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A comparison between MODWT-SVM-DE hybrid model and ARIMA model in forecasting primary energy consumptions (Conference Paper)

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Abstract

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The future demand of primary energy plays an important role in a reliable supply system, which is used as a guideline for a proper policy. The useful information of demand can be obtained from suitable forecasting models. In this paper, the forecasting performances of ARIMA model and hybrid model of MODWT-SVM-DE model are investigated and compared based on three criteria; MAE, MAPE, and sMAPE. The empirical results indicated that the MODWT-SVM-DE model provides more accurate forecasts than ARIMA model at significance level $\alpha = 0.10$. However, the ARIMA model as a simplified model is capable to provide the accurate result that is not relatively different than that of the MODWT-SVM-DE model in given data sets. © 2017 IEEE.

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