



Cognitive Science and Technology

Amit Kumar
Gheorghita Ghinea
Suresh Merugu
Takako Hashimoto *Editors*

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ICCIC 2021, Volume 2

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About this book

This book presents original, peer-reviewed select articles from the International Conference on Cognitive & Intelligent Computing (ICCIC – 2021), held on December 11–12, 2021, at Hyderabad, India. The proceedings has cutting edge Research outcome related to Machine learning in control applications, Soft computing, Pattern Recognition, Decision Support Systems, Text analytics and NLP, Statistical Learning, Neural Network Learning, Learning Through Fuzzy Logic, Learning Through Evolution (Evolutionary Algorithms), Reinforcement Learning, Multi-Strategy Learning, Cooperative Learning, Planning And Learning, Multi-Agent Learning, Online And Incremental Learning, Scalability Of Learning Algorithms, Inductive Learning, Inductive Logic Programming, Bayesian Networks, Support Vector Machines, Case-Based Reasoning, Multi-Agent Systems, Human–Computer Interaction, Data Mining and Knowledge Discovery, Knowledge Management and Networks, Data Intensive Computing Architecture, Medicine, Health, Bioinformatics, and Systems Biology, Industrial and Engineering Applications, Security Applications, Smart Cities, Game Playing and Problem Solving, Intelligent Virtual Environments, Economics, Business, And Forecasting Applications. Articles in the book are carefully selected on the basis of their application orientation. The content is expected to be especially useful for Professionals, Researchers, Research students working in the area of cognitive and intelligent computing.

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Keywords

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Analysis of OFDMA Over AWGN and Rician Channels

[Manoj Kumar](#) , [Manish K. Patidar](#) & [Narendra Singh](#)

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Abstract

Wireless communications is a rapidly developing branch of the communication sector. The mobile communication is a branch that is used on broader canvas. But it has many challenges that must be studied, analyzed and compensated. A signal that is transmitted over a wireless channel has to face interference, fading, propagation path loss shadowing, etc. In wireless communication, it always requires a potential with the high-quality service. In this scenario, orthogonal frequency division multiplexing (OFDM) is best-suited communication technique. Orthogonal frequency division multiple access OFDMA is an effective technique for high bandwidth data communication; it converts the wideband signal into narrow band signals for communication. The transmission of each narrow band signals is done with orthogonal carrier. This paper presents simulation and implementation of multiuser orthogonal frequency division multiplexing (OFDM) using multiple modulation techniques. As well as, this paper presents the performance analysis of the implemented OFDMA over AWGN and Rician channels.

Keywords

Orthogonal frequency division multiple access AWGN channel

Rician channel Signal-to-noise ratio Symbol error rate



Bit error rate

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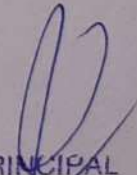
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