

This paper proposes an identification algorithm for estimating Right Matrix Fraction Description (RMFD) models of multivariable systems in the presence of noisy output measurements. The method exploits the relationship existing between a RMFD model and its state space block controller form. to perform. identification of the matrix coefficients using the constrained Prediction Error Method. The algorithm is applied to a simulated multivariable system as well as to data gathered from a real prototype winding process. The proposed algorithm works quite well for moderate to high Signal to Noise Ratio (SNR) levels