

Table 1 Probability of error minimization based power allocation

SNR	Ks	BER
0	0.65	0.0001
5	0.19	0.0001
10	0.09	0.0001
15	0.03	0.0001
20	0.01	0.0001
25	0.01	0.0001
30	0.01	0.0001

6 CONCLUSION

The performances of a relay selection scheme for amplify and forward protocol in Rayleigh fading channel has been evaluated. Mathematical analysis of the BER performance of the algorithm has been derived. Computer simulations are performed to validate the theoretical analysis. A power allocation algorithm based on bit error rate minimization has been applied. Channel estimation has been performed by least square algorithm and the effect of the channel estimation error on the performance of the algorithm has been investigated. It has been shown that the performance of the proposed algorithm has better performance than best relay selection and partial relay selection algorithms. Moreover, the proposed algorithm saves the power since the relay participates only when the total signal to noise ratio of the direct link is weak.

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