



INVESTIGATION OF THE CHANNEL ESTIMATION ERROR ON THE MIMO SYSTEM PERFORMANCE (ThuAmOR2)

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★ Abstract :

Multi-Input Multi-Output (MIMO) wireless communication systems provide large capacity allowing high data rates transmission. However, this huge increase in the capacity requires perfect channel knowledge at the receiver. In this paper, we analyze the effect of imperfect channel knowledge on the achievable rates. Precisely, we express a lower bound on the capacity as a function of the channel Cramer-Rao bound (CRB). In previous works, we made the calculation and comparison of CRB for different channel estimation techniques. This allows us to make comparison of channel achievable rates for different channel estimation techniques.