

论文

一种可变分集增益的空时/时频调制编码新方案

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摘要

将酉空时分组编码技术应用于时频调制系统中, 该文提出了一种可变发射分集增益的空时/时频调制编码新方案。将已调的时频信号分解为互正交的两子信号, 同时运用不同的排列组合方案即可得到不同的分集增益。计算机仿真结果表明, 新方案抗平坦衰落性能优于Alamouti空时分组编码方案及空时/频移键控编码方案, 且当新方案获得二重分集增益时, 其相应编码速率优于获得四重分集增益时的编码速率, 但抗衰落性能劣于获得四重分集增益时的性能, 所得结论与理论分析完全一致。

关键词 [空时/时频调制](#) [可变发射分集增益](#) [酉空时调制](#) [空时分组编码](#)

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A Novel Scheme for Space-Time Block Coding with Variable Transmit Diversity Gain in Time-Frequency-Shift Keying Systems

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Abstract

A novel scheme for unitary space-time block coding with variable transmit diversity gain is proposed for TFSK (Time-Frequency-Shift Keying) systems. Each modulated TFSK symbol is divided into two orthogonal sub-symbols, and the new scheme is constructed by differently combining the sub-symbols with the different transmit diversity gain able to be achieved by noncoherent processing at the receivers. The results of computer simulation show that the new scheme has advantage of anti-flat-fading over Alamouti space-time block coding and space-time frequency-shift keying, and ST-TFSK systems with two diversity gain enjoy the superior coding rate and the inferior anti-fading performance to the ones with four diversity gain, which approve the theoretical analysis

Key words [Space-Time Time-Frequency-Shift Keying \(ST-TFSK\)](#) [Variable transmit diversity gain](#) [Unitary space-time modulation](#) [Space-time block coding](#)

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