This paper presents an analytical solution to the problem of selecting an optimum symbol detector for wireless MIMO communications in the LTE/4G suburban macrocell environments. Since, the use of a symbol detector in MIMO systems is often limited by the complexity it offers, it is of vital importance to use a detector which offers reliable performance but does not offer high complexity. This paper analyses the error rate performance and computational complexity of Zero Forcing (ZF), Minimum Mean Square Error (MMSE) and Maximum Likelihood (ML) and suggests the optimum detectors with reasonable complexity-performance trade-off.

References

and Mobile Radio Communications - (PIMRC).


7. Spatial channel model for Multiple Input Multiple Output (MIMO) simulations. 3GPP. http://www.3gpp.org/DynaReport/25996.htm


Index Terms

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MIMO, Symbol detector.