

## Identification of Wiener Model Using Iterative Schemes

**Authors :** Vikram Saini, Lillie Dewan

**Abstract :** This paper presents the iterative schemes based on Least square, Hierarchical Least Square and Stochastic Approximation Gradient method for the Identification of Wiener model with parametric structure. A gradient method is presented for the parameter estimation of wiener model with noise conditions based on the stochastic approximation. Simulation results are presented for the Wiener model structure with different static non-linear elements in the presence of colored noise to show the comparative analysis of the iterative methods. The stochastic gradient method shows improvement in the estimation performance and provides fast convergence of the parameters estimates.

**Keywords :** hard non-linearity, least square, parameter estimation, stochastic approximation gradient, Wiener model

**Conference Title :** ICDCE 2017 : International Conference on Digital Control Engineering

**Conference Location :** Venice, Italy

**Conference Dates :** June 21-22, 2017