

ABSTRACT

STOCHASTIC MODELING STUDY OF DAILY RAINFALL IN CITY METRO STATION

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The purpose of this research is to study the data daily rainfall data series. The data used daily rainfall data with data length in 1986-2013 at 3 stations namely Metro station R-206, R-107 Raman Dam, and Argoguruh R-106 are located in Metro City and the surrounding areas.

The modeling is done using the data length of 512 days. By using the frequency of rainfall data obtained then apply the Fourier equation and the method of least squares is then generated model of periodic daily rainfall. Rainfall stochastic model of rainfall data is assumed as the difference between precipitation data with periodic rainfall models using the 253 components. Based on data from a series of stochastic, stochastic component is computed using autoregressive models approach. Stochastic model presented by using the autoregressive model of order three. Validation stochastic series, between the data and the model is done by calculating the correlation coefficient.

Based on these results we can conclude synthetic daily rainfall data time series obtained very significant approach measurable rainfall. With the value of the average correlation coefficient stochastic model is 0.9981.

Keywords: daily rainfall data, autoregressive models, stochastic models