Parameter Estimation Of Wiener-Hammerstein Models Via Genetic Algorithms

Emara-Shabaik, H; Abdel-Magid, YL; Al-Ajmi, KH

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King Fahd University of Petroleum & Minerals

http://www.kfupm.edu.sa

Summary

Conventional methods of estimating model parameters have difficulties with both nonlinear systems and with systems operating in noisy environments. In this paper, a modified genetic algorithm is used as a procedure to solve the parameter identification problem of the nonlinear Wiener-Hammerstein models. Numerical simulations are presented to illustrate the effectiveness of the proposed algorithm based on different input signals, and different noise-to-signal ratios of the output. Also, the algorithm is applied to model a DC generator with some nonlinear characteristics.

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