Abstract

In this paper, a noncoherent receiver with PN code tracking for direct sequence code division multiple access (DS-CDMA) communication systems in multipath channels is proposed and analyzed. The decision-feedback differential detection method is employed to detect PSK signals. In this method an “error signal” is used to update the tap weights and the estimated code delay. By increasing the number of feedback symbols we can improve the performance of
the proposed noncoherent receiver. With the large number of feedback symbols, the optimum weight can be derived analytically, and the performance of the proposed noncoherent receiver matches to that of the conventional coherent receiver. Simulations are shown in support.

References

- Bernard Sklar ‘Digital communication fundamentals and application” second addition

Index Terms

Computer Science

Emerging Trends in Technology
Keywords
DS-CDMA  Code Tracking  Differential Detection