ABSTRACT

Cooperative communication system is the method that use the other antenna user with the principle of transmit diversity to get a plural antenna virtual with using a different path to transmit information. In order to form multi antenna distribution. The objective is to get additional information which can assist to encode information in receiver. Further be proposed a cooperative diversity scheme using space-time code. That is the cooperative diversity scheme consist of two stages. In the first stage the source node sends information to the relay and this stage is called the information distribution or direct transmission. In the second stage, the source node and relay cooperate to send information to the destination node and this stage is called the information delivery stage or cooperative transmission. Because of the broadcast nature of wireless media, the destination node may hear the source node and decode it successfully during the distribution stage.

In this final project has been discussed about applying feedback-based cooperative diversity schemes. To utilize the occasional successfully reception of the destination node, several feedback schemes should be adopted. Here, the automatic repeat request (ARQ) might be an effective way. The first is partial feedback based cooperative diversity scheme that utilize the feedback only from destination node, and the second is full feedback based cooperative diversity scheme that utilize from both the destination node and relay. The simulations show that the full feedback based cooperative diversity scheme has better performance than partial feedback based cooperative diversity scheme with amount of total retransmission is fewer. The fewer amount of total retransmission show that the error probability of full feedback based cooperative diversity is few too.

Keywords: Cooperative Communication System, Partial Feedback Based Cooperative Diversity Scheme, Full Feedback Based Cooperative Diversity Scheme