with limited intercell coordination. *IEEE Transactions on Signal Processing*, 59:728–738, February 2011.
- [J187] Simon Järmyr, Björn Ottersten, and Eduard Jorswieck. Statistical precoding with decision feedback equalization over a correlated MIMO channel. *IEEE Transactions on Signal Processing*, 58(12):6298–6311, December 2010.

- [J188] Alex B. Gershman, Nicholas D. Sidiropoulos, Shahram Shahbazpanahi, Mats Bengtsson, and Björn Ottersten. Convex optimization-based beamforming: From receive to transmit and network designs. *IEEE Signal Processing Magazine*, 27:62–75, March 2010.
- [J189] Emil Björnson, Randa Zakhour, David Gesbert, and Björn Ottersten. Cooperative multicell precoding: Rate region characterization and distributed strategies with instantaneous and statistical CSI. *IEEE Transactions on Signal Processing*, 58(8):4298–4310, August 2010.
- [J190] Emil Björnson, Eduard Jorswieck, and Björn Ottersten. Impact of spatial correlation and precoding design in OSTBC MIMO systems. *IEEE Transactions on Wireless Communications*, 9:3578–3589, November 2010.
- [J191] Gan Zheng, Kit Wong, and Bjorn Ottersten. Robust cognitive beamforming with bounded channel uncertainties. *IEEE Transactions on Signal Processing*, 57:4871–4881, December 2009.
- [J192] Emil Björnson and Björn Ottersten. A framework for training-based estimation in arbitrarily correlated rician MIMO channels with rician disturbance. *IEEE Transactions on Signal Processing*, 58(3):1807–1820, March 2010.
- [J193] Xi Zhang, Eduard A. Jorswieck, Björn Ottersten, and Arogyaswami Paulraj. On the asymptotic optimality of opportunistic norm-based user selection with hard SINR constraint. *EURASIP Journal on Advances in Signal Processing*, 2009, June 2009.
- [J194] Yongming Huang, Luxi Yang, Mats Bengtsson, and Björn Ottersten. A limited feedback joint precoding for amplify-and-forward relaying. *IEEE Transactions on Signal Processing*, 58:1347 – 1357, March 2010.
- [J195] Svante Bergman, Daniel P. Palomar, and Björn Ottersten. Joint bit allocation and precoding for MIMO systems with decision feedback detection. *IEEE Transactions on Signal Processing*, 57:4509 – 4521, November 2009.
- [J196] Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, and Björn Ottersten. Spectrum allocation for decentralized transmission strategies: Properties of nash equilibria. *EURASIP Journal on Advances in Signal Processing*, April 2009.
- [J197] Gan Zheng, Kai-Kit Wong, Arogyaswami Paulraj, and Björn Ottersten. Robust collaborative-relay beamforming. *IEEE Transactions on Signal Processing*, 57:3130 – 3143, August 2009.
- [J198] Joakim Jalden, Luis G. Barbero, Björn Ottersten, and John S. Thompson. The error probability of the fixed-complexity sphere decoder. *IEEE Transactions on Signal Processing*, 57:2711–2720, July 2009.
- [J199] Joel Grotz, Bjorn Ottersten, and Jens Krause. Signal detection and synchronization for interference overloaded satellite broadcast reception. *IEEE Transactions on Wireless Communications*, 9:3052 – 3063, October 2010.
- [J200] Gan Zheng, Kai-Kit Wong, Arogyaswami Paulraj, and Björn Ottersten. Collaborative-relay beamforming with perfect CSI: Optimum and distributed implementation. *IEEE Signal Processing Letters*, 16:257 – 260, April 2009. **2013 IEEE Signal Processing Letters Best Paper Award.**
- [J201] Emil Björnson, David Hammarwall, and Björn Ottersten. Exploiting quantized channel norm feedback through conditional statistics in arbitrarily correlated MIMO systems. *IEEE Transactions on Signal Processing*, 57(10):4027–4041, October 2009.
- [J202] Xi Zhang, Daniel Palomar, and Björn Ottersten. Statistically robust design of linear MIMO transceivers. *IEEE Transactions on Signal Processing*, 56(8):3678–3689, August 2008.
- [J203] Eduard Jorswieck, Bjorn Ottersten, Aydin Sezgin, and Arogyaswami Paulraj. Guaranteed performance region in fading orthogonal space-time coded broadcast channels. *EURASIP Journal on Wireless Communications and Networking*, February 2008.

- [J204] Eduard Jorswieck, Aydin Sezgin, Bjorn Ottersten, and Arogyaswami Paulraj. Feedback reduction in uplink MIMO OFDM systems by chunk optimization. *EURASIP Journal on Advances in Signal Processing*, January 2008.
- [J205] Pandu R Devarakota, Marta Castillo-Franco, Romuald Ginhoux, Bruno Mirbach, Serge Kater, and Björn Ottersten. 3d skeleton based head detection and tracking using range images. *IEEE Transactions on Vehicular Technology*, 58:4064 – 4077, October 2009.
- [J206] David Hammarwall, Mats Bengtsson, and Björn Ottersten. Utilizing the spatial information provided by channel norm feedback in SDMA systems. *IEEE Transactions on Signal Processing*, 56:3278–3293, July 2008.
- [J207] Svante Bergman and Björn Ottersten. Lattice-based linear precoding for MIMO channels with transmitter CSI. *IEEE Transactions on Signal Processing*, 56(7):2902–2914, July 2008.
- [J208] Marc Mowlér, Erik G Larsson, Björn Lindmark, and Björn Ottersten. Joint estimation of mutual coupling, element factor, and phase center in antenna arrays. *EURASIP Journal on Wireless Communications and Networking*, 2007, August 2007.
- [J209] Eduard Jorswieck, Patrick Svedman, and Björn Ottersten. Performance of TDMA and SDMA based opportunistic beamforming. *IEEE Transactions on Wireless Communications*, 7(11):4058–4063, November 2008.
- [J210] Patrick Svedman, Eduard A. Jorswieck, and Bjorn Ottersten. Reduced feedback SDMA based on subspace packings. *IEEE Transactions on Wireless Communications*, 8:1329–1339, March 2009.
- [J211] Joakim Jaldén and Björn Ottersten. On the maximal diversity order of spatial multiplexing with transmit antenna selection. *IEEE Transactions on Information Theory*, 53:4273–4276, November 2007.
- [J212] Niklas Jaldén, Per Zetterberg, Björn Ottersten, and Laura Garcia. Inter and intra-site correlation of large scale parameters from macro cellular measurements at 1800MHz. *EURASIP Journal on Wireless Communications and Networking*, August 2007.
- [J213] David Hammarwall, Mats Bengtsson, and Björn Ottersten. Acquiring partial CSI for spatially selective transmission by instantaneous channel norm feedback. *IEEE Transactions on Signal Processing*, 56(3):1188–1204, March 2008.
- [J214] Patrick Svedman, Sarah Kate Wilson, Leonard J. Cimini, Jr., and Björn Ottersten. Opportunistic beamforming and scheduling for OFDMA systems. *IEEE Transactions on Communications*, 55(5):941–952, May 2007.
- [J215] Pandu R Devarakota, Bruno Mirbach, and Björn Ottersten. Reliability estimation of a statistical classifier. *Pattern Recognition Letters*, 29:243–253, February 2008.
- [J216] Pandu Rangarao Devarakota, Marta Castillo-Franco, Romuald Ginhoux, Bruno Mirbach, and Björn Ottersten. Occupant classification using range images. *IEEE Transactions on Vehicular Technology*, 56:1983–1993, July 2007.
- [J217] Joakim Jaldén and Björn Ottersten. The diversity order of the semidefinite relaxation detector. *IEEE Transactions on Information Theory*, 54:1406–1422, April 2008.
- [J218] T. Kaiser, A. Bourdoux, S. Choi, A. Fuertes, C. Mecklenbauer, Q. Li, B. Ottersten, C. Papadias, S. Paul, A. Paulraj, P. van Rooyen, and J.H. Winters. When will smart antennas be ready for the market? part II - results. *IEEE Signal Processing Magazine*, pages 174–176, November 2005.
- [J219] Joel Grotz, Björn Ottersten, and Jens Krause. Joint channel synchronization under interference limited conditions. *IEEE Transactions on Wireless Communications*, 6(10):3781–3789, October 2007.

- [J220] David Hammarwall, Mats Bengtsson, and Björn Ottersten. On downlink beamforming with indefinite shaping constraints. *IEEE Transactions on Signal Processing*, 54:3566–3580, September 2006.
- [J221] T. Kaiser, A. Bourdoux, S. Choi, A. Fuertes, C. Mecklenbauer, Q. Li, B. Ottersten, C. Papadias, S. Paul, A. Paulraj, P. van Rooyen, and J.H. Winters. When will smart antennas be ready for the market? part I. *IEEE Signal Processing Magazine*, 22(2):87–92, March 2005.
- [J222] David Samuelsson, Joakim Jaldén, Per Zetterberg, and Björn Ottersten. Realization of a spatially multiplexed MIMO system. *EURASIP Journal on Applied Signal Processing*, February 2006. doi:10.1155/ASP/2006/78349.
- [J223] Cristoff Martin, Alexander Geurtz, and Björn Ottersten. Statistical analysis and optimal design for efficient mobile satellite broadcast with diversity. *IEEE Transactions on Vehicular Technology*, 57:986–1000, March 2008.
- [J224] Per Hyberg, Magnus Jansson, and Björn Ottersten. Array interpolation and DOA MSE reduction. *IEEE Transactions on Signal Processing*, 53(12):4464–4471, December 2005.
- [J225] Joakim Jaldén and Björn Ottersten. On the complexity of sphere decoding in digital communications. *IEEE Transactions on Signal Processing*, 53:1474–1484, April 2005. **Young Author Best Paper Award.**
- [J226] Daniel Pèrez Palomar, Mats Bengtsson, and Björn Ottersten. Minimum BER linear transceivers for MIMO channels via primal decomposition. *IEEE Transactions on Signal Processing*, 53(8):2866–2882, August 2005.
- [J227] Göran Klang and Björn Ottersten. Interference robustness aspects of space-time block code-based transmit diversity. *IEEE Transactions on Signal Processing*, pages 1299–1309, April 2005.
- [J228] Per Hyberg, Magnus Jansson, and Björn Ottersten. Array interpolation and bias reduction. *IEEE Transactions on Signal Processing*, 52:2711–2720, October 2004.
- [J229] Rickard Stridh, Mats Bengtsson, and Björn Ottersten. System evaluation of optimal downlink beamforming with congestion control in wireless communication. *IEEE Transactions on Wireless Communications*, 5(4):743–751, April 2006.
- [J230] Cristoff Martin and Björn Ottersten. Asymptotic eigenvalue distributions and capacity for MIMO channels under correlated fading. *IEEE Transactions on Wireless Communications*, 3:1350–1359, July 2004.
- [J231] Kai Yu, Mats Bengtsson, Björn Ottersten, Darren McNamara, Peter Karlsson, and Mark Beach. Modeling of wideband MIMO radio channels based on NLOS indoor measurements. *IEEE Transactions on Vehicular Technology*, 53(3):655–665, May 2004.
- [J232] Kai Yu and Björn Ottersten. Models for MIMO propagation channels, a review. *Special Issue on Adaptive Antennas and MIMO Systems, Wiley Journal on Wireless Communications and Mobile Computing*, 2(7):653–666, August 2002.
- [J233] Rickard Stridh, Kai Yu, Björn Ottersten, and Peter Karlsson. MIMO channel capacity and modeling issues on a measured indoor radio channel at 5.8 GHz. *IEEE Transactions on Wireless Communications*, pages 895–903, May 2005.
- [J234] George Jöngren, Mikael Skoglund, and Björn Ottersten. Design of channel estimate dependent space-time block codes. *IEEE Transactions on Communications*, pages 1191–1203, July 2004.
- [J235] Göran Klang and Björn Ottersten. Structured semi-blind interference rejection in dispersive multichannel systems. *IEEE Transactions on Signal Processing*, 50(8):2027–2036, August 2002.
- [J236] George Jöngren, Mikael Skoglund, and Björn Ottersten. Combining beamforming with orthogonal space-time block coding. *IEEE Transactions on Information Theory*, 48:611–627, June 2002.

- [J237] Martin Kristensson, Magnus Jansson, and Björn Ottersten. Further results and insights on subspace based sinusoidal frequency estimation. *IEEE Transactions on Signal Processing*, 49(12):2962–2974, December 2001.
- [J238] Mats Bengtsson and Björn Ottersten. A generalization of weighted subspace fitting to full rank models. *IEEE Transactions on Signal Processing*, 49(5):1002–1012, May 2001.
- [J239] Björn Völcker and Björn Ottersten. Chirp parameter estimation from a sample covariance matrix. *IEEE Transactions on Signal Processing*, pages 603–612, June 2001.
- [J240] Mats Bengtsson and Björn Ottersten. Low-complexity estimators for distributed sources. *IEEE Transactions on Signal Processing*, 48(8):2185–2194, August 2000.
- [J241] Alexei Gorokhov, Martin Kristensson, and Björn Ottersten. Robust blind second-order deconvolution. *IEEE Signal Processing Letters*, 6:13–16, January 1999.
- [J242] Magnus Jansson, Bo Göransson, and Björn Ottersten. A subspace method for direction of arrival estimation of uncorrelated emitter signals. *IEEE Transactions on Signal Processing*, 47(4):945–956, April 1999.
- [J243] Björn Ottersten and Andrew Lee Swindlehurst. Antenna arrays for wireless networks. *IEEE Signal Processing Magazine*, 16(2):25–27, March 1999.
- [J244] Thomas Östman, Stefan Parkvall, and Björn Ottersten. An improved MUSIC algorithm for estimation of time delays in asynchronous DS-CDMA systems. *IEEE Transactions on Communications*, 47(11):1628–1631, November 1999.
- [J245] Martin Kristensson, Magnus Jansson, and Björn Ottersten. Modified IQML and weighted subspace fitting without eigendecomposition. *Signal Processing*, 79(1):29–44, November 1999.
- [J246] David Astély and Björn Ottersten. The effects of local scattering on direction of arrival estimation with MUSIC. *IEEE Transactions on Signal Processing*, 47(12):3220–3234, December 1999.
- [J247] Bo Göransson and Björn Ottersten. Direction estimation in partially unknown noise fields. *IEEE Transactions on Signal Processing*, 47:2375–2385, September 1999.
- [J248] David Astély, Andrew Lee Swindlehurst, and Björn Ottersten. Spatial signature estimation for uniform linear arrays with unknown receiver gains and phases. *IEEE Transactions on Signal Processing*, 47(8):2128–2138, August 1999. **Young Author Best Paper Award.**
- [J249] Stefan Parkvall, Erik G. Ström, Laurence B. Milstein, and Björn Ottersten. Asynchronous near-far resistant DS-CDMA receivers without a priori synchronization. *IEEE Transactions on Communications*, 47(1):78–88, January 1999.
- [J250] Björn Ottersten, Petre Stoica, and R. Roy. Covariance matching estimation techniques for array signal processing applications. *Digital Signal Processing, A Review Journal*, 8:185–210, July 1998.
- [J251] Magnus Jansson, A. Lee Swindlehurst, and Björn Ottersten. Weighted subspace fitting for general array error models. *IEEE Transactions on Signal Processing*, 46(9):2484–2498, September 1998.
- [J252] Martin Kristensson and Björn Ottersten. A statistical approach to subspace based blind identification. *IEEE Transactions on Signal Processing*, 46(6):1612–1623, June 1998.
- [J253] David Asztély, Björn Ottersten, and Andrew Lee Swindlehurst. Generalised array manifold model for wireless communication channels with local scattering. *IEE Proceedings Radar, Sonar and Navigation*, 145(1):51–57, January 1998.
- [J254] K.V.S. Hari and Björn Ottersten. Parameter estimation using a sensor array in a rician fading channel. *Signal Processing and Communications*, 23:5–15, March 1998.



- [J255] Petre Stoica and Björn Ottersten. Comments on “min-norm interpretations and consistency of MUSIC, MODE and ML”. *IEEE Transactions on Signal Processing*, 46(8):2262–2263, August 1998.
- [J256] Mats Viberg, Bo Wahlberg, and Björn Ottersten. Analysis of subspace system identification methods based on instrumental variables and subspace fitting. *Automatica*, 33, July 1997.
- [J257] Mats Viberg, Petre Stoica, and Björn Ottersten. Maximum likelihood array processing in spatially correlated noise fields using parametrized signals. *IEEE Transactions on Signal Processing*, 45(4):996–1004, April 1997.
- [J258] Stefan Parkvall, Erik G. Ström, and Björn Ottersten. The impact of timing errors on the performance of linear DS-CDMA receivers. *IEEE Journal on Selected Areas in Communications*, 14(8):1660–1668, October 1996.
- [J259] Erik G. Ström, Stefan Parkvall, Scott L. Miller, and Björn Ottersten. DS-CDMA synchronization in time-varying fading channels. *IEEE Journal on Selected Areas in Communications*, 14(8):1636–1642, October 1996.
- [J260] Petre Stoica and Björn Ottersten. The evil of superefficiency. *Signal Processing, Elsevier*, 55(1):133–136, November 1996.
- [J261] Erik G. Ström, Stefan Parkvall, Scott L. Miller, and Björn Ottersten. Propagation delay estimation in asynchronous direct-sequence code-division multiple access systems. *IEEE Transactions on Communications*, 44(1):84–93, January 1996.
- [J262] Petre Stoica, Björn Ottersten, Mats Viberg, and R. Moses. Maximum likelihood array processing for stochastic coherent sources. In *IEEE Trans. on Signal Processing*, 44:96–105, January 1996.
- [J263] T. Trump and Björn Ottersten. Estimation of nominal direction of arrival and angular spread using an array of sensors. *Signal Processing, Elsevier*, 50(1-2):57–69, April 1996.
- [J264] Per Zetterberg and Björn Ottersten. The spectrum efficiency of a base-station antenna array system for spatially selective transmission. *IEEE Transactions on Vehicular Technology*, 44(3):651–660, August 1995.
- [J265] Mats Viberg, Björn Ottersten, and A. Nehorai. Performance analysis of direction finding with large arrays and finite data. *IEEE Trans. on Signal Processing*, March 1995.
- [J266] A.L. Swindlehurst, R. Roy, Björn Ottersten, and T. Kailath. A subspace fitting method for identification of linear state space models. *IEEE Trans. Autom. Control*, May 1995.
- [J267] Mats Viberg, Petre Stoica, and Björn Ottersten. Array processing in correlated noise fields based on instrumental variables and subspace fitting. *IEEE Trans. on Signal Processing*, 43:1187–1199, May 1995.
- [J268] Petre Stoica, Mats Viberg, and Björn Ottersten. Instrumental variable approach to array processing in spatially correlated noise fields. *IEEE Trans. on Signal Processing*, pages 121–133, January 1994.
- [J269] M. Viberg, B. Ottersten, and T. Kailath. “Subspace Based Detection for Linear Structural Relations”. *J. of Combinatorics, Information, & Systems Sciences*, 16(2-3):170–189, 1991.
- [J270] A. Swindlehurst, B. Ottersten, R. Roy, and T. Kailath. “Multiple Invariance ESPRIT”. *IEEE Trans. on Signal Processing*, SP-40(4):867–881, April 1992.
- [J271] B. Ottersten, M. Viberg, and T. Kailath. “Analysis of Subspace Fitting and ML Techniques for Parameter Estimation from Sensor Array Data”. *IEEE Trans. on Signal Processing*, SP-40:590–600, March 1992.
- [J272] M. Viberg, B. Ottersten, and T. Kailath. “Detection and Estimation in Sensor Arrays Using Weighted Subspace Fitting”. *IEEE Trans. on Signal Processing*, SP-39(11):2436–2449, Nov. 1991.

- [J273] M. Viberg and B. Ottersten. “Sensor Array Processing Based on Subspace Fitting”. *IEEE Trans. on Signal Processing*, SP-39(5):1110–1121, May 1991. **Young Author Best Paper Award.**
- [J274] B. Ottersten, M. Viberg, and T. Kailath. “Performance Analysis of the Total Least Squares ESPRIT Algorithm”. *IEEE Trans. on Signal Processing*, SP-39:1122–1135, May 1991.
- [J275] B. Ottersten and T. Kailath. “Direction-of-Arrival Estimation for Wide-Band Signals Using the ESPRIT Algorithm”. *IEEE Trans. on Acoustics, Speech and Signal Processing*, ASSP-38(2):317–327, Feb. 1990.

## Björn Ottersten – Patents

- [P1] C. Hammes, Y. Nijssure, B. Ottersten, U. Schroder, B. Shankar, and T. Spielmann. Method and system for obtaining an adaptive angle-doppler ambiguity function in MIMO radars, September 2018. WO Patent WO2018158353A1.
- [P2] S. Chatzinotas, J. Grotz, V. Joroughi, R.R.B.S. Mysore, and B. Ottersten. Space based processing with onboard traffic switching and inband dynamic payload configuration of multibeam satellite communication, January 2021. WO Patent WO2021008931A1.
- [P3] A. Haqiqatnejad, F. Kayhan, R.R.B.S. Mysore, and B. Ottersten. Method and device for adaptive coding and modulation, April 2019. WO Patent WO2019073029A1.
- [P4] C. Hammes, R.R.B.S. Mysore, B. Ottersten, and U. Schroder. Method and system for target detection using MIMO radar, December 2020. US Patent US2020400808A1.
- [P5] S.H. Dokhanchi, B. Otterste, R.R.B.S. Mysore, and T. Stifler. Method for joint radar-communication, February 2021. US Patent US2021055374A1.
- [P6] C. Hammes, B. Shankar, and B. Ottersten. Method and device for beamforming in a MIMO radar system, October 2020. WO Patent WO2020212569A1.
- [P7] P.D Arapoglou, A. Ginesi, G. Taricco, S. Chatzinotas, B. Ottersten, Vázquez A.M., A. Pérez-Neira, S. Andrenacci, and V.A. Coralli. Joint transmitter signal processing in multi-beam satellite systems, September 2017. European Patent EP2958249B1.
- [P8] C. Hammes, U. Schroder, Y. Nijssure, and B. Ottersten. Method and system for obtaining angle-doppler signatures in MIMO radars, September 2020. US Patent US10768291B2.
- [P9] R. Piazza, B.S.M. Rama Rao, and B. Ottersten. Methods, devices, and computer programs for compensating nonlinearities of a communication channel, 2018. European Patent EP316494.
- [P10] Pantelis-Daniel Arapoglou, Alberto Ginesi, Giorgio Taricco, Dimitrios Christopoulos, Symeon Chatzinotas, Bjorn Ottersten, Miguel Angel Vazquez, Ana Isabel Perez-Neira, Stefano Andrenacci, and Alessandro Vanelli Coralli. Joint transmitter signal processing in multi-beam satellite systems, May 25 2019. US Patent US10270520B2.
- [P11] F. Kayhan, B. Shankar, and B. Ottersten. Data transmission method and device using non-uniform APSK constellations, 2017. WO Patent WO2017202823A1.
- [P12] M. Alodeh, S. Chatzinotas, and B. Ottersten. Method and device for symbol-level multiuser precoding, 2016. WO Patent App. WO2017050930A1.
- [P13] Martin Kristensson, Bjorn Ottersten, and David Astely. Receiver. US Patent US 7474884, 2009.
- [P14] Roger Rogard, Michael Youssefmir, and Björn Ottersten. Downlink transmission in a wireless data communication system having a base station with a smart antenna system. European Patent EP 1325566 B1, 2012.
- [P15] L.C. Yun and B.E. Ottersten. Channel assignment for spatial division multiple access, January 18 2012. European Patent EP 0956716 B1.
- [P16] Richard H. III. Roy and Bjorn E. Ottersten. Spatial division multiple access wireless communication systems. European Patent EP1926336 B1, 2011.
- [P17] Richard H III Roy and Björn Ottersten. Spatial division multiple access wireless communication systems. European Patent EP 0926916 B1, 2007.
- [P18] Martin Kristensson, Bjorn Ottersten, and David Astely. Co-channel interference rejection in a digital receiver, September 12 2006. US Patent 7,107,031.

- [P19] Roger Rogard, Michael Youssefmir, and Bjorn Erik Ottersten. Downlink transmission in a wireless data communication system having a base station with a smart antenna system, June 13 2006. US Patent 7,062,294.
- [P20] Björn Ottersten, Martin Kristensson, and David Astely. Receiver and method for rejecting cochannel interference. European Patent EP1301997, 2003.
- [P21] Louis Yun and Björn Ottersten. Method and apparatus for channel assignment and call admission control in spatial division multiple access (SDMA) communication systems. European Patent EP 1339245, 2003.
- [P22] Louis C Yun and Bjorn E Ottersten. Channel assignment and call admission control for spatial division multiple access communication systems, March 23 1999. US Patent 5,886,988.
- [P23] Björn Ottersten, Craig Barratt, David M Parish, and Richard H III Roy. Spectrally efficient high capacity wireless communication systems with spatio-temporal processing. European Patent EP 0932986, 1999.
- [P24] Bjorn E Ottersten, Craig H Barratt, David M Parish, and Richard H Roy III. Spectrally efficient high capacity wireless communication systems with spatio-temporal processing, October 27 1998. US Patent 5,828,658.
- [P25] Richard H Roy III and Bjorn Ottersten. Spatial division multiple access wireless communication systems, May 7 1996. US Patent 5,515,378.
- [P26] Richard H III Roy and Björn Ottersten. Spatial division multiple access wireless communication systems. European Patent EP 0616742, 1994.

## Björn Ottersten – Books/Book Chapters

- [B1] Abd El Rahman Shabayek, Renato Baptista, Konstantinos Papadopoulos, Girum Demisse, Oyebeade Oyedotun, Michel Antunes, Djamila Aouada, Bjorn Ottersten, Margarita Anastassova, Mehdi Boukallel, Sabrina Panëels, Gary Randall, Mathilde Andre, Alice Douchet, Stephane Bouilland, and Leire Ortiz Fernandez. STARR - decision support and self-management system for stroke survivors vision based rehabilitation system. In *European Project Space on Networks, Systems and Technologies - Volume 1: EPS Porto 2017*,, pages 69–80. SciTePress, 2017.
- [B2] Sumit Gautam, Thank X. Vu, Symeon Chatzinotas, and Björn Ottersten. Simultaneous wireless information and power transfer in udsn with caching architecture. In *Ultra-Dense Networks for 5G and Beyond*. Wiley, 2019.
- [B3] Ankit Kaushik, Shree Krishna Sharma, Symeon Chatzinotas, Björn Ottersten, and Friedrich K. Jondral. Modelling and performance analysis of cognitive radio systems from a deployment perspective. In *Handbook of Cognitive Radio*, Cognitive Radio Communications. Springer, 2017.
- [B4] Shree Krishna Sharma, Eva Lagunas, Christos Tsinos, Sina Maleki, Symeon Chatzinotas, and Björn Ottersten. Spectral coexistence for next generation wireless backhaul networks. In *Access, Fronthaul and Backhaul Networks for 5G and Beyond*, Telecommunications, pages 307–336. Institution of Engineering and Technology, 2017.
- [B5] D. Christopoulos, S. Andrenacci, D. Spano, S. Chatzinotas, J. Krause, and B. Ottersten. Multi-beam joint processing satellites: cooperative relays, high above. In *Advanced Relay Technologies in Next Generation Wireless Communications*, Telecommunications, pages 465–499. Institution of Engineering and Technology, 2016.
- [B6] ShreeKrishna Sharma, Symeon Chatzinotas, and Björn Ottersten. Cooperative spectrum sensing for heterogeneous sensor networks using multiple decision statistics. In Weichold M., Hamd M., Shakir M.Z., Abdallah M., Karagiannidis G.K., and Ismail M., editors, *Cognitive Radio Oriented Wireless Networks*, volume 156 of *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, pages 321–333. Springer International Publishing, 2015. **Best Paper Award at Crowncom 2015**.
- [B7] Anestis Tsakmalis, Symeon Chatzinotas, and Björn Ottersten. Power control in cognitive radio networks using cooperative modulation and coding classification. In Weichold M., Hamd M., Shakir M.Z., Abdallah M., Karagiannidis G.K., and Ismail M., editors, *Cognitive Radio Oriented Wireless Networks*, volume 156 of *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, pages 358–369. Springer International Publishing, 2015.
- [B8] Symeon Chatzinotas, Björn Ottersten, and Riccardo De Gaudenzi. *Cooperative and Cognitive Satellite Systems*. Elsevier, Academic Press, Amsterdam, 2015.
- [B9] Dimitrios Christopoulos, Symeon Chatzinotas, and Björn Ottersten. User scheduling in cooperative satellite systems. In S. Chatzinotas, B. Ottersten, and R. De Gaudenzi, editors, *Cooperative and Cognitive Satellite Systems*, pages 217–244. Elsevier, 2015.
- [B10] Shree Krishna Sharma, Symeon Chatzinotas, and Björn Ottersten. Cognitive beamforming for spectral coexistence of hybrid satellite systems. In S. Chatzinotas, B. Ottersten, and R. De Gaudenzi, editors, *Cooperative and Cognitive Satellite Systems*, page 415 452. Elsevier, 2015.
- [B11] Shree Krishna Sharma, Symeon Chatzinotas, and Björn Ottersten. Exploiting polarization for spectrum awareness in cognitive satellite communications. In *Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Access and Management*. IGI Global, 2015.
- [B12] Shree Krishna Sharma, Symeon Chatzinotas, and Björn Ottersten. Cognitive interference alignment for spectral coexistence. In *Cognitive Radio and Networking for Heterogeneous Wireless Networks*. Springer, 2014.

- [B13] Shree Krishna Sharma, Symeon Chatzinotas, and Björn Ottersten. Satellite cognitive communications and spectrum regulation. In *International Regulations of Space Communications*. Larcier, 2013.
- [B14] Joakim Jalden and Björn Ottersten. Detection based on relaxation in MIMO systems. In *Handbook on Advancements in Smart Antenna Technologies for Wireless Networks*. IGI publishing company, August 2008.
- [B15] Magnus Jansson, Björn Ottersten, Mats Viberg, and A. Lee Swindlehurst. Optimal subspace techniques for DOA estimation in the presence of noise and model errors. In H. Bölcskei, D. Gesbert, C. Papadias, and A. J. van der Veen, editors, *Space-Time Wireless Systems: From Array Processing to MIMO Communications*, chapter 13. Cambridge University Press, January 2006.
- [B16] Kai Yu, Mats Bengtsson, and Björn Ottersten. MIMO channel models. In *Smart Antennas – State-of-the-Art*. Hindawi Publishing Corporation, April 2005.
- [B17] David Astely and Björn Ottersten. Spatio-temporal interference rejection combining. In Thomas Kaiser, editor, *Smart Antennas - State-of-the-Art*. Hindawi Publishing Corporation, April 2005.
- [B18] George Jöngren, Mikael Skoglund, and Björn Ottersten. Space-time block coding using channel side information. In Thomas Kaiser, editor, *Smart Antennas - State-of-the-Art*. Hindawi Publishing Corporation, April 2005.
- [B19] Björn Völcker, Mats Bengtsson, and Björn Ottersten. Spatially spread sources in antenna array processing. In Sathish Chandran, editor, *Adaptive Antenna Arrays: Trends and Applications*, pages 394–419. Springer Verlag, August 2004.
- [B20] Mats Bengtsson and Björn Ottersten. Optimal and suboptimal transmit beamforming. In Lal C. Godara, editor, *Handbook of Antennas in Wireless Communications*. CRC Press, August 2001.
- [B21] Martin Kristensson and Björn Ottersten. Optimum subspace methods. In G. Giannakis, Y. Hua, Petre Stoica and L. Tong, editor, *Signal Processing Advances in Communications*, pages 139–177. Prentice Hall, Upper Saddle River, NJ, June 2001.
- [B22] Björn Ottersten, David. Asztély, Martin Kristensson, and Stefan Parkvall. A statistical approach to subspace based estimation with applications in telecommunications. In S. Van Huffel, editor, *2nd International Workshop on TLS and Errors-in-Variables Modeling*, pages 285–294. SIAM, Leuven, Belgium, November 1997.
- [B23] Björn Ottersten, Mats Viberg, Petre Stoica, and Arye Nehorai. Exact and large sample ML techniques for parameter estimation and detection in array processing. In Haykin, Litva, and Shepherd, editors, *Radar Array Processing*, pages 99–151. Springer-Verlag, Berlin, March 1993.
- [B24] A. Paulraj, B. Ottersten, R. Roy, A. Swindlehurst, G. Xu, and T. Kailath. Subspace methods for directions-of-arrival estimation. In N.K. Bose and C.R. Rao, editors, *Handbook of Statistics, Signal Processing and Its Applications*, pages 693–739. North-Holland, Amsterdam, 1993.
- [B25] M. Viberg and B. Ottersten. “Efficient Estimation of Multiple Parameters from Sensor Array Data”. In E. F. Deprettere and A.-J. van der Veen, editors, *Proceedings of the International Workshop on Algorithms and Parallel VLSI Architectures, 10-16 June 1990, Pont-à-Mousson, France*, pages 193–202. Elsevier Science Publishers B.V., 1991.

## Björn Ottersten – Invited Papers

- [I1] S. Andrenacci, D. Spano, D. Christopoulos, S. Chatzinotas, J. Krause, and B. Ottersten. Optimized link adaptation for DVB-S2X precoded waveforms based on SNIR estimation. In *2016 50th Asilomar Conference on Signals, Systems and Computers*, pages –, November 2016. Invited Paper.
- [I2] M. Soltanalian, R. B. S. Mysore, and B. Ottersten. Reliability problems and Pareto-optimality in cognitive radar. In *2016 24th European Signal Processing Conference (EUSIPCO)*, pages 2225–2229, Aug 2016. Invited Paper.
- [I3] A. Gharanjik, K. Liolis, M.R.B. Shankar, and B. Ottersten. Spatial multiplexing in optical feeder links for high throughput satellites. In *Signal and Information Processing (GlobalSIP), 2014 IEEE Global Conference on*, pages 1112–1116, Dec 2014. Invited Paper.
- [I4] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Modulation and coding classification for adaptive power control in 5G cognitive communications. In *Signal Processing Advances in Wireless Communications (SPAWC), 2014 IEEE 15th International Workshop on*, pages 234–238, June 2014. Invited Paper.
- [I5] M. Alodeh, S. Chatzinotas, and B. Ottersten. Joint channel estimation and pilot allocation in underlay cognitive MISO networks. In *IWCMC 2014 - 10th International Wireless Communications and Mobile Computing Conference*, pages 797–802, Aug 2014. Invited Paper.
- [I6] M. Alodeh, S. Chatzinotas, and B. Ottersten. Data aware user selection in cognitive downlink MISO precoding systems. In *Signal Processing and Information Technology (ISSPIT), 2013 IEEE International Symposium on*, pages 000356–000361, Dec 2013. Invited Paper.
- [I7] Dzevdan Kapetanovic, Gan Zheng, Kai-Kit Wong, and Bjorn Ottersten. Detection of pilot contamination attack using random training and massive MIMO. In *Personal Indoor and Mobile Radio Communications (PIMRC), 2013 IEEE 24th International Symposium on*, pages 13–18, 2013. Invited Paper.
- [I8] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Cognitive radio techniques for satellite communication systems. In *Proceedings of IEEE 78th Vehicular Technology Conference: VTC2013-Fall*, 2013. Invited Paper.
- [I9] Symeon Chatzinotas, Shree Krishna Sharma, and Bjorn Ottersten. Multiantenna signal processing for cognitive communications. In *Signal and Information Processing (ChinaSIP), 2013 IEEE China Summit International Conference on*, pages 293–297, 2013. Invited Paper.
- [I10] D. Christopoulos, S. Chatzinotas, M. Matthaiou, and B. Ottersten. Capacity analysis of multi-beam joint decoding over composite satellite channels. In *Signals, Systems and Computers (ASILOMAR), 2011 Conference Record of the Forty Fifth Asilomar Conference on*, pages 1795–1799, 2011. Invited Paper.
- [I11] E. Bjornson, M. Bengtsson, G. Zheng, and B. Ottersten. Computational framework for optimal robust beamforming in coordinated multicell systems. In *Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP), 2011 4th IEEE International Workshop on*, pages 245–248, 2011. Invited Paper, **Best Student Paper Award**.
- [I12] Symeon Chatzinotas, Muhammad Ali Imran, Reza Hoshyar, and Bjorn Ottersten. Multicell LMMSE filtering capacity under correlated multiple BS antennas. In *Proceedings IEEE Vehicular Technology Conference, Fall*, September 2010. Invited Paper.
- [I13] Gan Zheng, Kai-Kit Wong, Arogyaswami Paulraj, and Björn Ottersten. Robust and distributed beamforming. In *International Conference on Wireless Communications and Signal Processing (WCSP)*, November 2009. Invited Paper.
- [I14] Emil Björnson and Björn Ottersten. On the principles of multicell precoding with centralized and distributed cooperation. In *International Conference on Wireless Communications and Signal Processing (WCSP)*, November 2009. Invited paper, **Best Paper Award**.

- [I15] Svante Bergman, Simon Järmyr, Björn Ottersten, and Eduard Jorswieck. Optimization with skewed majorization constraints: Application to MIMO systems. In *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2008. Invited Paper.
- [I16] Svante Bergman, Daniel P. Palomar, and Björn Ottersten. Optimal bit loading for MIMO systems with decision feedback detection. In *Proceedings IEEE Vehicular Technology Conference*, April 2009. Invited paper.
- [I17] Magnus Jansson, Petter Wirfält, Karl Werner, and Björn Ottersten. ML estimation of covariance matrices with kronecker and persymmetric structure. In *13th IEEE Digital Signal Processing Workshop*, pages 298 – 301, Marco Island, FL, January 2009. Invited paper.
- [I18] Emil Björnson and Björn Ottersten. Post-user-selection quantization and estimation of correlated frobenius and spectral channel norms. In *Proceedings IEEE International Symposium on Personal, Indoor and Mobile Radio Communications*, September 2008. Invited Paper.
- [I19] Eduard Jorswieck, Mats Bengtsson, and Björn E. Ottersten. On the interplay between scheduling, user distribution, CSI, and performance measures in cellular downlink. In *Proceedings of EUSIPCO*, September 2006.
- [I20] Svante Bergman and Björn Ottersten. Design of robust linear dispersion codes based on imperfect. In *Proceedings European Signal Processing Conference*, September 2006.
- [I21] Patrick Svedman, David Hammarwall, and Björn Ottersten. Sub-carrier SNR estimation at the transmitter for reduced feedback OFDMA. In *Proceedings European Signal Processing Conference*, September 2006.
- [I22] Svante Bergman and Björn Ottersten. Adaptive spatial bit loading using imperfect channel state information. In *Proceedings of International Workshop on Optical and Electronic Device Technology for Access Networks, Aalborg, Denmark*, September 2005. Invited paper.
- [I23] Cristoff Martin, Svante Bergman, and Björn Ottersten. Spatial loading based on channel covariance feedback and channel estimates. In *Proceedings European Signal Processing Conference*, September 2004.
- [I24] Xi Zhang and Björn Ottersten. Joint space-frequency optimization in multi user MIMO system. In *IEEE International Symposium on Signal Processing and Information Technology*, December 2003. Invited paper.
- [I25] Göran Klang and Björn Ottersten. Interference rejection in systems employing transmit diversity. In *Proceedings European Signal Processing Conference*, September 2002. Invited paper.
- [I26] Kai Yu, Mats Bengtsson, Björn Ottersten, and Mark Beach. Narrowband MIMO channel modeling for LOS indoor scenarios. In *Proceedings XXVIIth Triennial General Assembly of the International Union of Radio Science (URSI)*, August 2002. Invited paper.
- [I27] Rickard Stridh, Peter Karlsson, and Björn Ottersten. MIMO channel capacity on a measured indoor radio channel at 5.8 GHz. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2000. Invited paper.
- [I28] Cristoff Martin and Björn Ottersten. On robustness against burst unsynchronized co-channel interference in semi-blind detection. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2000. Invited paper.
- [I29] Rickard Stridh and Björn Ottersten. Spatial characterization of indoor radio channel measurements at 5 GHz. In *Proceedings IEEE Sensor Array and Multichannel Signal Processing Workshop*, Boston, USA, June 2000. Invited paper.
- [I30] Mats Bengtsson and Björn Ottersten. Optimal downlink beamforming using semidefinite optimization. In *Proc. 37th Annual Allerton Conference on Communication, Control, and Computing*, pages 987–996, September 1999. Invited paper.



- [I31] George Jöngren and Björn Ottersten. Combining transmit antenna weights and orthogonal space-time block codes by utilizing side information. In *Proceedings Asilomar Conference on Signals, Systems and Computers*, October 1999. Invited paper.
- [I32] Björn Völcker and Björn Ottersten. Linear chirp parameter estimation from multi channel data. In *Proceedings of the 33rd Asilomar Conference on Signals, Systems and Computers*, pages 238–242, Pacific Grove, CA, October 1999. Invited paper.
- [I33] Björn Ottersten. Array processing for wireless communications. *Antenna Systems & Technology*, 1, November 1998.
- [I34] David Asztély and Björn Ottersten. On spatio-temporal interference rejection combining with antenna arrays. In *8th DSP Workshop*, Bryce Canyon, Utah, USA, August 1998.
- [I35] Martin Kristensson and Björn Ottersten. Further results on optimally weighted subspace based blind channel estimation. In *Proceedings of the 32th Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, November 1998.
- [I36] Göran Klang and Björn Ottersten. Channel estimation and interference rejection for multichannel systems. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 1998.
- [I37] David Asztély, Mats Bengtsson, Martin Kristensson, and Björn Ottersten. Spatio-temporal processing for wireless communications. In *First Annual UCSD Conference on Wireless Communications*, San Diego, March 1998.
- [I38] D. Asztély, Andrew Lee Swindlehurst, and Björn Ottersten. Auto calibration for signal separation with uniform linear arrays. In *International Conference on Digital Signal Processing*, pages 403–406, Santorini, Greece, July 1997.
- [I39] Mats Bengtsson and Björn Ottersten. Low complexity estimation of angular spread with an antenna array. In *Proceedings of SYSID'97*, pages 535–540, July 1997.
- [I40] Alexei Gorokhov, Martin Kristensson, Björn Ottersten, and Michael Youssefmir. Some results on blind deconvolution applied to digital communication signals. In *International Conference on Digital Signal Processing*, pages 107–110, Santorini, Greece, May 1997.
- [I41] Björn Ottersten, David Asztély, Martin Kristensson, and Stefan Parkvall. Application of subspace based estimation in telecommunications. In *2nd International Workshop on TLS and Errors-in-Variables Modeling*, Leuven, Belgium, August 1996.
- [I42] Björn Ottersten and Per Zetterberg. Base-station antenna arrays in mobile communications. In *Proc. 7th Tyrrhenian International Workshop on Digital Communications*, Viareggio, Italy, August 1995.
- [I43] Björn Ottersten and R. Roy. “subspace algorithms in systems identification and telecommunication applications”. In *3rd International Workshop on SVD and Signal Processing*, Leuven, Belgium, May 1994.
- [I44] B. Ottersten. “Asymptotic Analysis of SVD-Based Array Processing Algorithms”. In *SIAM Conference on Linear Algebra in Signals, Systems and Control*, San Francisco, CA, Nov. 1990.
- [I45] B. Ottersten and T. Kailath. “ESPRIT for Wideband Signals”. In *Proc. 21<sup>st</sup> Asilomar Conf. Sig., Syst., Comput.*, Monterey, CA, November 1987.

## Björn Ottersten – Plenary/Keynote Speaker

- [K1] Björn Ottersten. Precoding in wireless communications and satellite systems. In *International Workshop on Mathematical Issues in Information Sciences, MIIS*, Shenzhen, China, December 2020. Plenary speaker.
- [K2] Björn Ottersten. Multiantenna precoding in wireless communication systems. In *IEEE International Conference on Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 2020. Plenary speaker.
- [K3] Björn Ottersten. Signal processing challenges in satellite communication networks. In *Comin-Labs Days*, Rennes, France, November 2016. Plenary speaker.
- [K4] Björn Ottersten. Signal processing challenges in satellite communication networks. In *Tyrrhenian International Workshop on Digital Communications (TIW16)*, Livorno, Italy, September 2016. Keynote speaker.
- [K5] Björn Ottersten. Satellite communication networks - future challenges. In *Twelfth International Symposium on Wireless Communication Systems (ISWCS)*, Brussels, Belgium, August 2015. Keynote speaker.
- [K6] Björn Ottersten. Satellite communications - signal processing challenges. In *IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, St Martin, France, December 2013. Plenary speaker.
- [K7] Björn Ottersten. Satellite communications - signal processing challenges. In *BELgian network on STOchastic modelling, analysis, design and optimization of COMmunication systems (BESTCOM)*, Leuven, Belgium, October 2013. Plenary speaker.
- [K8] Björn Ottersten. Multi-antenna signal processing in satellite communications. In *Statistics, Optimization, and Signal Processing (STATOS)*, Darmstadt, Germany, June 2013. Plenary speaker.
- [K9] Björn Ottersten. Satellite communications - signal processing challenges. In *XXXIII Finnish URSI Convention on Radio Science*, Helsinki, Finland, April 2013. Plenary speaker.
- [K10] Björn Ottersten. Signal processing challenges in satellite networks. In *International Conference on Wireless Communications and Signal Processing (WCSP 2012)*, Helsinki, Finland, October 2012. Keynote speaker.
- [K11] Björn Ottersten. Signal processing challenges in satellite networks. In *17th IEEE International Conference on Digital Signal Processing (DSP 2011)*, Corfu, Greece, July 2011. Keynote speaker.
- [K12] Björn Ottersten. Secure, reliable and trustworthy ICT systems and services. In *National Symposium on Technology and Methodology for Security and Crisis Management (TAMSEC)*, Linköping, Sweden, October 2010. Plenary speaker.
- [K13] Björn Ottersten. Signal processing challenges in mobile communications. In *Wireless World Research Forum*, Stockholm, Sweden, October 2008. Plenary speaker.
- [K14] Björn Ottersten. The evolution of mobile communications - a signal processing perspective. In *Smart Radios and Wireless Research*, Helsinki, Finland, October 2008. Plenary speaker.
- [K15] Björn Ottersten. The evolution of mobile communications - a signal processing perspective. In *EUSIPCO'08, European Signal Processing Conference*, Aalborg, Denmark, August 2008. Plenary speaker.
- [K16] Björn Ottersten. Signal processing - the enabler for mobile communications. In *SPAWC'08, Signal Processing Advances in Wireless Communications*, Recife, Brazil, July 2008. Plenary speaker.

- [K17] Björn Ottersten. Space-time processing and coding for wireless communications, December 2003. Plenary speaker at FTC 2003.
- [K18] Björn Ottersten. Spatio-temporal processing and modeling in wireless systems, October 2002. Plenary speaker at URSI National Convention on Radio Science, Espoo, Finland.
- [K19] Björn Ottersten. MIMO channel modeling and multi-user MIMO systems, October 2002. Panel Speaker at 5th International Symposium on Wireless Personal Multimedia Communications (WPMP '2002).
- [K20] Björn Ottersten. Adaptive antennas in wideband radio access networks, June 2002. Planery Speaker at RadioVetenskap och Kommunikation (RVK).
- [K21] Björn Ottersten. Spatial channel modeling for wireless systems, December 2001. Planaray Speaker at FTC 2001.
- [K22] Björn Ottersten. Affordable wireless infrastructures and services, December 2001. Keynote address, FTC 2001.
- [K23] Björn Ottersten. Antenna arrays for wireless communications – models and algorithms, December 1999. Plenary speaker at Identification and Control of Complex Systems (ICCoS).
- [K24] Björn Ottersten. Antenna arrays for wireless communications models and algorithms from a systems perspective. In *2nd COST 259/260 Workshop on Spatial Channel Models and Adaptive*, Vienna, Austria, April 1999. Plenary speaker.
- [K25] Björn Ottersten. Array processing for wireless communications. In *8th IEEE Signal Processing Workshop on Statistical Signal and Array Processing*, pages 466–473, Corfu, Greece, June 1996. Plenary speaker.
- [K26] Björn Ottersten. Spatial processing in wireless communication systems. In *Workshop on Advanced Signal Processing Applications in Wireless Communications*, Philadelphia, PA, November 1996. Plenary speaker.
- [K27] Björn Ottersten. Sensor array signal processing with application to wireless communications. In *RadioVetenskap och Kommunikation (RVK)*, June 1996. Plenary speaker.
- [K28] Björn Ottersten. Overview of smart antenna technology and its application to wireless communication systems. October 1996. Address to Bay Area Chapter of the IEEE Communications Society.
- [K29] Björn Ottersten. “antenna arrays in mobile communications”. In *Communications, Computing, Control, and Signal Processing: 2000*, Stanford, CA, April 1995.
- [K30] Björn Ottersten. Subspace algorithms in systems identification and telecommunication applications. In *14th Benelux Meeting on Systems and Control*, Houthalen, Belgium, May 1995. Keynote speaker.
- [K31] Björn Ottersten. A subspace based instrumental variable method for state-space system identification. In *Swedish-Italian Workshop*, Stockholm, Sweden, September 1993.

## Björn Ottersten – Peer Reviewed Conference Proceedings

- [C1] Konstantinos Papadopoulos, Enjie Ghorbel, Djamila Aouada, and Björn Ottersten. Vertex feature encoding and hierarchical temporal modeling in a spatial-temporal graph convolutional network for action recognition, 2019.
- [C2] Alexandre Saint, Anis Kacem, Kseniya Cherenkova, Konstantinos Papadopoulos, Julian Chibane, Gerard Pons-Moll, Gleb Gusev, David Fofi, Djamila Aouada, and Björn Ottersten. Sharp 2020: The 1st shape recovery from partial textured 3D scans challenge results. In Adrien Bartoli and Andrea Fusiello, editors, *Computer Vision – ECCV 2020 Workshops*, pages 741–755, Cham, 2020. Springer International Publishing.
- [C3] D. H. Tran, V. D. Nguyen, S. Gautam, S. Chatzinotas, T. X. Vu, and B. Ottersten. Resource allocation for UAV relay-assisted IoT communication networks. In *2020 IEEE Globecom Workshops (GC Wkshps)*, pages 1–7, 2020.
- [C4] J. C. Merlano-Duncan, J. Querol, L. Martinez-Marrero, J. Krivochiza, A. Camps, S. Chatzinotas, and B. Ottersten. SDR implementation of a testbed for synchronization of coherent distributed remote sensing systems. In *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, pages 6588–6591, 2020.
- [C5] S. Bommaraveni, T. X. Vu, S. Chatzinotas, and B. Ottersten. Active popularity learning with cache hit ratio guarantees using a matrix completion committee. In *2020 IEEE 31st Annual International Symposium on Personal, Indoor and Mobile Radio Communications*, pages 1–5, 2020.
- [C6] A. Mostaani, T. X. Vu, S. Chatzinotas, and B. Ottersten. State aggregation for multiagent communication over rate-limited channels. In *GLOBECOM 2020 - 2020 IEEE Global Communications Conference*, pages 1–7, 2020.
- [C7] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Energy-efficient hybrid symbol-level precoding via phase shifter selection in mmWave MU-MIMO systems. In *GLOBECOM 2020 - 2020 IEEE Global Communications Conference*, pages 1–6, 2020.
- [C8] K. Papadopoulos, E. Ghorbel, O. Oyedotun, D. Aouada, and B. Ottersten. DeepVI: A novel framework for learning deep view-invariant human action representations using a single RGB camera. In *2020 15th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2020)*, pages 138–145, 2020.
- [C9] K. V. Mishra, B. Shankar M. R., and B. Ottersten. Stochastic-geometry-based interference modeling in automotive radars using Matérn hard-core process. In *2020 IEEE Radar Conference (RadarConf20)*, pages 1–5, 2020.
- [C10] K. V. Mishra, M. R. B. Shankar, and B. Ottersten. Toward metacognitive radars: Concept and applications. In *2020 IEEE International Radar Conference (RADAR)*, pages 77–82, 2020.
- [C11] D. Peng, Y. Li, S. Chatzinotas, and B. Ottersten. Hybrid analog-digital precoding for mmWave coexisting in 5G-satellite integrated network. In *2020 IEEE 31st Annual International Symposium on Personal, Indoor and Mobile Radio Communications*, pages 1–6, 2020.
- [C12] S. Mehrizi, S. Chatzinotas, and B. Ottersten. Content request prediction with temporal trend for proactive caching. In *2020 IEEE 31st Annual International Symposium on Personal, Indoor and Mobile Radio Communications*, pages 1–7, 2020.
- [C13] S. Kisseleff, S. Chatzinotas, and B. Ottersten. Receive beamforming for ultrareliable random access based SWIPT. In *2020 IEEE 31st Annual International Symposium on Personal, Indoor and Mobile Radio Communications*, pages 1–7, 2020.
- [C14] O. K. Oyedotun, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Going deeper with neural networks without skip connections. In *2020 IEEE International Conference on Image Processing (ICIP)*, pages 1756–1760, 2020.

- [C15] A. Bandi, R. Bhavani Shankar Mysore, S. Chatzinotas, and B. Ottersten. Joint user scheduling, and precoding for multicast spectral efficiency in multigroup multicast systems. In *2020 International Conference on Signal Processing and Communications (SPCOM)*, pages 1–5, 2020.
- [C16] S. Gautam, J. Krivochiza, A. Haqiqatnejad, S. Chatzinotas, and B. Ottersten. Boosting SWIPT via symbol-level precoding. In *2020 IEEE 21st International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, 2020.
- [C17] Y. Yuan, L. Lei, T. X. Vu, S. Chatzinotas, and B. Ottersten. Actor-critic deep reinforcement learning for energy minimization in UAV-aided networks. In *2020 European Conference on Networks and Communications (EuCNC)*, pages 348–352, 2020.
- [C18] L. You, K. Li, J. Wang, X. Gao, X. Xia, and B. Ottersten. LEO satellite communications with massive MIMO. In *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, pages 1–6, 2020.
- [C19] T. X. Vu, S. Chatzinotas, S. ShahbazPanahi, and B. Ottersten. Joint power allocation and access point selection for cell-free massive MIMO. In *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, pages 1–6, 2020.
- [C20] A. Haqiqatnejad, F. Kayhan, S. Shahbazpanahi, and B. Ottersten. One-bit quantized constructive interference based precoding for massive multiuser MIMO downlink. In *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, pages 1–6, 2020.
- [C21] S. Gautam, E. Lagunas, S. Kisseleff, S. Chatzinotas, and B. Ottersten. Successive convex approximation for transmit power minimization in SWIPT-multicast systems. In *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, pages 1–7, 2020.
- [C22] H. V. Nguyen, V. Nguyen, O. A. Dobre, S. K. Sharma, S. Chatzinotas, B. Ottersten, and O. Shin. A novel heap-based pilot assignment for full duplex cell-free massive MIMO with zero-forcing. In *ICC 2020 - 2020 IEEE International Conference on Communications (ICC)*, pages 1–6, 2020.
- [C23] A. Arora, B. S. Mysore R., and B. Ottersten. Cramer-rao bound on DOA estimation of finite bandwidth signals using a moving sensor. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4697–4701, 2020.
- [C24] K. V. Mishra, B. S. M. R., and B. Ottersten. Deep rainrate estimation from highly attenuated downlink signals of ground-based communications satellite terminals. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 9021–9025, 2020.
- [C25] S. H. Dokhanchi, M. R. Bhavani Shankar, K. V. Mishra, and B. Ottersten. Multi-constraint spectral co-design for colocated MIMO radar and MIMO communications. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4567–4571, 2020.
- [C26] C. G. Tsinos, A. Arora, and B. Ottersten. Constant-envelope precoding for satellite systems. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 8807–8811, 2020.
- [C27] A. E. Rahman Shabayek, D. Aouada, K. Cherenkova, G. Gusev, and B. Ottersten. 3D deformation signature for dynamic face recognition. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2138–2142, 2020.
- [C28] E. Raei, M. Alae-Kerahroodi, B. S. M. R., and B. Ottersten. Transmit beampattern shaping via waveform design in cognitive MIMO radar. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4582–4586, 2020.
- [C29] S. Domouchtsidis, C. Tsinos, S. Chatzinotas, and B. Ottersten. Constant envelope massive MIMO-OFDM precoding: an improved formulation and solution. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 8956–8960, 2020.

- [C30] W. A. Martins, D. Spano, S. Chatzinotas, and B. Ottersten. Faster-than-nyquist signaling via spatiotemporal symbol-level precoding for multi-user MISO redundant transmissions. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 5090–5094, 2020.
- [C31] M. Alaee-Kerharoodi, S. M. R. Bhavani, K. V. Mishra, and B. Ottersten. Information theoretic approach for waveform design in coexisting MIMO radar and MIMO communications. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1–5, 2020.
- [C32] S. Sedighi, B. Shankar, M. Soltanalian, and B. Ottersten. One-bit DoA estimation via sparse linear arrays. In *ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 9135–9139, 2020.
- [C33] L. Xiang, L. Lei, S. Chatzinotas, B. Ottersten, and R. Schober. Towards power-efficient aerial communications via dynamic multi-UAV cooperation. In *2020 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–7, 2020.
- [C34] T. X. Vu, S. Chatzinotas, S. Gautam, E. Lagunas, and B. Ottersten. Joint optimization for PS-based SWIPT multiuser systems with non-linear energy harvesting. In *2020 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, 2020.
- [C35] L. Lei, E. Lagunas, Y. Yuan, M. G. Kibria, S. Chatzinotas, and B. Ottersten. Deep learning for beam hopping in multibeam satellite systems. In *2020 IEEE 91st Vehicular Technology Conference (VTC2020-Spring)*, pages 1–5, 2020.
- [C36] S. Sedighi, B. Shankar, K. V. Mishra, and B. Ottersten. Optimum design for sparse FDA-MIMO automotive radar. In *2019 53rd Asilomar Conference on Signals, Systems, and Computers*, pages 913–918, 2019.
- [C37] 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*, pages 660–664, 2019.
- [C38] R. Rahimi, S. Shahbazpanahi, and B. Ottersten. Characterization of the MSE region under a total power budget for asynchronous two-way relay networks. In *2019 53rd Asilomar Conference on Signals, Systems, and Computers*, pages 1103–1107, 2019.
- [C39] S. Bommaraveni, T. X. Vu, S. Vuppala, S. Chatzinotas, and B. Ottersten. Active content popularity learning via query-by-committee for edge caching. In *2019 53rd Asilomar Conference on Signals, Systems, and Computers*, pages 301–305, 2019.
- [C40] J. C. Merlano-Duncan, J. Querol Borrás, N. Maturo, J. Krivochiza, D. Spano, S. Norshahida, L. Marinez Marrero, S. Chatzinotas, and B. Ottersten. Hardware precoding demonstration in multi-beam UHTS communications under realistic payload characteristics. In *Proc. 37th International Communications Satellite Systems Conference (ICSSC'19)*, 2019.
- [C41] A. Arora, C. G. Tsinos, B. Shankar Mysore R, S. Chatzinotas, and B. Ottersten. Hybrid analog-digital precoding design for satellite systems. In *Proc. 37th International Communications Satellite Systems Conference (ICSSC'19)*, 2019.
- [C42] Thang X. Vu, Lei Lei, Symeon Chatzinotas, and Björn E. Ottersten. Machine learning based antenna selection and power allocation in multi-user miso systems. In *2019 IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, Jun 2019.
- [C43] R. Rahimi, S. ShahbazPanahi, and B. Ottersten. Equivalency of MSE- and rate-constrained power optimization methods for distributed beamforming. In *2019 IEEE 8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pages 589–593, Dec 2019.

- [C44] S. Sedighi, K. V. Mishra, M. R. B. Shankar, and B. Ottersten. Localization performance of 1-bit passive radars in NB-IOT applications. In *2019 IEEE 8th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pages 156–160, Dec 2019.
- [C45] A. Haqiqatnejad, S. Shahbazpanahi, and B. Ottersten. A worst-case performance optimization based design approach to robust symbol-level precoding for downlink MU-MIMO. In *2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 1–5, Nov 2019.
- [C46] A. Arora, C. G. Tsinos, B. Shankar Mysore R, S. Chatzinotas, and B. Ottersten. Majorization-minimization algorithms for analog beamforming with large-scale antenna arrays. In *2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 1–5, Nov 2019.
- [C47] P. K. Korrai, E. Lagunas, S. K. Sharma, S. Chatzinotas, and B. Ottersten. Slicing based resource allocation for multiplexing of eMBB and URLLC services in 5G wireless networks. In *2019 IEEE 24th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*, pages 1–5, Sep. 2019.
- [C48] V. Joroughi, M. G. Kibria, E. Lagunas, B. Shankar M. R., S. Chatzinotas, J. Grotz, S. Maleki, and B. Ottersten. Deploying dynamic on-board signal processing schemes for multibeam satellite systems. In *2019 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2019.
- [C49] A. Mayouche, D. Spano, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Machine learning assisted PHYSEC attacks and slp countermeasures for multi-antenna downlink systems. In *2019 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2019.
- [C50] A. Bandi, B. S. Mysore R., S. Chatzinotas, and B. Ottersten. Joint scheduling and precoding for frame-based multigroup multicasting in satellite communications. In *2019 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2019.
- [C51] A. Arora, C. G. Tsinos, B. S. Mysore R., S. Chatzinotas, and B. Ottersten. MM-based solution for partially connected hybrid transceivers with large scale antenna arrays. In *2019 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2019.
- [C52] W. Alves Martins, S. Chatzinotas, and B. Ottersten. On the use of vertex-frequency analysis for anomaly detection in graph signals. In *Anais do XXXVII Simpósio Brasileiro de Telecomunicações e Processamento de Sinais (SBrT 2019)*, Oct. 2019.
- [C53] K. Praveen Kumar, E. Lagunas, S.K. Sharma, S. Vuppala, S. Chatzinotas, and B. Ottersten. Margin-based active online learning techniques for cooperative spectrum sharing in cr networks. In *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, volume 291, CrownCom 2019.
- [C54] Konstantinos Papadopoulos, Enjie Ghorbel, Renato Baptista, Djamila Aouada, and Björn Ottersten. Two-stage RGB-based action detection using augmented 3D poses. In Mario Vento and Gennaro Percannella, editors, *Computer Analysis of Images and Patterns*, pages 26–35, Cham, 2019. Springer International Publishing.
- [C55] S. Mehrizi, A. Tsakmalis, S. ShahbazPanahi, S. Chatzinotas, and B. Ottersten. Popularity tracking for proactive content caching with dynamic factor analysis. In *2019 IEEE/CIC International Conference on Communications in China (ICC)*, pages 875–880, Aug 2019.
- [C56] A. Mostaani, O. Simeone, S. Chatzinotas, and B. Ottersten. Learning-based physical layer communications for multiagent collaboration. In *2019 IEEE 30th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pages 1–6, Sep. 2019.
- [C57] A. Wang, L. Lei, E. Lagunas, A. I. Pérez Neira, S. Chatzinotas, and B. Ottersten. On fairness optimization for NOMA-enabled multi-beam satellite systems. In *2019 IEEE 30th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pages 1–6, Sep. 2019.

- [C58] S. H. Dokhanchi, M. Alae-Kerahroodi, B. S. Mysore R, and B. Ottersten. Mono-static automotive joint radar-communications system. In *2019 IEEE 30th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pages 1–6, Sep. 2019.
- [C59] L. Lei, T. X. Vu, L. Xiang, X. Zhang, S. Chatzinotas, and B. Ottersten. Optimal resource allocation for NOMA-enabled cache replacement and content delivery. In *2019 IEEE 30th Annual International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)*, pages 1–6, Sep. 2019.
- [C60] J. Krivochiza, J. C. Merlano-Duncan, S. Chatzinotas, and B. Ottersten. M-QAM modulation symbol-level precoding for power minimization: Closed-form solution. In *2019 16th International Symposium on Wireless Communication Systems (ISWCS)*, pages 395–399, Aug 2019.
- [C61] S. Gautam, E. Lagunas, S. Chatzinotas, and B. Ottersten. Wireless multi-group multicast precoding with selective RF energy harvesting. In *2019 27th European Signal Processing Conference (EUSIPCO)*, pages 1–5, Sep. 2019.
- [C62] Y. Yuan, T. X. Vu, L. Lei, S. Chatzinotas, and B. Ottersten. Joint user grouping and power allocation for MISO systems: Learning to schedule. In *2019 27th European Signal Processing Conference (EUSIPCO)*, pages 1–5, Sep. 2019.
- [C63] E. Lagunas, L. Lei, S. Chatzinotas, and B. Ottersten. Satellite links integrated in 5G SDN-enabled backhaul networks: An iterative joint power and flow assignment. In *2019 27th European Signal Processing Conference (EUSIPCO)*, pages 1–5, Sep. 2019.
- [C64] N. Maturo, J. C. M. Duncan, J. Krivochiza, J. Querol, D. Spano, S. Chatzinotas, and B. Ottersten. Demonstrator of precoding technique for a multi-beams satellite system. In *2019 8th International Workshop on Tracking, Telemetry and Command Systems for Space Applications (TTC)*, pages 1–8, Sep. 2019.
- [C65] J. C. Merlano-Duncan, J. Querol, A. Camps, S. Chatzinotas, and B. Ottersten. Architectures and synchronization techniques for coherent distributed remote sensing systems. In *IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium*, pages 8875–8878, July 2019.
- [C66] V. Joroughi, M. R. B. Shankar, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. Robust precoding techniques for multibeam mobile satellite systems. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–8, April 2019.
- [C67] E. Lagunas, L. Lei, S. Chatzinotas, and B. Ottersten. Power and flow assignment for 5G integrated terrestrial-satellite backhaul networks. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2019.
- [C68] S. Gautam, E. Lagunas, S. Vuppala, S. Chatzinotas, and B. Ottersten. Pricing perspective for SWIPT in OFDM-based multi-user wireless cooperative systems. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–7, April 2019.
- [C69] S. Mehrizi, A. Tsakmalis, S. Chatzinotas, and B. Ottersten. A feature-based bayesian method for content popularity prediction in edge-caching networks. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2019.
- [C70] T. X. Vu, T. A. Vu, L. Lei, S. Chatzinotas, and B. Ottersten. Linear precoding design for cache-aided full-duplex networks. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2019.
- [C71] T. X. Vu, S. Chatzinotas, and B. Ottersten. Blockchain-based content delivery networks: Content transparency meets user privacy. In *2019 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2019.
- [C72] S. H. Dokhanchi, M. R. Bhavani Shankar, K. V. Mishra, T. Stifter, and B. Ottersten. Performance analysis of mmwave bi-static PMCW-based automotive joint radar-communications system. In *2019 IEEE Radar Conference (RadarConf)*, pages 1–6, April 2019.



- [C73] M. Alaee-Kerahroodi, S. Imani, M. R. Bhavani Shankar, M. M. Nayebi, and B. Ottersten. A coordinate descent framework to joint design of MPSK sequences and receive filter weights in MIMO radar systems. In *2019 IEEE Radar Conference (RadarConf)*, pages 1–6, April 2019.
- [C74] C. Hammes, M. R. B. Shankar, and B. Ottersten. Closed form discrete unimodular MIMO waveform design using block circulant decomposition. In *2019 IEEE Radar Conference (RadarConf)*, pages 1–6, April 2019.
- [C75] M. Alaee-Kerahroodi, K. V. Mishra, M. R. Bhavani Shankar, and B. Ottersten. Discrete-phase sequence design for coexistence of MIMO radar and MIMO communications. In *2019 IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2019.
- [C76] L. Lei, Y. Yuan, T. X. Vu, S. Chatzinotas, and B. Ottersten. Learning-based resource allocation: Efficient content delivery enabled by convolutional neural network. In *2019 IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2019.
- [C77] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. An approximate solution for symbol-level multiuser precoding using support recovery. In *2019 IEEE 20th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2019.
- [C78] A. Saint, A. E. Rahman Shabayek, K. Cherenkova, G. Gusev, D. Aouada, and B. Ottersten. Bodyfit: Robust automatic 3D human body fitting. In *2019 IEEE International Conference on Image Processing (ICIP)*, pages 484–488, Sep. 2019.
- [C79] A. Mayouche, D. Spano, C. G. Tsinos, S. Chatzinotas, and B. Ottersten. SER-constrained symbol-level precoding for physical-layer security. In *2019 IEEE Conference on Communications and Network Security (CNS)*, pages 1–5, June 2019.
- [C80] S. Kisseleff, S. Chatzinotas, and B. Ottersten. Ultrareliable SWIPT using unscheduled short packet transmissions. In *2019 IEEE International Conference on Communications Workshops (ICC Workshops)*, pages 1–6, May 2019.
- [C81] M. Alaee-Kerahroodi, M. R. Bhavani Shankar, K. V. Mishra, and B. Ottersten. Meeting the lower bound on designing set of unimodular sequences with small aperiodic/periodic ISL. In *2019 20th International Radar Symposium (IRS)*, pages 1–13, June 2019.
- [C82] R. Baptista, E. Ghorbel, K. Papadopoulos, G. G. Demisse, D. Aouada, and B. Ottersten. View-invariant action recognition from RGB data via 3D pose estimation. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2542–2546, May 2019.
- [C83] O. K. Oyedotun, D. Aouada, and B. Ottersten. Learning to fuse latent representations for multimodal data. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3122–3126, May 2019.
- [C84] X. Zhang, M. R. Nakhai, G. Zheng, S. Lambotharan, and B. Ottersten. A calibrated learning approach to distributed power allocation in small cell networks. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 8419–8423, May 2019.
- [C85] S. H. Dokhanchi, M. R. Bhavani Shankar, M. Alaee-Kerahroodi, T. Stifter, and B. Ottersten. Adaptive waveform design for automotive joint radar-communications system. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4280–4284, May 2019.
- [C86] M. Alaee-Kerahroodi, S. Sedighi, B. Shankar M.R., and B. Ottersten. Designing (in)finite-alphabet sequences via shaping the radar ambiguity function. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 4295–4299, May 2019.

- [C87] Y. Yang, M. Pesavento, Y. C. Eldar, and B. Ottersten. Parallel coordinate descent algorithms for sparse phase retrieval. In *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 7670–7674, May 2019.
- [C88] T. X. Vu, L. Lei, S. Chatzinotas, B. Ottersten, and T. A. Vu. Energy efficient design for coded caching delivery phase. In *2019 3rd International Conference on Recent Advances in Signal Processing, Telecommunications Computing (SigTelCom)*, pages 165–169, March 2019. **Best Paper Award.**
- [C89] S. Gautam, E. Lagunas, S. Vuppala, S. Chatzinotasy, and B. Ottersten. QoS-constrained sum-harvested energy maximization in OFDMA-based wireless cooperative networks. In *2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, pages 1–6, Dec 2018.
- [C90] V. Joroughi, M. R. B. Shankar, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. On-board precoding in a multiple gateway multibeam satellite system. In *2018 IEEE 88th Vehicular Technology Conference (VTC-Fall)*, pages 1–5, Aug 2018.
- [C91] V. Joroughi, B. M. R. Shankar, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. Distributed precoding for multiple satellite systems with overlapping coverage areas. In *36th International Communications Satellite Systems Conference (ICSSC 2018)*, pages 1–7, Oct 2018.
- [C92] Enjie Ghorbel., Konstantinos Papadopoulos., Renato Baptista., Himadri Pathak., Girum Demisse., Djamila Aouada., and Bjorn Ottersten. A view-invariant framework for fast skeleton-based action recognition using a single rgb camera. In *Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications - Volume 5: VISAPP,*, pages 573–582. INSTICC, SciTePress, 2019.
- [C93] S. Mehrizi, A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Content popularity estimation in edge-caching networks from bayesian inference perspective. In *2019 16th IEEE Annual Consumer Communications Networking Conference (CCNC)*, pages 1–6, Jan 2019.
- [C94] R. Baptista, G. Demisse, D. Aouada, and B. Ottersten. Deformation-based abnormal motion detection using 3D skeletons. In *2018 Eighth International Conference on Image Processing Theory, Tools and Applications (IPTA)*, pages 1–6, Nov 2018.
- [C95] A. Bandi, B. S. Mysore R, S. Maleki, S. Chatzinotas, and B. Ottersten. A novel approach to joint user selection and precoding for multiuser MISO downlink channels. In *2018 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 206–210, Nov 2018.
- [C96] V. Joroughi, E. Lagunas, S. Andrenacci, N. Maturo, S. Chatzinotas, J. Grotz, and B. Ottersten. Deploying joint beam hopping and precoding in multibeam satellite networks with time variant traffic. In *2018 IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, pages 1081–1085, Nov 2018.
- [C97] S. Sedighi, M. R. Bhavani Shankar, and B. Ottersten. A statistically efficient estimator for co-array based DoA estimation. In *2018 52nd Asilomar Conference on Signals, Systems, and Computers*, pages 880–883, Oct 2018.
- [C98] V. Joroughi, M. R. Bhavani Shankar, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. Precoder design for multibeam mobile satellite systems. In *2018 52nd Asilomar Conference on Signals, Systems, and Computers*, pages 456–460, Oct 2018.
- [C99] J. Krivochiza, J. C. Merlano-Duncan, S. Andrenacci, S. Chatzinotas, and B. Ottersten. Closed-form solution for computationally efficient symbol-level precoding. In *2018 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2018.
- [C100] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Robust design of power minimizing symbol-level precoder under channel uncertainty. In *2018 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2018.

- [C101] V. Joroughi, S. M. R. Bhavani, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. Robust precoding and beamforming in a multiple gateway multibeam satellite system. In *2018 IEEE Global Communications Conference (GLOBECOM)*, pages 1–7, Dec 2018.
- [C102] L. Lei, L. You, Y. Yang, D. Yuan, S. Chatzinotas, and B. Ottersten. Power and load optimization in interference-coupled non-orthogonal multiple access networks. In *2018 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2018.
- [C103] S. Gautam, E. Lagunas, S. Chatzinotas, and B. Ottersten. Sequential resource distribution technique for multi-user OFDM-SWIPT based cooperative networks. In *2018 IEEE Global Communications Conference (GLOBECOM)*, pages 1–7, Dec 2018.
- [C104] A. Gharanjik, K. V. Mishra, B. S. M.R., and B. Ottersten. Learning-based rainfall estimation via communication satellite links. In *2018 IEEE Statistical Signal Processing Workshop (SSP)*, pages 130–134, June 2018.
- [C105] A. Arora, S. Maleki, B. S. M. Rama Rao, J. Grotz, and B. Ottersten. Interference localization on-board the satellite using drift induced virtual array. In *2018 International Conference on Signal Processing and Communications (SPCOM)*, pages 467–471, 2018.
- [C106] A. Saint, E. Ahmed, A. E. R. Shabayek, K. Cherenkova, G. Gusev, D. Aouada, and B. Ottersten. 3DBodyTex: Textured 3D body dataset. In *2018 International Conference on 3D Vision (3DV)*, pages 495–504, Sept 2018.
- [C107] A. Bandi, V. Joroughi, B. S. M. R., J. Grotz, and B. Ottersten. Sparsity-aided low-implementation cost based on-board beamforming design for high throughput satellite systems. In *2018 9th Advanced Satellite Multimedia Systems Conference and the 15th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–6, Sept 2018.
- [C108] E. Lagunas, S. Andrenacci, S. Chatzinotas, and B. Ottersten. Cross-layer forward packet scheduling for emerging precoded broadband multibeam satellite system. In *2018 9th Advanced Satellite Multimedia Systems Conference and the 15th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–8, Sept 2018.
- [C109] S. Gautam, E. Lagunas, S. Chatzinotas, and B. Ottersten. Resource allocation and relay selection for multi-user OFDM-based cooperative networks with SWIPT. In *2018 15th International Symposium on Wireless Communication Systems (ISWCS)*, pages 1–5, Aug 2018.
- [C110] R. Baptista, E. Ghorbel, A. El Rahman Shabayek, D. Aouada, and B. Ottersten. Key-skeleton based feedback tool for assisting physical activity. In *2018 Zooming Innovation in Consumer Technologies Conference (ZINC)*, pages 175–176, May 2018.
- [C111] E. Lagunas, A. G. Marques, S. Chatzinotas, and B. Ottersten. Graph similarity based on graph fourier distances. In *2018 26th European Signal Processing Conference (EUSIPCO)*, pages 877–881, Sept 2018.
- [C112] M. Alae-Kerahroodi, M. Modarres-Hashemi, M. M. Naghsh, B. Shankar, and B. Ottersten. Binary sequences set with small ISL for MIMO radar systems. In *2018 26th European Signal Processing Conference (EUSIPCO)*, pages 2395–2399, Sept 2018.
- [C113] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten. Parallel and hybrid soft-thresholding algorithms with line search for sparse nonlinear regression. In *2018 26th European Signal Processing Conference (EUSIPCO)*, pages 1587–1591, Sept 2018.
- [C114] D. Spano, S. Chatzinotas, and B. Ottersten. Sequential spatio-temporal symbol-level precoding enabling faster-than-nyquist signaling for multi-user MISO systems. In *2018 26th European Signal Processing Conference (EUSIPCO)*, pages 827–831, Sept 2018.
- [C115] E. Lagunas, S. Chatzinotas, and B. Ottersten. Fair carrier allocation for 5G integrated satellite-terrestrial backhaul networks. In *2018 25th International Conference on Telecommunications (ICT)*, pages 617–622, June 2018.

- [C116] S. Domouchtsidis, C. Tsinos, S. Chatzinotas, and B. Ottersten. Antenna selection symbol-level precoding for low complexity large-scale antenna array systems. In *2018 IEEE 23rd International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*, pages 1–6, Sept 2018.
- [C117] C. Hammes, M. R. Bhavani Shankar, and B. Ottersten. Block circulant decomposition of cross-correlation matrix for transmit MIMO beamforming. In *2018 IEEE 10th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 597–601, July 2018.
- [C118] S. Sedighi, R. Bhavani Shankar Mysore, S. Maleki, and B. Ottersten. Consistent least squares estimator for co-array-based DOA estimation. In *2018 IEEE 10th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 524–528, July 2018.
- [C119] Y. Yang, M. Pesavento, S. Chatzinotas, and B. Ottersten. Successive convex approximation algorithms for sparse signal estimation with nonconvex regularizations. In *2018 IEEE 10th Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 356–360, July 2018.
- [C120] K. Papadopoulos, M. Antunes, D. Aouada, and B. Ottersten. A revisit of action detection using improved trajectories. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2067–2071, April 2018.
- [C121] O. K. Oyedotun, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Improving the capacity of very deep networks with maxout units. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2971–2975, April 2018.
- [C122] D. Spano, M. Alodeh, S. Chatzinotas, and B. Ottersten. PAPR minimization through spatio-temporal symbol-level precoding for the non-linear multi-user MISO channel. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3599–3603, April 2018.
- [C123] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Constrained bayesian active learning of a linear classifier. In *2018 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 6663–6667, April 2018.
- [C124] C. G. Tsinos, A. Kalantari, S. Chatzinotas, and B. Ottersten. Symbol-level precoding with low resolution DACs for large-scale array MU-MIMO systems. In *2018 IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, June 2018.
- [C125] O. Tervo, L. Trant, S. Chatzinotas, B. Ottersten, and M. Juntti. Multigroup multicast beamforming and antenna selection with rate-splitting in multicell systems. In *2018 IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, June 2018.
- [C126] S. Hossein Dokhanchi, M. R. Bhavani Shankar, T. Stifter, and B. Ottersten. Multicarrier phase modulated continuous waveform for automotive joint radar-communication system. In *2018 IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, June 2018.
- [C127] A. Haqiqatnejad, F. Kayhan, and B. Ottersten. Symbol-level precoding design for max-min SINR in multiuser MISO broadcast channels. In *2018 IEEE 19th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, June 2018.
- [C128] G. G. Demisse, K. Papadopoulos, D. Aouada, and B. Ottersten. Pose encoding for robust skeleton-based action recognition. In *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, pages 301–3016, June 2018.
- [C129] O. K. Oyedotun, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Highway network block with gates constraints for training very deep networks. In *2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, pages 1739–173909, June 2018.

- [C130] C. G. Tsinos, S. Chatzinotas, and B. Ottersten. Hybrid analog-digital transceiver designs for mmwave amplify-and-forward relaying systems. In *2018 41st International Conference on Telecommunications and Signal Processing (TSP)*, pages 1–6, July 2018.
- [C131] M. Alodeh, S. Chatzinotas, and B. Ottersten. User selection for symbol-level multigroup multicasting precoding in the downlink of MISO channels. In *2018 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2018.
- [C132] T. X. Vu, L. Lei, S. Vuppala, A. Kalantari, S. Chatzinotas, and B. Ottersten. Latency minimization for content delivery networks with wireless edge caching. In *2018 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2018.
- [C133] T. X. Vu, L. Lei, S. Vuppala, S. Chatzinotas, and B. Ottersten. Energy-efficient design for latency-tolerant content delivery networks. In *2018 IEEE Wireless Communications and Networking Conference Workshops (WCNCW)*, pages 89–94, April 2018.
- [C134] S. H. Dokhanchi, M. R. B. Shankar, T. Stifter, and B. Ottersten. OFDM-based automotive joint radar-communication system. In *2018 IEEE Radar Conference (RadarConf18)*, pages 0902–0907, April 2018.
- [C135] V. Joroughi, M. R. B. Shankar, S. Maleki, S. Chatzinotas, J. Grotz, and B. Ottersten. Designing joint precoding and beamforming in a multiple gateway multibeam satellite system. In *2018 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2018.
- [C136] S. Vuppala, T. X. Vu, S. Gautam, S. Chatzinotas, and B. Ottersten. Cache-aided millimeter wave ad-hoc networks. In *2018 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2018.
- [C137] S. Gautam, T. X. Vu, S. Chatzinotas, and B. Ottersten. Joint wireless information and energy transfer in cache-assisted relaying systems. In *2018 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, April 2018.
- [C138] R. Baptista, M. Antunes, D. Aouada, and B. Ottersten. Anticipating suspicious actions using a small dataset of action templates. In *13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP)*, pages 1–7, Jan 2018.
- [C139] R. Baptista, M. Antunes, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Flexible feedback system for posture monitoring and correction. In *2017 Fourth International Conference on Image Information Processing (ICIIP)*, pages 1–6, Dec 2017. **Best Paper Award.**
- [C140] S. Sedighi, R. B. Shankar Mysore, S. Maleki, and B. Ottersten. Multi-target localization in asynchronous MIMO radars using sparse sensing. In *2017 IEEE 7th International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, pages 1–5, Dec 2017.
- [C141] J. C. Merlano-Duncan, J. Krivochiza, S. Andrenacci, S. Chatzinotas, and B. Ottersten. Computationally efficient symbol-level precoding communications demonstrator. In *2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*, pages 1–5, Oct 2017.
- [C142] S. Vuppala, S. Chatzinotas, and B. Ottersten. Secrecy analysis of random wireless networks with multiple eavesdroppers. In *2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*, pages 1–7, Oct 2017.
- [C143] S. H. Dokhanchi, M. R. B. Shankar, Y. A. Nijssure, T. Stifter, S. Sedighi, and B. Ottersten. Joint automotive radar-communications waveform design. In *2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*, pages 1–7, Oct 2017.

- [C144] S. Gautam, E. Lagunas, S. K. Sharma, S. Chatzinotas, and B. Ottersten. Relay selection strategies for SWIPT-enabled cooperative wireless systems. In *2017 IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*, pages 1–7, Oct 2017.
- [C145] K. Papadopoulos, M. Antunes, D. Aouada, and B. Ottersten. Enhanced trajectory-based action recognition using human pose. In *2017 IEEE International Conference on Image Processing (ICIP)*, pages 1807–1811, Sept 2017.
- [C146] A. F. A. Saint, A. E. R. Shabayek, D. Aouada, B. Ottersten, K. Cherenkova, and G. Gusev. Towards automatic human body model fitting to a 3D scan. In *8th International Conference and Exhibition on 3D Body Scanning and Processing Technologies (3DBODY)*, pages 274–280, October 2017.
- [C147] A. E. R. Shabayek, D. Aouada, A. F. A. Saint, and B. Ottersten. Deformation transfer of 3D human shapes and poses on manifolds. In *IEEE International Conference on Image Processing (ICIP)*, September 2017. **Best Paper Award, 2nd place.**
- [C148] O. K. Oyedotun, G. Demisse, A. E. R. Shabayek, D. Aouada, and B. Ottersten. Facial expression recognition via joint deep learning of RGB-depth map latent representations. In *IEEE International Conference on Computer Vision Workshops (ICCVW)*, pages 3161–3168, Oct 2017.
- [C149] A.C. Bahnsen, S. Villegas, D. Aouada, and B. Ottersten. Fraud detection by stacking cost-sensitive decision trees. In *Data Science for Cyber-Security (DSCS)*, pages 251–266, 2018.
- [C150] A. Mengali, B. Shankar Mysore R., and B. Ottersten. Exploring different receiver structures for radio over FSO systems with signal dependent noise. In *GLOBECOM 2017 - 2017 IEEE Global Communications Conference*, pages 1–7, Dec 2017.
- [C151] A. Kalantari, M. Fittipaldi, S. Chatzinotas, T. X. Vu, and B. Ottersten. Cache-assisted hybrid satellite-terrestrial backhauling for 5G cellular networks. In *GLOBECOM 2017 - 2017 IEEE Global Communications Conference*, pages 1–6, Dec 2017.
- [C152] L. You, L. Lei, D. Yuan, S. Sun, S. Chatzinotas, and B. Ottersten. A framework for optimizing multi-cell NOMA: Delivering demand with less resource. In *GLOBECOM 2017 - 2017 IEEE Global Communications Conference*, pages 1–7, Dec 2017.
- [C153] D. Spano, M. Alodeh, S. Chatzinotas, J. Krause, and B. Ottersten. Spatial PAPR reduction in symbol-level precoding for the multi-beam satellite downlink. In *2017 IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2017.
- [C154] O. Tervo, L. N. Tran, S. Chatzinotas, M. Juntti, and B. Ottersten. Energy-efficient joint unicast and multicast beamforming with multi-antenna user terminals. In *2017 IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2017.
- [C155] A. Kalantari, C. Tsinos, M. Soltanalian, S. Chatzinotas, W. K. Ma, and B. Ottersten. MIMO directional modulation M-QAM precoding for transceivers performance enhancement. In *2017 IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2017.
- [C156] L. Lei, E. Lagunas, S. Maleki, Q. He, S. Chatzinotas, and B. Ottersten. Energy optimization for full-duplex self-backhauled hetnet with non-orthogonal multiple access. In *2017 IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2017.
- [C157] T. X. Vu, S. Chatzinotas, and B. Ottersten. Energy-efficient design for edge-caching wireless networks: When is coded-caching beneficial? In *2017 IEEE 18th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2017.

- [C158] Oyebade K. Oyedotun, Abd El Rahman Shabayek, Djamila Aouada, and Björn Ottersten. Training very deep networks via residual learning with stochastic input shortcut connections. In Derong Liu, Shengli Xie, Yuanqing Li, Dongbin Zhao, and El-Sayed M. El-Alfy, editors, *Neural Information Processing: 24th International Conference, ICONIP 2017, Guangzhou, China, November 14-18, 2017, Proceedings, Part II*, pages 23–33, Cham, 2017. Springer International Publishing.
- [C159] Ahmad Gharanjik, Jaroslaw Kmiecikiy, M.R. Bhavani Shankar, Ashok Raoy, and Bjorn Ottersten. Coverage extension via side-lobe transmission in multibeam satellite system. In *23rd Ka and Broadband Communications Conference and the 35th AIAA International Communications Satellite Systems Conference (ICSSC)*, pages –, October 2017.
- [C160] A. Kalantari, C. Tsinos, M. Soltanalian, S. Chatzinotas, W. K. Ma, and B. Ottersten. Spatial peak power minimization for relaxed phase M-PSK MIMO directional modulation transmitter. In *2017 25th European Signal Processing Conference (EUSIPCO)*, pages 2011–2015, Aug 2017.
- [C161] C. Hammes, M. R. B. Shankar, Y. Nijssure, T. Spielmann, and B. Ottersten. Random phase center motion technique for enhanced angle-Doppler discrimination using MIMO radars. In *2017 25th European Signal Processing Conference (EUSIPCO)*, pages 2221–2225, Aug 2017.
- [C162] E. Lagunas, L. Lei, S. Maleki, S. Chatzinotas, and B. Ottersten. Power allocation for in-band full-duplex self-backhauling. In *2017 40th International Conference on Telecommunications and Signal Processing (TSP)*, pages 136–139, July 2017.
- [C163] M. Antunes, J. P. Barreto, D. Aouada, and B. Ottersten. Unsupervised vanishing point detection and camera calibration from a single manhattan image with radial distortion. In *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 6691–6699, July 2017.
- [C164] O. Tervo, H. Pennanen, S. Chatzinotas, B. Ottersten, and M. Juntti. Multi-cell interference coordination for multigroup multicast transmission. In *2017 European Conference on Networks and Communications (EuCNC)*, pages 1–5, June 2017.
- [C165] J. C. Merlano-Duncan, S. K. Sharma, S. Chatzinotas, B. Ottersten, and X. Wang. Multi-antenna based one-bit spatio-temporal wideband sensing for cognitive radio networks. In *2017 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2017.
- [C166] C. G. Tsinos, S. Maleki, S. Chatzinotas, and B. Ottersten. On the energy-efficiency of hybrid analog-digital transceivers for large antenna array systems. In *2017 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2017.
- [C167] T. X. Vu, S. Chatzinotas, and B. Ottersten. On the diversity of partial relaying cooperation with relay selection in finite-SNR regime. In *2017 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2017.
- [C168] T. X. Vu, T. A. Vu, S. Chatzinotas, and B. Ottersten. Spectral-efficient model for multiuser massive MIMO: Exploiting user velocity. In *2017 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2017.
- [C169] J. Krivochiza and A. Kalantari, S. Chatzinotas, and B. Ottersten. Low complexity symbol-level design for linear precoding systems. In *2017 Symposium on Information Theory and Signal Processing in the Benelux*, pages –, May 2017.
- [C170] E. Lagunas, S. Maleki, Lei Lei, C. Tsinos, S. Chatzinotas, and B. Ottersten. Carrier allocation for hybrid satellite-terrestrial backhaul networks. In *2017 IEEE International Conference on Communications Workshops (ICC Workshops)*, pages 718–723, May 2017.
- [C171] O. Tervo, L. N. Tran, H. Pennanen, S. Chatzinotas, M. Juntti, and B. Ottersten. Energy-efficient coordinated multi-cell multi-group multicast beamforming with antenna selection. In *2017 IEEE International Conference on Communications Workshops (ICC Workshops)*, pages 1209–1214, May 2017.

- [C172] C. Hammes, Y. Nijssure, S. M. R. Bhavani, U. Schröderz, and B. Ottersten. Discrimination of angle-Doppler signatures using arbitrary phase center motion for MIMO radars. In *2017 IEEE Radar Conference (RadarConf)*, pages 0879–0884, May 2017.
- [C173] M. Alodeh, D. Spano, S. Chatzinotas, and B. Ottersten. Faster-than-Nyquist spatiotemporal symbol-level precoding in the downlink of multiuser MISO channels. In *2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3779–3783, March 2017.
- [C174] C. Politis, S. Maleki, C. Tsinos, S. Chatzinotas, and B. Ottersten. Weak interference detection with signal cancellation in satellite communications. In *2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 6289–6293, March 2017.
- [C175] R. Baptista, M. Goncalves Almeida Antunes, D. Aouada, and B. Ottersten. Video-based feedback for assisting physical activity. In *12th International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 5, pages 274–280, 2017.
- [C176] T. X. Vu, S. Chatzinotas, and B. Ottersten. Coded caching and storage planning in heterogeneous networks. In *2017 IEEE Wireless Communications and Networking Conference (WCNC)*, pages 1–6, March 2017.
- [C177] I. Rocco, M. Goncalves Almeida Antunes, D. Aouada, and B. Ottersten. RGB-D and thermal sensor fusion - application in person tracking. In *11th International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 3, pages 610–617, 2016.
- [C178] A. Mengali, F. Kayhan, M.R.B. Shankar, and B. Ottersten. Exploiting diversity in future generation satellite systems with optical feeder links. In *34th AIAA International Communications Satellite Systems Conference, 2016*, 2016.
- [C179] C. G. Tsinos, S. Maleki, S. Chatzinotas, and B. Ottersten. Hybrid analog-digital transceiver designs for cognitive radio millimeter wave systems. In *2016 50th Asilomar Conference on Signals, Systems and Computers*, pages 1785–1789, Nov 2016.
- [C180] A. Gharanjik, M. R. B. Shankar, M. Soltanalian, and B. Ottersten. Max-min transmit beamforming via iterative regularization. In *2016 50th Asilomar Conference on Signals, Systems and Computers*, pages 1437–1441, Nov 2016.
- [C181] M. Alodeh, D. Spano, S. Chatzinotas, and B. Ottersten. Peak power minimization in symbol-level precoding for cognitive MISO downlink channels. In *2016 IEEE International Conference on Digital Signal Processing (DSP)*, pages 240–244, Oct 2016.
- [C182] D. Spano, M. Alodeh, S. Chatzinotas, and B. Ottersten. Per-antenna power minimization in symbol-level precoding. In *2016 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2016.
- [C183] C. Politis, S. Maleki, C. Tsinos, S. Chatzinotas, and B. Ottersten. Harmful interference threshold and energy detector for on-board interference detection. In *22nd Ka and Broadband Communications Conference and the 34th AIAA International Communications Satellite Systems Conference (ICSSC)*, pages –, October 2016.
- [C184] A. Kaushik, S. K. Sharma, S. Chatzinotas, B. Ottersten, and F. Jondral. Performance analysis of interweave cognitive radio systems with imperfect channel knowledge over nakagami fading channels. In *2016 IEEE 84th Vehicular Technology Conference (VTC-Fall)*, pages 1–5, Sept 2016.
- [C185] S. K. Sharma, T. E. Bogale, L. B. Le, S. Chatzinotas, X. Wang, and B. Ottersten. Two-phase concurrent sensing and transmission scheme for full duplex cognitive radio. In *2016 IEEE 84th Vehicular Technology Conference (VTC-Fall)*, pages 1–5, Sept 2016.
- [C186] S.K. Sharma, S Chatzinotas, and B. Ottersten. Terminal-side interference mitigation for spectral coexistence of satellite and terrestrial systems in non-exclusive Ka-band. In *34th AIAA International Communications Satellite Systems Conference*, pages 1–15, October 2016.



- [C187] A. Pourmoghaddaslangroudi, S.K. Sharma, S. Chatzinotas, and B. Ottersten. Cognitive interference management techniques for the spectral co-existence of gso and ngso satellites. In *8th EAI International Conference on Wireless and Satellite Systems*, pages –, September 2016.
- [C188] G. G. Demisse, D. Aouada, and B. Ottersten. Similarity metric for curved shapes in euclidean space. In *2016 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 5042–5050, June 2016.
- [C189] D. Christopoulos, H. Pennanen, S. Chatzinotas, and B. Ottersten. Multicast multigroup precoding for frame-based multi-gateway satellite communications. In *2016 8th Advanced Satellite Multimedia Systems Conference and the 14th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–6, September 2016.
- [C190] A. Kalantari, S. Maleki, S. Chatzinotas, and B. Ottersten. Frequency of arrival-based interference localization using a single satellite. In *2016 8th Advanced Satellite Multimedia Systems Conference and the 14th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–6, September 2016.
- [C191] S. Andrenacci, S. Chatzinotas, A. Vanelli-Coralli, S. Cioni, A. Ginesi, and B. Ottersten. Exploiting orthogonality in DVB-S2X through timing pre-compensation. In *2016 8th Advanced Satellite Multimedia Systems Conference and the 14th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–8, September 2016.
- [C192] A. Mengali, F. Kayhan, M. R. Bhavani Shankar, and B. Ottersten. Low complexity transmit processing for multibeam satellite systems with non-linear channels. In *2016 8th Advanced Satellite Multimedia Systems Conference and the 14th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–7, September 2016.
- [C193] D. Spano, S. Chatzinotas, J. Krause, and B. Ottersten. Symbol-level precoding with per-antenna power constraints for the multi-beam satellite downlink. In *2016 8th Advanced Satellite Multimedia Systems Conference and the 14th Signal Processing for Space Communications Workshop (ASMS/SPSC)*, pages 1–8, September 2016.
- [C194] E. Lagunas, S. K. Sharma, S. Chatzinotas, and B. Ottersten. Compressive sensing based energy detector. In *2016 24th European Signal Processing Conference (EUSIPCO)*, pages 1678–1682, August 2016.
- [C195] M. Antunes, R. Baptista, G. Demisse, D. Aouada, and B. Ottersten. Visual and human-interpretable feedback for assisting physical activity. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, volume 9914 LNCS, pages 115–129, 2016.
- [C196] A. Gharanjik, B. Shankar, M. Soltanalian, and B. Ottersten. An iterative approach to non-convex QCQP with applications in signal processing. In *2016 IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 1–5, July 2016.
- [C197] S. Maleki, P. Ciblat, M. R. B. Shankar, S. Chatzinotas, and B. Ottersten. Power and direction of transmission estimation for a directive source: Identifiability analysis and estimation algorithm. In *2016 IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM)*, pages 1–5, July 2016.
- [C198] C. Politis, S. Maleki, C. Tsinos, S. Chatzinotas, and B. Ottersten. On-board the satellite interference detection with imperfect signal cancellation. In *2016 IEEE 17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–5, July 2016.
- [C199] M. Alodeh, S. Chatzinotas, and B. Ottersten. Joint compression and feedback of CSI in correlated multiuser MISO channels. In *2016 IEEE 17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–6, July 2016.
- [C200] A. Papazafeiropoulos, S. K. Sharma, S. Chatzinotas, T. Ratnarajah, and B. Ottersten. Impact of transceiver hardware impairments on the ergodic channel capacity for Rayleigh-product MIMO channels. In *2016 IEEE 17th International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, pages 1–6, July 2016.

- [C201] P. Dhakal, S.K. Sharma, S. Chatzinotas, B. Ottersten, and D. Riviello. Effect of primary user traffic on largest eigenvalue based spectrum sensing technique. In *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST*, volume 172, pages 67–78, 2016.
- [C202] M. Antunes, D. Aouada, and B. Ottersten. A revisit to human action recognition from depth sequences: Guided SVM-sampling for joint selection. In *2016 IEEE Winter Conference on Applications of Computer Vision (WACV)*, pages 1–8, March 2016.
- [C203] M.R. Bhavani Shankar, S. Maleki, G. Zheng, A. Awoseyila, B. Evans, and B. Ottersten. GEO satellite feeder links and terrestrial full-duplex small cells: A case for coexistence. In *2016 IEEE 83rd Vehicular Technology Conference (VTC Spring)*, pages 1–5, May 2016.
- [C204] E. Lagunas, S. Maleki, S. Chatzinotas, M. Soltanalian, A. I. Pérez-Neira, and B. Ottersten. Power and rate allocation in cognitive satellite uplink networks. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2016.
- [C205] A. Mengali, R. B. S. Mysore, and B. Ottersten. Joint predistortion and PAPR reduction in multibeam satellite systems. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2016.
- [C206] H. Pennanen, D. Christopoulos, S. Chatzinotas, and B. Ottersten. Distributed coordinated beamforming for multi-cell multigroup multicast systems. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2016.
- [C207] P. Dhakal, R. Garello, S. K. Sharma, S. Chatzinotas, and B. Ottersten. On the error performance bound of ordered statistics decoding of linear block codes. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2016.
- [C208] A. Tsakmalis, S. Chatzinotas, and B. Ottersten. Active interference constraint learning with uncertain feedback for cognitive radio networks. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–6, May 2016.
- [C209] A. Kaushik, S. K. Sharma, S. Chatzinotas, B. Ottersten, and F. Jondral. Performance analysis of hybrid cognitive radio systems with imperfect channel knowledge. In *2016 IEEE International Conference on Communications (ICC)*, pages 1–7, May 2016.
- [C210] E. Lagunas, S. K. Sharma, S. Chatzinotas, and B. Ottersten. Compressive sensing based target counting and localization exploiting joint sparsity. In *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3231–3235, March 2016.
- [C211] M. Soltanalian, A. Gharanjik, M. R. B. Shankar, and B. Ottersten. Grab-n-Pull: An optimization framework for fairness-achieving networks. In *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3301–3305, March 2016.
- [C212] A. Kalantari, M. Soltanalian, S. Maleki, S. Chatzinotas, and B. Ottersten. Secure M-PSK communication via directional modulation. In *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3481–3485, March 2016.
- [C213] M. M. Naghsh, M. Soltanalian, P. Stoica, M. Masjedi, and B. Ottersten. Rate optimization for massive MIMO relay networks: A minorization-maximization approach. In *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 3611–3615, March 2016.
- [C214] G. G. Demisse, D. Aouada, and B. Ottersten. Template-based statistical shape modelling on deformation space. In *Image Processing (ICIP), 2015 IEEE International Conference on*, pages 4386–4390, Sept 2015.
- [C215] S. K. Sharma, E. Lagunas, S. Maleki, S. Chatzinotas, J. Grotz, J. Krause, and B. Ottersten. Resource allocation for cognitive satellite communications in Ka-band (17.7-19.7 GHz). In *2015 IEEE International Conference on Communication Workshop (ICCW)*, pages 1646–1651, June 2015.

- [C216] D. Aouada, K. Al-Ismaeil, and B. Ottersten. Patch-based statistical performance analysis of upsampling for precise super-resolution. In *VISAPP 2015 - 10th International Conference on Computer Vision Theory and Applications; VISIGRAPP, Proceedings*, volume 1, pages 186–193, 2015.
- [C217] D. Christopoulos, S. Chatzinotas, and B. Ottersten. Cellular-broadcast service convergence through caching for CoMP cloud RANs. In *Communications and Vehicular Technology in the Benelux (SCVT), 2015 IEEE Symposium on*, Nov 2015.
- [C218] N. Mazzali, G. Stante, S.M.R.R. Bhavani, and B. Ottersten. Performance analysis of non-coherent frame synchronization in satellite communications with frequency uncertainty. In *Communications and Vehicular Technology in the Benelux (SCVT), 2015 IEEE Symposium on*, Nov 2015.
- [C219] A.C. Bahnsen, D. Aouada, A. Stojanovic, and B. Ottersten. Detecting credit card fraud using periodic features. In *Proceedings - 2015 IEEE 14th International Conference on Machine Learning and Applications, ICMLA 2015*, pages 208–213, 2016.
- [C220] S. Maleki, P. Ciblai, S. Chatzinotas, D. Kapetanovic, and B. Ottersten. Cooperative power and DoT estimation for a directive source. In *2015 49th Asilomar Conference on Signals, Systems and Computers*, pages 630–634, Nov 2015.
- [C221] M. Alodeh, S. Chatzinotas, and B. Ottersten. Constructive interference through symbol level precoding for multi-level modulation. In *2015 IEEE Global Communications Conference (GLOBECOM)*, pages 1–6, Dec 2014.
- [C222] Eva Lagunas, Shree Krishna Sharma, Sina Maleki, Symeon Chatzinotas, and Bjorn Ottersten. Power control for satellite uplink and terrestrial fixed-service co-existence in Ka-band. In *Vehicular Technology Conference (VTC Fall), 2015 IEEE 82nd*, pages 1–5, Sept 2015.
- [C223] Shree Krishna Sharma, Symeon Chatzinotas, Joel Grotz, and Bjorn Ottersten. 3D beamforming for spectral coexistence of satellite and terrestrial networks. In *Vehicular Technology Conference (VTC Fall), 2015 IEEE 82nd*, pages 1–5, Sept 2015.
- [C224] Eva Lagunas, Shree Krishna Sharma, Sina Maleki, Symeon Chatzinotas, Joel Grotz, Jens Krause, and Björn Ottersten. *Resource Allocation for Cognitive Satellite Uplink and Fixed-Service Terrestrial Coexistence in Ka-band*, pages 487–498. Springer International Publishing, 2015.
- [C225] Ankit Kaushik, Shree Krishna Sharma, Symeon Chatzinotas, Björn Ottersten, and Friedrich Jondral. *Sensing-Throughput Tradeoff for Cognitive Radio Systems with Unknown Received Power*, pages 308–320. Springer International Publishing, 2015.
- [C226] Maha Alodeh, Symeon Chatzinotas, and Björn Ottersten. *Symbol Based Precoding in the Downlink of Cognitive MISO Channel*, pages 370–380. Springer International Publishing, 2015.
- [C227] Anestis Tsakmalis, Symeon Chatzinotas, and Björn Ottersten. *Power Control in Cognitive Radio Networks Using Cooperative Modulation and Coding Classification*, volume 156 of *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, pages 358–369. Springer International Publishing, 2015.
- [C228] Shree Krishna Sharma, Tadilo Endeshaw Bogale, Symeon Chatzinotas, Long Bao Le, Xianbin Wang, and Bjorn Ottersten. Improving robustness of cyclostationary detectors to cyclic frequency mismatch using Slepian basis. In *Personal, Indoor, and Mobile Radio Communications (PIMRC), 2015 IEEE 26th Annual International Symposium on*, pages 456–460, Aug 2015.
- [C229] Kassem Al Ismaeil, Djamila Aouada, Thomas Solognac, Bruno Mirbach, and Bjorn Ottersten. Real-time non-rigid multi-frame depth video super-resolution. In *The IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, pages 8–16, June 2015. **Best Paper Award.**

- [C230] Hassan Afzal, Djamila Aouada, Francois Destelle, Bruno Mirbach, and Bjorn Ottersten. View-independent enhanced 3D reconstruction of non-rigidly deforming objects. In *Proceedings of the 16th International Conference on Computer Analysis of Images and Patterns*, September 2015.
- [C231] Danilo Spano, Dimitrios Christopoulos, Stefano Andrenacci, Symeon Chatzinotas, Bjorn Ottersten, and Jens Krause. Total degradation analysis of precoded signals onto non-linear satellite channels. In *Proceedings of the 21th Ka and Broadband Communications Conference*, October 2015.
- [C232] Eva Lagunas, Shree Krishna Sharma, Sina Maleki, Symeon Chatzinotas, and Bjorn Ottersten. Impact of terrain aware interference modeling on the throughput of cognitive Ka-band satellite systems. In *Proceedings of the 21th Ka and Broadband Communications Conference*, October 2015.
- [C233] Frederic Garcia and Bjorn Ottersten. Real-time curve-skeleton extraction of human-scanned point clouds - application in upright human pose estimation. In *Proceedings of the 10th International Conference on Computer Vision Theory and Applications*, pages 54–60, 2015.
- [C234] A. Kaushik, S.K. Sharma, S. Chatzinotas, B. Ottersten, and F. Jondral. Estimation-throughput tradeoff for underlay cognitive radio systems. In *Communications (ICC), 2015 IEEE International Conference on*, pages 7701–7706, June 2015.
- [C235] S.K. Sharma, M. Patwary, S. Chatzinotas, B. Ottersten, and M. Abdel-Maguid. Repeater for 5G wireless: A complementary contender for spectrum sensing intelligence. In *Communications (ICC), 2015 IEEE International Conference on*, pages 1416–1421, June 2015.
- [C236] S.K. Sharma, S. Maleki, S. Chatzinotas, J. Grotz, J. Krause, and B. Ottersten. Joint carrier allocation and beamforming for cognitive satcoms in Ka-band (17.3 - 18.1 GHz). In *Communications (ICC), 2015 IEEE International Conference on*, pages 873–878, June 2015.
- [C237] Mysore R Bhavani Shankar, Gan Zheng, Sina Maleki, and Bjorn Ottersten. Feasibility study of full-duplex relaying in satellite networks. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 560–564, June 2015.
- [C238] Dimitrios Christopoulos, Symeon Chatzinotas, and Bjorn Ottersten. Multicast multigroup beamforming for per-antenna power constrained large-scale arrays. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 271–275, June 2015.
- [C239] Ashkan Kalantari, Sina Maleki, Symeon Chatzinotas, and Bjorn Ottersten. Secrecy energy efficiency optimization for MISO and SISO communication networks. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 21–25, June 2015.
- [C240] Maha Alodeh, Symeon Chatzinotas, and Bjorn Ottersten. Energy efficient symbol-level precoding in multiuser MISO channels. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 36–40, June 2015.
- [C241] Nicolo Mazzali, Bhavani Shankar Mysore R, and Bjorn Ottersten. On-board signal predistortion for digital transparent satellites. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 535–539, June 2015.
- [C242] Ahmad Gharanjik, M.R. Bhavani Shankar, Pantelis-Daniel Arapoglou, Mats Bengtsson, and Bjorn Ottersten. Precoding design and user selection for multibeam satellite channels. In *Signal Processing Advances in Wireless Communications (SPAWC), 2015 IEEE 16th International Workshop on*, pages 420–424, June 2015.
- [C243] S. Fassoi, D. Christopoulos, S. Chatzinotas, E.T. Michailidis, A.G. Kanatas, and B. Ottersten. Terrestrial to satellite communications using multi-antenna relays nodes. In *Seventh International Conference on Advances in Satellite and Space Communications (SPACOMM)*, pages 46–51, 2015.

- [C244] R. Piazza, M.R. Bhavani Shankar, and B. Ottersten. Generalized direct predistortion with adaptive crest factor reduction control. In *Acoustics, Speech and Signal Processing (ICASSP), 2015 IEEE International Conference on*, pages 3242–3246, April 2015.
- [C245] A. Gharanjik, M.R. Bhavani Shankar, P.D. Arapoglou, M. Bengtsson, and B. Ottersten. Robust precoding design for multibeam downlink satellite channel with phase uncertainty. In *Acoustics, Speech and Signal Processing (ICASSP), 2015 IEEE International Conference on*, pages 3083–3087, April 2015.
- [C246] Hassan Afzal, Kassem Al Ismaeil, Djamila Aouada, Francois Destelle, Bruno Mirbach, and Bjorn Ottersten. KinectDeform: Enhanced 3D reconstruction of non-rigidly deforming objects. In *3DV Workshop on Dynamic Shape Measurement and Analysis*, Dec 2014.
- [C247] A. Kalantari, S. Maleki, Gan Zheng, S. Chatzinotas, and B. Ottersten. Feasibility of positive secrecy rate in wiretap interference channels. In *Signal and Information Processing (Global-SIP), 2014 IEEE Global Conference on*, pages 1190–1194, Dec 2014.
- [C248] D. Christopoulos, S. Chatzinotas, and B. Ottersten. Sum rate maximizing multigroup multicast beamforming under per-antenna power constraints. In *Global Communications Conference (GLOBECOM), 2014 IEEE*, pages 3354–3359, Dec 2014.
- [C249] A.C. Bahnsen, D. Aouada, and B. Ottersten. Example-dependent cost-sensitive logistic regression for credit scoring. In *Machine Learning and Applications (ICMLA), 2014 13th International Conference on*, pages 263–269, Dec 2014.
- [C250] Djamila Aouada, Kassem Al Ismaeil, Kedija Kedir Idris, and Bjorn Ottersten. Surface UP-SR for an improved face recognition using low resolution depth cameras. In *Advanced Video and Signal Based Surveillance (AVSS), 2014 11th IEEE International Conference on*, pages 107–112, August 2014.
- [C251] Hassan Afzal, Djmila Aouada, David Fofi, Bruno Mirbach, and Bjorn Ottersten. RGB-D multi-view system calibration for full 3D scene reconstruction. In *22nd International Conference on Pattern Recognition (ICPR)*, pages 2459–2464, August 2014.
- [C252] D. Christopoulos, S. Chatzinotas, and B. Ottersten. Frame based precoding in satellite communications: A multicast approach. In *Advanced Satellite Multimedia Systems Conference and the 13th Signal Processing for Space Communications Workshop (ASMS/SPSC), 2014 7th*, pages 293–299, September 2014.
- [C253] Frederic Garcia Becerro and Bjorn Ottersten. CPU-based real-time surface and solid voxelization for incomplete point cloud. In *22nd International Conference on Pattern Recognition (ICPR)*, pages 2757–2762, August 2014.
- [C254] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Compressive SNR estimation for wideband cognitive radio under correlated scenarios. In *IEEE Wireless Communications and Networking Conference (WCNC)*, April 2014.
- [C255] Shree Krishna Sharma, Sina Maleki, Symeon Chatzinotas, Joel Grotz, and Bjorn Ottersten. Implementation issues of cognitive radio techniques for Ka-band (17.7-19.7 GHz) satcoms. In *7th Advanced Satellite Multimedia Systems Conference (ASMS) and 13th Signal Processing for Space Communications Workshop (SPSC)*, September 2014.
- [C256] Anestis Tsakmalis, Symeon Chatzinotas, and Bjorn Ottersten. Automatic modulation classification for adaptive power control in cognitive satellite communications. In *7th Advanced Satellite Multimedia Systems Conference (ASMS) and 13th Signal Processing for Space Communications Workshop (SPSC)*, September 2014.
- [C257] S.K. Sharma, D. Christopoulos, S. Chatzinotas, and B. Ottersten. New generation cooperative and cognitive dual satellite systems: Performance evaluation. In *32nd AIAA International Communications Satellite Systems Conference, ICSSC 2014*, August 2014.
- [C258] Zohair Abu-Shaban, Bhavani Shankar Mysore R, Hani Mehrpouyan, and Bjorn Ottersten. Enhanced list-based group-wise overloaded receiver with application to satellite reception. In *Communications (ICC), 2014 IEEE International Conference on*, pages 5616–5621, June 2014.

- [C259] Dimitrios Christopoulos, Symeon Chatzinotas, and Bjorn Ottersten. Multicast multigroup beamforming under per-antenna power constraints. In *Communications (ICC), 2014 IEEE International Conference on*, pages 4704–4710, June 2014.
- [C260] Roberto Piazza, R.Bhavani Shankar Mysore, and Bjorn Ottersten. Multicarrier LUT-based data predistortion for non-linear satellite channels. In *Communications (ICC), 2014 IEEE International Conference on*, pages 4319–4324, June 2014.
- [C261] Dzevdan Kapetanovic, Symeon Chatzinotas, and Bjorn Ottersten. Index assignment for multiple description repair in distributed storage systems. In *Communications (ICC), 2014 IEEE International Conference on*, pages 3896–3901, June 2014.
- [C262] Sina Maleki, Geert Leus, Symeon Chatzinotas, and Bjorn Ottersten. To AND or To OR: How shall the fusion center rule in energy-constrained cognitive radio networks? In *Communications (ICC), 2014 IEEE International Conference on*, pages 1632–1637, June 2014.
- [C263] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Compressive sparsity order estimation for wideband cognitive radio receiver. In *Communications (ICC), 2014 IEEE International Conference on*, pages 1361–1366, June 2014.
- [C264] Maha Alodeh, Symeon Chatzinotas, and Bjorn Ottersten. Spatial DCT-based least square estimation in multi-antenna multi-cell interference channels. In *Communications (ICC), 2014 IEEE International Conference on*, pages 4729–4734, June 2014.
- [C265] Maha Alodeh, Symeon Chatzinotas, and Bjorn Ottersten. A multicast approach for constructive interference precoding in MISO downlink channel. In *Information Theory (ISIT), 2014 IEEE International Symposium on*, pages 2534–2538, June 2014.
- [C266] Alejandro Correa Bahnsen, Aleksandar Stojanovic, Djamila Aouada, and Bjorn Ottersten. Improving credit card fraud detection with calibrated probabilities. In *Proceedings of the 2014 SIAM International Conference on Data Mining*, pages 677–685.
- [C267] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. A hybrid cognitive transceiver architecture: Sensing-throughput tradeoff. In *Cognitive Radio Oriented Wireless Networks and Communications (CROWNCOM), 2014 9th International Conference on*, pages 143–149, June 2014.
- [C268] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Maximum eigenvalue detection for spectrum sensing under correlated noise. In *Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on*, pages 7268–7272, May 2014.
- [C269] Sina Maleki, Ashkan Kalantari, Symeon Chatzinotas, and Bjorn Ottersten. Power allocation for energy-constrained cognitive radios in the presence of an eavesdropper. In *Acoustics, Speech and Signal Processing (ICASSP), 2014 IEEE International Conference on*, pages 5695–5699, May 2014.
- [C270] Roberto Piazza, Bhavani Shankar Mysore R, and Bjoern Ottersten. Carrier rate optimization on the return link of interactive mobile satellite networks. In *European Wireless 2014; 20th European Wireless Conference; Proceedings of*, pages 1–8, May 2014.
- [C271] B. Shankar Mysore Rama Rao and B. Ottersten. Effect of imperfect channel estimate on the performance of MMSE receivers in multibeam satellite systems: First order analysis. In *Electronics, Computing and Communication Technologies (IEEE CONECCT), 2014 IEEE International Conference on*, pages 1–5, Jan 2014.
- [C272] Ioannis Krikidis, Gan Zheng, and Bjorn Ottersten. Protocols and stability analysis for energy harvesting TDMA systems with/without relaying. In *Proceedings IEEE Global Telecommunications Conference*, pages 1–1. IEEE, Atlanta, GA USA, December 2013.
- [C273] Hani Mehrpouyan, Steven D. Blostein, and Bjorn Ottersten. Simultaneous estimation of multi-relay MIMO channels. In *Global Communications Conference (GLOBECOM), 2013 IEEE*, pages 4269–4274, Dec 2013.

- [C274] Jiaheng Wang, Mats Bengtsson, Bjorn Ottersten, and Daniel P. Palomar. Robust MIMO precoding for the Schatten norm based channel uncertainty sets. In *Global Communications Conference (GLOBECOM), 2013 IEEE*, pages 3394–3399, Dec 2013.
- [C275] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Eigenvalue based SNR estimation for cognitive radio in presence of channel correlation. In *Global Communications Conference (GLOBECOM), 2013 IEEE*, pages 1107–1112, Dec 2013.
- [C276] K. Al Ismaeil, D. Aouada, B. Mirbach, and B. Ottersten. Dynamic super resolution of depth sequences with non-rigid motions. In *Image Processing (ICIP), 2013 20th IEEE International Conference on*, pages 660–664, Sept 2013.
- [C277] D. Kapetanovic, M.M. Butt, S. Chatzinotas, and B. Ottersten. Secondary user scheduling under throughput guarantees for the primary network. In *Vehicular Technology Conference (VTC Fall), 2013 IEEE 78th*, pages 1–5, Sept 2013.
- [C278] A.C. Bahnsen, A. Stojanovic, D. Aouada, and B. Ottersten. Cost sensitive credit card fraud detection using Bayes minimum risk. In *Machine Learning and Applications (ICMLA), 2013 12th International Conference on*, volume 1, pages 333–338, Dec 2013.
- [C279] D. Christopoulos, P.-D. Arapoglou, S. Chatzinotas, and B. Ottersten. Linear precoding in multibeam SatComs: Practical constraints. In *31st AIAA International Communications Satellite Systems Conference, ICSSC 2013*, 2013.
- [C280] Ahmad Gharanjik, Bhavani Shankar Mysore Rama Rao, Pantelis-Daniel Arapoglou, and Bjorn Ottersten. Large scale transmit diversity in Q/V band feeder link with multiple gateways. In *Personal Indoor and Mobile Radio Communications (PIMRC), 2013 IEEE 24th International Symposium on*, pages 766–770, 2013.
- [C281] M.Majid Butt, Eduard A. Jorswieck, and Bjorn Ottersten. Maximizing energy efficiency for loss tolerant applications: The packet buffering case. In *Personal Indoor and Mobile Radio Communications (PIMRC), 2013 IEEE 24th International Symposium on*, pages 2663–2667, 2013.
- [C282] K. Al Ismaeil, D. Aouada, B. Ottersten, and B. Mirbach. Multi-frame super-resolution by enhanced shift and add. In *Image and Signal Processing and Analysis (ISPA), 2013 8th International Symposium on*, pages 171–176, Sept 2013.
- [C283] K. Al Ismaeil, D. Aouada, B. Mirbach, and B. Ottersten. Depth super-resolution by enhanced shift and add. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 8048 LNCS(PART 2):100–107, 2013.
- [C284] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Inline interference mitigation techniques for spectral coexistence of GEO and NGEOSAT satellites. In *31st AIAA International Communications Satellite Systems Conference, ICSSC 2013*, 2013.
- [C285] D. Christopoulos, S. Chatzinotas, J. Krause, and B. Ottersten. Multi-user detection in multi-beam mobile satellite systems: A fair performance evaluation. In *Vehicular Technology Conference (VTC Spring), 2013 IEEE 77th*, pages 1–5, June 2013.
- [C286] Gan Zheng, E.A. Jorswieck, and B. Ottersten. Cooperative communications against jamming with half-duplex and full-duplex relaying. In *Vehicular Technology Conference (VTC Spring), 2013 IEEE 77th*, pages 1–5, June 2013.
- [C287] S.K. Sharma, S. Chatzinotas, and B. Ottersten. Spatial filtering for underlay cognitive satcoms. In *5th International Conference on Personal Satellite Services*, 2013.
- [C288] S. Chatzinotas, S.K. Sharma, and B. Ottersten. Frequency packing for interference alignment-based cognitive dual satellite systems. In *Vehicular Technology Conference (VTC Fall), 2013 IEEE 78th*, pages 1–7, Sept 2013.
- [C289] S. Chatzinotas and B. Ottersten. MMSE filtering for amplify and forward SIMO multiple access channel with ill-conditioned second hop. In *Proc of Asia-Pacific Conference on Communications, APCC 2013*, 2013.

- [C290] S. Timotheou, I. Krikidis, and B. Ottersten. MISO interference channel with QoS and RF energy harvesting constraints. In *Communications (ICC), 2013 IEEE International Conference on*, pages 4191–4196, 2013.
- [C291] S.K. Sharma, S. Chatzinotas, and B. Ottersten. The effect of noise correlation on fractional sampling based spectrum sensing. In *Communications (ICC), 2013 IEEE International Conference on*, pages 2589–2594, 2013.
- [C292] D. Christopoulos, S. Chatzinotas, and B. Ottersten. User scheduling for coordinated dual satellite systems with linear precoding. In *Communications (ICC), 2013 IEEE International Conference on*, pages 4498–4503, 2013.
- [C293] Z. Abu-Shaban, H. Mehrpouyan, J. Grotz, and B. Ottersten. Overloaded satellite receiver using SIC with hybrid beamforming and ML detection. In *Signal Processing Advances in Wireless Communications (SPAWC), 2013 IEEE 14th Workshop on*, pages 450–454, 2013.
- [C294] A.A. Nasir, H. Mehrpouyan, S. Durrani, S.D. Blostein, R.A. Kennedy, and B. Ottersten. DSTBC based DF cooperative networks in the presence of timing and frequency offsets. In *Signal Processing Advances in Wireless Communications (SPAWC), 2013 IEEE 14th Workshop on*, pages 86–90, 2013.
- [C295] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Cognitive beamhopping for spectral coexistence of multibeam satellites. In *Future Network and Mobile Summit (FutureNetworkSummit), 2013*, pages 1–10, 2013.
- [C296] Efthymios Tsakonas, Joakim Jalden, Nicholas D. Sidiropoulos, and Bjorn Ottersten. Connections between sparse estimation and robust statistical learning. In *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on*, pages 5489–5493, 2013.
- [C297] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Transmit beamforming for spectral coexistence of satellite and terrestrial networks. In *Cognitive Radio Oriented Wireless Networks (CROWNCOM), 2013 8th International Conference on*, pages 275–281, 2013.
- [C298] Roberto Piazza, Bhavani Shankar Mysore Rama Rao, and Bjorn Ottersten. Non-parametric data predistortion for non-linear channels with memory. In *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on*, pages 5775–5779, 2013.
- [C299] Symeon Chatzinotas, Shree Krishna Sharma, and Bjorn Ottersten. Asymptotic analysis of eigenvalue-based blind spectrum sensing techniques. In *Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on*, pages 4464–4468, 2013.
- [C300] R. Piazza, B.S.M.R. Rao, and B. Ottersten. Data predistortion for multicarrier satellite channels using orthogonal memory polynomials. In *Signal Processing Advances in Wireless Communications (SPAWC), 2013 IEEE 14th Workshop on*, pages 689–693, 2013.
- [C301] Ioannis Krikidis, Gan Zheng, and Bjorn Ottersten. Harvest-use cooperative networks with half/full-duplex relaying. In *Wireless Communications and Networking Conference (WCNC), 2013 IEEE*, pages 4256–4260, 2013.
- [C302] S. Gerbracht, E.A. Jorswieck, G. Zheng, and B. Ottersten. Non-regenerative two-hop wiretap channels using interference neutralization. In *WIFS 2012 - Proceedings of the 2012 IEEE International Workshop on Information Forensics and Security*, pages 258–263, 2012.
- [C303] Qingmin Meng, Wei Feng, Gan Zheng, Symeon Chatzinotas, and Bjorn Ottersten. Fixed full duplex relaying for wireless broadband communication. In *International Conference on Wireless Communications and Signal Processing, WCSP 2012*, pages 1–1. 2012.
- [C304] Gan Zheng, Jiangyuan Li, Kai-Kit Wong, Athina P. Petropulu, and Bjorn Ottersten. Using simple relays to improve physical-layer security. In *Communications in China (ICCC), 2012 1st IEEE International Conference on*, pages 329–333, August 2012.
- [C305] Gan Zheng, Symeon Chatzinotas, and Bjorn Ottersten. Multi-gateway cooperation in multi-beam satellite systems. In *Personal Indoor and Mobile Radio Communications (PIMRC), 2012 IEEE 23rd International Symposium on*, pages 1360–1364, September 2012.



- [C306] Symeon Chatzinotas and Bjorn Ottersten. Capacity analysis of dual-hop amplify-and-forward mimo multiple-access channels. In *International Conference on Wireless Communications and Signal Processing, WCSP 2012*. 2012.
- [C307] E. Bjornson, M. Bengtsson, and B. Ottersten. Receive combining vs. multistream multiplexing in multiuser mimo systems. In *Communication Technologies Workshop (Swe-CTW), 2011 IEEE Swedish*, pages 103–108, October 2011.
- [C308] B.S.M.R. Rao, P. von Wrycza, M. Bengtsson, and B. Ottersten. Convergence of the iterative water-filling algorithm in multiple user spectrum sharing scenarios. In *Communication Technologies Workshop (Swe-CTW), 2011 IEEE Swedish*, pages 80–85, October 2011.
- [C309] Le-Nam Tran, Markku Juntti, Mats Bengtsson, and Bjorn Ottersten. Successive zero-forcing DPC with per-antenna power constraint: Optimal and suboptimal designs. In *Communications (ICC), 2012 IEEE International Conference on*, pages 3746–3751, June 2012.
- [C310] Le-Nam Tran, Markku Juntti, Mats Bengtsson, and Bjorn Ottersten. On the optimality of beamformer design for zero-forcing DPC with QR decomposition. In *Communications (ICC), 2012 IEEE International Conference on*, pages 2536–2541, June 2012.
- [C311] Le-Nam Tran, Markku Juntti, Mats Bengtsson, and Bjorn Ottersten. Successive zero-forcing DPC with sum power constraint: Low-complexity optimal designs. In *Communications (ICC), 2012 IEEE International Conference on*, pages 4857–4861, June 2012.
- [C312] Le-Nam Tran, M. Juntti, M. Bengtsson, and B. Ottersten. Beamformer designs for zero-forcing dirty paper coding. In *Wireless Communications and Signal Processing (WCSP), 2011 International Conference on*, pages 1–5, November 2011.
- [C313] B.S.M.R. Rao, S. Chatterjee, and B. Ottersten. Detection of sparse random signals using compressive measurements. In *Acoustics, Speech and Signal Processing (ICASSP), 2012 IEEE International Conference on*, pages 3257–3260, March 2012.
- [C314] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Spectrum sensing in dual polarized fading channels for cognitive satcoms. In *Proceedings IEEE Global Telecommunications Conference*, pages 3419–3424. IEEE, 2012.
- [C315] Frederic Garcia, Djamila Aouada, Bruno Mirbach, and Bjorn Ottersten. Spatio-temporal ToF data enhancement by fusion. In *Image Processing (ICIP), 2012 19th IEEE International Conference on*, pages 981–984, 2012.
- [C316] Alexis Aravanis, Bhavani Shankar M R, Gregoire Danoy, Pantelis-Daniel Arapoglou, Panayotis Cottis, and Bjorn Ottersten. Power allocation in multibeam satellites - a hybrid-genetic algorithm approach. In *2nd ESA Workshop on Advanced Flexible Telecom Payloads*, pages 1–5. European Space Agency, 2012.
- [C317] Alexis Aravanis, Bhavani Shankar M. R, Gregoire Danoy, Pantelis-Daniel Arapoglou, Panayotis Cottis, and Bjorn Ottersten. Multi-objective optimization approach to power allocation in multibeam systems. In *30th AIAA International Communications Satellite Systems Conference*, pages 1–6, 2012.
- [C318] K. Al-Ismaeil, D. Aouada, B. Ottersten, and B. Mirbach. Bilateral filter evaluation based on exponential kernels. In *Proceedings - International Conference on Pattern Recognition*, pages 258–261, 2012.
- [C319] S. Chatzinotas and B. Ottersten. Cognitive interference alignment between small cells and a macrocell. In *2012 19th International Conference on Telecommunications, ICT 2012*, 2012.
- [C320] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Exploiting polarization for spectrum sensing in cognitive satcoms. In *7th International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM)*, pages 36–41, 2012.

- [C321] Shree Krishna Sharma, Symeon Chatzinotas, and Bjorn Ottersten. Satellite cognitive communications: Interference modeling and techniques selection. In *6th Advanced Satellite Multimedia Systems Conference (ASMS) and 12th Signal Processing for Space Communications Workshop (SPSC)*, pages 111–118. 2012.
- [C322] Efthymios Tsakonas, Joakim Jalden, Nicholas D. Sidiropoulos, and Bjorn Ottersten. Maximum likelihood based sparse and distributed conjoint analysis. In *Statistical Signal Processing Workshop (SSP), 2012 IEEE*, pages 33–36, August 2012.
- [C323] F. Garcia, D. Aouada, H.K. Abdella, T. Solignac, B. Mirbach, and B. Ottersten. Depth enhancement by fusion for passive and active sensing. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, volume 7585 LNCS, pages 506–515, 2012.
- [C324] S. Chatzinotas and Björn Ottersten. Coordinated multipoint uplink capacity over a MIMO composite fading channel. In *2012 International Conference on Computing, Networking and Communications, ICNC'12*, pages 1061–1065. IEEE, 2012. QC 20120629.
- [C325] S. Chatzinotas, Gan Zheng, and B. Ottersten. Energy-efficient MMSE beamforming and power allocation in multibeam satellite systems. In *Signals, Systems and Computers (ASILOMAR), 2011 Conference Record of the Forty Fifth Asilomar Conference on*, pages 1081–1085, 2011.
- [C326] S. Jarmyr, B. Ottersten, and E. Jorswieck. Optimal V-BLAST ordering in fast rayleigh fading: A linear assignment problem. In *Signal Processing Advances in Wireless Communications (SPAWC), 2011 IEEE 12th International Workshop on*, pages 366–370, 2011.
- [C327] Jiaheng Wang, M. Bengtsson, B. Ottersten, and D.P. Palomar. Robust maximin MIMO precoding for arbitrary convex uncertainty sets. In *Acoustics, Speech and Signal Processing (ICASSP), 2012 IEEE International Conference on*, pages 3045–3048, 2012.
- [C328] S. Chatzinotas, Gan Zheng, and B. Ottersten. Joint precoding with flexible power constraints in multibeam satellite systems. In *Global Telecommunications Conference (GLOBECOM 2011), 2011 IEEE*, pages 1–5, 2011.
- [C329] Frederic Garcia, Djamila Aouada, Bruno Mirbach, and Bjorn Ottersten. A new 1-D colour model and its application to image filtering. In *7th International Symposium on Image and Signal Processing and Analysis*, pages 1–4. 2011. **Best Student Paper Award.**
- [C330] Pantelis-Daniel Arapoglou, Bhavani Shankar M.R., Athanasios Panagopoulos, and Bjorn Ottersten. Gateway diversity strategies in Q/V band feeder links. In *17th Ka and Broadband Communications Conference*, pages 1–8. 2011.
- [C331] Frederic Garcia, Djamila Aouada, Bruno Mirbach, Thomas Solignac, and Bjorn Ottersten. Real-time hybrid ToF multi-camera rig fusion system for depth map enhancement. In *Computer Vision and Pattern Recognition Workshops (CVPRW), 2011 IEEE Computer Society Conference on*, pages 1–8. 2011.
- [C332] F. Garcia, D. Aouada, B. Mirbach, T. Solignac, and B. Ottersten. A new multi-lateral filter for real-time depth enhancement. In *Advanced Video and Signal-Based Surveillance (AVSS), 2011 8th IEEE International Conference on*, pages 42–47, 2011.
- [C333] Symeon Chatzinotas, Dimitrios Christopoulos, and Bjorn Ottersten. Coordinated multi-point decoding with dual-polarized antennas. In *7th International Wireless Communications and Mobile Computing Conference*, pages 157–161. 2011.
- [C334] Efthymios Tsakonas, J. Jalden, and B. Ottersten. Robust binary least squares: Relaxations and algorithms. In *Acoustics, Speech and Signal Processing (ICASSP), 2011 IEEE International Conference on*, pages 3780–3783, 2011.
- [C335] Garcia Frederic, Aouada Djamila, Mirbach Bruno, and Ottersten Bjorn. Spiral colour model: reduction from 3-D to 2-D. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1305–1308. 2011.

- [C336] B.S.M.R. Rao, P. Arapoglou, and B. Ottersten. Golden codes for dual polarized MIMO-OFDM transmissions in hybrid satellite/terrestrial mobile systems. In *Communications (ICC), 2011 IEEE International Conference on*, pages 1–6, 2011.
- [C337] S. Chatzinotas and B. Ottersten. Clustered multicell joint decoding under cochannel interference. In *Communications (ICC), 2011 IEEE International Conference on*, pages 1–5, 2011.
- [C338] Symeon Chatzinotas and Bjorn Ottersten. Interference alignment for clustered multicell joint decoding (wcnc). In *IEEE Wireless Communications and Networking Conference 2011*, pages 1966 – 1971. 2011.
- [C339] M.R. Bhavani Shankar, P. von Wrycza, M. Bengtsson, and B. Ottersten. Convergence of the iterative water-filling algorithm with sequential updates in spectrum sharing scenarios. In *Acoustics, Speech and Signal Processing (ICASSP), 2011 IEEE International Conference on*, pages 3216–3219, 2011.
- [C340] E. Bjornson, K. Ntontin, and B. Ottersten. Channel quantization design in multiuser MIMO systems: Asymptotic versus practical conclusions. In *Acoustics, Speech and Signal Processing (ICASSP), 2011 IEEE International Conference on*, pages 3072–3075, 2011.
- [C341] S. Jarmyr, B. Ottersten, and E. Jorswieck. Statistical precoding and detection ordering in MIMO multiple-access channels with decision feedback equalization. In *Communications (ICC), 2011 IEEE International Conference on*, pages 1–6, 2011.
- [C342] Garcia Frederic, Ottersten Bjorn, Mirbach Bruno, Frederic Grandidier, and Cuesta Angel. Pixel weighted average strategy for depth sensor data fusion. In *17th IEEE International Conference on Image Processing (ICIP)*, pages 2805–2808. 2010.
- [C343] E. Bjornson, M. Bengtsson, and B. Ottersten. Optimality properties and low-complexity solutions to coordinated multicell transmission. In *Global Telecommunications Conference (GLOBECOM 2010), 2010 IEEE*, pages 1–6, 2010.
- [C344] Yongming Huang, Luxi Yang, M. Bengtsson, and B. Ottersten. A multiuser downlink system combining limited feedback and channel correlation information. In *Communications (ICC), 2010 IEEE International Conference on*, pages 1–5, 2010.
- [C345] N. Jalden, S. Bergman, P. Zetterberg, B. Ottersten, and K. Werner. Cross layer implementation of a multi-user MIMO test-bed. In *Wireless Communications and Networking Conference (WCNC), 2010 IEEE*, pages 1–6, 2010.
- [C346] Niklas Jalden, Per Zetterberg, and Björn Ottersten. Modelling angle spread autocorrelations and the impact on multi-user diversity gains. In *IEEE Wireless Communications and Networking Conference (WCNC) 2010*, Sydney, Australia, April 2010.
- [C347] Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, and Björn Ottersten. A game theoretic approach to multi-user spectrum allocation. In *Proceedings IEEE Global Telecommunications Conference*, November 2009.
- [C348] Emil Björnson, Randa Zakhour, David Gesbert, and Björn Ottersten. Distributed multicell and multiantenna precoding: Characterization and performance evaluation. In *Proceedings IEEE Global Communications Conference (GLOBECOM)*, December 2009.
- [C349] Yongming Huang, Luxi Yang, Mats Bengtsson, and Björn Ottersten. A limited feedback SDMA scheme with dynamic multiplexing order. In *IEEE International Workshop on Signal Processing Advances in Wireless Communications*, pages 211–215, June 2009.
- [C350] Yongming Huang, Luxi Yang, Mats Bengtsson, and Björn Ottersten. A codebook-based precoding for dual-hop downlink with MIMO amplify-and-forward relaying. In *IEEE International Workshop on Signal Processing Advances in Wireless Communications*, pages 245–249, June 2009.
- [C351] Emil Björnson and Björn Ottersten. Training-based bayesian MIMO channel and channel norm estimation. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, pages 2701 – 2704, April 2009.

- [C352] Emil Björnson, Björn Ottersten, and Eduard Jorswieck. On the impact of spatial correlation and precoder design on the performance of MIMO systems with space-time coding. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, pages 2741 – 2744, April 2009.
- [C353] Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, and Björn Ottersten. Game theoretic approach to spectrum allocation for weak interference systems. In *Proceedings IEEE Global Communications Conference*, pages 1–5, November 2008.
- [C354] Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, and Björn Ottersten. Spectrum allocation from a game theoretic perspective: Properties of nash equilibria. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2008.
- [C355] Marc Mowlér, Bilal Khalid, Björn Lindmark, and Björn Ottersten. Switched MEMS antenna for handheld devices. In *ICT-MobileSummit 2008*, March 2008.
- [C356] Emil Björnson, David Hammarwall, Randa Zakhour, Mats Bengtsson, David Gesbert, and Björn Ottersten. Feedback design in multiuser MIMO systems using quantization splitting and hybrid instantaneous/statistical channel information. In *Proceedings ICT Mobile and Wireless Communications Summit*, June 2008.
- [C357] Marc Mowlér, Bilal Khalid, Björn Lindmark, and Björn Ottersten. Capacity and gain analysis of a reconfigurable MEMS antenna. In *Nordic Conference on Radio Science and Communications (RVK)*, March 2008.
- [C358] Emil Björnson and Björn Ottersten. Pilot-based bayesian channel norm estimation in rayleigh fading multi-antenna systems. In *Nordic Conference on Radio Science and Communications (RVK)*, June 2008.
- [C359] Simon Järmyr, Svante Bergman, and Björn Ottersten. Long-term adaptive precoding for decision feedback equalization. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, pages 2897 – 2900, April 2008.
- [C360] Emil Björnson and Björn Ottersten. Exploiting long-term statistics in spatially correlated multi-user MIMO systems with quantized channel norm feedback. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal (ICASSP)*, pages 3117–3120, April 2008.
- [C361] Peter von Wrycza, Mats Bengtsson, and Björn Ottersten. Decentralized dynamic channel allocation for MIMO systems. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, pages 1689 – 1693, November 2007.
- [C362] Eduard Jorswieck, Aydin Sezgin, Björn Ottersten, and Arogyaswami Paulraj. Feedback reduction in uplink MIMO OFDM systems by chunk optimization. In *IEEE International Conference on Communications (ICC)*, pages 4348 – 4352, May 2008.
- [C363] Niklas Jaldén, Per Zetterberg, and Björn Ottersten. Directional dependence of large scale parameters in wireless channel models. In *IEEE Wireless Communications & Networking Conference (WCNC)*, April 2008.
- [C364] Xi Zhang, Daniel Palomar, and Björn Ottersten. Robust MAC MIMO transceiver design with partial CSIT and CSIR. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 2007.
- [C365] Pandu R Devarakota, Marta castillo, Romuald Ginhoux, Bruno Mirbach, and Björn Ottersten. Application of the reeb graph techniques to vehicle occupant. In *Proceedings of IEEE Computer Vision and Pattern Recognition Workshop*, June 2007.
- [C366] Niklas Jaldén, Aihua Hong, Per Zetterberg, Björn Ottersten, and Peiner Thomä. Correlation properties of large scale fading based on indoor measurements. In *IEEE Wireless Communications and Networking Conference (WCNC)*, April 2007.

- [C367] David Hammarwall and Björn Ottersten. Spatial transmit processing using long-term channel statistics and pilot signaling on selected antennas. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2006.
- [C368] Klaus Schwarzenbarth, Joel Grotz, and Björn Ottersten. MMSE based interference processing for satellite broadcast reception. In *Proceedings IEEE Vehicular Technology Conference, Spring*, March 2007.
- [C369] Emil Björnson, David Hammarwall, and Björn Ottersten. Beamforming utilizing channel norm feedback in multiuser MIMO systems. In *Proceedings 8th IEEE Workshop on Signal Processing Advances in Wireless Communications (SPAWC)*, June 2007.
- [C370] Xi Zhang, Eduard A. Jorswieck, Björn Ottersten, and Arogyaswami Paulraj. User selection schemes in multiple antenna broadcast channels with guaranteed performance. In *Proceedings IEEE Workshop on Signal Processing Advances in Wireless Communications*, June 2007.
- [C371] Joakim Jaldén, Luis G. Barbero, Björn Ottersten, and John S. Thompson. Full diversity detection in MIMO systems with a fixed-complexity sphere decoder. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2007. **First Prize Student Paper Award.**
- [C372] Marc Mowlér, Erik G. Larsson, Björn Lindmark, and Björn Ottersten. Methods and bounds for antenna coupling matrix estimation. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2007.
- [C373] Eduard Jorswieck, Björn Ottersten, Aydin Sezgin, and Arogyaswami Paulraj. Guaranteed performance region in fading orthogonal space-time coded broadcast channels. In *Proceedings IEEE International Symposium on Information Theory*, June 2007.
- [C374] Svante Bergman and Björn Ottersten. Lattice based linear precoding for MIMO block codes. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, volume 3, April 2007.
- [C375] Joakim Jaldén and Björn Ottersten. High diversity detection using semidefinite relaxation. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 2006.
- [C376] Eduard Jorswieck, David Hammarwall, and Björn Ottersten. Ergodic capacity achieving transmit strategy in MIMO systems with statistical and short-term norm CSI. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2007.
- [C377] David Hammarwall, Mats Bengtsson, and Björn Ottersten. Beamforming and user selection in SDMA systems utilizing channel statistics and instantaneous SNR feedback. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2007.
- [C378] Pandu Rangarao Devarakota, Bruno Mirbach, and Björn Ottersten. Confidence estimation in classification decision: A method for detecting unseen patterns. In *International Conference on Advances in Pattern Recognition (ICAPR 2007)*, August 2006.
- [C379] Xi Zhang, Eduard Jorswieck, Björn Ottersten, and Arogyaswami Paulraj. MSE based optimization of multiuser MIMO MAC with partial CSI. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2006.
- [C380] Joel Grotz, Björn Ottersten, and Jens Krause. Applicability of interference processing to DTH reception. In *Ninth International Workshop on Signal Processing for Space Communications, September 2006*, ESA/ESTEC, Noordwijk, Netherlands, September 2006.
- [C381] Patrick Svedman, Leonard J. Cimini, Jr., and Björn Ottersten. Using unclaimed sub-carriers in opportunistic OFDMA systems. In *Proceedings IEEE Vehicular Technology Conference, Fall*, September 2006.
- [C382] David Hammarwall and Björn Ottersten. Exploiting the spatial information provided by channel statistics and SNR feedback. In *Proceedings IEEE International Workshop on Signal Processing Advances for Wireless Communications (SPAWC)*, July 2006.

- [C383] Peter Wrycza, Mats Bengtsson, and Björn Ottersten. On convergence properties of joint optimal power control and transmit-receive beamforming in multi-user MIMO systems. In *Proceedings IEEE International Workshop on Signal Processing Advances for Wireless Communications*, pages 1–5, July 2006.
- [C384] Joakim Jaldén and Björn Ottersten. Channel dependent termination of the semidefinite relaxation detector. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, January 2006.
- [C385] Peter Wrycza, Mats Bengtsson, and Björn Ottersten. MMSE criteria for downlink beamforming in CDMA wireless systems. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, volume 4, pages 813–816, May 2006.
- [C386] Patrick Svedman, Leonard J. Cimini, Jr., Mats Bengtsson, Sarah Kate Wilson, and Björn Ottersten. Exploiting temporal channel correlation in opportunistic SD-OFDMA. *Proceedings IEEE International Conference on Communications*, June 2006.
- [C387] Xi Zhang, Daniel P. Palomar, and Björn Ottersten. Robust design of linear MIMO transceivers under channel uncertainty. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 2006.
- [C388] Joakim Jaldén and Björn Ottersten. Parallel implementation of a soft output sphere decoder. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 2005.
- [C389] Joakim Jaldén and Björn Ottersten. On the limits of sphere decoding. In *Proceedings IEEE International Symposium on Information Theory*, September 2005.
- [C390] Joel Grotz, Björn Ottersten, and Jens Krause. Decision-directed interference cancellation applied to satellite broadcast reception. In *Proceedings IEEE Vehicular Technology Conference, Fall*, September 2005.
- [C391] Joel Grotz and Björn Ottersten. Data-aided frequency synchronisation under interference limited conditions. In *Proceedings IEEE Vehicular Technology Conference, Spring*, May 2005.
- [C392] Xi Zhang, Daniel P. Palomar, and Björn Ottersten. Robust design of linear MIMO transceiver for low SNR. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, October 2005.
- [C393] David Samuelsson, Mats Bengtsson, and Björn Ottersten. Improved multiuser diversity using smart antennas with limited feedback. In *Proceedings European Signal Processing Conference*, September 2005.
- [C394] Shohei Kikuchi, Akira Sano, and Björn Ottersten. Blind multiuser detection by accelerated subspace tracking. In *Proceedings European Signal Processing Conference*, September 2005.
- [C395] Per Hyberg, Magnus Jansson, and Björn Ottersten. Error minimized array mapping applied to experimental data. In *Nordic Conference on Radio Science and Communications (RVK)*, June 2005.
- [C396] Svante Bergman and Björn Ottersten. Spatial multiplexing over rician fading channels: Linear precoding transmission strategies. In *Nordic Conference on Radio Science and Communications (RVK)*, June 2005.
- [C397] Pandu Devarakota, Bruno Mirbach, Marta Castillo-Franco, and Björn Ottersten. 3-d vision technology for occupant detection and classification. In *IEEE The 5th International Conference on 3-D Digital Imaging and Modeling*, June 2005.
- [C398] Pandu Devarakota, Bruno Mirbach, Marta Castillo-Franco, and Björn Ottersten. Classification of vehicle occupants using 3-d image sequences. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, page 4, March 2005.
- [C399] David Samuelsson, Mats Bengtsson, and Björn Ottersten. An efficient algorithm for solving the downlink beamforming problem with indefinite constraints. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, March 2005.

- [C400] Joakim Jaldén, Björn Ottersten, and Wing-Kin Ma. Reducing the average complexity of ML detection using semidefinite relaxation. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, March 2005.
- [C401] Cristoff Martin, Alexander Geurtz, and Björn Ottersten. File based mobile satellite broadcast systems: Error rate computation and QoS based design. In *Proceedings IEEE Vehicular Technology Conference*, September 2004.
- [C402] Cristoff Martin, Alexander Geurtz, and Björn Ottersten. Packet coded mobile satellite broadcast systems: Error rate computations and quality of service based design. In *ESA ASMS/EMPS*, September 2004.
- [C403] Cristoff Martin, Alexander Geurtz, and Björn Ottersten. Spectrally efficient mobile satellite real-time broadcast with transmit diversity. In *Proceedings IEEE Vehicular Technology Conference*, September 2004.
- [C404] Kai Yu, Mats Bengtsson, and Björn Ottersten. On the error of Kronecker structure based MIMO channel model. In *Proceedings of Nordic Radio Symposium*, August 2004.
- [C405] Joakim Jaldén, Mikael Skoglund, and Björn Ottersten. On the random coding exponent of multiple antenna systems using space-time block codes. In *Proceedings IEEE International Symposium on Information Theory*, June 2004.
- [C406] Patrick Svedman, Sarah Kate Wilson, and Björn Ottersten. A QoS-aware proportional fair scheduler for opportunistic OFDM. In *Proceedings IEEE Vehicular Technology Conference, Fall*, September 2004.
- [C407] Svante Bergman, Cristoff Martin, and Björn Ottersten. Bit and power loading for spatial multiplexing using partial channel state information. In *ITG Workshop on Smart Antennas, Munich 2004*, April 2004.
- [C408] Cristoff Martin, Svante Bergman, and Björn Ottersten. Simple spatial multiplexing based on imperfect channel estimates. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, volume 4, pages :iv-713 – iv-716, May 2004.
- [C409] Joakim Jaldén and Björn Ottersten. An exponential lower bound on the expected complexity of sphere decoding. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 2004.
- [C410] Patrick Svedman, Sarah Kate Wilson, Leonard J. Cimini, Jr., and Björn Ottersten. A simplified opportunistic feedback and scheduling scheme for OFDM. In *Proceedings IEEE Vehicular Technology Conference, Spring*, May 2004.
- [C411] Patrick Svedman, Mats Bengtsson, and Björn Ottersten. Table based performance evaluation for HIPERLAN/2 systems - a multi-parameter design. In *Proceedings IEEE Vehicular Technology Conference, Spring*, May 2004.
- [C412] Cristoff Martin and Björn Ottersten. Approximate transmit covariance optimization of MIMO systems with covariance feedback. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 2003.
- [C413] David Samuelsson, Mats Bengtsson, and Björn Ottersten. Optimal downlink beamforming with additional constraints. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, November 2003.
- [C414] David Asztély and Björn Ottersten. MLSE and spatio-temporal interference rejection combining with antenna arrays. In *Proceedings European Signal Processing Conference*, pages 1341–1344, Island of Rhodes, Greece, September 1998.
- [C415] Stefan Parkvall, Björn Ottersten, and Erik G. Ström. Sensitivity analysis of linear DS-CDMA detectors to propagation delay estimation errors. In *Proceedings IEEE Global Telecommunications Conference*, pages 1872–1876, January 1995.

- [C416] Xi Zhang and Björn Ottersten. Performance analysis of v-BLAST structure with channel estimation errors. In *IEEE Workshop on Signal Processing Advances in Wireless Communications*, June 2003.
- [C417] Xi Zhang and Björn Ottersten. Power allocation and bit loading for spatial multiplexing in MIMO systems. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2003.
- [C418] Per Hyberg, Magnus Jansson, and Björn Ottersten. Sector array mapping: Transformation matrix design for minimum MSE. In *Antenn*, May 2003. Kalmar, Sweden.
- [C419] Joakim Jaldén, Cristoff Martin, and Björn Ottersten. Semidefinite programming for detection in linear systems – optimality conditions and space-time decoding. In *IEEE International Conference on Acoustics, Speech, and Signal Processing*, April 2003.
- [C420] Per Hyberg, Magnus Jansson, and Björn Ottersten. Sector array mapping: Transformation matrix design for minimum MSE. In *Proceedings Asilomar Conference on Signals, Systems & Computers*, Pacific Grove, CA, April 2002.
- [C421] Christian Henriksson, Andreas Jakobsson, and Björn Ottersten. Reducing bluetooth interference with diversity techniques in IEEE 802.11b networks. In *Proceedings Nordic Signal Processing Symposium*, October 2002.
- [C422] Göran Klang and Björn Ottersten. Space-time interference rejection cancellation in transmit diversity systems. In *Proc. WPMC '2002*, October 2002.
- [C423] George Jöngren, Mikael Skoglund, and Björn Ottersten. Utilizing partial channel information in the design of space-time block codes. In *Proceedings of the 5th International Symposium on Wireless Personal Multimedia Communications (WPMC '2002)*, October 2002. **Best Paper Award.**
- [C424] Mats Bengtsson, Cristoff Martin, Björn Ottersten, Ben Slimane, and Per Zetterberg. Recent advances on MIMO processing in the SATURN project. In *Proc. IST Mobile Communications Summit*, June 2002.
- [C425] Rickard Stridh, Mats Bengtsson, and Björn Ottersten. System evaluation of optimal downlink beamforming in wireless communication. In *Nordic Conference on Radio Science and Communications (RVK)*, pages 436–440, June 2002.
- [C426] Kai Yu, Mats Bengtsson, Björn Ottersten, Darren McNamara, Peter Karlsson, and Mark Beach. A 20 MHz HIPERLAN/2 MIMO channel model in NLOS indoor scenarios. In *Nordic Conference on Radio Science and Communications (RVK)*, pages 311–315, June 2002.
- [C427] George Jöngren, Mikael Skoglund, and Björn Ottersten. Utilizing channel information in the design of space-time block codes. In *Nordic Conference on Radio Science and Communications (RVK)*, pages 328–332, June 2002.
- [C428] Per Hyberg, Magnus Jansson, and Björn Ottersten. Array mapping: Optimal transformation matrix design. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 2002.
- [C429] Per Hyberg, Magnus Jansson, and Björn Ottersten. Array mapping: Reduced bias transformation matrix design. In *Nordic Conference on Radio Science and Communications (RVK)*, pages 596–600, June 2002.
- [C430] Cristoff Martin and Björn Ottersten. Analytic approximations of eigenvalue moments and mean channel capacity for MIMO channels. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, May 2002.
- [C431] Kai Yu, Mats Bengtsson, Björn Ottersten, Darren McNamara, Peter Karlsson, and Mark Beach. A wideband statistical model for NLOS indoor MIMO channels. In *Proceedings IEEE Vehicular Technology Conference, Spring*, volume 1, pages 370–374, May 2002.



- [C432] Kai Yu, Mats Bengtsson, Björn Ottersten, Darren McNamara, Peter Karlsson, and Mark Beach. Second order statistics of NLOS indoor MIMO channels based on 5.2 GHz measurements. In *Proceedings IEEE Global Communications Conference*, volume 1, pages 156–160, October 2001.
- [C433] Kai Yu, Mats Bengtsson, Björn Ottersten, Peter Karlsson, Darren McNamara, and Mark Beach. Measurement analysis of NLOS indoor MIMO channels. In *Proceedings IST Mobile Communications Summit*, pages 277–282, October 2001.
- [C434] Rickard Stridh, Mats Bengtsson, and Björn Ottersten. System evaluation of optimal downlink beamforming in wireless communication. In *IEEE Transactions on Vehicular Technology, Fall*, pages 343–347, October 2001.
- [C435] Rickard Stridh, Peter Karlsson, and Björn Ottersten. Spatial characterization of measured indoor radio channels at 5 GHz. In *Nordiskt Radio Symposium*, April 2001.
- [C436] Cristoff Martin and Björn Ottersten. Joint channel estimation and detection for interference cancellation in multi-channel systems. In *The 10th IEEE Workshop on Statistical Signal and Array Processing*, June 2000.
- [C437] Martin Nilsson, Björn Völcker, and Björn Ottersten. A cluster approach to spatio-temporal channel estimation. In *International Conference on Acoustics, Speech, and Signal Processing*, pages 2757–2760, September 2000.
- [C438] Magnus Jansson and Björn Ottersten. Structured covariance matrix estimation: A parametric approach. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, pages 3172–3175, Istanbul, Turkey, June 2000.
- [C439] George Jöngren, Mikael Skoglund, and Björn Ottersten. Combining transmit beamforming and orthogonal space-time block codes by utilizing side information. In *Proceedings IEEE Sensor Array and Multichannel Signal Processing Workshop*, pages 153–157, Boston, USA, June 2000.
- [C440] George Jöngren, David Astély, and Björn Ottersten. Structured spatial interference rejection combining. In *Proceedings European Signal Processing Conference*, September 2000.
- [C441] Rickard Stridh and Björn Ottersten. Packet data throughput for wireless systems with smart antennas. In *Vehicular Technology Conference, 1999. VTC 1999 - Fall. IEEE VTS 50th*, volume 1, pages 32–36, Amsterdam, The Netherlands, September 1999.
- [C442] George Jöngren and Björn Ottersten. Combining transmit antenna weights with orthogonal space-time block coding. In *Proceedings Nordic Radio Symposium*, Lund, Sweden, October 1999.
- [C443] Björn Völcker, Martin Nilsson, and Björn Ottersten. Estimation of time delays and directions of arrival of multiple reflections using a wideband signal. In *Proceedings Nordiskt radioseminarium 1999*, November 1999.
- [C444] Mats Bengtsson and Björn Ottersten. Uplink and downlink beamforming for fading channels. In *Proceedings of SPAWC'99, Signal Processing Advances in Wireless Communications*, pages 350–353, Annapolis, Maryland, USA, May 1999.
- [C445] David Astély and Björn Ottersten. Constrained complexity spatio-temporal interference rejection combining. In *Proceedings of SPAWC'99, Signal Processing Advances in Wireless Communications*, pages 110–113, Annapolis, Maryland, USA, May 1999.
- [C446] Mats Bengtsson, David Astély, and Björn Ottersten. Measurements of spatial characteristics and polarization with a dual polarized antenna array. In *Proceedings IEEE Vehicular Technology Conference*, pages 366–370, Houston, Texas, USA, May 1999.
- [C447] Göran Klang, David Astély, and Björn Ottersten. Structured spatio-temporal interference rejection with antenna arrays. In *Proceedings IEEE Vehicular Technology Conference*, pages 841–845, May 1999.

- [C448] Stefan Parkvall, Göran Klang, Björn Ottersten, Bo Wahlberg, and Catharina Carlemalm. Advanced detectors for multi-user wireless communications. In *RadioVetenskap och Kommunikation (RVK)*, pages 407–410, Karlskrona, Sweden, June 1999.
- [C449] Björn Ottersten, Petre Stoica, David Astély, Mats Bengtsson, and Andreas Jakobsson. Spatio-temporal processing in wireless communications. In *RadioVetenskap och Kommunikation (RVK)*, pages 402–406, Karlskrona, Sweden, June 1999.
- [C450] Göran Klang and Björn Ottersten. A structured approach to channel estimation and interference rejection in multichannel systems. In *RadioVetenskap och Kommunikation (RVK)*, pages 362–366, Karlskrona, Sweden, June 1999.
- [C451] Mats Bengtsson and Björn Ottersten. Downlink beamformer design using semidefinite optimization. In *RadioVetenskap och Kommunikation (RVK)*, pages 289–293, Karlskrona, Sweden, June 1999.
- [C452] Martin Kristensson, Magnus Jansson, and Björn Ottersten. On subspace based sinusoidal frequency estimation. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Phoenix, AZ, June 1999.
- [C453] Björn Völcker and Björn Ottersten. Chirp parameter estimation using rank reduction. In *Proceedings of the 32nd Asilomar Conference on Signals, Systems and Computers*, pages 1443–1446, Pacific Grove, CA, November 1998.
- [C454] Alexei Gorokhov, Martin Kristensson, and Björn Ottersten. Robust blind second order deconvolution of multiple FIR channels. In *Proceedings IEEE Global Telecommunications Conference*, Sydney, Australia, August 1998.
- [C455] Mats Bengtsson and Björn Ottersten. On approximating a spatially scattered source with two point sources. In *Proceedings Nordic Signal Processing Symposium*, pages 45–48, June 1998.
- [C456] Thomas Östman and Björn Ottersten. Near far robust time delay estimation for asynchronous DS-CDMA systems with bandlimited pulse shapes. In *IEEE Transactions on Vehicular Technology Conference*, May 1998.
- [C457] Thomas Östman, Laurence B. Milstein, and Björn Ottersten. Estimation of time delays in multirate asynchronous DS-CDMA systems. In *Proceedings International Symposium on Spread-Spectrum Techniques and Applications*, pages 97–101, September 1998.
- [C458] Martin Kristensson, Magnus Jansson, and Björn Ottersten. Modified IQML and a statistically efficient method for direction estimation without eigendecomposition. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Seattle, May 1998.
- [C459] David Asztély and Björn Ottersten. The effects of local scattering on direction of arrival estimation with MUSIC and ESPRIT. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Seattle, May 1998.
- [C460] Magnus Jansson, A. Lee Swindlehurst, and Björn Ottersten. Robust weighted subspace fitting in the presence of array model errors. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Seattle, May 1998.
- [C461] Thomas Östman, Stefan Parkvall, and Björn Ottersten. Improved MUSIC algorithm for estimation of time delays in asynchronous DS-CDMA systems. In *Proceedings of Asilomar Conference on Signals, Systems & Computers*, November 1997.
- [C462] Bo Göransson and Björn Ottersten. Efficient direction estimation of uncorrelated sources using polynomial rooting. In *Proceedings of 13th International Conference on Digital Signal Processing*, pages 935–938, Santorini, Greece, July 1997.
- [C463] K.V.S. Hari and Björn Ottersten. Parameter estimation using a sensor array in a ricean fading channel. In *Proc. SPCDM 97*, July 1997.
- [C464] Martin Kristensson and Björn Ottersten. Asymptotic comparison of two blind channel identification algorithms. In *SPAWC-97*, April 1997.

- [C465] Andrew Lee Swindlehurst, Malcolm Goris, and Björn Ottersten. Some experiments with array data collected in actual urban and suburban environments. In *Proceedings of Signal Processing Advances in Wireless Communications, SPAWC 97*, pages 301–304, April 1997.
- [C466] Thomas Östman, Martin Kristensson, and Björn Ottersten. Asynchronous DS-CDMA detectors robust to timing errors. In *IEEE Transactions on Vehicular Technology Conference*, May 1997.
- [C467] David Asztely, Björn Ottersten, and Andrew Lee Swindlehurst. A generalized array manifold model for local scattering in wireless communications. In *Proc. ICASSP 97*, volume 5, pages 4021–4024, April 1997.
- [C468] Mats Bengtsson and Björn Ottersten. Rooting techniques for estimation of angular spread with an antenna array. In *Proceedings of IEEE Vehicular Technology Conference 97*, pages 1158–1162, May 1997.
- [C469] Magnus Jansson, Bo Göransson, and Björn Ottersten. Analysis of a subspace-based spatial frequency estimator. In *Proceedings of ICASSP*, pages 4001–4004, April 1997.
- [C470] Patrik Sörqvist, Peter Händel, and Björn Ottersten. Kalman filtering for low distortion speech enhancement in mobile communication. In *Proceedings of ICASSP*, pages 1219–1222, April 1997.
- [C471] D. Asztely and B. Ottersten. Modified array manifold for signal waveform estimation in wireless communications. In *Signals, Systems and Computers, 1996. Conference Record of the Thirtieth Asilomar Conference on*, volume 1, pages 738–741 vol.1, 1996.
- [C472] M. Kristensson, B. Ottersten, and D. Slock. Blind subspace identification of a BPSK communication channel. In *Signals, Systems and Computers, 1996. Conference Record of the Thirtieth Asilomar Conference on*, pages 828–832 vol.2, 1996.
- [C473] Mats Bengtsson and Björn Ottersten. Signal waveform estimation from array data in angular spread environment. In *30:th Asilomar Conference on Signals, Systems & Computers*, pages 355–359, November 1996.
- [C474] Bo Göransson, Magnus Jansson, and Björn Ottersten. Spatial and temporal frequency estimation of uncorrelated signals using subspace fitting. In *8th IEEE Signal Processing Workshop on Statistical Signal and Array Processing (SSAP)*, April 1996.
- [C475] Thomas Östman and Björn Ottersten. Low complexity asynchronous DS-CDMA detectors. In *IEEE Transactions on Vehicular Technology Conference*, pages 559–563, April 1996.
- [C476] Martin Kristensson and Björn Ottersten. Statistical analysis of a subspace method for blind channel identification. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Atlanta, May 1996.
- [C477] Petre Stoica, Björn Ottersten, and Mats Viberg. Optimal array signal processing in the presence of coherent wavefronts. In *Proceedings IEEE International Conference on Acoustics, Speech, and Signal Processing*, Atlanta, May 1996.
- [C478] Magnus Jansson and Björn Ottersten. Covariance preprocessing in weighted subspace fitting. In *IEEE/IEE workshop on signal processing methods in multipath environments*, pages 23–32, Glasgow, Scotland, April 1995.
- [C479] Mats Viberg, Björn Ottersten, Bo Wahlberg, and Lennart Ljung. Performance of subspace-based system identification methods. In *Proc. IFAC 93*, Sydney, Australia, July 1993.
- [C480] Björn Ottersten, Mats Viberg, and Bo Wahlberg. Source localization in the presence of model uncertainties. In *Proc. Adaptive Algorithms in Comm. Conf. 92*, Bordeaux, France, October 1992.
- [C481] Björn Ottersten. Robust direction estimation from hydroacoustic array data. In *Hydroakustik 93*, Stockholm, Sweden, September 1993.

- [C482] Erik G. Ström, Stefan Parkvall, and Björn Ottersten. Near-far resistant propagation delay estimators for asynchronous direct-sequence code division multiple access systems. In Christoph G. Günther, editor, *Lecture Notes in Computer Science: Mobile Communications, Proceedings 1994 International Zurich Seminar on Digital Communications*, pages 251–260. Springer-Verlag, September 1994.
- [C483] Petre Stoica, Mats Viberg, Björn Ottersten, and Thomas Kailath. Optimal localization of partially known signals in unknown noise fields. In *Proc. ICASSP 94*, Adelaide, Australia, April 1994.
- [C484] Björn Ottersten and Mats Viberg. A subspace-based instrumental variable method for state-space system identification. In *Proc. 10th IFAC Symp. on Syst. Id.*, Copenhagen, Denmark, July 1994.
- [C485] Per Zetterberg and Björn Ottersten. The spectrum efficiency of a base-station antenna array system for spatially selective transmission. In *Proceedings of VTC 94*, pages 1517–1521, July 1994.
- [C486] Erik G. Ström, Stefan Parkvall, Scott L. Miller, and Björn Ottersten. Complexity reduction of direct-sequence code division multiple access receivers. In *Proceedings IEEE International Conference on Communications*, pages 1643–1647, July 1994.
- [C487] Erik G. Ström, Stefan Parkvall, Scott L. Miller, and Björn Ottersten. Sensitivity analysis of near-far resistant DS-CDMA receivers to propagation delay estimation errors. In *IEEE Transactions on Vehicular Technology Conference*, pages 757–761, July 1994.
- [C488] Mats Viberg, Björn Ottersten, and Ö. Erikmats. A comparison of model-based detection and adaptive sidelobe cancelling for radar array processing. In *Proc. of Nordic Antenna Symposium*, Eskilstuna, Sweden, May 1994.
- [C489] Björn Ottersten and Mats Viberg. Parametric direction estimation from antenna array data based on calibration information. In *Proc. of Nordic Antenna Symposium*, Eskilstuna, Sweden, May 1994.
- [C490] Per Zetterberg and Björn Ottersten. Experiments using an antenna array in a mobile communications environment. In *Proc. Seventh SP Workshop on Statistical Signal & Array Processing*, pages 137–140, Quebec City, Canada, June 1994.
- [C491] Erik G. Ström, Stefan Parkvall, Scott L. Miller, and Björn E. Ottersten. Propagation delay estimation of DS-CDMA signals in a fading environment. In *IEEE Global Telecommunications Conference, Communication Theory Mini-Conference Volume*, pages 85–89, September 1994.
- [C492] G. Q. Maguire Jr., Björn Ottersten, H. Tenhunen, and J. Zander. Future wireless computing & communications. In *Proc. Nordic Conf. on Radio Com. Networks*, Linköping, Sweden, October 1994.
- [C493] T onu Trump and Björn Ottersten. Maximum likelihood estimation of nominal direction of arrival and angular spread using an array of sensors. In *Proc. COST 229, Emergent Techniques in Signal Processing and Communications*, pages 77–81, Vigo, Spain, October 1994.
- [C494] Björn Ottersten. Spatial division multiple access (SDMA) in wireless communications. In *Proceedings Nordic Radio Symposium '95*, April 1995.
- [C495] Mats Viberg, Petre Stoica, and Björn Ottersten. Array processing in correlated noise fields based on instrumental variables and subspace fitting. In *Asilomar Conference on Signals, Systems & Computers*, May 1992.
- [C496] P. Stoica, B. Ottersten, and M. Viberg. “An Instrumental Variable Approach to Array Processing in Spatially Correlated Noise Fields”. In *Proc. ICASSP 92*, San Francisco, CA, March 1992.
- [C497] B. Ottersten, M. Viberg, and B. Wahlberg. “Robust Source Localization Based on Local Array Response Modeling”. In *Proc. ICASSP 92*, San Francisco, CA, March 1992.

- [C498] M. Viberg, B. Ottersten, and A. Nehorai. “Estimation Accuracy of Maximum Likelihood Direction Finding Using Large Arrays”. In *Proc. 25<sup>th</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 928–932, Nov. 1991.
- [C499] B. Ottersten and M. Viberg. “Local Modeling and Robust Estimation for High-Resolution Direction Finding”. In *Proc. 25<sup>th</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 1005–1009, Nov. 1991.
- [C500] B. Ottersten and M. Viberg. “Accurate Source Localization – Theoretical and Experimental Results”. In *Proc. of Sonar Signal Processing Conference*, Loughborough, England, Dec. 1991.
- [C501] M. Viberg, B. Ottersten, B. Wahlberg, and L. Ljung. “A Statistical Perspective on State-Space Modeling Using Subspace Methods”. In *Proc. 30<sup>th</sup> IEEE Conf. on Decision & Control*, pages 1337–1342, Brighton, England, Dec. 1991.
- [C502] B. Ottersten. “High-Resolution Antenna Array Signal Processing”. In *Proc. Nordic Antenna Symposium*, Gotland, Sweden, Aug. 1991.
- [C503] B. Wahlberg, B. Ottersten, and M. Viberg. “Robust Signal Parameter Estimation in the Presence of Array Perturbations”. In *Proc. ICASSP 91 Conf*, Toronto, Canada, May 1991.
- [C504] R. Roy and B. Ottersten. “Practical Aspects of Real World Sensor Array Signal Processing”. In *International Workshop on Algorithms and Parallel VLSI Architectures*, Pont-à-Mousson, France, June 1990.
- [C505] B. Ottersten, M. Viberg, and T. Kailath. “Asymptotic Robustness of Sensor Array Processing Methods”. In *Proc. ICASSP 90 Conf*, pages 2635–2638, Albuquerque, NM, April 1990.
- [C506] B. Ottersten and M. Viberg. “Analysis of Algorithms for Sensor Arrays with Invariance Structure”. In *Proc. ICASSP 90 Conf*, pages 2959–2962, Albuquerque, NM, April 1990.
- [C507] B. Ottersten and M. Viberg. “Analysis of Subspace Fitting Based Methods for Sensor Array Processing”. In *Proc. ICASSP 89*, pages 2807–2810, Glasgow, Scotland, May 1989.
- [C508] B. Ottersten and L. Ljung. “Asymptotic Results for Sensor Array Processing”. In *Proc. ICASSP 89*, pages 2266–2269, Glasgow, Scotland, May 1989.
- [C509] B. Ottersten, R. Roy, and T. Kailath. “Signal Waveform Estimation in Sensor Array Processing”. In *Proc. 23<sup>rd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 787–791, Nov. 1989.
- [C510] B. Ottersten, B. Wahlberg, M. Viberg, and T. Kailath. “Stochastic Maximum Likelihood Estimation in Sensor Arrays by Weighted Subspace Fitting”. In *Proc. 23<sup>rd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 599–603, Monterey, CA, Nov. 1989.
- [C511] M. Viberg, B. Ottersten, and T. Kailath. “Direction-of-Arrival Estimation and Detection Using Weighted Subspace Fitting”. In *Proc. 23<sup>rd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 604–608, Nov. 1989.
- [C512] B. Ottersten, M. Viberg, and T. Kailath. “Asymptotic Analysis of the Total Least Squares ESPRIT Algorithm”. In *Proc. 33<sup>rd</sup> SPIE International Technical Symposium, Advanced Algorithms and Architectures for Signal Processing IV*, pages 146–157, San Diego, CA., August 1989.
- [C513] R. Roy, M. Goldburg, B. Ottersten, L. Swindlehurst, M. Viberg, and T. Kailath. “ESPRIT and Uniform Linear Arrays”. In *Proc. 33<sup>rd</sup> SPIE International Technical Symposium, Advanced Algorithms and Architectures for Signal Processing IV*, pages 370–381, San Diego, CA., August 1989.
- [C514] R. Roy, B. Ottersten, L. Swindlehurst, M. Goldburg, M. Viberg, and T. Kailath. Recent advances in multidimensional sensor array signal processing. In *Sixth ASSP Multidimensional Signal Processing Workshop*, Monterey, CA, September 1989.
- [C515] A. Swindlehurst, B. Ottersten, and T. Kailath. “An Analysis of MUSIC and Root-MUSIC in the Presence of Sensor Perturbations”. In *Proc. 23<sup>rd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 930–934, Nov. 1989.

- [C516] B. Ottersten and M. Viberg. “Asymptotic Results for Multidimensional Sensor Array Processing”. In *Proc. 22<sup>nd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 833–837, Monterey, CA, November 1988.
- [C517] R. Roy, B. Ottersten, L. Swindlehurst, and T. Kailath. “Multiple Invariance ESPRIT”. In *Proc. 22<sup>nd</sup> Asilomar Conf. Sig., Syst., Comput.*, pages 583–587, Asilomar, CA., November 1988.
- [C518] M. Millnert, A. Isaksson, B. Ottersten, A. Skeppstedt, and M. Viberg. “Methods for Signal Modeling”. In *Proc. Digital Transmission Workshop*, Lund, Sweden, May 1988.
- [C519] B. Ottersten and T. Kailath. “Wideband Direction-of-Arrival Estimation Using the ESPRIT Algorithm”. In *Proc. ICASSP 88*, pages 2666–2669, New York, New York, April 1988.
- [C520] B. Wahlberg and B. Ottersten. “ARMA Spectral Estimation via Model Reduction”. In *Proc. American Control Conference*, pages 1640–1641, June 1986.