

Identification Of Physically Based Models Of Residential Air-Conditioners For Direct Load Control Management

El-Ferik, S. Hussain, S.A. Al-Sunni, F.M.; Dept. of Syst. Eng., King Fahd Univ. of Pet. & Miner., Dhahran, Saudi Arabia;

Control Conference, 2004. 5th Asian; Publication Date: 20-23 July 2004; Vol: 3, On page(s): 2079- 2087 Vol.3; ISBN: 0-7803-8873-9

King Fahd University of Petroleum & Minerals

<http://www.kfupm.edu.sa>

Summary

In this work, we address the problem of identifying the parameters of an aggregated elemental model representing a housing unit with an A/C system. The identification is done to validate the model using a pilot house with an air conditioner system. An online maximum-likelihood based identification algorithm is developed for A/C, the required hardware and system instrumentation is detailed. A sensitivity analysis study of the model for variations in humidity and solar radiation is also reported.

For pre-prints please write to: abstracts@kfupm.edu.sa