PERFORMING DIMENSIONALITY REDUCTION OF NONSTATIONARY STOCHASTIC PROCESSES USING PERTURBATION ANALYSIS (TueAmPO4)

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Abstract : This paper describes the performance characteristics of an adaptive filter, a digital filter based on the perturbation analysis of the eigenvalue equation. The algorithm find the singular value decomposition (SVD) of a general covariance matrix by stochastic approximation. The deviation in the eigenvalues through times is shown to be an index of the energy present in each channel of an sensors array The analysis of a simple nonstationary case is given.