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Orthogonality in new generations of Wireless Networks

Mohsen Kazemian
Yazd University, Iran

Orthogonality in the different wireless networks will be investigated in my presentation. Orthogonality property is happened when the inner product of two vectors is equal to zero. In order to increase the efficiency, speed, and to decrease the bit error rate (BER) and inter user interference (IUI), this technique is used in orthogonal frequency division multiplexing (OFDM), and carrier aggregation-based systems. It will be shown that orthogonality can be used in 5G networks, as well. Finally, the orthogonality role in reducing the peak to average power ratio (PAPR) in 4G and 5G networks will be discussed.

Biography

Mohsen Kazemian is the assistant professor of electrical engineering department, Yazd University, Iran. He received his B.S. and M.S. degree in electronics and telecommunications engineering from Azad University, Iran, Ph.D. in wireless communication engineering from University Putra Malaysia, Malaysia and post-doctoral in 5G wireless networks, Yazd University, Iran, in 2007, 2009, 2016 and 2020, respectively. His research interests include PAPR reduction, interference cancellation, and power amplifier linearization for wireless communications, especially NOMA systems.