

Bit Error Rate Performance Of A Generalized Diversity Selection Combining Scheme In Nakagami Fading Channels

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Summary

The severity of fading on mobile communication channels calls for the combining of multiple diversity sources to achieve acceptable error rate performance. Traditional approaches perform the combining of the different diversity sources using either: the Conventional Selective diversity combining (CSC), Equal-Gain combining (EGC), or Maximal-Ratio combining (MRC) Schemes. CSC and MRC are the two extremes of compromise between performance quality and complexity. This paper presents a generalized diversity selection combining (GSC) scheme in which only those diversity branches whose energy levels are above a specified threshold are combined. Doing so, the proposed scheme will have a bit error (BER) performance that is upper- and lower- bounded by those of the CSC and MRC schemes respectively. Simulation results for the performances of this scheme over Nakagami Fading Channels are shown.

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