Abstract

Wireless communication using Multiple Input Multiple Output (MIMO) systems increases efficiency for a given total transmits power. Here investigate a novel approach to perform decoding-order optimization in the vertical Bell Labs layered space-time (V-BLAST) planning. Allowing for instantaneous transmission of multiple, independently encoded data streams, the V-BLAST transmit-receive method applies to the uplink of a multi-user communication system. A multi-antenna receiver decodes data streams consecutively, trade with inter-stream interference by means of cancelling and nulling; interference from before decoded streams is cancelled by subtraction, and residual interference is nulled by linear equalization. The order in which the streams are decoded can have a visible impact on system presentation. Multiple Input Multiple Output (MIMO) channels can offer high capability to wireless systems and the capacity increases linearly with the number of antennas. There are many schemes that can be applied to MIMO systems such as space time block codes, space time trellis codes, and the Vertical Bell Labs Space-Time structural design (V-BLAST). We study the broad-spectrum MIMO system, the general V-BLAST structure, and the Successive Interference Cancellation (SIC) Zero-Forcing (ZF) detectors in this paper.
Extensive Survey on MIMO Technology using V-BLAST Detection Technique

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Index Terms
Computer Science
Communications

Keywords
Communication systems  V-BLAST  ZF  successive interference cancellation
decision feedback equalizers
fading channels.