



Research Letters in Communications

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Research Letter

Reducing CQI Signalling Overhead in HSPA

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Abstract

The efficiency of adaptive modulation and coding (AMC) procedure in high speed Downlink packet access (HSDPA) depends on the frequency of the channel quality information (CQI) reports transmitted by the UE to Node B. The more frequent the reports are the more accurate the link adaptation procedure is. On the other hand, the frequent CQI reports increase uplink interference, reducing thus the signal reception quality at the uplink. In this study, we propose an improved CQI reporting scheme which aims to reduce the required CQI signaling by exploiting a CQI prediction method based on a finite-state Markov chain (FSMC) model of the wireless channel. The simulation results show that under a high downlink traffic load, the proposed scheme has a near-to-optimum performance while produces less interference compared to the respective periodic CQI scheme.

Abstract

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