Abstract

WiMAX is the IEEE 802. 16e standard-based wireless technology, provides Broadband Wireless Access (BWA) for Metropolitan Area Networks (MAN). Being the wireless channels are precious and limited, adapting the appropriate modulation and coding scheme (MCS) for the state of the radio channel leads to an optimal average data rate. The standard supports adaptive modulation and coding (AMC) on the basis of signal to interference noise ratio (SINR) condition of the radio link. This paper made an attempt to study the performance of AMC scheme in Mobile WiMAX network using simulation and emulation methods. Different MCS are adopted by mobile subscriber station (MSS) on the basis of the detected instantaneous SINR. Simulation results demonstrate the impact of modulation and coding scheme on the performance of the system and emulation results defend the simulation results.

References
Simulation and Emulation Approach for the Performance Evaluation of Adaptive Modulation and Coding Scheme in Mobile WiMAX Network

- Andrea Goldsmith, Wireless Communications, Cambridge University Press, 2005
- B. Muquet, E. Biglieri, A. Goldsmith and H. Sari1, "MIMO Techniques for Mobile WiMAX Systems"; SEQUANS Communications White Paper
- Documentation of EXata simulation tool, http://www.scalablenetworks.comexatadocumentation
- Addisu Eshete, Andres Arcia, David Ros and Yuming Jiang, "Impact of WiMAX Network Asymmetry on TCP"; in IEEE Wireless Communications and Networking Conference WCNC (2009), pages 1706-1711

Index Terms

Computer Science

Keywords

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