Abstract:

In this paper, the multistage multiuser detector for communication over multipath fading channel is considered. The detector consists of a matched filters bank and a linear equalizer whose outputs are diversity combined to produce initial data estimates. Using these data estimates multiuser interference is reconstructed and removed from the output signals of a the matched filters bank. Afterward, diversity combining is applied again and it produces final decision statistics. Simulation results indicate that this detector outperforms conventional RAKE receiver and the linear equalizer with diversity combining. Also, the proposed detector is near-far resistant.

Keywords:

Fading, Multiuser detection, Multipath