1023-94-218 **Sarah Spence Adams*** (`sarah.adams@olin.edu`), Olin Way, Needham, MA 02492. *On the Minimum Achievable Decoding Delay of Maximum Rate Complex Orthogonal Space-Time Block Codes.*

The growing demand for efficient wireless transmissions over fading channels motivated the development of space-time block codes. Space-time block codes built from generalized complex orthogonal designs are particularly attractive because the orthogonality permits a simple decoupled maximum-likelihood decoding algorithm while achieving full transmit diversity. The two main research problems have been to determine for any number of antennas the maximum rate for a complex orthogonal space-time block code (COSTBC) and the minimum decoding delay for a maximum rate COSTBC. The maximum rate for COSTBCs was determined in 2003 by Liang. In this talk, we will address the second fundamental problem by providing a tight lower bound on the minimum decoding delay for maximum rate COSTBCs and discussing the conditions under which this bound can be achieved. (Received August 25, 2006)