ADAPTIVE CODED MODULATION WITH RECEIVE ANTENNA DIVERSITY AND IMPERFECT CHANNEL KNOWLEDGE AT RECEIVER AND TRANSMITTER (MonAmOR12)

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Abstract :

We analyze and optimize the performance of a trellis−coded modulation system where receive antenna diversity is implemented. The adaptive coded modulation scheme alone is a promising tool to combat fading and it improves the spectral efficiency in mobile communications. The improvement can be even higher when we have multiple receiver antennas. The analysis is done in the presence of both estimation and prediction errors. Rayleigh fading on each subchannel is considered, and maximum ratio combining is employed on the receiver side. As expected, the average spectral efficiency increases, while bit error rate rate is always fulfilled.

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