

Task & Data Analysis

Name of Dataset: Load Flow

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Author: Walter Hipp, Alberto de Campo (TaskData)

File: LoadFlow.xls (original), .tab, .mtx.

Format: excel xls original, tab delimited for Sc3, mtx format for pure data.

The file contains 672 lines with date and time, total electrical power consumption, and consumption for five groups of power consumers.

Scenario

The Story:

Load Flow data describes how the electrical power consumption of different groups of consumers changes in time. A time series was taken for a week (in Winter 2004, December 20-26, Austria) of 15 minute average values, documenting date and time, total power consumption, and consumption for

- households,
- trade,
- Agriculture,
- heating and warm water, and
- street lighting.

Tasks for this data set:

- Find out which kinds of patterns can be discerned at which time scales; e.g. daily cycles versus shorter fluctuations.
- Since all five individual channels have the same unit of measurement, find ways to represent them in a way that their values and their movements can be compared directly.

The Keys:

<i>Question:</i>	Who uses how much power when? Are there patterns that recur? At what time scales? Are there overall periodicities?
<i>Answers:</i>	One or several of the channels; Yes/No, days/hour/times of day; categories of pattern shapes
<i>Subject:</i>	Relative proportions, patterns of change in time
<i>Sounds:</i>	?

TaDa

The Task:

<i>Generic question:</i>	What is it? How does it develop?
<i>Purpose:</i>	Identify, compare;

Mode:	Interactive
Type:	continuous
Style:	exploration

The Data/Information:

Level:	Intermediate and global
Reading:	Conventional (possibly direct)
Type:	5 channels, ratio
Range:	continuous
Organization:	time

The Data:

Type:	5 channels of ratio scale with absolute zero
Range:	Individual channels 0 – 2.24, total power 1.08 – 4.55
Organisation	Time

Appendix

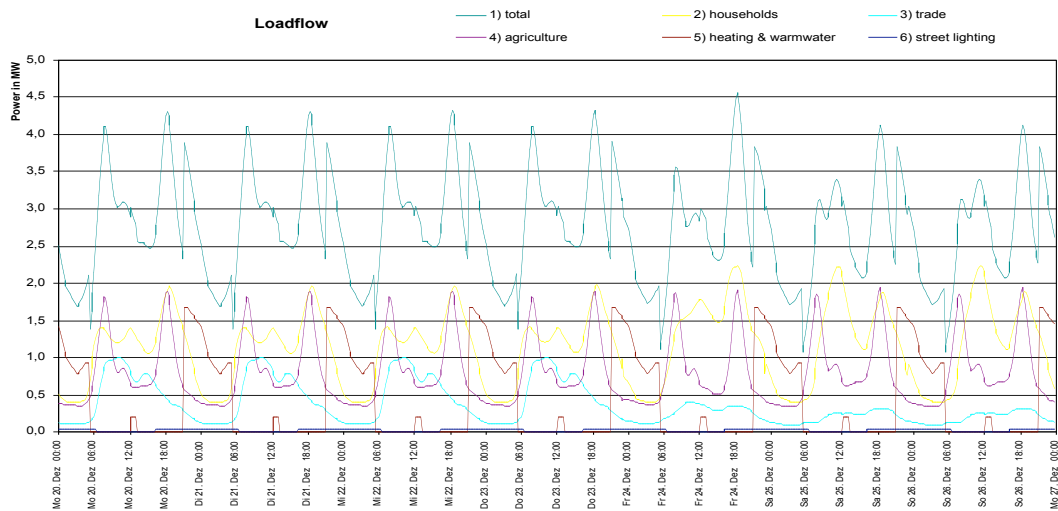


Figure 1 time series of dataset (averaged over many households)

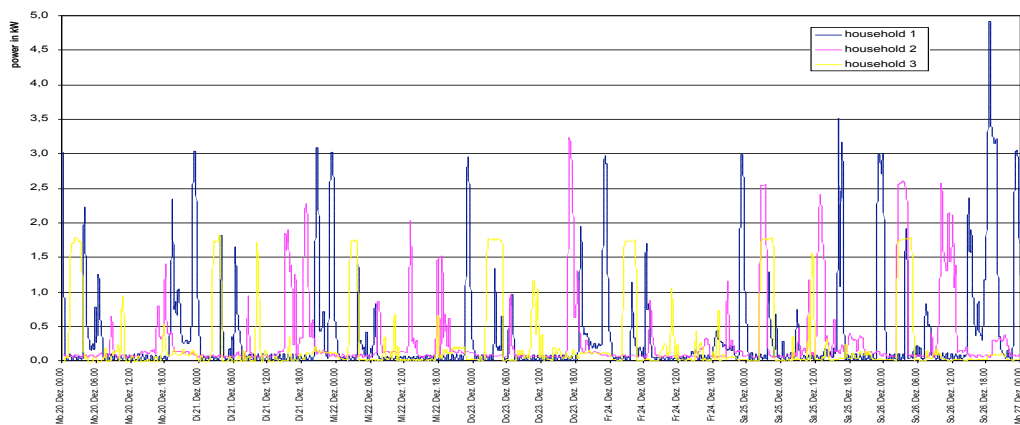


Figure 2 time series of 3 individual households