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JOURNAL PUBLICATIONS (Peer Reviewed)

Published/Accepted

- Swaminathan R, M. D. Selvaraj, and R. Roy, "Exact error analysis of MPAM signaling for a cooperative diversity system with correlated links using paired error approach", IEEE Communications Letters, vol. 18, no. 2, pp. 273-276, Feb. 2014.
- M. D. Selvaraj* and Swaminathan R*, "Performance of hybrid selection and switch-and-stay combining with decode-and-forward relaying", (* Equal contributions) IEEE Communications Letters, vol. 18, no. 12, pp. 2233-2236, Dec. 2014.
- Swaminathan R, M. D. Selvaraj, and R. Roy, "On the error and outage performance of decode-and-forward cooperative selection diversity system with correlated links", IEEE Transactions on Vehicular Technology, vol. 64, no. 8, pp. 3578-3593, Aug. 2015.
- Swaminathan R, R. Roy, and M. D. Selvaraj, "Performance comparison of selection combining with full CSI and switch-and-examine combining with and without post-selection", IEEE Transactions on Vehicular Technology, vol. 65, no. 5, pp. 3217-3230, May 2016.
- Swaminathan R, G. K. Karagiannidis, and R. Roy, "Joint antenna and relay selection strategies for decode-and-forward relay networks", IEEE Transactions on Vehicular Technology, vol. 65, no. 11, pp. 9041-9056, Nov. 2016.
- Swaminathan R and R. Roy, "HSSEC strategy for decode-and-forward-relaying systems over Nakagami-m fading channels", IET Communications, vol. 10, no. 18, pp. 2621-2635, Dec. 2016.
- Swaminathan R, A. S. Madhukumar, N. W. Teck, and S. C. M. Samson, "Parameter estimation of block and helical scan interleavers in the presence of bit errors", Elsevier Digital Signal Processing, vol. 60, pp. 20-32, Jan. 2017.
- Swaminathan R, A. S. Madhukumar, N. W. Teck, and S. C. M. Samson, "Parameter estimation of convolutional and helical Interleavers in a noisy environment", IEEE Access, vol. 5, pp. 6151-6167, 2017.
- Swaminathan R and A. S. Madhukumar, "Classification of error correction codes and estimation of interleaver parameters in a robust environment", IEEE Transactions on Broadcasting, vol. 63, no. 3, pp. 463-478, Sept. 2017.
- Swaminathan R, A. S. Madhukumar, W. Guohua, and T. S. Kee, "Blind reconstruction of Reed-Solomon encoder and interleavers over noisy environment", IEEE Transactions on

Broadcasting, vol. 64, no. 4, pp. 830–845, Dec. 2018.

- Swaminathan R, A. S. Madhukumar, W. Guohua, and T. S. Kee, “Blind recognition of LDPC code parameters over erroneous channel conditions”, IET Signal Processing, vol. 13, no. 1, pp. 86–95, 2 Feb. 2019.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Switching-based cooperative decode-and-forward relaying for hybrid FSO/RF networks”, IEEE/OSA Journal of Optical Communications and Networking (JOCN), vol. 11, no. 6, pp. 267–281, June 2019.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Effect of pointing errors on the performance of hybrid FSO/RF networks”, IEEE Access, vol. 7, pp. 131418–131434, 2019.
- Swaminathan R and A. S. Madhukumar, “Blind parameter estimation of turbo convolutional codes: noisy and non-synchronized scenario”, Elsevier Digital Signal Processing, vol. 95, Article. 102577, Dec. 2019.
- Swaminathan R, A. S. Madhukumar, and W. Guohua, “Blind Estimation of code parameters for product codes over noisy channel conditions”, IEEE Transactions on Aerospace and Electronic Systems, vol. 56, no. 2, pp. 1460–1473, April 2020.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Performance optimization for dual-hop hybrid FSO/RF system with selection combining”, IET Optoelectronics, accepted for publication.

Under Review

- Swaminathan R, S. Sharma, and A.S. Madhukumar, “Integrated space-air-ground networks with hybrid FSO/RF communication: A performance analysis”, submitted to IEEE Transactions on Aerospace and Electronic System.
- M. Siddharth, S. Shah, and Swaminathan R, “Performance analysis of adaptive combining based hybrid FSO/RF terrestrial communication”, Part of B.Tech Project Work and submitted to IET Communications.

CONFERENCE PUBLICATIONS (Peer Reviewed)

- R. Swaminathan and T. Laxmikandan, “Study of physical layer simulation of Wimax systems”, in proc. 2011 National conference on recent trends in communication, computation and signal processing (RTCSP), Amrita University Coimbatore, pp. 126-130.
- Swaminathan R, M. D. Selvaraj, and R. Roy, “Performance analysis of double correlated selection combining for cooperative diversity systems”, in proc. 2013 IEEE National conference on communications (NCC), IIT Delhi, New Delhi, pp. 1-5.
- Swaminathan R, M. D. Selvaraj, and R. Roy, “Error Analysis of NC-BFSK for cooperative diversity with correlated links”, in proc. 2013 Fourth nordic workshop on system and network optimization for wireless (SNOW), Yllas, Finland.
- Swaminathan R, R. Roy, and M. D. Selvaraj, “Performance analysis of triple correlated selection combining for cooperative diversity systems”, in proc. 2013 IEEE International conference on communications (ICC), Budapest, Hungary, pp. 5483-5388.

- M. Vinod Kumar, Swaminathan R, and R. Roy, “Green cooperative communication techniques for intelligent transportation systems”, in proc. 2013 IEEE International conference on signal processing, computing, and control (ISPCC), Wanknaghat, India, pp. 1-5.
- Swaminathan R and A. S. Madhukumar, “Joint recognition of error correcting codes and interleaver parameters in a robust environment”, in proc. 2016 IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Valencia, Spain, pp. 1–6.
- Swaminathan R, A. S. Madhukumar, W. Guohua, and T. S. Kee, “Parameter identification of Reed-Solomon codes over noisy environment”, in proc. 2017 IEEE Vehicular Technology Conference (VTC) Fall, Toronto, Canada, pp. 1–5.
- S. Sharma, A. S. Madhukumar, Swaminathan R, and C. J. Sheng “Performance analysis of hybrid FSO/RF transmission for DF relaying system”, in proc. 2017 IEEE Global Communication Conference (GLOBECOM) Workshops, Singapore, pp. 1–6.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Switching-based hybrid FSO/RF transmission for DF relaying system”, in proc. 2018 IEEE Wireless Communications and Networking Conference (WCNC), Barcelona, Spain, pp. 1–6.
- Swaminathan R, A. S. Madhukumar, W. Guohua, and T. S. Kee, “Joint reconstruction of Reed-Solomon encoder and convolutional interleaver in a noisy environment”, in proc. 2018 IEEE International Symposium on Information Theory and its Applications (ISITA), Singapore, pp. 715 – 719.
- Swaminathan R and A. S. Madhukumar, “Code parameter estimation from noisy data: TPC”, in proc. 2018 ISITA, Singapore, pp. 491.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Capacity analysis for hybrid FSO/RF networks”, in proc. 2018 ISITA, Singapore, pp. 501.
- S. Sharma, J. Tan, A. S. Madhukumar, and Swaminathan R, “Switching-based transmit antenna/aperture selection in a MISO hybrid FSO/RF system”, in proc. 2018 IEEE GLOBECOM, Abu Dhabi, UAE, pp. 1–6.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Asymptotic Analysis of Switching-Based Hybrid FSO/RF System with DF-Relaying”, in proc. 2019 IEEE Asia-Pacific Conference on Communications, Ho Chi Minh city, Vietnam, pp. 425–430.
- M. Siddharth, S. Suyash, and Swaminathan R, “Outage analysis of adaptive combining scheme for hybrid FSO/RF communication”, in proc. 2020 IEEE NCC, IIT Kharagpur, India, pp. 1–6.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Performance of dual-hop hybrid FSO/RF system with pointing errors optimization”, in proc. 2020 IEEE VTC Spring, Antwerp, Belgium, pp. 1–5.
- Swaminathan R, S. Sharma, and A. S. Madhukumar, “Performance analysis of HAPS-based relaying for hybrid FSO/RF downlink satellite communication”, in proc. 2020 IEEE VTC Spring, Antwerp, Belgium, pp. 1-5.

- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Performance of hybrid FSO/RF system with transmit aperture selection”, in proc. 2020 IEEE ICC Workshops, Dublin, Ireland, pp. 1-6.
- S. Sharma, A. S. Madhukumar, and Swaminathan R, “Space shift keying-based hybrid FSO/RF system”, accepted in IEEE VTC - 2020 Fall, Victoria, Canada.