

Bibliography

- [1] J.G. Proakis and M. Salehi, *Digital Communications*, McGraw-Hill, 5th ed., 2008.
- [2] A. Goldsmith, *Wireless Communications*, Cambridge University Press, 2nd ed., 2005.
- [3] R. Ahlswede, N. Cai, S. Y. R. Li and R.W. Yeung, "Network Information Flow," *IEEE Transactions on Information Theory*, , Vol. 46, 2000, pp. 1204-1216.
- [4] S. Y. R. Li, R. W. Yeung and N. Cai, "Linear Network Coding," *IEEE Transactions on Information Theory*, , Vol. 49, No. 2, Feb 2003, pp. 371 - 381.
- [5] M. Medard and A. Sprintson, *Network Coding: Fundamentals and Applications*, Elsevier, 2012.
- [6] R. W. Yeung, *Information Theory and Network Coding*, Springer, 2008.
- [7] C. Fragauli and E. Soljanin, *Network Coding Fundamentals*, Now Publishers Inc, 2007.

- [8] S. Zhang, S. C. Liew, and P. Lam, "Hot Topic: Physical Layer Network Coding," in *Proc. International Conference on Mobile Computing and Networking (MobiCom)*, Los Angeles, CA, USA, 2006, pp. 358-365.
- [9] S. C. Liew, S. Zhang and L. Lu, "Physical-layer Network Coding: Tutorial, Survey, and Beyond," *Physical Communication*, , Vol. 6, Mar 2013, pp. 4-42.
- [10] P. Popovski and H. Yomo, "The Anti-packets Can Increase the Achievable Throughput of a Wireless Multi-hop Network," in *Proc. IEEE ICC 2006*, June 2006, pp. 3885-3890.
- [11] S. Zhang and S. C. Liew, "Applying Physical-Layer Network Coding in Wireless Networks," *EURASIP Journal on Wireless Communications and Networking*, , Vol. 2010, Mar 2010.
- [12] Y. Wu, P. A. Chou, S. Y. Kung, "Information Exchange in Wireless Networks with Network Coding and Physical-layer Broadcast," in *Proc. 39th Annual Conf. Inform. Sci. and Systems (CISS)*, 2005.
- [13] C. Schnurr, T. J. Oechtering, and S. Stanczak, "On Coding for the Broadcast Phase in the Two-Way Relay Channel," in *Proc. Conference on Information Sciences and Systems (CISS07)*, March 2007.
- [14] P. Popovski, and H. Yomo, "Physical Network Coding in Two-Way Wireless Relay Channels," in *Proc. ICC 2007*, 2007.

- [15] K. Lu, S. Fu, Y. Qian, H. Chen, “SER Performance Analysis of Physical Layer Network Coding over AWGN Channels,” *in Proc. IEEE GLOBECOM’09*, 2009, pp. 1-6.
- [16] S. Lin and D. J. Costello, *Error Control Coding*, Prentice-Hall, 2003.
- [17] C. Berrou, A. Glavieux, and P. Thitimajshima, “Near Shannon limit error correcting coding and decoding: Turbo codes,” *in Proc. of the IEEE International Conference on Communications*, Geneva, Switzerland, May 1993.
- [18] R. Gallager “Low-density Parity-Check Codes,” *IRE Trans. Information Theory*, Vol. 8, 1962, pp. 21-28.
- [19] D.J. Mackay and R.M. Neal, “Near Shannon limit performance of low-density parity-check codes,” *IEE Electronics Letters*, Vol. 32, Aug. 1996, pp. 1645 – 1646.
- [20] T. M. Cover, and J. A. Thomas, *Elements of Information Theory*, New York: Wiley, 1991.
- [21] D. Divsalar, H. Jin, and R. J. McEliece, “Coding theorems for ‘turbo-like’ codes,” *in Proc. of the 36th Allerton Conf. on Communications, Control, and Computing*, Sept. 1998, pp. 201-210.
- [22] A. Chakrabarthy, A. Baynast, A. Sabharwal and B. Aazhang, “Low Density Parity Check Codes for the Relay Channel,” *IEEE Journal on Selected Areas in Communications*, Vol.25, No. 2, Feb. 2007, pp. 280-291.

- [23] C. Hausl and J. Hagenauer, "Iterative network and Channel Coding for the Two-Way Relay Channels," *in Proc. IEEE ICC06*, June 2006.
- [24] X. Xu, M. F. Flanagan, N. Goertz and J. Thompson, "Joint Channel and Network Coding for Cooperative Diversity in a Shared-Relay Environment," *IEEE Transactions on Wireless Communications*, , Vol. 9, No. 8, Aug 2010, pp. 2420-2423.
- [25] X. Wu, C. Zhao, and X. You, "Joint LDPC and Physical-layer Network Coding for Asynchronous Bi-directional Relaying," *IEEE Journal on Selected Areas in Communications*, , Vol. 31, Issue 8, Aug 2013, pp. 1446-1454.
- [26] E. Benamira, F. Merazka and G. K. Kurt, "Joint Channel Coding and Cooperative Network Coding on PSK Constellations in Wireless Networks," *in Proc. International Conference on Smart Communications in Network Technologies (SaCoNeT)*, 2018, pp. 132-137.
- [27] Y. Zid, R. Bouallgue and S. Z. Ammar, "Joint channel network coding for multiple access relay channel with correlated sources," *25th International Conference on Software, Telecommunications and Computer Networks (SoftCOM)*, 2017, pp. 1-4.
- [28] W. Liu, "Joint channel coding network coding for multi-way relay systems," *in Proc. SAI Computing Conference (SAI)*, 2016, pp. 615-621.
- [29] S. Zhang, S. C. Liew, and P. Lam, "Physical Layer Network Coding Schemes over Finite and Infinite Feilds," *in Proc. IEEE GLOBECOM '08*, 2008, pp. 3784-3789.

- [30] S. Zhang, S. C. Liew, and K. B. Letaief, "Joint Design of Network Coding and Channel Decoding for Wireless Networks," in *Proc. International Conference on Neural Networks and Signal processing*, Nanjing, 2008, pp. 512-516.
- [31] S. Zhang and S. C. Liew, "Channel Coding and Decoding in a Relay System Operated with Physical Layer Network Coding," *IEEE Journal on Selected Areas in Communications*, Vol.27, No. 5, June. 2009, pp. 788-796.
- [32] Z. He and S. Roy, "LDPC Coded Two-way MIMO Relay Networks with Physical Layer Network Coding," in *Proc. 25th IEEE Binomial Symposium on Communications*, 2010, pp. 301-304.
- [33] S. Yan and R. Koetter , "Network Coding over a Noisy Channel: A Belief Propagation Approach ," in *Proc. IEEE International Symposium on Information theory*, France, 2007.
- [34] T. Tran, T. Nguyen and B. Bose, "A Joint Network-Channel Coding Technique for Single-hop Wireless Networks ," in *Proc. IEEE NETCOD*, China, 2008.
- [35] M. P. Wilson, K. Narayana, H. Pfister and A. Sprintson, "Joint Physical Layer Coding and Network Coding for Bidirectional Relaying," *IEEE Transactions on Information theory*, Vol.56, No. 11, Sept. 2010, pp. 5641-5654.
- [36] B. Nazer and M. Gapster, "Reliable Physical Layer Network Coding," in *Proc. the IEEE*, Vol.99, Issue 3, March 2011, pp. 438-460.

- [37] F. Gao, Y. Wang and Y. Zhang, "Joint channel-vertical physical-layer network coded modulation based on PAM for two-way relay channel," in Proc. IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC), 2017, pp. 1-4.
- [38] S. Chaudhary, R. Johari, R. Bhatia, K. Gupta and A. Bhatnagar, "CRAIoT: Concept, Review and Application(s) of IoT," *4th International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU)*, 2019, pp. 1-4.
- [39] K. Routh and T. Pal, "A survey on technological, business and societal aspects of Internet of Things by Q3, 2017," *3rd International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU)*, 2018, pp. 1-4.
- [40] M. K. Shukla, H. H. Nguyen and O. J. Pandey, "Multiuser Full-Duplex IoT Networks With Wireless-Powered Relaying: Performance Analysis and Energy Efficiency Optimization," *IEEE Transactions on Green Communications and Networking*, Vol. 4, No. 4, Dec. 2020, pp. 982-997.
- [41] Y. Jeon, Y. Kim, M. Park and I. Lee, "Opportunistic Scheduling for Three-way Relay Systems with Physical Layer Network Coding," in Proc. *IEEE 73rd Vehicular Technology Conference*, 2011, pp. 1-5.
- [42] D. Wubben and Y. Lang, "Generalized Sum-Product Algorithm for Joint Channel Decoding and Physical Layer Network Coding in Two-Way Relay Systems," in Proc. *IEEE GLOBECOM*, 2010, pp. 1-5.

- [43] Y. Lang, D. Wubben and K. D. Kammeyer, "An Improved Physical Layer Network Coding Scheme for Two-Way relay Systems," *in Proc. International ITG Workshop on Smart Antennas (WSA)*, Bremen, Germany, Feb. 2010.
- [44] Y. Lang and D. Wubben, "Generalized Joint Channel Coding and Physical Network Coding for Two-Way Relay Systems," *in Proc. IEEE 71st Vehicular Technology Conference*, 2010, pp. 1-5.
- [45] D. To and J. Choi, "Convolutional Codes in Two-Way Relay Networks with Physical-Layer Network Coding," *IEEE Transactions in Wireless Communication*, Vol.9, No. 9, Sept. 2010, pp. 2724-2729.
- [46] Jie Hou, C. Hausl, and R. Kotter, "Distributed Turbo Coding Schemes for Asymmetric Two-Way Relay Communication ," *in Proc. 5th International Symposium on Turbo Codes and Related Topics*, 2008, pp. 237 - 242.
- [47] J. Kang, B. Zhou, Z. Ding and S. Lin, "LDPC Coding Schemes for Error Control in a Multicast Network ," *in Proc. IEEE International Symposium on Information Theory*, Toronto, Canada, Jul 2008.
- [48] Z. Guo, J. Huang, J.H. Cui, S, Zhou and P. Willet, "A Practical Joint Network-Channel Coding Scheme for Reliable Communication in Wireless Networks," *in Proc. 10th International Symposium on Mobile Ad-hoc Networking and Computing (MobiHoc)*, 2009, pp. 1-10.

- [49] D. Wubben, "Joint Channel Decoding and Physical-layer Network Coding in Two-way QPSK Relay Systems by a Generalized Sum-product Algorithm ," in *Proc. International Symposium on Wireless Communication Systems (ISWCS)*, 2010, pp. 576-580.
- [50] C. Hausl and P. Dupraz, "Joint Network-Channel Coding for Multiple Access Relay Channel," in *Proc. International Conference on Sensors, Ad-hoc Communication and Networks(SECON)*, 2006, pp. 817-822.
- [51] Z. Lin, Y. Li and B. Vucetic, "Distributed Network-Channel Coding for Multiple-Access Relay Interference Channels ," in *Proc. IEEE 71st Vehicular Technology Conference*, 2010, pp. 1-5.
- [52] C. H. Liu and A. Arapostathis, "Joint Network Coding and Superposition Coding for Multi-user Information Exchange Wireless Relaying Networks," *Proc. of the IEEE GLOBECOM*, Dec 2008, pp. 1 – 6.
- [53] D. Xu, Z. Bai, A. Waadt, G. H. Bruck, P. Jung, "Combining MIMO with Network Coding: A Viable Means to Provide Multiplexing and Diversity in Wireless Relay Networks ," in *Proc. International Conference on Communications '10*, 2010, pp. 1-5.
- [54] H. A. Suraweera, H. Q. Ngo, T. Q. Duong, C. Yuen and E. G. Larsson, "Multi-pair Amplify-and-forward Relaying with Large Antenna Arrays," in *Proc. International Conference on Communications '13*, 2013, pp. 3228-3233.

- [55] M. Park and S. K. Oh, “An Iterative Network Code Optimization for Three-way Relay Channels,” *Proc. of the IEEE Conf. Vehicular Technology*, Sep 2009, pp. 1 – 5.
- [56] H. Yomo and P. Popovski, “Opportunistic Scheduling for Wireless Network Coding,” *Proc. of the IEEE Intern. Conf. on Communications*, June 2007, pp. 5610 – 5615.
- [57] D.G. Brennan, “Linear Diversity Combining Techniques,” *Proc. of the IRE*, Vol.47, No. 1, June 1959, pp.1075-1102.
- [58] R. Comroe and D. Costello, “ARQ Schemes for Data Transmission in Mobile Radio Systems,” *IEEE Journal on Selec. Areas in Comm.*, 1984, pp. 472-481.
- [59] I. Hughes and T. Hase, *Measurements and Their Uncertainties: A Practical Guide to Modern Error Analysis*, 1st Ed., Oxford University Press, 2010.
- [60] J.R. Taylor, *An Introduction to Error Analysis: The Study of Uncertainties in Physical Measurements*, 2nd Ed., University Science Books, 1997.
- [61] N. Balasuriya and C. Wavegedara, “Joint Channel-Physical Layer Network Coding in Multi-Way Wireless Relay Systems,” *in Proc. IEEE ICIIS*, 2013, pp. 213-218.
- [62] N. Balasuriya and C. Wavegedara, “A Joint Decoder for Network and Channel Coded Multi-way Relay Systems with MPSK Modulation,” *IET Communications*, Vol.13, Issue. 15, Sep 2019, pp. 2273-2279.

- [63] Z. Liu and D.A. Pados, "A Decoding Algorithm for Finite-geometry LDPC Codes," *IEEE Trans. on Comm.*, Vol. 53, No. 3, Mar. 2005, pp. 415 – 421.
- [64] T. Ngatched, F. Takawira & M. Bossert, "An Improved Decoding Algorithm for Finite-geometry LDPC Codes," *IEEE Trans. on Comm.*, Vol. 57, no 2, Feb. 2009, pp. 302-306.
- [65] M.C. Davey, D. MacKay, "Low Density Parity Check Codes Over $GF(q)$," *IEEE Comm. Letters*, Vol. 2, Issue 6, June. 1998, pp. 165-167.
- [66] B. Liu, J. Gao, G. Dou & W. Tao, "Weighted Symbol-flipping Decoding for Non-binary LDPC Codes ," *Proc. of the IEEE Intern. Conf. on Network Security, Wireless Communications and Trusted Computing* , Apr. 2010, pp. 223-226.
- [67] B. Liu, J. Gao, G. Dou & W. Tao, "Majority Decision Based Weighted Symbol-flipping Decoding for Non-binary LDPC Codes ," *Proc. of the 2nd Intern. Conf. on Future Computer and Communication*, May. 2010, pp. V3.6-V3.10.
- [68] C. Huang, C. Wu, C. Chen & C. Chao, "Parallel Symbol-flipping Decoding for Non-binary LDPC Codes ," *IEEE Comm. Letters*, Jun. 2013, Vol. 17, Issue 6, pp. 1228-1231.
- [69] F. Garcia Herrero, E. Li, D. Declercq & J. Valls, "Multiple-vote Symbol-flipping Decoder for Non-binary LDPC Codes," *IEEE Trans. on VLSI Sys.*, Vol. 22, Issue 11, Feb. 2014.

- [70] N. Nhan, T.M.N. Ngatched, O.A. Dobre, P. Rostaing, K. Amis, E. Radoi, Multiples-Votes Parallel Symbol-Flipping Decoding Algorithm for Non-Binary LDPC Codes, *IEEE Comm. Letters*, 19(6), pp. 905 - 908, (2015).
- [71] N. Balasuriya and C. Wavegedara, "Low Complexity LDPC Decoder for Physical Layer Network Coded Multi-way Wireless Relay Systems," in *Proc. IEEE ICIS*, 2015, pp. 226-231.
- [72] N. Balasuriya and C. B. Wavegedara, "Improved Symbol Value Selection for Symbol Flipping Based Non-binary LDPC Decoding," *EURASIP Journal on Wireless Communications and Networking*, , Vol. 2017:105, June 2017.
- [73] Y. H. Tahir, C.Kyun Ng, N. K. Noordin, B. A. Ali and S. Khatun, "Unequally Error Protected Wireless Data Transmission Using Channel State Information and Adaptive Encoders," *Journal of Computer Science*, Vol.5, Issue 12, 2009, pp. 1095-1100.
- [74] S. Borade, B. Nakiboglu and L. Zheng, "Unequal Error Protection: An Information-Theoretic Perspective," *IEEE Transactions on Information Theory*, Vol.55, Issue 12, 2009, pp. 5511-5539.
- [75] H. X. Nguyen, H. H. Nguyen and T. Le-Ngoc, "Signal Transmission With Unequal Error Protection in Wireless Relay Networks," *IEEE Transactions on Vehicular Technology*, Vol.59, Issue 5, June 2010, pp. 2166-2178.

- [76] I. Shahid and P. Yahampath, "Distributed Joint Source-Channel Coding Using Unequal Error Protection LDPC Codes," *IEEE Transactions on Communications*, Vol.61, No. 8, Aug 2013, pp. 3472-3482.
- [77] J. Ha, J. Kim, D. Klinc and S. W. McLaughlin, "Rate-compatible Punctured Low-density Parity-check Codes with Short block lengths," *IEEE Tans. on Info. Theory*, Vol. 52, Issue 2, Feb. 2006, pp. 728-738.
- [78] S. Zhou, D.G.M. Mitchell, N. Goertz and D. J. Costello, "A Puncturing Algorithm for Rate-compatible LDPC Convolutional Codes," in *Proc. 7th International Symposium on Turbo Codes and Iterative Information Processing*, 2012, pp. 255-259.
- [79] A. Grant, "Convergence of Non-binary Iterative Decoding," in *Proc. IEEE GLOBECOM*, 2001, pp. 1058-1062.
- [80] J. Hagenauer, "The Exit Chart - Introduction to Extrinsic Information Transfer in Iterative Processing," *In proc. 12th European Signal Processing Conference*, 2004, pp. 1541-1548.
- [81] M. El-Hajjar and L. Hanzo, "EXIT Charts for System Design and Analysis," *IEEE Commun. Surveys Tutorials*, Vol.16, No. 1,2014, pp. 127-153.
- [82] A. Bennatan and D. Burshtein, "Design and Analysis of Nonbinary LDPC Codes for Arbitrary Discrete-memoryless Channels," *IEEE Trans. on Info. Theory*, Vol. 52, Issue 2, Feb. 2006, pp. 549 – 583.

- [83] C. Wavegedara and V. Bhargava, "Convergence Analysis of Turbo Equalizers in ST Block-coded MIMO Systems," *in Proc. IEEE ICIS*, 2009, pp. 104-111.
- [84] A. Ashikhmin, G. Kramer, and S. T. Brink, "Extrinsic Information Transfer Functions: Model and Erasure Channel Properties," *IEEE Transactions on Information Theory*, Vol.50, No. 11, Nov. 2004, pp. 2657-2673.
- [85] S. T. Brink and G. Kramer, "Design of RepeatAccumulate Codes for Iterative Detection and Decoding," *IEEE Transactions on Signal Processing*, Vol.51, No. 11, Nov. 2003, pp. 2764-2772.
- [86] S. T. Brink, G. Kramer and A. Ashikhmin, "Design of Low-Density Parity-Check Codes for Modulation and Detection," *IEEE Transactions on Communications*, Vol.52, No. 4, Apr. 2004, pp. 670-678.
- [87] Y. Yang, H. Changqing and Z. Haibin, "Design of Low-density Parity-check Codes Using Linear Programming for Modulation and Detection," *in Proc. 62nd IEEE Vehicular Technology Conference*, 2005, pp. 532-535.
- [88] J. Kliewer, S. X. Ng, and L. Hanzo, "Efficient Computation of EXIT Functions for Non-binary Iterative Decoding," *IEEE Transactions on Communications*, Vol.54, No. 12, Dec. 2006, pp. 2133-2136.
- [89] G. J. Byers and F. Takawira, "EXIT Charts for Non-Binary LDPC Codes," *in Proc. IEEE ICC*, 2005, pp. 652-657.