



A novel approach in predicting non-stationary time series by combining external forces

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Recent work has addressed the proper characterization of non-stationarity using weather and climate data [U+FF0C] the essential cause of non-stationarity is the time-dependent changes in the external forces. In this paper, we investigate a novel technique that reconstructs the observed time series and incorporates driving forces. Furthermore, to illustrate and test the technique, we consider a couple of predictive experiments using ideal time series provided by the logistic and Lorenz systems with specific driving forces. The preliminary results show this approach can improve prediction proficiency to some extent, and the external forces play a similar role to that of state variables.