Performance Analysis of Spread Spectrum with Prime Codes in a Wireless System Over a Fading Channel

Abstract

Spread spectrum technology has become the technology for commercial systems operating in both the licensed as well as in the unlicensed spectrum. "Double-length" one hit FH pattern for dual media services provides the needs of multi users and capable of providing better services in a systems. Multiuser detectors can be employed to improve the performances. FHSS transmits the data packet on one frequency and rapidly hops to other possible frequencies to transmit the next packet. The performance of FH-SS is analyzed in AWGN channel. Prime codes are so considered as the best among the other methods. This proposes system is used to increasing the QoS, decreasing the BER and also controlling the mutual interference. The expected result shows that the performance of Prime codes over fading channels are analyses by double-length one hit FH pattern.

References

- Jyh-horng wen, chuan-wang chang, 2010 An effective cancellation technique of cochannel interference based on multiuser detection scheme for mfsk/fh-ssma systems
- Q. Chen, C. Deng, D. Peng and P. Fan 2009 On the serial iterative co-channel
Interference cancellation technique for MFSK/FH-SSMA system
- Liu Qingge, Yang Dongkai, Zhang Qishan 2008 Concatenated Prime Codes and Quadratic Prime Codes.
- Kevin M. Greenan, Ethan L. Miller, Thomas J. E. Schwarz, 2008 Optimizing Galois Field Arithmetic for Diverse Processor Architectures and Applications
- Abid yahya 2007 Design and development of a secure wireless system using frequency hopping spread spectrum
- Kevin M. Greenan, Ethan L. Miller, 2007 Analysis and Construction of Galois Fields for Efficient Storage Reliability
- G. -C. Yang, S. -Y. Lin, and W. C. Kwong, 2000 MFSK/FH-SSMA wireless systems with double media services over fading channels.
- E. A. Geraniotis, 1982 Error probabilities for slow frequency-hopped spread spectrum multiple access communications over fading channels.
- T Mabuchi, R. Kohno, and H. Imai, 1983 Multihopping and decoding of error-correcting code for MFSK/FH-SSMA systems.

**Index Terms**

Computer Science  
Signal Processing

**Keywords**
Frequency Hopped Spread Spectrum (fh-ss)  Prime Code  Galois Field  Ber (bit Error Rate)