Abstract

3GPP LTE system exhibits a vital feature of Frequency Selective Scheduling (FSS). Frequency scheduling relies on Channel Quality Indicator (CQI) report by the user equipment (UE). The main challenge in CQI reporting consists of reduction in number of reporting bits maintaining the performance of the system. This paper recommends a new CQI reporting approach which uses Huffman compression for reduction of overhead bits for full-band CQI report. Full-band feedback technique transmits entire CQI report instead of reporting limited bands as done in Best-M reporting techniques. The constraint of Huffman coding that the coding table must be known to both transmitter and receiver prior to transmission, is efficiently explored in this technique. Results indicate appreciable reduction in feedback bits as compared to uncompressed full-band reports. Also, full-band Huffman feedback technique shows profound rise in throughput of the system over sub-band feedback techniques.

References


Index Terms

Computer Science
Networks
Keywords

Huffman compression  3GPP LTE CQI  LTE uplink feedback.