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Survey of Research Study on 5G Network Architecture

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Abstract: - *In today's era the wireless communication is growing day by day with a tremendous rate. Previous communication methods have several shortcomings like the cost of the communication setup was more, errors are more, equipment are less efficient, etc. With the advancement of technology smart phones and mobile phones have taken the place of old land line wired phones. In twenty first century is the data rates and speed are the major concern of mobile communication network. Earlier Long-Term Evolution (LTE) is the standard for the fourth-generation cellular mobile communication systems. In order to increase the speed and capacity of mobile telephone network LTE is the last step towards fourth generation (4G) technology. This paper is mainly focused on various types of 5G Network Technologies and gives a deep understanding of 5G Network Architecture.*

Keywords: 5G, Core Network, RAN Network, IMT, UE, etc.

REFERENCES

[1] Y. Cho, J. Kim, W. Yang and C. Yang, "MIMO-OFDM Wireless Communications with MATLAB", John Wiley & Sons, Asia, 2010.
[2] S. Zhou and Z. Wang, "OFDM for Underwater Acoustic Communications", John Wiley & Sons, Chichester, UK,
[3] L. Hanzo and T. Keller, "OFDM and MC-CDMA: A Primer", John Wiley & Sons, Asia, 2006.
[4] S. Muller and J. Huber, "A NOVAL PEAK POWER REDUCTION SCHEME FOR OFDM", in Proceedings of International Symposium on Personal, Indoor and Mobile Radio Comm.,1090-1094, Finland, Sept.-1997.
[5] E. Re, R. Fantacci, S. Morosi, and R. Seravalle, "Comparison of CDMA and OFDM Techniques for Downstream Power-Line Communications on Low Voltage Grid", IEEE Transactions on Power Delivery Vol. 18, Issue 4, pp. 1104 -1109, October-2003.
[6] A. Farhang, N. Marchetti and L. Doyle, "Low Complexity Transceiver Design for GFDM", IEEE Transactions on signal Processing, Vol. 64, Issue 6, pp.1507-1518, March-2016.
[7] I. Gasper, L. Mendes, M. Matthe, N. Michailow, A. Festag and G. Fettweis, "LTE-compatible 5G PHY based on Generalized Frequency Division Multiplexing", in Proceedings of the 11th International Symposium on Wireless Communications Systems, pp. 209-213, Spain, August- 2014.
[8] Z. Sharifian, M. Omidi, A. Farhang and H. Sourck, "Polynomial-Based Compressing and Iterative Expanding for PAPR Reduction in GFDM", 23rd Iranian Conference on Electrical Engineering, pp. 518-523, Iran, May-2015.
[9] N. Michailow, L. Mendes, M. Matthe, I. Gaspar, A. Festag and G. Fettweis, "Robust WHTGFDM for the Next Generation of Wireless Networks", IEEE Communications Letters, Issue 1, pp. 106-109, November-2014.
[10] M. Matthe, L. Mendes and G. Fettweis, "Space-Time Coding for Generalized Frequency Division Multiplexing", 20th European Wireless conference, pp. 1-5, Spain, May- 2010.
[11] M. Matthe, N. Michailow, I. Gaspar and G. Fettweis, "Influence of Pulse Shaping on Bit Error Rate Performance and Out of Band Radiation of Generalized Frequency Division Multiplexing", IEEE International Conference on Communications Workshops, pp. 43-48, Australia, August-2014.
[12] R. Datta, N. Michailow, S. Krone, M. Lentmaier and G. Fettweis, "GENERALIZED FREQUENCY DIVISION MULTIPLEXING IN COGNITIVE RADIO", in Proceedings of 20th. European Signal Processing Conference, pp. 2679- 2683, Romania, October-2016.
[13] A. RezazadehReyhani, A. Farhang and B. Farhang-Boroujeny, "Circularly Pulse-Shaped Waveforms for 5G:

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Options and Comparisons", IEEE Conference on Global Communications, pp. 1-7, USA, Feburary-2016.
[14] M. Matthe, L. Mendes and G. Fettweis, "Generalized Frequency Division Multiplexing in a Gabor Transform Setting", IEEE Communications Letters, Vol. 18, Issue 8, pp. 1379-1382, August-2014.
[15] A. Ijaz, L. Zhang, P. Xiao and R. Tafazolli, "Towards 5G Wireless Networks-A Physical Layer Perspective", Intechopen, December-2016. research trends. IEEE Communications Magazine, 53(9), pp.74-81.
[16] Z. Zhong and J. Guo, "Bit Error Rate Analysis of a MIMO-Generalized Frequency Division Multiplexing Scheme for 5th Generation Cellular Systems", IEEE International Conference on Electronic Information and Communication Technology, pp. 62-68, China, August-2016.
[17] M. Carrick and J. Reed "Improved GFDM Equalization in Severe Frequency Selective Fading", IEEE 38th Sarnoff Symposium, pp. 1–6, USA, September-2017.
[18] B. Lim and Y. Ko, "SIR Analysis of OFDM and GFDM Waveforms with Timing Offset, CFO and Phase Noise", IEEE Transactions on Wireless Communications, Vol. 16, Issue 10, pp. N6979-6990, August- 2017.
[19] A. Kumar, M. Magarini, S. Bregni, "Improving GFDM Symbol Error Rate Performance using "Better than Nyquist" Pulse Shaping Filters", IEEE Latin America Transactions, Vol. 15, Issue 7, pp. 1244-1249, June 2017.
[20] A. Farhang, N. Marchetti and L. Doyle, "Low- Complexity Modem Design for GFDM", IEEE Transactions on Signal Processing, Vol. 64, Issue 6, pp. 1507–1518, March 2016.
[21] Po. Wang and D. Lin, "Maximum-Likelihood Blind Synchronization for GFDM Systems", IEEE Signal Processing Letters, Vol. 23, Issue 6, pp. 790-794, June-2016.
[22] S. Traverso, "A Family of Square-Root Nyquist Filter with Low Group Delay and High Stopband Attenuation", IEEE Communications Letters, Vol. 20, Issue 6, pp.1136-1139, June-2016.
[23] D. Lin and P. Wang, "On the Configuration - Dependent Singularity of GFDM Pulse-Shaping Filter Banks", IEEE Communications Letters, Vol. 20, Issue 10, pp. 1975-1978, October-2016.
[24] S. Ehsanfar, M. Matthe, D. Zhang and G. Fettweis, "Theoretical Analysis and CRLB Evaluation for Pilot-aided Channel Estimation in GFDM", IEEE Conference on Global Communications, pp. 1-7, USA, December- 2016.
[25] G. Juboori, A. Doufexi and A. Nix "System Level 5G Evaluation of MIMO-GFDM in an LTE-A Platform", 24th International Conference on Telecommunications, pp. 1-5, Cyprus, May- 2017.
[26] N. Michailow, M. Matthe, I. Gaspar, A. Caldevilla, "Generalized Frequency Division Multiplexing for 5th Generation Cellular Networks", IEEE Transactions on Communications, Issue 9, pp. 3045-3061, Sept-2014.
[27] G. Juboori, A. Doufexi and A. Nix, "System Level 5G Evaluation of MIMO-GFDM in an LTE-A Platform", 24th International Conference on Telecommunications, pp. 1-5, Cyprus, May- 2017.
[28] M. Danneberg, N. Michailow, I. Gaspar, M. Matthe, D. Zhang, L. Mendes, Gerhard Fettweis, "Implementation of a 2 by 2 MIMO-GFDM Transceiver for Robust 5G Networks", International Symposium on Wireless Communication Systems, pp. 236-240, Belgium, August-2015.
[29] J. Datta, H. Lin and D. Lin, "A method to implement interference avoidance based MIMOGFDM using spatial modulation", International Conference on Advanced Technologies for Communications, pp. 572- 577, Vietnam, October-2015.
[30] S. Ehsanfar, M. Matthe, D. Zhang, G. Fettweis, "Interference-Free Pilots Insertion for MIMOGFDM Channel Estimation", IEEE Conference on Wireless Communications and Networking, pp. 1-6, USA, March-2017.