

论文

## 非线性信道自适应均衡的一种方法

王永德

四川大学 成都 6100064

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摘要

本文通过对非线性信道模型的分析,构造了一种新的、关联模型的自适应均衡器。分析表明,与一般的基于Volterra级数的非线性扩展关联模型相比,新结构的权数大为减少。模拟实验证实,当信道噪声较小时,新结构以较高的精度收敛于最佳解。而且无论对最小相位或非最小相位信道,该均衡器均表现出良好的收敛特性和误码性能。

关键词 [非线性系统](#) [自适应均衡](#) [逆滤波](#)

分类号

## A NEW ADAPTIVE EQUALIZER STRUCTURE FOR NONLINEAR CHANNELS

Wang Yongde

Sichuan University, Chengdu 610064

Abstract

Based on analysis of non-linear channel models, a new connectionist model adaptive equalizer is constructed. Comparing with the connectionist model using the Volterra series to extend the input vector space, the number of weights with new structure is reduced significantly. It is shown by simulations that the weight values of the new scheme converge to the optimal values closely for nonminimum phase channels as well as minimum phase channels, if the channel noise is small enough. Testing results of the BER (Bit Error Rate) show that the new adaptive equalizer for non-linear channels is superior to the linear equalizer in the equalization performances.

Key words [Non-linear system](#) [Adaptive equalization](#) [Inverse filtering](#)

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通讯作者

作者个人主页 [王永德](#)

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