The Development of UWB Systems overlay Spread Spectrum Systems

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ABSTRACT

The performance analysis for the UWB (ultra-wideband) system overlay the spread-spectrum system is investigated in this thesis. Except the Nakagami-m statistics is applied as the channel environments scenarios, there are some conditions were considered in this paper, e.g. the MAI (multiple access interference), PBI (partial band interference) and the correlated coefficient of multi-path channels. This thesis aims on the study of channel correlation with the correlated Nakagami-m distribution. The MRC (maximal ratio combining) diversity is also adopted at the output of the receiver and there is the Rake receiver at the spread-spectrum system output. It is clear to known that the correlation can not be ignored in the consideration of the designing for a wireless communication system.

Keywords : Nakagami-m distribution ; correlation coefficient

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