ABSTRACT

Abstract This paper studies the implementation of non-stationary multivariate time series model to fit the wave ocean data. A model which comprises a regression term and an association with exogenous variables in a particular time horizon. Because of the trend fluctuation in the data leading to unstable process, differenced data are used in fitting the model. The approach suggested is applied to the finite order of Vector Autoregression for an improved prediction simultaneously of wave ocean by carrying out wind-related information to waves. The proposed model is compared with linear simple Autoregressive model. The performance of both forecasting procedures is assessed by means of well-known error measures. The forecast based on the proposed methodology indicated that it can be regarded as a promising method for wave ocean prediction, it outperforms using 4-order Vector Autoregression