

SOME TRANSMISSION AND RECEPTION ALGORITHMS FOR SUPERIMPOSED RADIO SIGNALS

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The electromagnetic radio frequency spectrum is a scarce and valuable resource. Its utilization can be improved by allowing multi-layer communications, in which several signals are simultaneously transmitted and received in the same frequency band. In this talk I will describe some algorithms for the transmission and reception of multi-layer signals. These algorithms are compatible with commonly used transmitter and receiver equipment that was not designed for multi-layer communications. Such algorithms have great practical importance because they yield increased network capacity and at the same time allow telecom equipment manufacturers (including both handset and network vendors) and wireless operators to obtain additional returns on their multi-billion dollar investments.