

20th Benelux meeting on Systems and Control,
Houffalize (Belgium), mars 2001.

Forecasting electricity demand using Kohonen maps

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1 Abstract

The studied problem is the forecasting of electricity demand. This demand is a daily electrical power curve of either a country or an industrial company. The problem is divided into three subtasks: the prediction of the mean demand, the prediction of the standard deviation of the demand and the determination of normalised profile of the daily consumption. The mean and the standard deviation of the demand are predicted using linear or nonlinear ARIMA models. A classification using Kohonen maps is performed on normalised profiles. Different techniques to predict the profiles classes are studied. The use of exogenous data such as temperatures is also considered.