

A Brief Survey on Wireless MIMO Switching

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A wireless relay which realizes a one-to-one mapping from the inputs (uplinks) to the outputs(downlinks) is called a multiple-input-multiple-output (MIMO)switch. The MIMO switch carries out precode and forward, where all users send their signals in the uplink and then the MIMO switch precodes the received vector signal for broadcasting in the downlink. Ideally, each user employs a receive filter to recover its desired signal from one other user with no or little interference from other users. In this paper, we introduce the framework of wireless MIMO switching and present our recent work on the relaying scheme design. Furthermore, it claims thatthe framework has the following significances: 1) It provides a general framework for multi-way relaying; 2) it enables the application of network coding for both pairwise and non-pairwise data exchange in multi-way relaying.