Vol. 12 (1): 119-124 (2022)

POWERFUL ALGORITHM FOR ADAPTIVE RECOGNITION OF DYNAMIC SYSTEM PARAMETERS

Safwan Al Salaimeh[1*], Khaldoun Besoul[2], Ayman Nayef Al Halaybeh[2]

[1]Aqaba University of Technology, Faculty Information Technology, Department of Software Engineering, Aqaba, Jordan;*
[2]King Khalid University, Faculty of Science and Arts, Computer Science Department, Abha, Saudi Arabia;

[*]Corresponding Author Safwan Al Salaime, e-mail: safwan670@yahoo.com;

Received November 2021; Accepted December 2021; Published January 2022;

DOI: https://doi.org/10.31407/ijees12.114

ABSTRACT

Objectives. The aim of this work is to propose an algorithm to solve the problem of adaptive identification of dynamic system parameters under uncertainty conditions with respect to drift parameters. Methods: Dynamic (temporal) characteristics are analyzed to form an image of adaptive systems in a turbulent atmosphere. The sterol parameter is calculated analytically based on the generalized Huygens-Kirchhoff principle. Results: The simulation result showed a fast approximation of the localized identification algorithms. Novelty: The proposed algorithm provides higher definition quality than the usual least squares weighted exponential method or competitive recognition algorithm.

Keywords: Adaptive system, Dynamic System, Algorithm, Limited Response Time, Modeling, Control.