

***Abstract: Comparative Study on Short-term Electric Load Forecasting Techniques for Different Forecasting Models***

Bon-Gil Koo\*, Cheol-Hong Kim\*\*, Jong-Yul Kim\*\*\*, June-ho Park\*  
*\*Pusan National University, \*\*Kyung-Nam Energy, \*\*\*Korea Electrotechnology  
Research Institute  
cancer2000@hanmail.net, bluewind4000@hanmail.net, jykim@keri.re.kr,  
parkjh@pusan.ac.kr*

**Abstract**

In this paper, the problem of short-term load forecasting is divided into load classification and forecasting. Load classification is needed to obtain meaningful load data as input to train forecasting models. To this end, k-NN and K-mean algorithms are presented. K-mean and k-NN algorithms can handle seasonal load classification and daily load classification, respectively. The classified load data are used to train forecasting models, which are Artificial Neural Networks, Simple Exponential Smoothing, and ARIMA models. As a real case study, we tried to forecast the electric power load of the Republic of Korea. A comparison between the classified and non-classified load forecasts demonstrates the efficiency of the proposed method.

**Acknowledgement**

This work was supported by the International Cooperation and Human Resources Development of the Korea Institute of Energy Technology Evaluation and Planning (KETEP) grant funded by the Korea government Ministry of Knowledge Economy (No. 20101030100010, No. 20104010100670).