

电子技术

一种新的跳频宽带瑞利衰落信道模型

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摘要: 针对跳频宽带瑞利衰落信道,提出了一种新的基于莱斯正弦和的仿真模型。该仿真模型能在保持其它参数不变的条件下,通过仿真模型相位的跳变来模拟物理信道频率的跳变。由于该仿真模型中的所有参数都存在着闭合的表达式,所以能对仿真模型的相关特性进行研究。理论分析和仿真表明,该仿真模型在低计算复杂度的条件下与参考模型在相关特性方面存在着极好的吻合。

关键词: 跳频宽带瑞利衰落信道 仿真模型 莱斯正弦和 相关特性 低计算复杂度

New model for frequency hopping wideband Rayleigh fading channels

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Abstract: A new simulation model based on Rice's sum of sinusoids is proposed for frequency hopping wideband Rayleigh fading channels.It is shown that a frequency hop in the physical channel model corresponds to phase hops in the simulation model while maintaining all other parameters unchanged.Due to the fact that closed-form expressions are given for all simulation parameters,so the correlation properties of the proposed simulation model can be studied.Both theory and simulation show that a pretty good agreement between the correlation properties of the simulation model and those of the underlying reference model has been observed in low computation complexity.

Keywords: frequency hopping wideband Rayleigh fading channel simulation model Rice's sum of sinusoid correlation property low computation complexity

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