Document details

‹ Back to results | 1 of 2 Next ›

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Estimation of Middle-East Oil Consumption Using Hybrid Meta-heuristic Algorithms

(Conference Paper)

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Abstract

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The consumption of energy has significantly increased in the world during the preceding decade. Two-third of energy requirements are produced by oil and gas. Estimation of oil consumption can give clues on the future energy consumption. In this study, the effectiveness of three hybrid metaheuristic algorithms, namely, Cuckoo Search Neural Network (CSNN), Artificial Bee Colony Neural Network (ABCNN), and Genetic Algorithm Neural Network (GANN) were investigated for the estimation of oil consumption. The simulation results showed that the CSNN improved the estimation accuracy of oil consumption over ABCNN and GANN whereas GANN improved convergence speed over CSNN and ABCNN. The study has shown that in terms of accuracy, the CSNN is appropriate for the estimation of oil consumption. In terms of convergence speed, GANN is the most suitable algorithms for the application. The estimation of oil consumption is required by the Middle East region for monitoring and control of carbon dioxide emissions, development of energy efficient economy, etc. It can be used by intergovernmental organizations and government in the creation of policy issues related to global energy consumption. © Springer Nature Singapore Pte Ltd. 2019.

SciVal Topic Prominence

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Indexed keywords

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