FORECASTING WIND POWER GENERATION
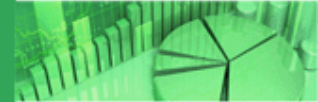
Nilabja Ray and Rituparna Sen

Abstract

We propose the method of time series analysis of functional data to forecast wind power generation. Using five years of historical data on wind power generation, we fit univariate time series models as well as functional models and compare them with respect to forecasting accuracy. We observe that the univariate model gives quite satisfactory for one-step-ahead forecasts, which in this case is 15 minutes. For longer horizons, the functional model is more useful.