

Diversity Method in the Chaos CDSK Communication System

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Abstract—Chaos communication system has characteristics of non-periodic, non-predictability, broadband signal and easy implementation. Also, the characteristic of chaos communication system is decided by initial values. And it has the sensitive characteristic according to initial values. Due to these characteristics, security of chaos communication system is generally better than other digital communication system. But BER(Bit Error Rate) performance is worse than digital communication system. Looking at the existing studies, chaos communication system is being studied diversity method in order to improve the BER performance in Rayleigh channel. In this paper, we apply the Alamouti STBC(Alamouti Space Time Block Coding) in order to improve the BER performance, and we evaluate BER performance of CDSK system that applied the Alamouti STBC. If we apply the Alamouti STBC to the CDSK system, we are possible to evaluate the BER performance improvement in Rayleigh channel. Therefore, if the Alamouti STBC of MIMO(Multi Input Multi Output) system applies to chaos communication system in fading channel, the deterioration of BER performance is possible to compensate. And, if you adjust number of transmitter and receiver according to kinds of channels, effective communication is possible.

Keyword—Correlation Delay Shift Keying; MIMO; Alamouti STBC; BER performance; Chaos Map.



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