Blind signal reception in downlink direct-sequence ultra wideband impulse radio system in the presen

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ABSTRACT

Ultra wideband (UWB) impulse radio (IR) system has currently being considered for several applications due to its attractive features that include low-power carrierless and ample multipath diversity. The various modulation and multiple access schemes. In this thesis deals with direct sequence (DS) binary phase shift keying (BPSK) modulation operating in the presence of multipath fading downlink channel. We first outline the attractive properties of the synchronous DS-UWB scheme and design a low-complexity RAKE mobile station (MS) receiver. However, since accurate channel information is crucial for reliable operation, thereby we propose a blind (non-data aided) channel estimator. Performance evaluations are conducted to demonstrate the accuracy (in terms of root mean square error) of the proposed channel estimation algorithm and the reliability (in terms of bit error rate) of the blind MS receiver.

Keywords : Ultra wideband、Blind estimation、RAKE receiver、Multi-user interference、Downlink

Table of Contents

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