Penerapan Metode ARIMA dan Additive Outlier untuk Pendeteksian Anomali dalam Data Monitoring Operasi Transmisi Gas di Jaringan Pipa

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Abstract
This research applies the ARIMA and Additive Outlier method for anomaly detection in gas transmission operation monitoring data in pipelines taken from August 2020 to July 2021. The data used comes from an oil and gas company operating in the Natuna Sea region. This research applies the ARIMA method on a specific asset with a focus on the pressure variable which results in the ARIMA(0,1,0) model as the best model for anomaly detection in gas pressure data because the model has the smallest AIC value. Based on the evaluation metrics, the model has unique results because the metrics used are sensitive to anomalous data where anomalies in the data used in this study are not cleaned because the main purpose of this study is the detection of such anomalies. The researcher suggests developing the model on other operational variables and comparing the ARIMA model with other models in machine learning.

Keywords: arima, additive outlier, gas transmission, pipe networks