Abstract

Turbo codes enable reliable communication over power-constrained communication channels at close to Shannon’s limit. Further, the performance of the communication system is enhanced by incorporating security mechanism. Security is described as the process of minimizing the vulnerabilities of assets or resources. National Institute of Standards and Technology (NIST) chose Rijndael algorithm as Advanced Encryption Standard (AES) for security mechanism due to the enhanced security, performance efficiency, ease of implementation and flexibility. To ensure security and error correction together in the system, the encrypted data is given to the turbo encoder and at the receiver the data is decoded and decrypted back. Hence the system works well without much reduction in the bit error rate with the added advantage of security. In this paper, turbo coding with and without AES are simulated and Bit Error Rate (BER) analysis is done by varying SNR and number of iterations. The simulation is done using C.

References

- Consultative Committee for Space Data Systems "Telemetry Channel
Index Terms

Computer Science
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Keywords
AES	Turbo coding	Max-log-MAP algorithm