

Data browsing at Metsähovi Radio Observatory

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There are several different types of non-astronomical, chronological data which are collected non-stop at Metsähovi Radio Observatory. The purpose of the data is to aid the observations and to help the maintenance and upgrading of the instruments. At present this kind of data is received from two Weather Stations, the Spectrum Analyzer, and the *EFOS-9* hydrogen maser at Metsähovi. It is probable that in the future there will be more data from several kinds of sources that need to be collected.

So far the main restriction in utilizing these data repositories has been the inconvenience, due to the absence of suitable programs to visualize and manipulate the collected "raw" data. (The daily collected plain text data files consist of the lines including the UT timestamp and the numeric value of the parameter(s) at the observation moment, and in some cases also the name of the parameter. The number of lines in one datafile varies a lot being attributable to the observation frequency which is typically an observation per a time period of few minutes.)

The easiest method to study the collected data is to present it graphically, observing the time value in the x-axis and the observation values in the y-axis. One must be able to determine several selective options to present the data. The most obvious and important options are the determination of the certain time period and the selection of the parameter(s). Also important features are the choice to draw the value lines of several parameters into the same graph and the possibility to save the selected parameter values into a file for further data processing.

Because all Metsähovi employees have the access to the WWW, a cgi-program written in the Perl programming language was regarded the most suitable choice. The characteristics in favour of the Perl language are its text data manipulation capabilities as well as its "glue-like" nature which enables the required combination of the system commands, the plotting program commands and the HTML-scripts in one single program. The choice for a plotting program (in the the Linux computer environment of Metsähovi Radio Observatory) was the Gnuplot plotting utility on account of the easiness to apply the important time-axis with it.

The first allotment that is under construction is the presentation of the weather data. The first version of the weather data presentation program is available at the site <http://kurp.hut.fi/local/> which limits the access only to the network computers of Metsähovi Radio Observatory. (The programmed subroutines are made as general as possible so that they can be used directly to program the presentation of the *efos9*- and the *spektr*-data, too.)