



Introduction to ligo_viewer

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LIGO viewer

The screenshot displays the LIGO viewer 0.5.0 interface, which is divided into several functional windows:

- Top Left (Terminal):** Shows the initialization process, including connecting to the red.ligo-wa.caltech.edu server at port 8088. It reports the server's GPS time as being 13 seconds different from the local time and shows the start of data reception.
- Top Right (Log):** Lists detector parameters such as powerflux (0), firstbin (3), band start (2), nbins (1), side_cut (2), useful bins, useful band, fine_factor, resolution, patch_type, patch_grid, fine_type, fine_grid, fine_npo, fine_grid, input_data, spindown, orientation, and make_cutoff.
- Bottom Left (Channel viewer):** Provides configuration for the H1:LSC-AS_Q channel. It includes fields for Start and End times (GPS and UTC), Freehand, and various channel parameters like Data rate (16384), Trend flag (10153), Channel group number (0), Bytes per sample (4), Data type (32 bit float), Gain (1.0), Slope (6.10280003457e-05), Offset (0.0), and Units (V). Buttons for "Add to data viewer", "Download and save", and "Open data viewer" are present.
- Right (Data viewer):** Displays a plot of the H1:LSC-AS_Q data. The plot shows a signal fluctuating around zero with a significant peak. A statistics box is overlaid on the plot, providing the following data:
 - gps: 751672260
 - Oct 31 2003 21:50:47 UTC
 - min: -2379.08105469
 - max: 2517.98291016
 - mean: 3.82607730582
 - rms: 589.657146881
 - rmsd: 589.644733717
 - mean-rmsd: -585.818656411
 - mean+rmsd: 593.470811023
 - lg(min): No data
 - lg(max): 3.40105277818
 - lg(mean): 0.582753740692
- Bottom Left (System Monitor):** Shows network activity for eth0 and wlan0, and CPU usage for cpu0.
- Bottom Right (Taskbar):** Displays the system tray with the date 08/20/04 and a 100% volume indicator.

Capabilities of latest version

- Displays trend data from any available channels on multiple graphs
- Linux/Unix and Windows versions available
- Works from any computer that can access NDS proxies
- Linux/Unix version is able to use SSH to tunnel to any computer with `tclsh` that has access to NDS proxy
- Can retrieve data and save it locally in CSV format
- Can produce Postscript plots
- Can save plot settings for future reference

Installation

- LIGOtools binaries available from <http://www.ldas-sw.ligo.caltech.edu/ligotools/>
- Source and Windows versions do not require LIGOtools. Available at http://volodya-project.sourceforge.net/ligo_viewer.php
- README file describes how to setup SSH tunnel
- Linux/Unix source version can be run right after compilation by typing `./ligo_viewer.no_install`
- To install Windows version simply unpack the tarball in any directory

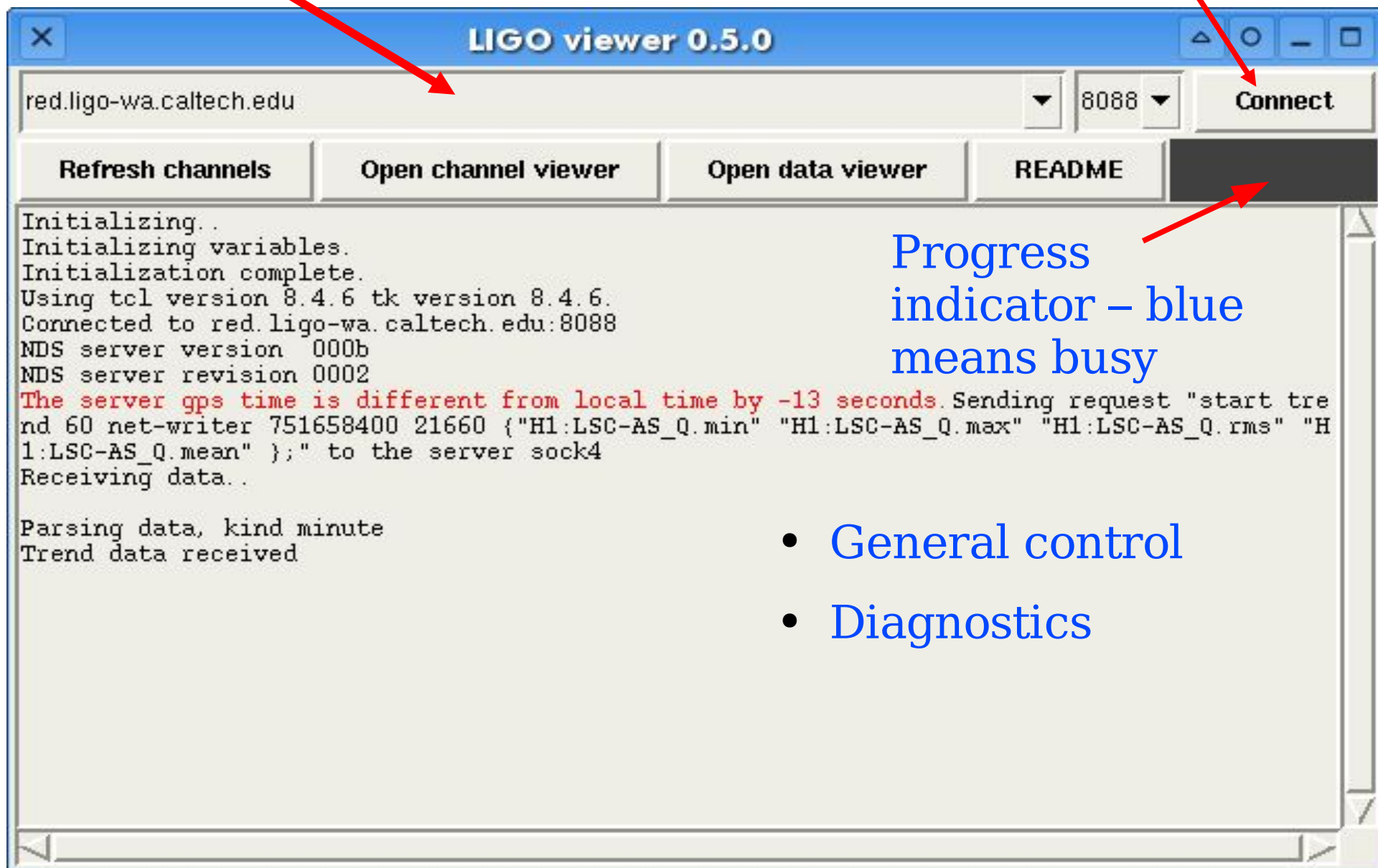
Source installation

- Make sure a version of Tcl/Tk is installed – should be standard with most distributions
- Download source tarball (e.g. `ligo_viewer-0.5.0b.tar.gz`) to your Linux/Unix workstation.
- Unpack: `tar zxvf ligo_viewer-0.5.0b.tar.gz`
- Enter directory: `cd ligo_viewer-0.5.0/`
- Run configure: `./configure`
- Run make: `make`
- Test compilation: `./ligo_viewer.no_install`
- (Optional) install as root: `sudo make install`

Choose NDS proxy
to select between
LHO and LLO

Main window

Click connect to
access proxy



Progress
indicator - blue
means busy

- General control
- Diagnostics

Channel viewer window

The screenshot shows the 'Channel viewer' window with a tree view on the left, a filter box, and two time selection panels. Annotations with blue arrows point to various elements: 'Type filter to select subset of all channels' points to the 'Filter: AS_q' box; 'Click to add plot' points to the 'Add to data viewer' button; 'Enter time' points to the 'Now-15sec' button in the 'End time' panel; and 'Click to save data' points to the 'Download and save' button.

Channel viewer

Expand all Filter: AS_q Trend only Subsystem: * Location/Mirror: * Signal: *

Start time

GPS time: 751658610

UTC time: 31 Oct 2003 18 : 03 : 17

Freehand: [dropdown]

Now Now-15sec Now-1min

End time

GPS time: 751676610

UTC time: 31 Oct 2003 23 : 03 : 17

Freehand: [dropdown]

Now Now-15sec Now-1min

Channel name	H1:LSC-AS_Q
Data rate (samples per second)	16384
Trend flag	10153
Channel group number	0
Bytes per sample	4
Data type	32 bit float
Gain	1.0
Slope	6.10280003457e-05
Offset	0.0
Units	V

Add to data viewer Download and save

Open data viewer

Type filter to select subset of all channels

Click to add plot

Enter time

Click to save data

Data viewer window

