



AN EFFICIENT SVD UPDATE ALGORITHM AND APPLICATIONS TO MIMO COMMUNICATIONS (WedAmOR8)

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★ **Abstract :** An efficient update algorithm is presented which tracks the left and right singular vectors and singular values of a transfer matrix, using input and output vectors and without explicitly computing the matrix itself. Such an algorithm has many potential applications in multiple-input multiple-output wireless communication systems in which the channel parameters change slowly with time. Examples of two such applications, eigenbeamforming and adaptive V-BLAST, are presented.