LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY
- LIGO -CALIFORNIA
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Accessing the Quanterra 4128 Datalogger Via Its Web Interface

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This document is intended as a quick start guide! You are encouraged to experiment and discover further functions that are useful for you.

The first steps

You can access the Quanterra web servers via your favorite web-browser at
http://granite.ligo-wa.caltech.edu   (198.129.208.79)   for the LHO datalogger or
http://clay.ligo-la.caltech.edu   (130.39.245.55)   for the LLO datalogger.

You have to use Microsoft Internet Explorer on PCs, while Netscape Communicator is fine for the SUN workstations when accessing the Quanterra 4128 unit! Please, remember that the primary purpose of the unit is to collect data. It will serve you the information **when it has time**, the web interface is one of the low priority processes. Please, be patient and don't abuse this service.
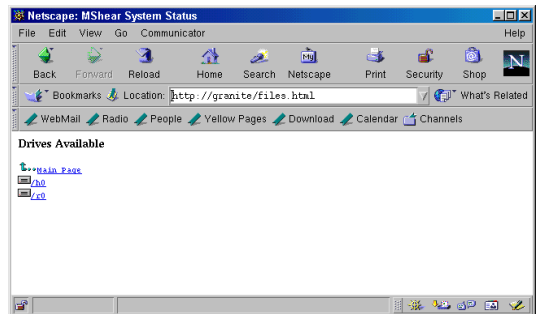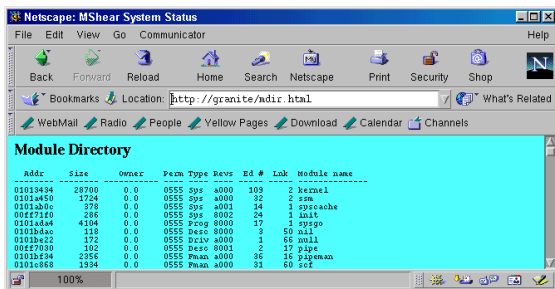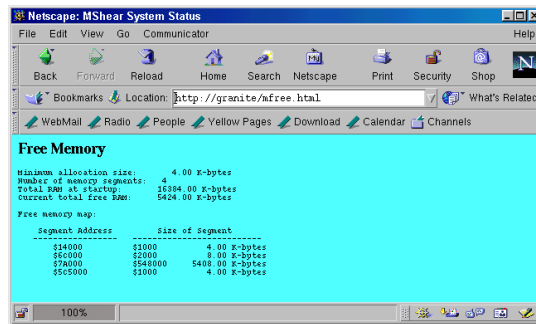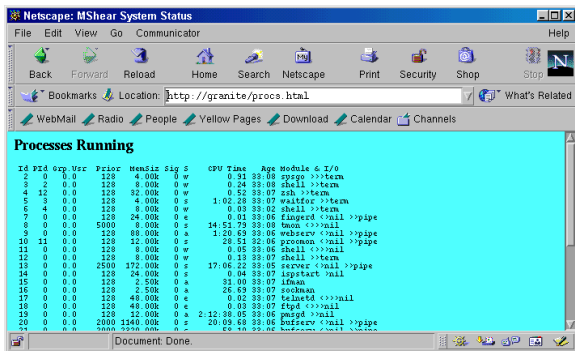
After login you will see the following screen:
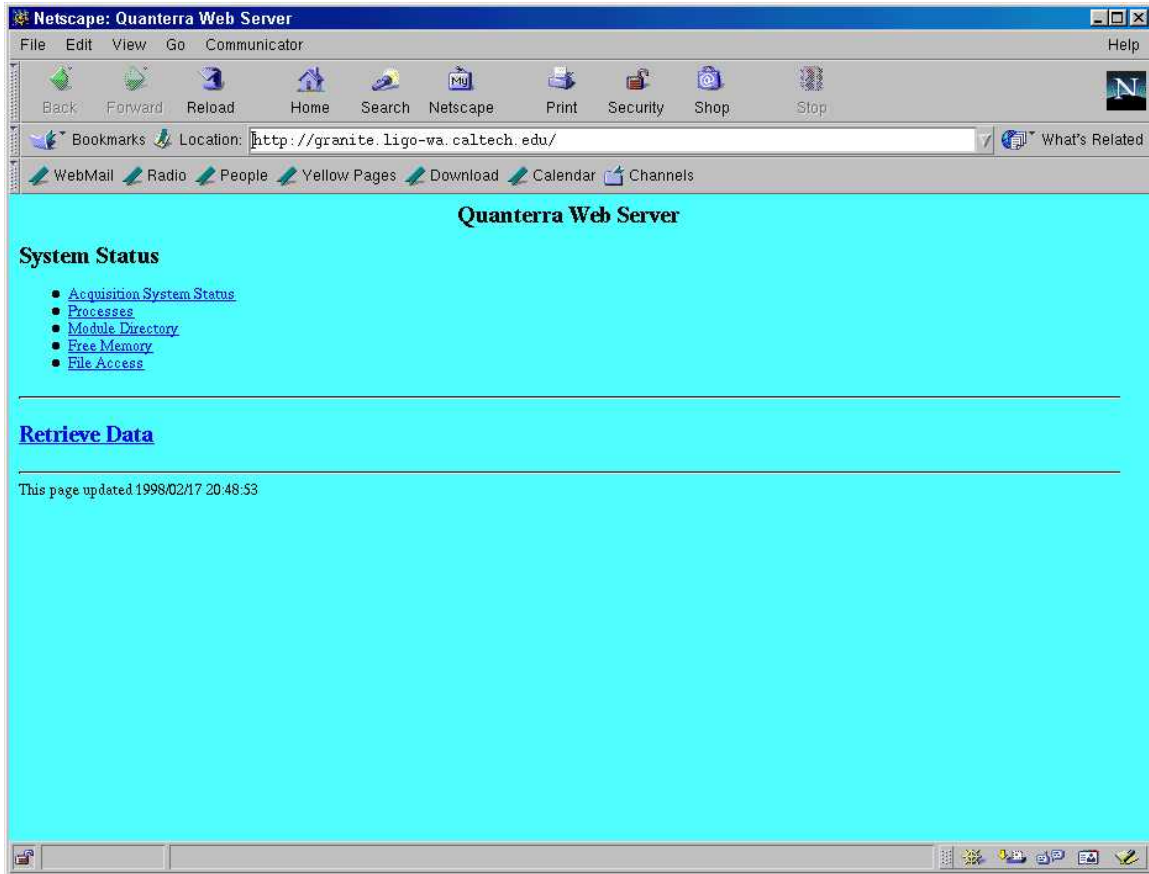
The system status information is not necessary for the casual user unless he/she is determined to become a Quanterra 4128 expert. Nevertheless, here are some sample screenshots about the contents.
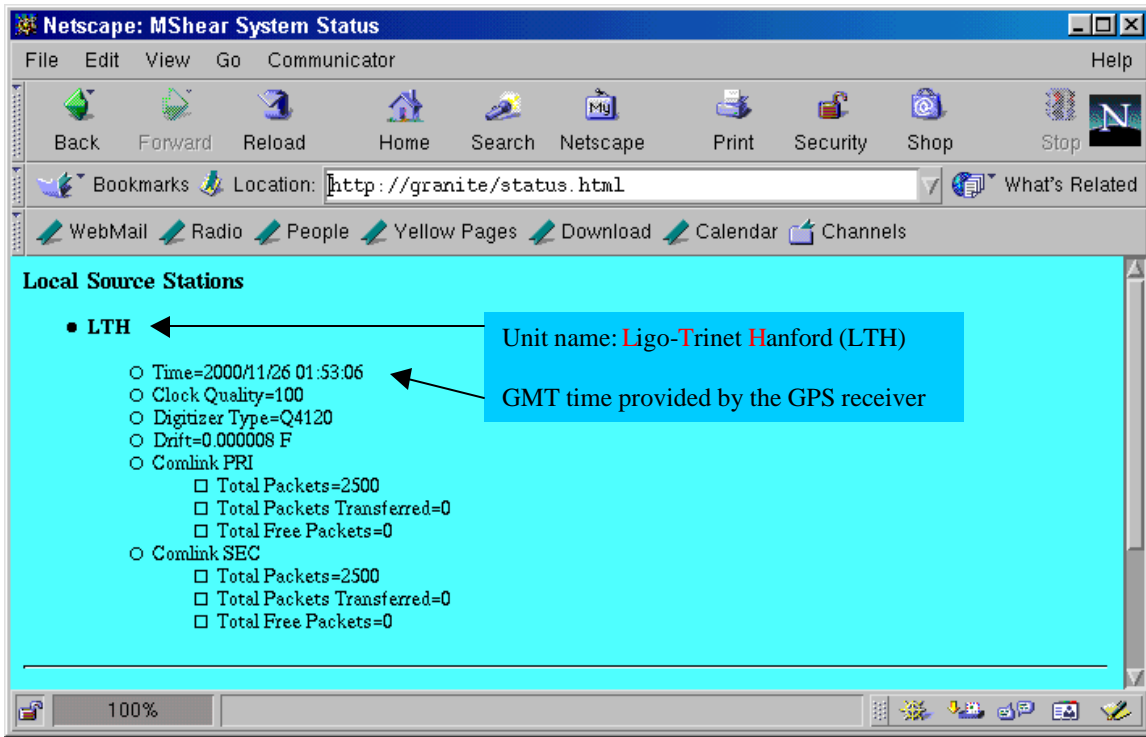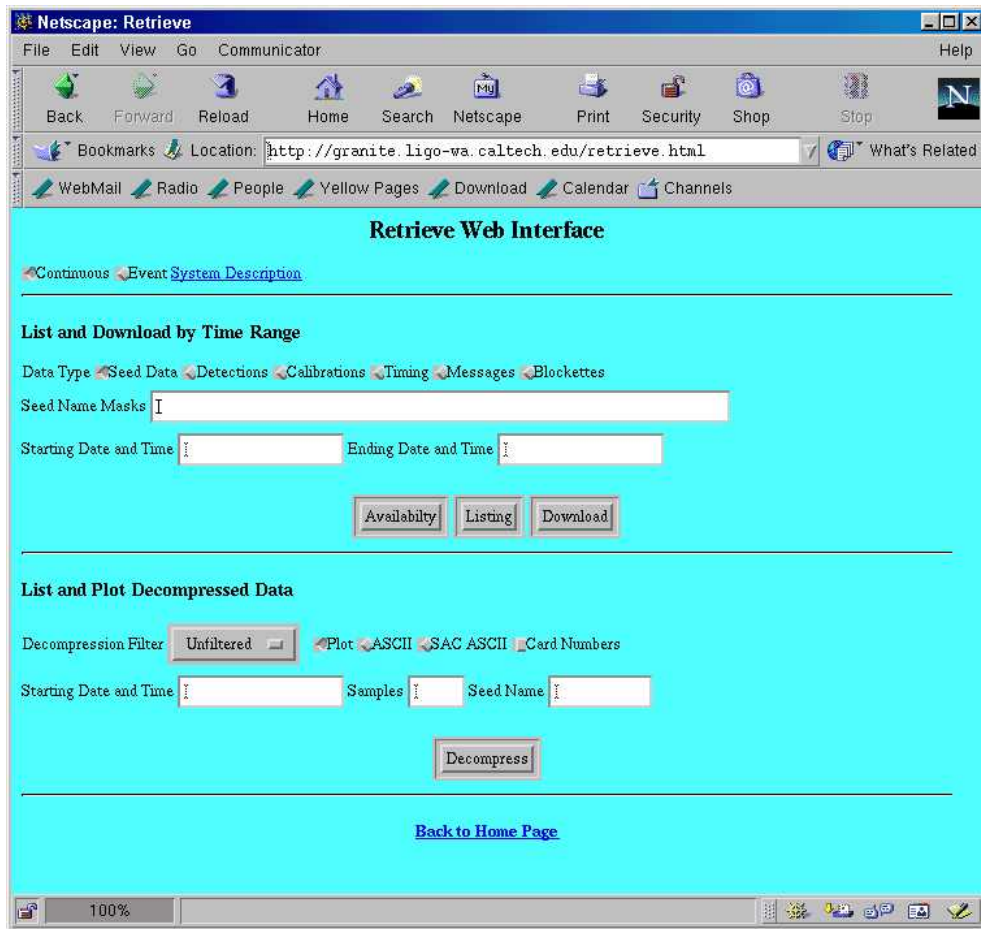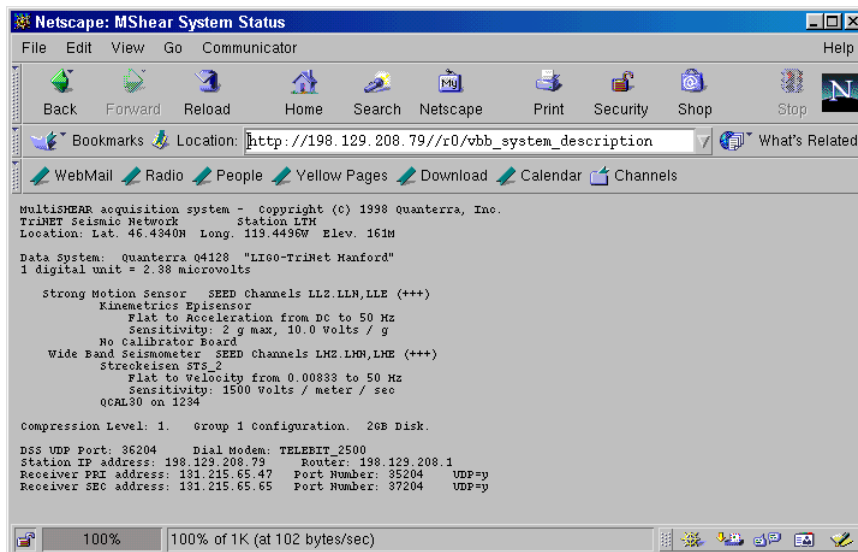

… and more and more OS9/MSHEAR details…

Retrieving data from Quanterra 4128

After clicking on the **Retrieve Data** button you will see a screen like this:

The **System Description** will provide you with all available info about the station (including Calibration! (e.g. for the STS-2 seismometer: 1.5 V/mm/s / 2.38 μV/cnt = 630252.1 cnt/mm/s)

The upper portion of the screen lets you access the compressed data (you will need some kind of SEED converter tool), download the data presently stored on the local disk of the datalogger and look at the list of recorded events (triggered by the quite liberal built in event detector).

You can check the saved data on the Quanterra hard drive by choosing Continuous/Seed Data and clicking on Availability. Choosing Event/Seed Data and clicking on Availability will obtain a similar but much longer list of event data stored on local disk. Usually older data is only available from the Event Buffer.

The segment name has a meaning:

- the station code (first three letters, e.g. LTH = LIGO-TriNet Hanford))
- the resolution of the data (4th letter: H-high, B-medium, L-low, V-very low, U-ultra low)
- the source instrument (5th letter: H = STS-2 Very Broad Band (VBB) seismometer, L=EpiSensor Force Balance Accelerometer (FBA))
- the channel name (6th letter: Z-vertical, N-north, E-east)

The rate is given in Hertz, e.g. high sampling rate (HHX, HLX) corresponds to 100 Hz.

Quanterra usually has saved seed data from the last several days, however it saves triggered seismic events from a much longer period of time (depending on disk space).

You can get a detailed list of events by choosing Event/Detections and clicking on Listings. Please remember that the event detector will trigger on everything unusual not just on earthquakes. Often detections are caused by environmental noise and are not real seismic events.

When downloading event data or making a plot, it is a good idea to leave this window open; Copy/Paste can save lots of time!

Plot and download ASCII data

The lower portion of the Retrieve Web Interface window gives you easy access to Continuous/Event data and lets you plot it on the spot. Please remember that there is a limitation, you can only download less than 10K points in a session. This saves the unit from undue load and ensures that the data acquisition will not suffer.

To see the plot of an actual event you need to
- choose Plot
- Choose your filter from the wide selection or leave the data unfiltered
- type in the corresponding time, channel (use event listing) and the number of data points (<10000!)
- and click on Decompress
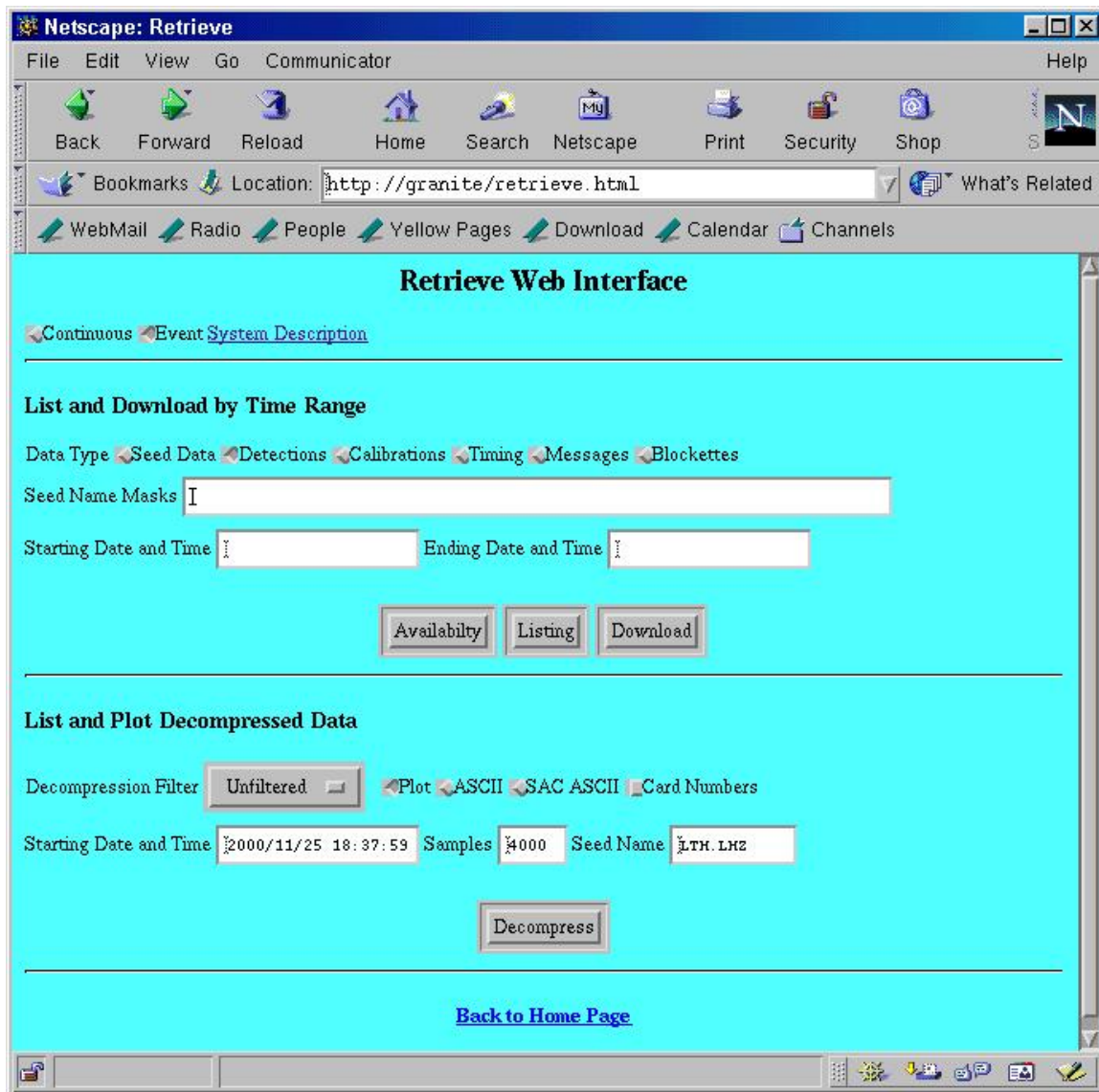
Example of a event:
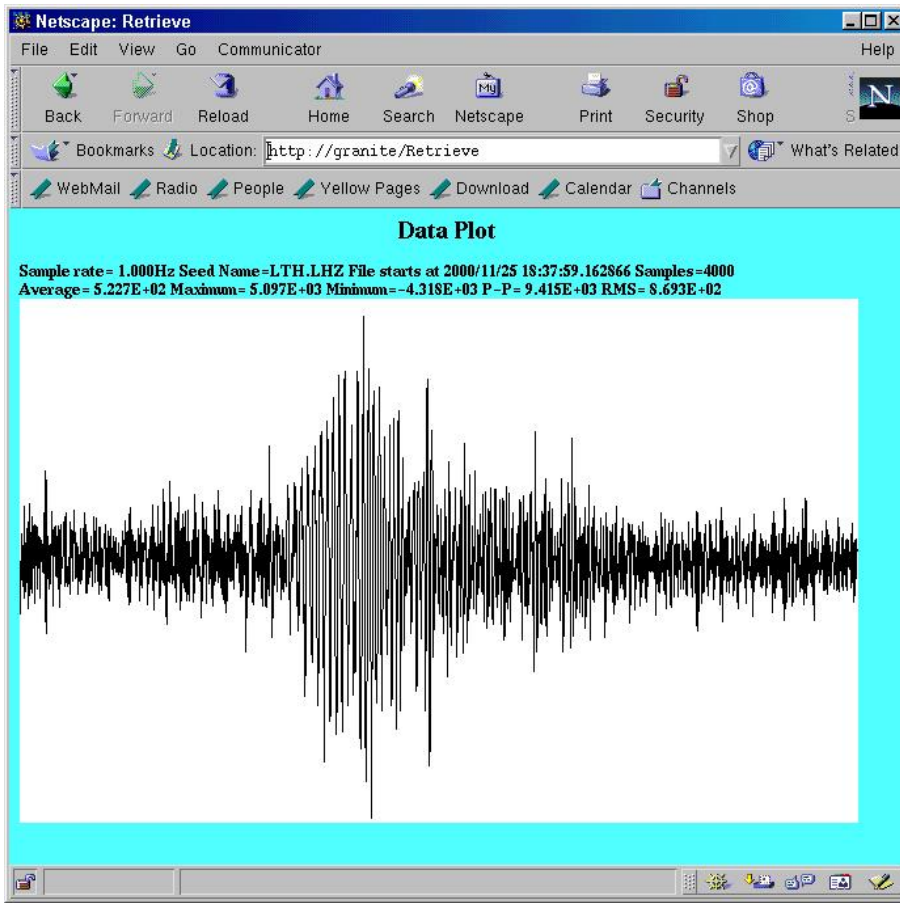
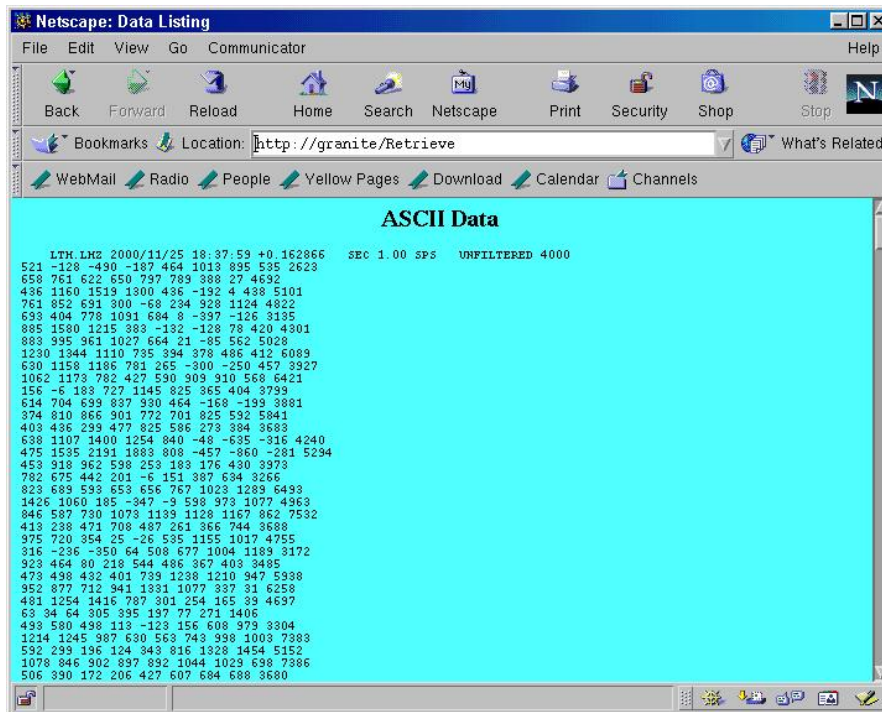It is also possible to make your own graph with your preferred plotting program by saving the required segment of the data in an ASCII file: (choose ASCII instead Plot)

The first line gives the channel, start time, spacing and the number of data points. The next lines contain the data. You can use the following Unix script to produce a single column of data:

```
`cat <datafile.name> | awk '{a++;if(a>1){{for(i=1;i<=NF;i++){print $i}}}}' > <new.file>`
```

Choosing the SAC ASCII option writes a file-format usually provided by USGS stations, with the header giving the detailed station information (e.g. latitude, longitude etc.).
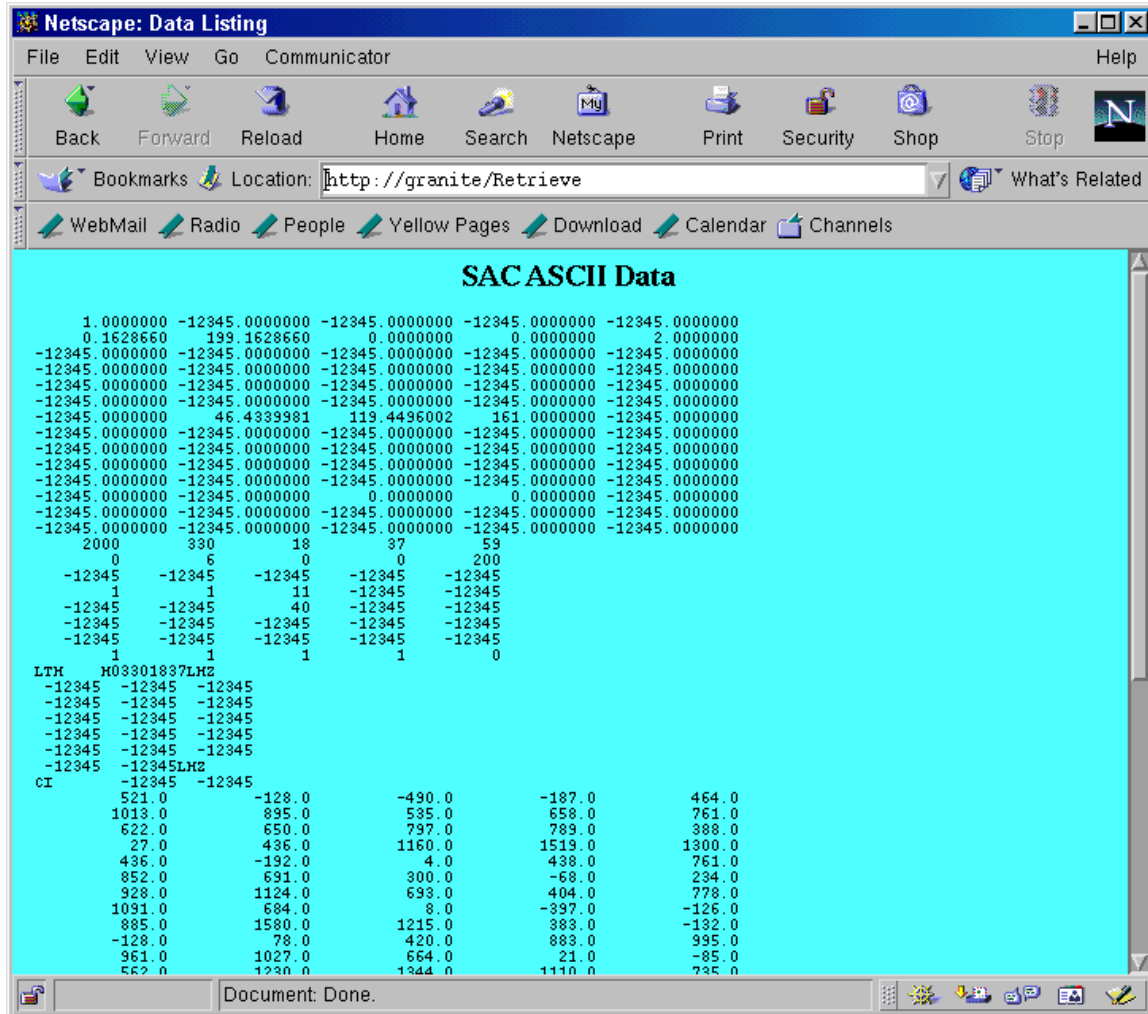
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Contact: Please do not hesitate to contact me if you have any comments or questions regarding this document! (Szabi Márka, smarka@ligo.caltech.edu)