

### 一种新的多通道扩频接收机中频噪声模拟算法

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## A New Algorithm of IF Noise Simulation for a Multichannel Spread-Spectrum System

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摘要

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**摘要** 该文提出了一种新的多通道直接序列扩频接收机中频回波噪声模拟算法。该算法将通道间扩频信号互相关的影响等效为噪声叠加, 由此提出了一种新的适用于多通道直接序列扩频信号合成并保证输出功率恒定的比例因子计算方法, 并将该方法成功应用于某多通道直接序列扩频接收机的中频回波噪声模拟中。实验结果表明利用该方法产生的中频信号信噪比模拟精度远优于传统的实现方法。

**关键词:** 直接序列扩频 中频信号模拟 高斯白噪声 信噪比

**Abstract:** A new algorithm of IF noise simulation for a multichannel direct spread-spectrum system is proposed. The influences between each channel of spread-spectrum signals are treated as noise in this algorithm. A new algorithm of proportional divisor that is suitable for the signals mixture of a multichannel spread-spectrum system is put forward based on this noise simulation algorithm. This algorithm is applied successfully to an IF signal simulator of one multichannel direct spread-spectrum system. The experimental results show that the precision of IF signal generated by this algorithm is much better than it generated in traditional way.

**Keywords:** Direct spread-spectrum system IF signal simulation WGN SNR

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