

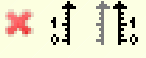
## Electronic Graphic Interface for Global Archiving

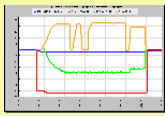
**Technology:** PHP, MySQL, JavaScript, JPGraph, etc

**Development period:** July 25<sup>th</sup> 2003 – now

**Releases:** more than 115 versions

What's new in version 1.6.x?

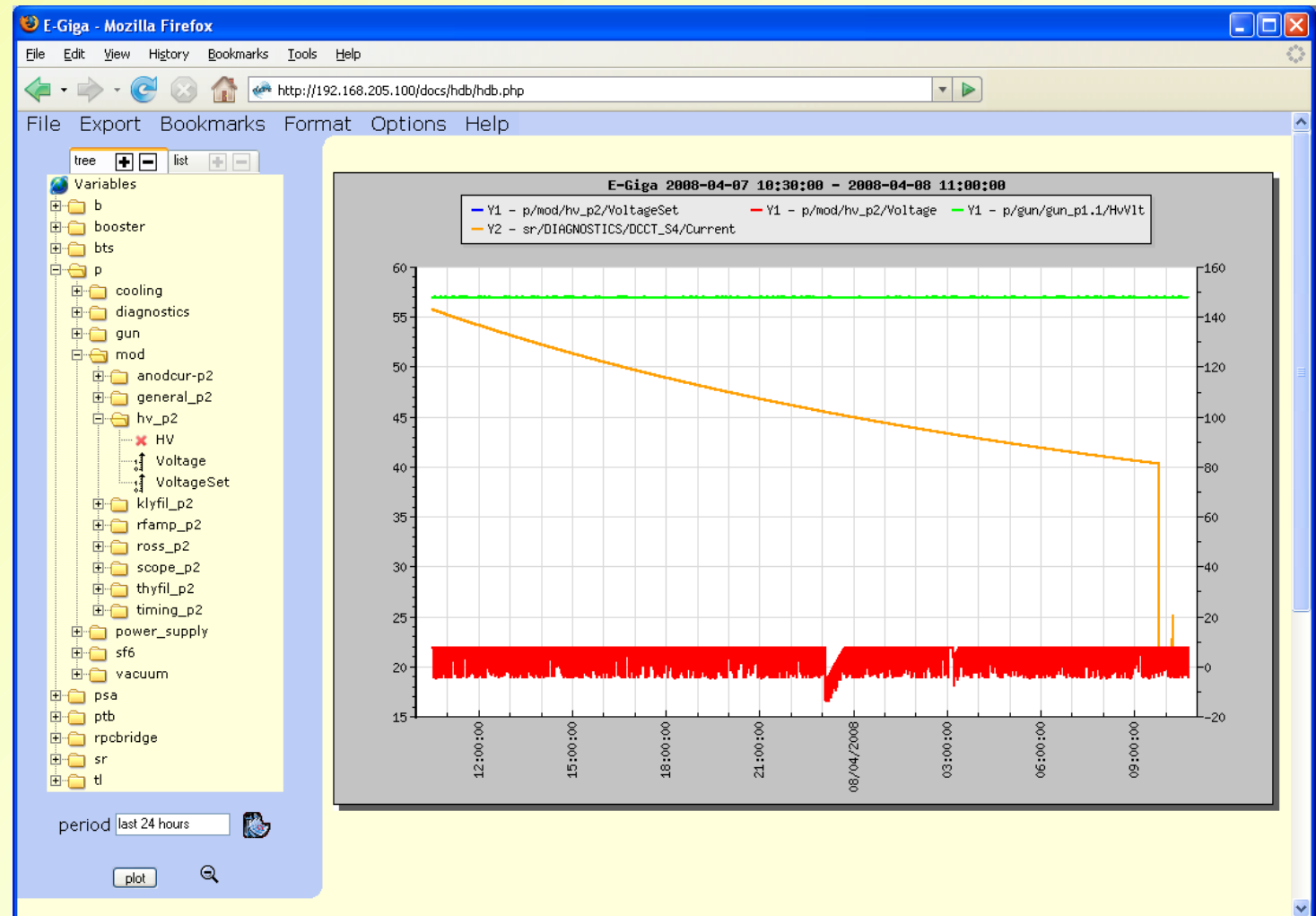
- Selection of attributes in a tree
- Selection of axis clicking over an icon 
- Customization of colors and attribute labels
- Improved scaling either on X and Y axis

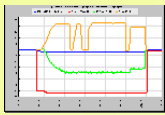


## Single page design

### Requirements:

- Web browser
- Pop-ups
- Cookies





## Three main areas

File Export Bookmarks Format Options Help

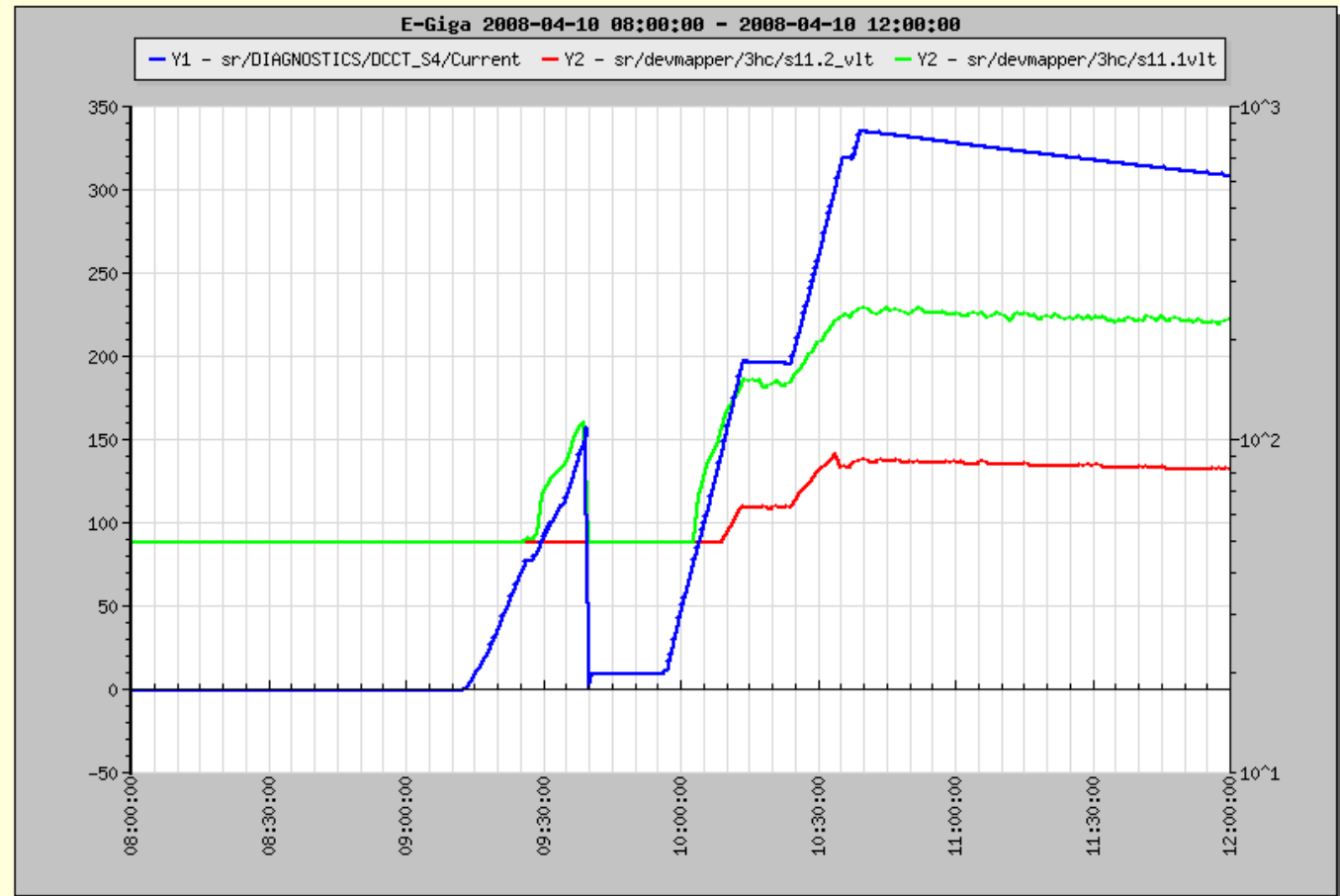
tree + - list + -

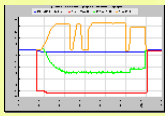
- Variables
  - b
  - booster
  - bts
  - p
    - cooling
      - dr24\_p
    - diagnostics
      - bpm\_p1.1
        - Charge
        - HorPos
        - VerPos
      - bpm\_p1.2
    - gun
    - mod
    - power\_supply
    - sf6
    - vacuum
  - psa
  - ptb
  - rpcbridge
  - sr
  - tl

start 2008-04-10 08:00:00

stop 2008-04-10 12:00:00

plot





## 1 - Menu bar

File Export Bookmarks Format Options Help

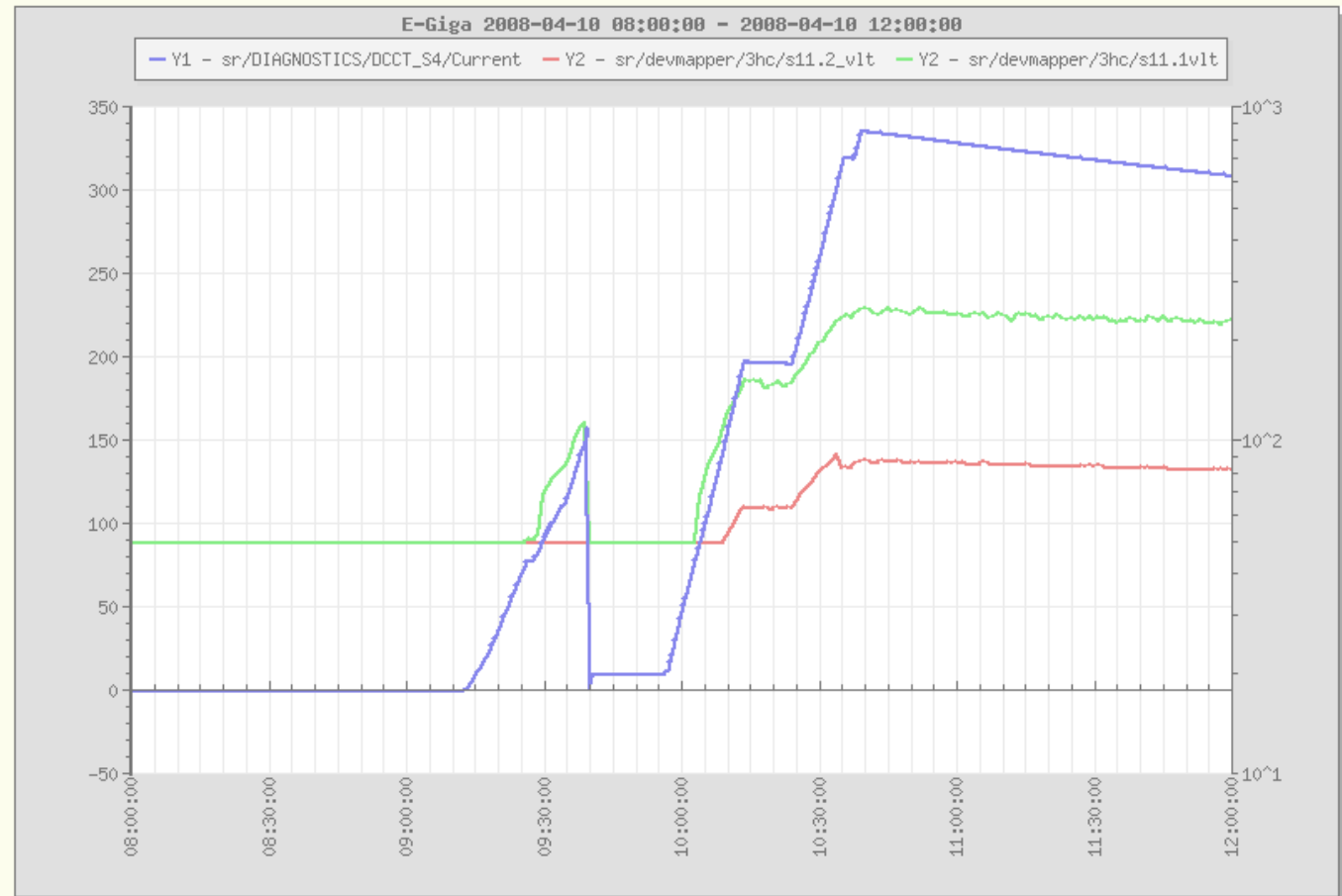
tree + - list + -

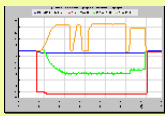
- Variables
  - b
  - booster
  - bts
  - p
    - cooling
      - dr24\_p
    - diagnostics
      - bpm\_p1.1
        - Charge
        - HorPos
        - VerPos
      - bpm\_p1.2
    - gun
    - mod
    - power\_supply
    - sf6
    - vacuum
  - psa
  - ptb
  - rpcbridge
  - sr
  - tl

start 2008-04-10 08:00:00

stop 2008-04-10 12:00:00

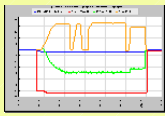
plot





## 2 - Time / Variable Selection





## 3 - Plot

File Export Bookmarks Format Options Help

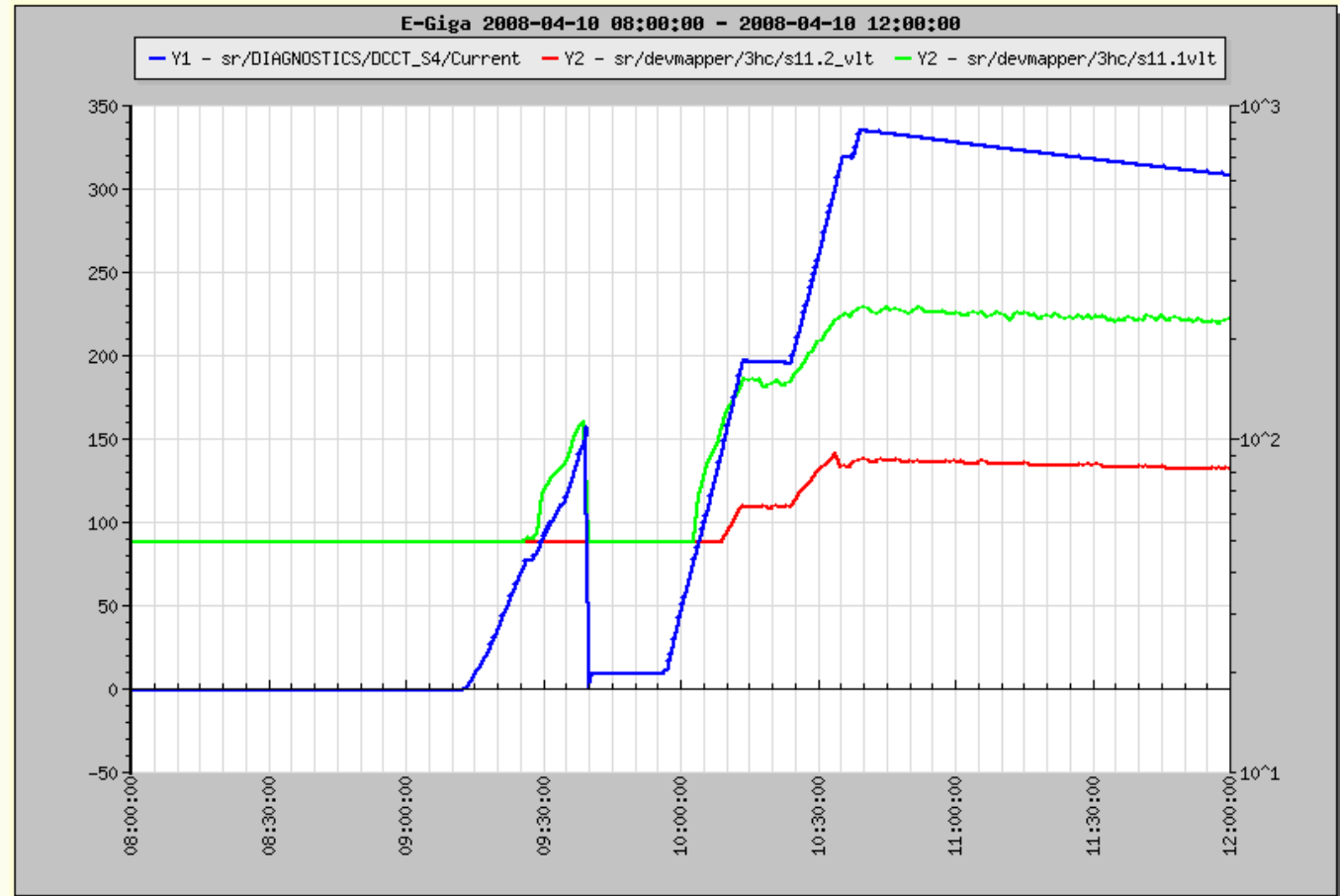
tree + - list + -

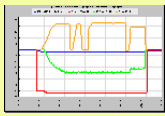
- Variables
  - b
  - booster
  - bts
  - p
    - cooling
      - dr24\_p
    - diagnostics
      - bpm\_p1.1
        - Charge
        - HorPos
        - VerPos
      - bpm\_p1.2
    - gun
    - mod
    - power\_supply
    - sf6
    - vacuum
  - psa
  - ptb
  - rpcbridge
  - sr
  - tl

start 2008-04-10 08:00:00

stop 2008-04-10 12:00:00

plot



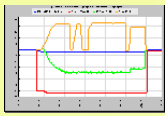


## Time / Variable Selection

### LIST



- Easily select many variables at once
- Button to enlarge selection area
- Button to shrink selection area
- Added labels: "Y1 axis" and "Y2 axis"

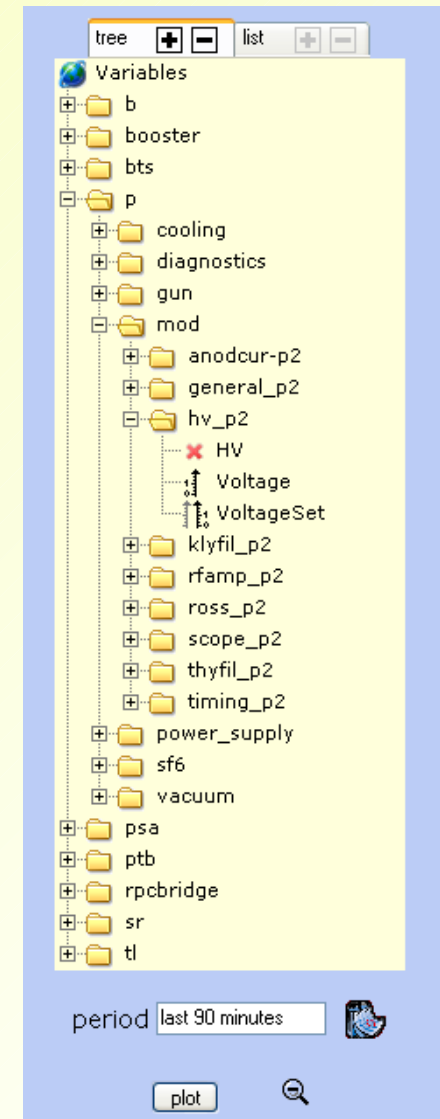
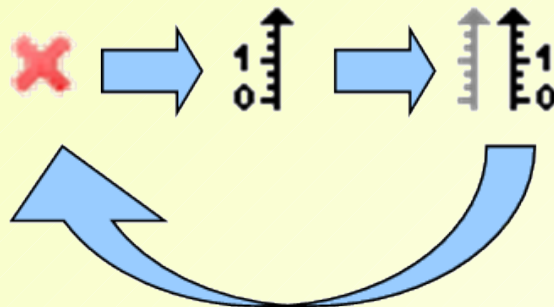
The screenshot shows a software interface for variable selection. At the top, there are two tabs: 'tree' and 'list', with 'list' selected. Below the tabs, there are two scrollable lists of variables. The first list is labeled 'Y1 axis' and the second is labeled 'Y2 axis'. Both lists contain a series of pressure sensor identifiers, such as 'b/vacuum/sip300rf\_b27.1/Pressure'. The 'Y1 axis' list has a plus button to its right, and the 'Y2 axis' list has a minus button to its right. At the bottom of the interface, there are two rows of input fields for 'start' and 'stop' times, with values '2008-04-10 08:00:00' and '2008-04-10 12:00:00' respectively. A 'plot' button and a magnifying glass icon are also visible at the bottom.

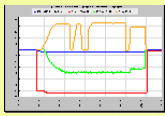


## Time / Variable Selection

### TREE

- Variables organized in a tree structure
- Open all branches button 
- Close all branches button 
- Click on label to open a config pop-up
- Toggle “Y1 / Y2 / none” button





## Variable Configuration

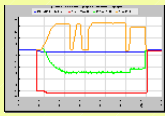
### Variable configuration pop-up

- Vector elements
- Label
- Color
- Axis

Variable	Axis	<input type="checkbox"/>	Label	Color
sr/radio_protection/blm_1/Counts		0 <input type="checkbox"/>		
	Y2	1 <input checked="" type="checkbox"/>		#e61a1a
		2 <input type="checkbox"/>		
		3 <input checked="" type="checkbox"/>	Bergoz - beam loss 1.2	

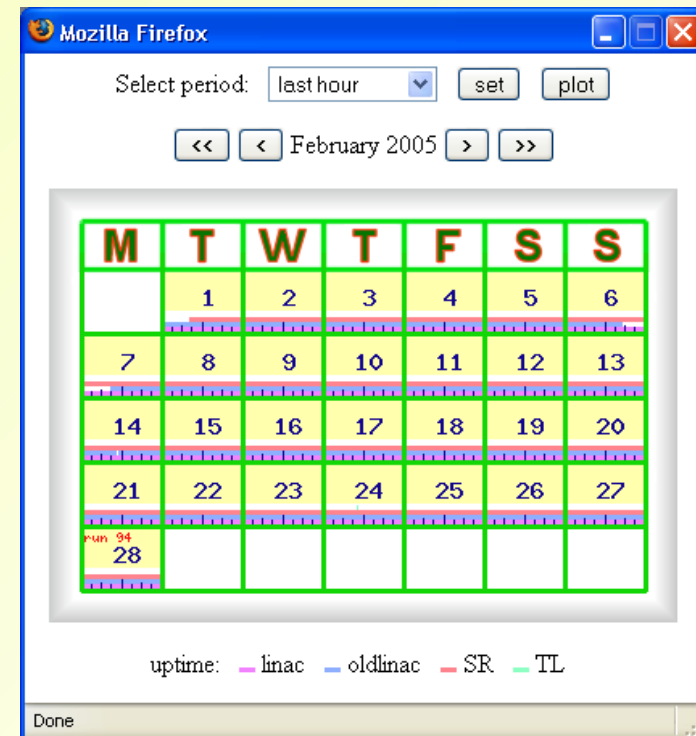
set

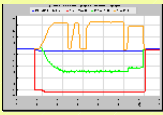
Done



## Calendar

- Date and time selection
- Run and run number
- Loggers' uptime
- Last x minutes / hours / days / months

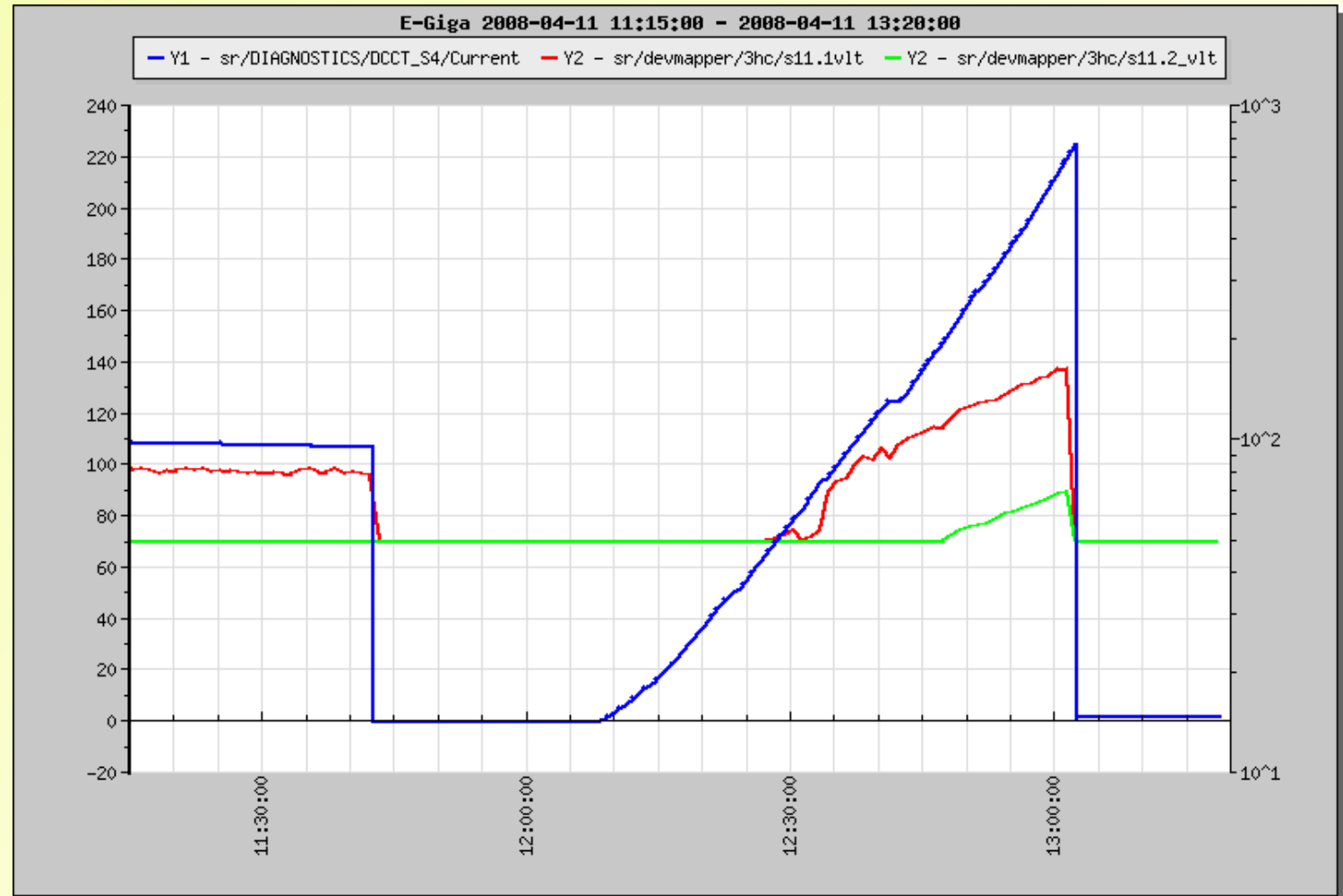


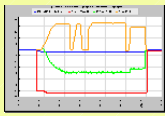


## Plot

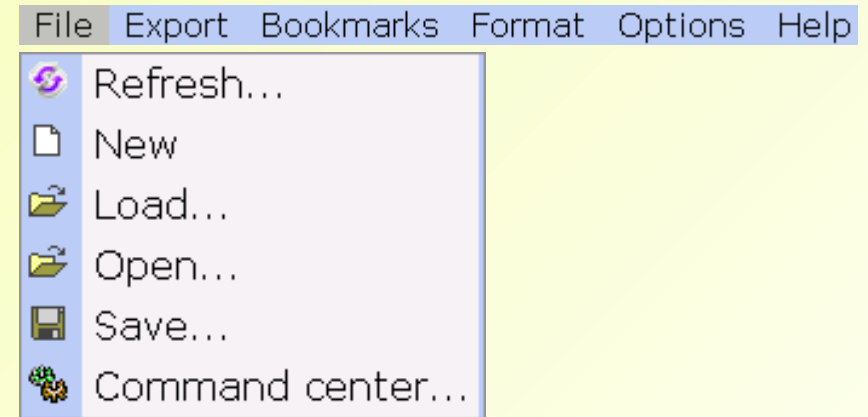
Click on  
image to  
zoom in

Y1 / Y2 axis  
indication  
reported in  
legend



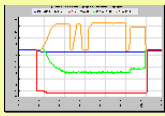


## Menu bar

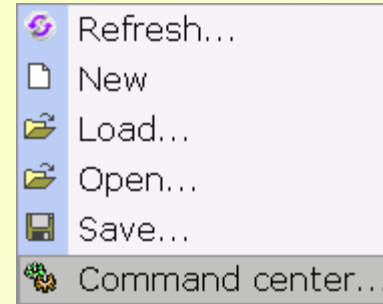


## File

- Refresh... setup auto-refresh
- New clear all settings saved on cookies
- Load... read settings from a file on server side
- Open... read settings from a file on client side
- Save... save settings into a file on client side
- Command center... multiple configurations

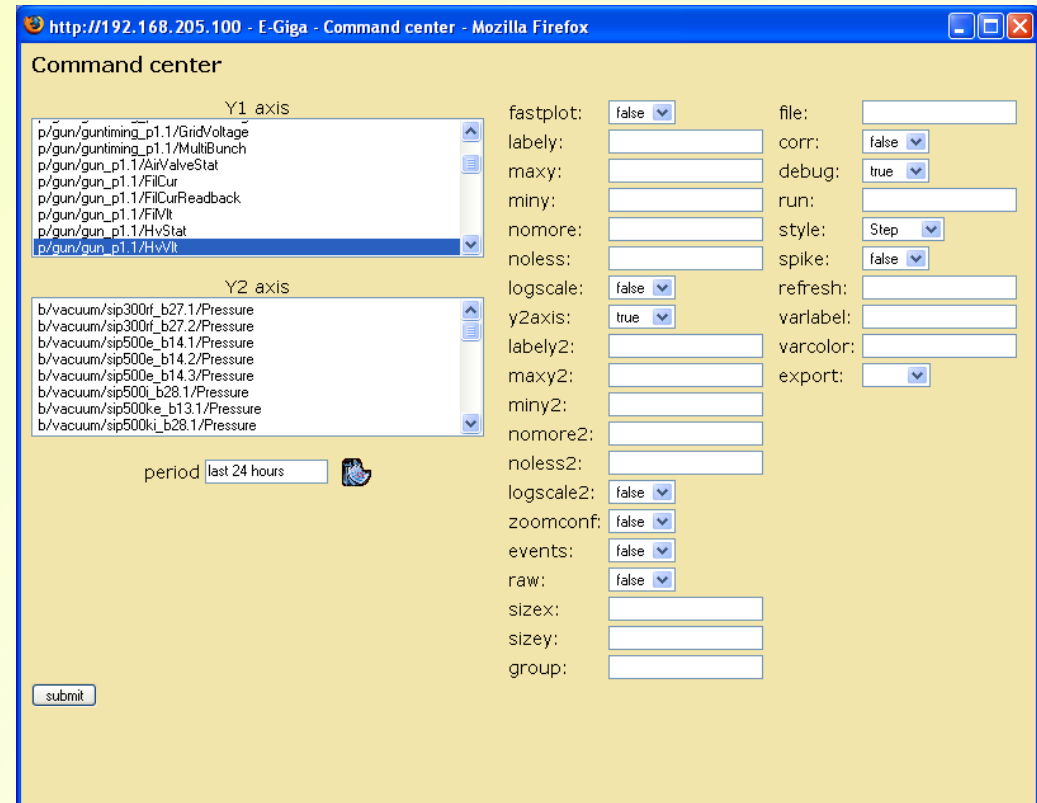


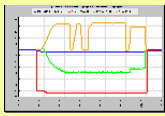
## Menu bar



## Command Center

Configure all parameters in a single panel and apply all settings at once





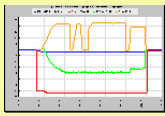
## Menu bar

File Export Bookmarks Format Options Help



## Export

- **PDF** show all plots in A4 or A3 format
- **XLS** use XML for Office XP or 2003
- **MAT** Matlab native format
- **Igor** Igor Pro
- **CSV** comma separated values
- **mail...** multipart mime protocol

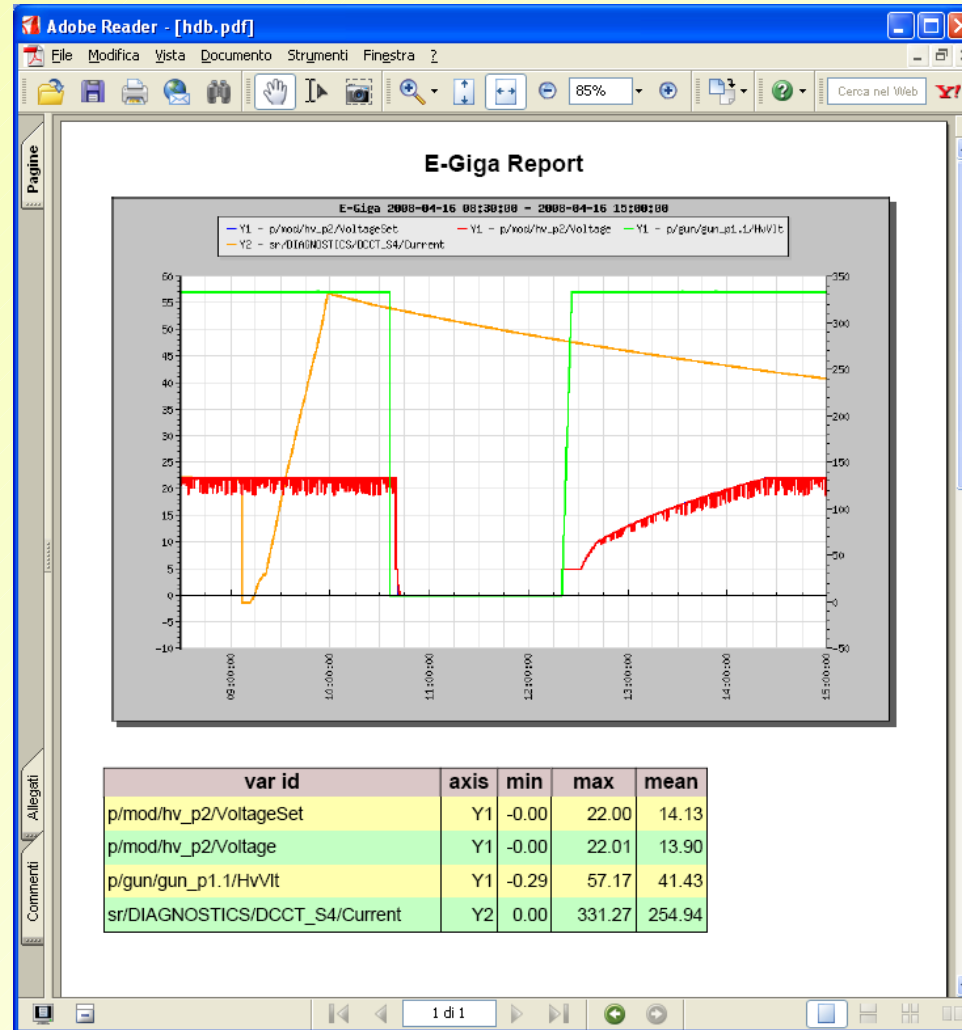


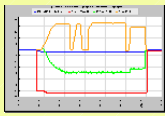
## Menu bar

- PDF
- XLS
- MAT
- Igor
- CSV
- mail...

## PDF Export

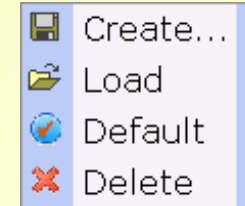
- Plot and table





## Menu bar

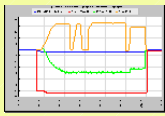
File Export Bookmarks Format Options Help



## Bookmarks

Bookmarks are saved on cookies

- **Create** save all settings as a bookmark
- **Load** some settings from a bookmark
- **Default** set a bookmark as default
- **Delete** destroy a bookmark

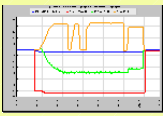


## Menu bar



## Format

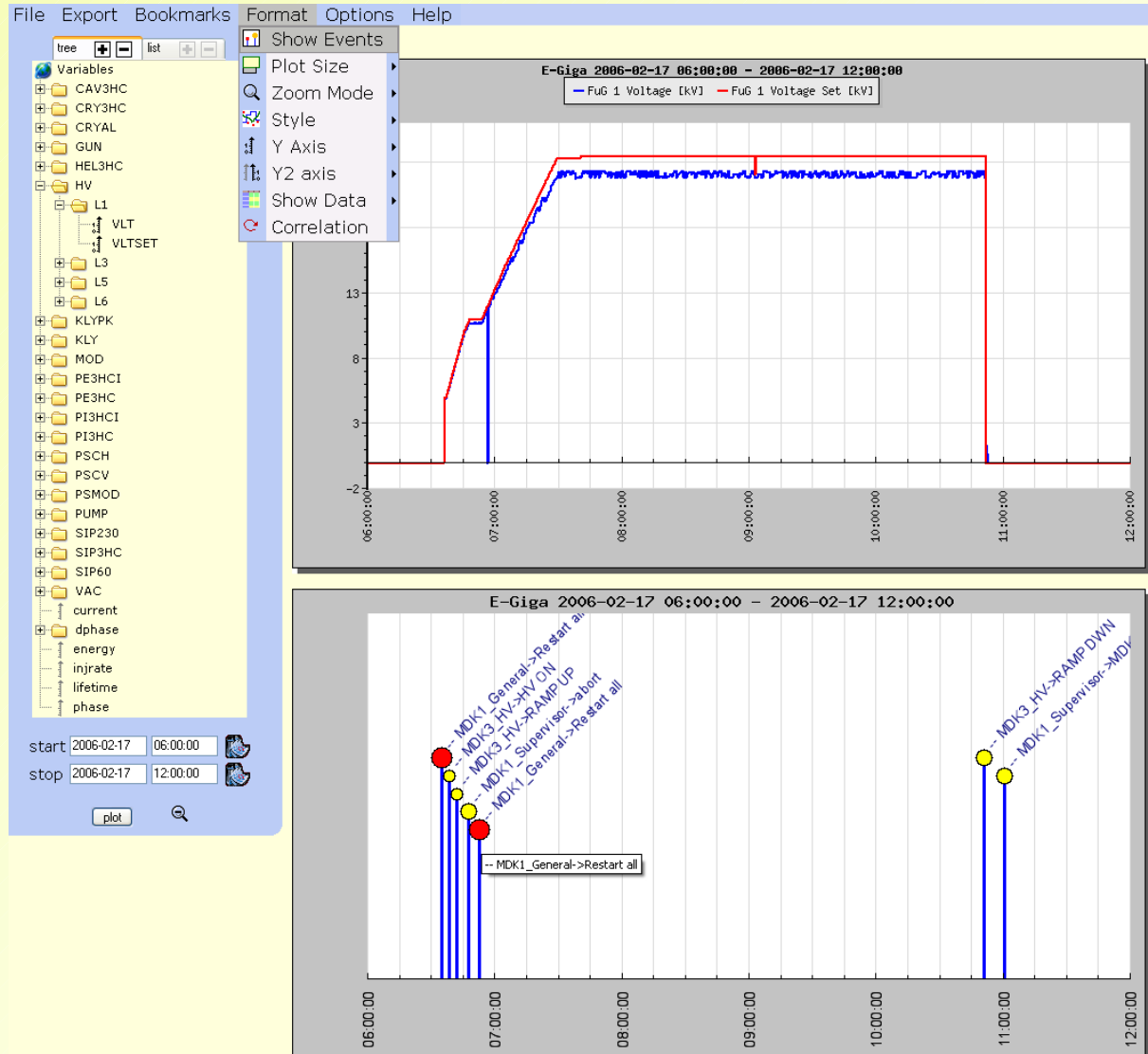
- **Show Events** show-hide the event plot (if available)
- **Plot size** modify the plot size
- **Zoom** switch between two zooming modes
- **Style** switch between step, linear or scatter
- **Y axis** set label, max/min and log scale
- **Y2 axis** set and disable Y2 axis
- **Correlation** set correlation or time domain
- **Show Raw Data** show all data in table

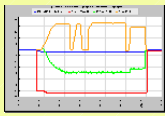


## Menu bar

## Show Events

- Events in a second plot
- Details click on a circle to open a pop-up

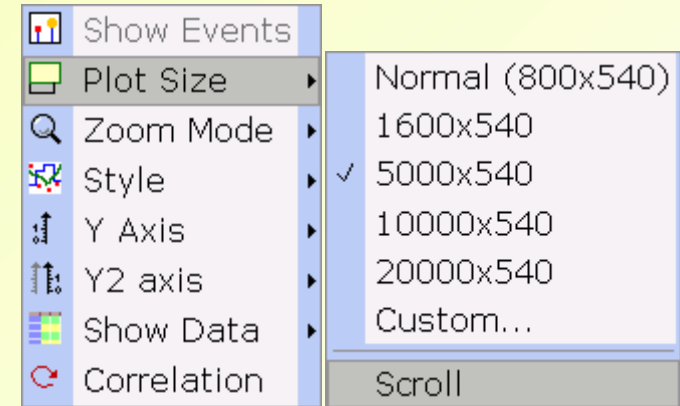


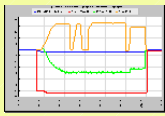


## Menu bar

### Plot Size

- Some default sizes
- Custom size
- Scroll very large plots in a pop-up

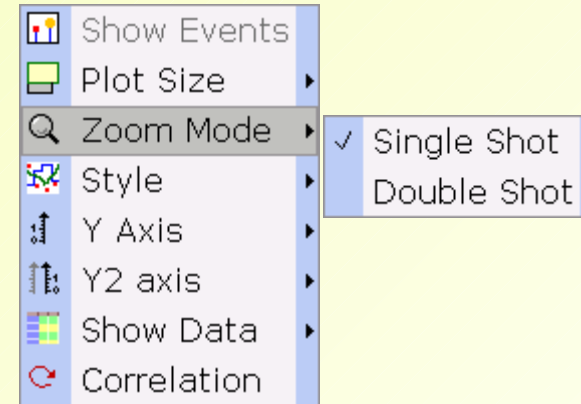




## Menu bar

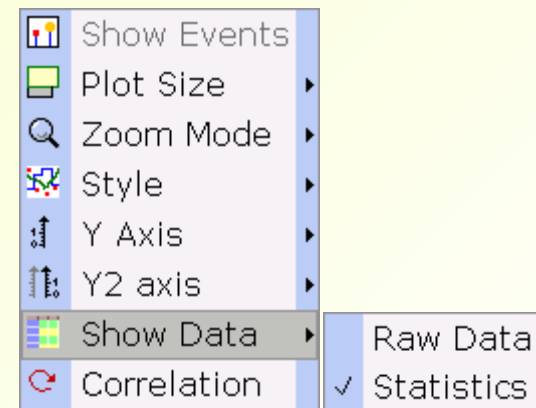
### Zoom Mode

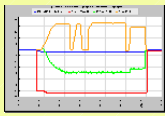
- Single shot, zoom X axis 4x with one click
- Double shot, zoom a rectangle selected with two clicks



### Show Data

- Raw Data, every value in a table
- Statistics, max, min, mean





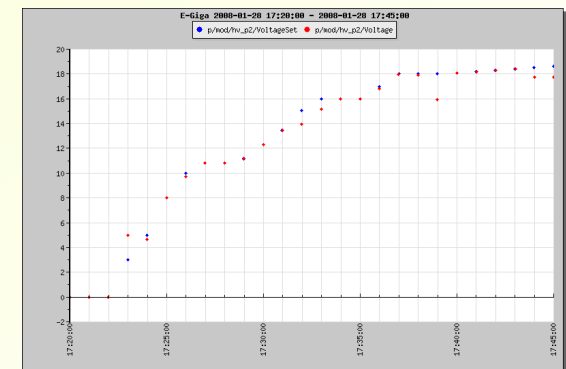
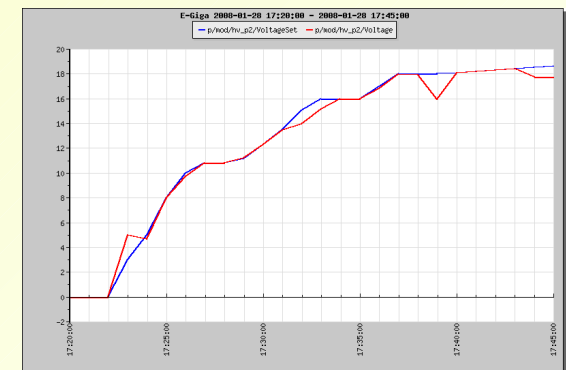
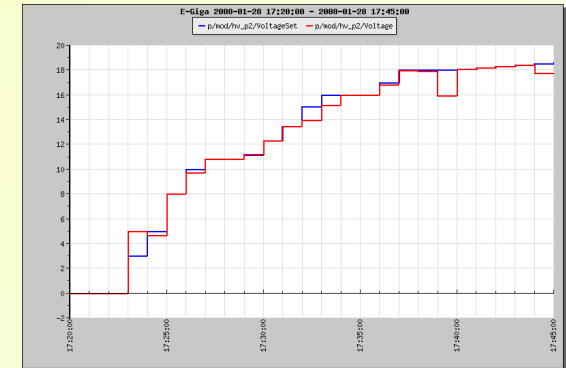
## Menu bar

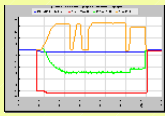
### Style

- Step
- Linear
- Scatter

	Show Events	
	Plot Size	▶
	Zoom Mode	▶
	Style	▶
	Y Axis	▶
	Y2 axis	▶
	Show Data	▶
	Correlation	

<input checked="" type="checkbox"/>	Step
<input type="checkbox"/>	Linear
<input type="checkbox"/>	Scatter

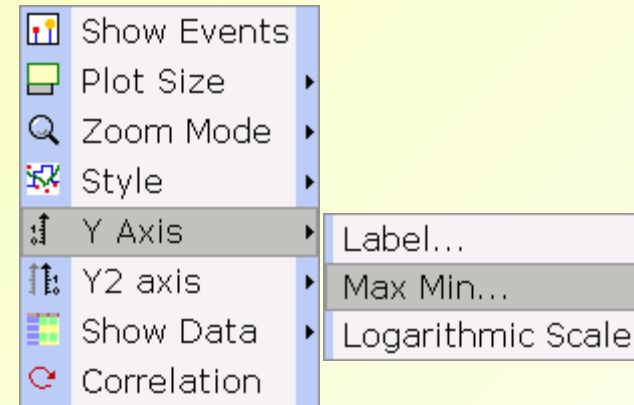




## Menu bar

### Y Axis / Y2 Axis

- Label for Y1 and Y2 axis
- Max Min absolute range
- Max Min threshold limits
- Logarithmic / Linear Scale

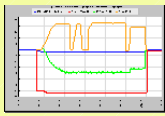


The screenshot shows a web browser window with the URL <http://ecsproxy.elettra.trieste.it>. The page contains two forms for setting Y-axis parameters:

Enter absolute Y-axis range:  
min:  max:

---

Enter Y-axis no-more & no-less limitations:  
noless:  nomore:

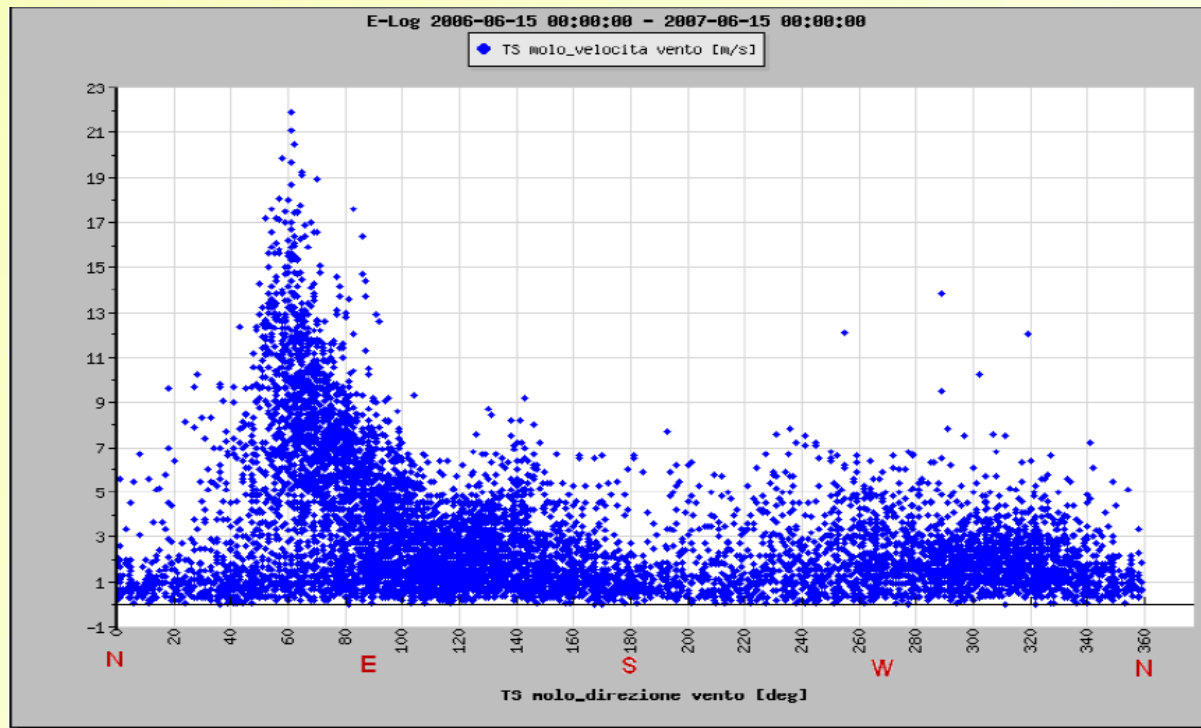


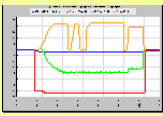
## Menu bar

## Correlation

Correlate 2 variables  
at a time

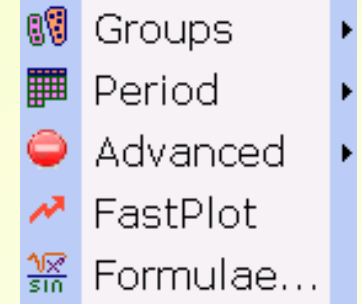
- Show Events
- Plot Size
- Zoom Mode
- Style
- Y Axis
- Y2 axis
- Show Data
- Correlation





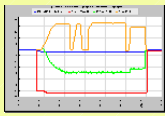
## Menu bar

File Export Bookmarks Format Options Help



## Options

- Groups restrict to some sets of variables
- Period restrict to a limited period
- Advanced for advanced users only
- FastPlot use JPlot 1.17 fast plot
- Formulae... edit formulae



## Formula editor

- Compose
- Load
- Delete
- View MathML
- Variables auto-completion

Mozilla Firefox

$$\sqrt{\frac{adt1}{3} + 1} - \frac{pt373}{4}$$

formula name:  =

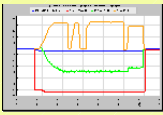
```
sqrt ( adt1 / 3 + 1 ) - pt373 / 4
```

edit formula:

7	8	9	/	(	sin
4	5	6	x	)	cos
1	2	3	-	exp	tg
0	.	not	+	log	√
<	<=	=	>=	>	!=
&		and	or	enter	

- lt607
- pt373
- tt606
- tt609
- adt1
- adt2
- k1bcfcv450
- k2bcfcv450
- k3bcfcv450
- apt2

Done



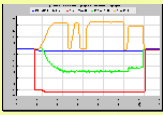
## Menu bar

File Export Bookmarks Format Options Help

? Help Contents  
About E-Giga

## Help

- Help Contents a not-so-short help
- About E-Giga credits and version



## Conclusion

### Developments

- **Debugging:** it is always a necessity
- **Vectors on 'space' domain:** plot array elements on X axis
- **Add users:** save user account and configurations on server side
- **Add multi-plot:** view more than one plot in a single page

### Thanks

- Nine open-source PHP and JavaScript classes utilized
- Many people have contributed with suggestions and debugging