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GnuPlotPlugin

Allows users to plot data and functions using GnuPlot

Syntax Rules

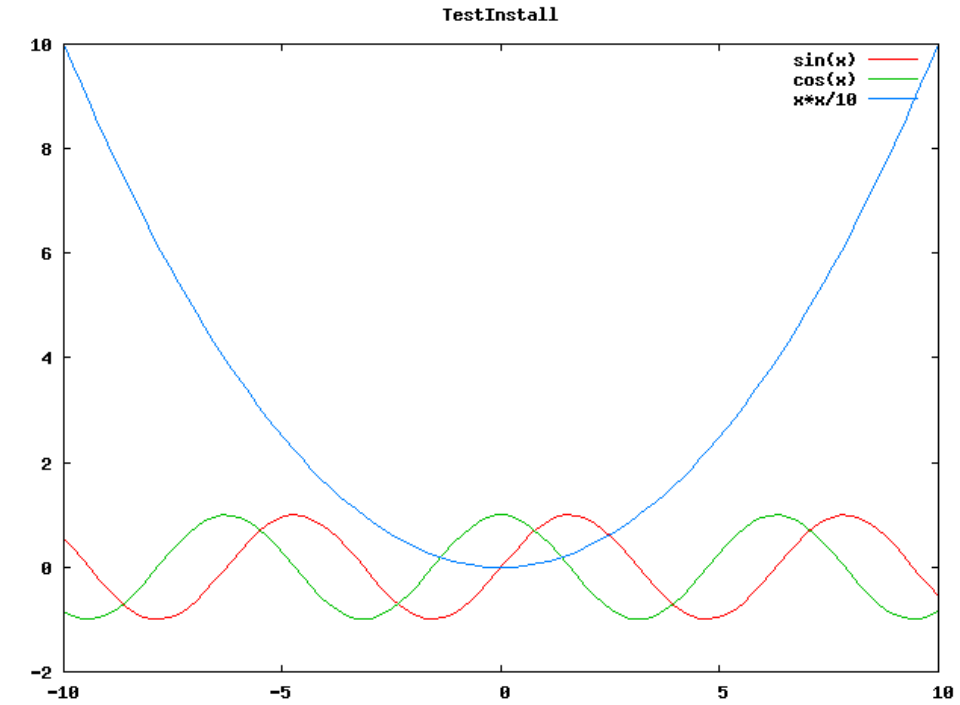
- Just add `%GNUPLOT{"PlotName"}%` anywhere in the page where you want the plot to appear and save the topic
- Multiple plots can be displayed within one topic
- Any CSV (Comma Seperated Variable) file attached to the topic can be used with the plot or splot commands

Examples

The following images are examples of plots generated by GnuPlot:

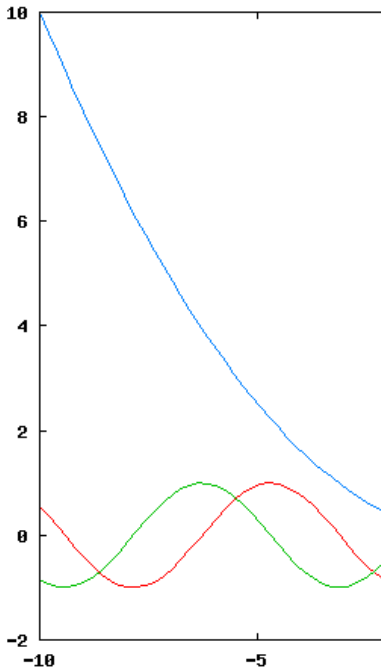
Simple function test

Pre-rendered sample (TestInstall):



Edit Plot Settings

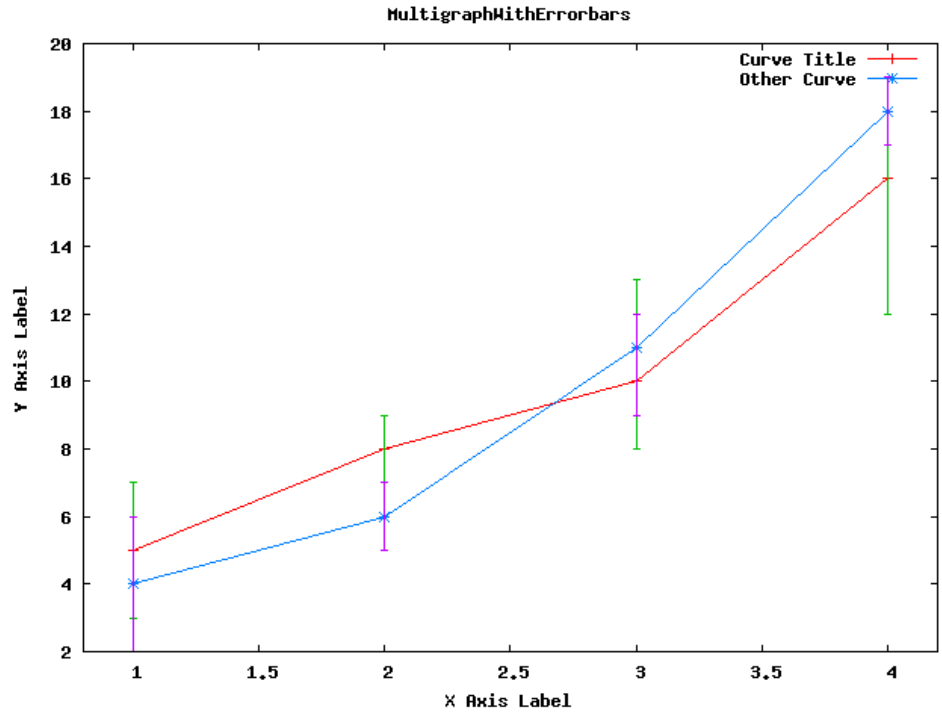
Plugin (TestInstall):

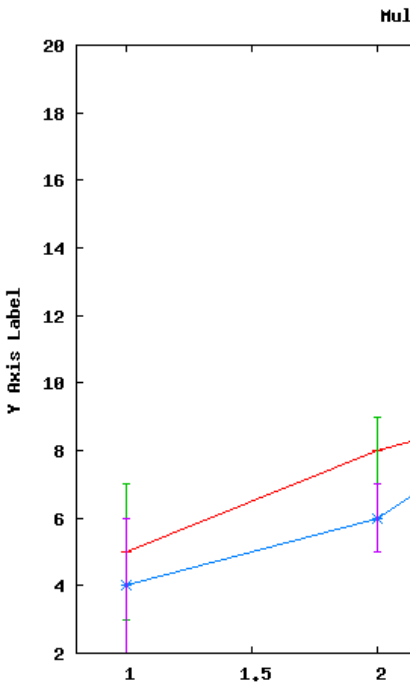


Multi graphs with errorbars, datafile based

Pre-rendered sample (MultigraphWithErrorbars):

Plugin (MultigraphWithErrorbars):

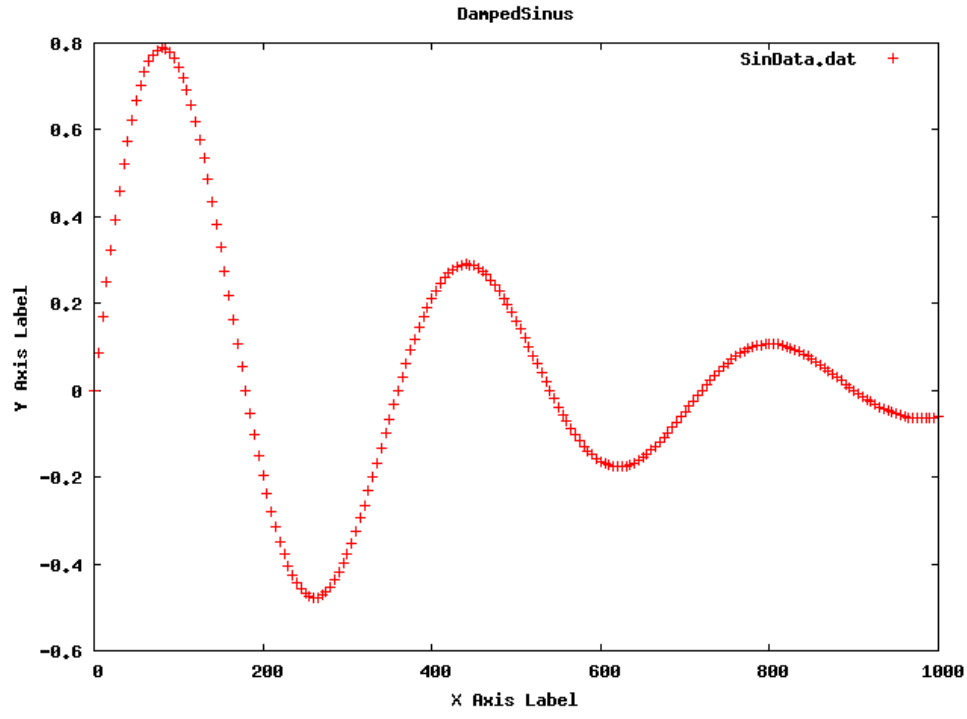




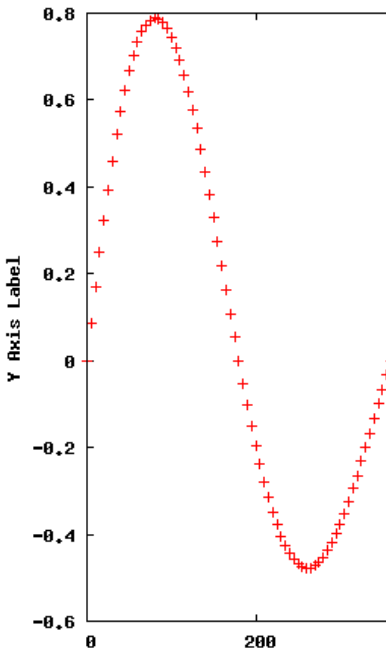
Edit Plot Settings

Damped sinus, datafile based

Pre-rendered sample (DampedSinus):



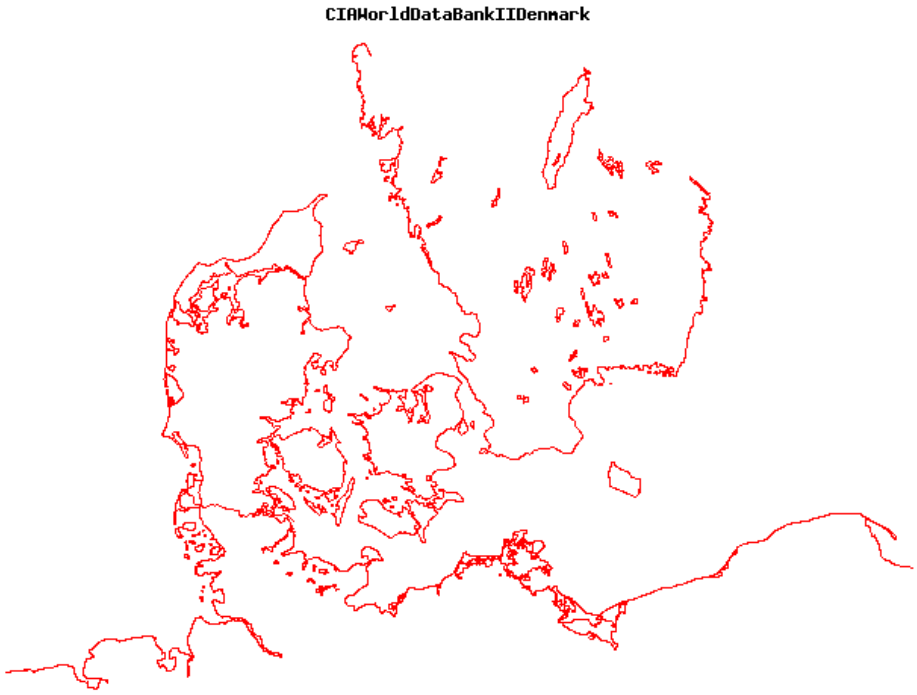
Plugin (DampedSinus):



Edit Plot Settings

Map of Denmark, datafile based (data from CIA World Data Bank II)

Pre-rendered sample (CIAWorldDataBankIIDenmark):

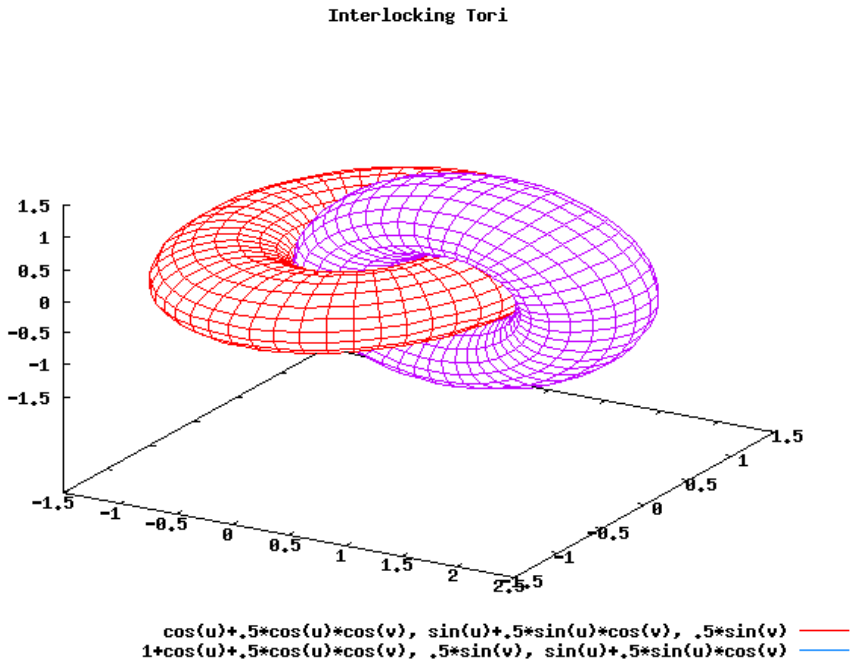


Plugin (CIAWorldDataBankIIDenn

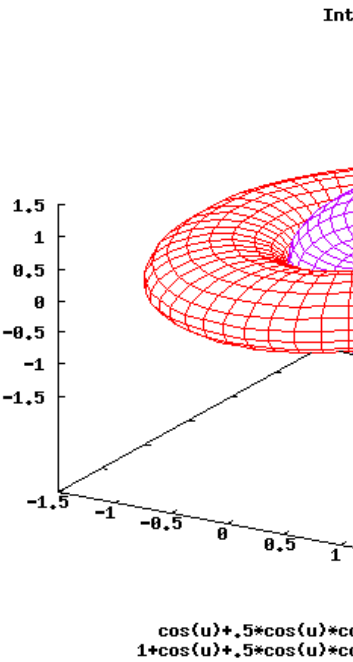
Edit Plot Settings

Interlocking Tori (3D)

Pre-rendered sample (InterlockingTori):



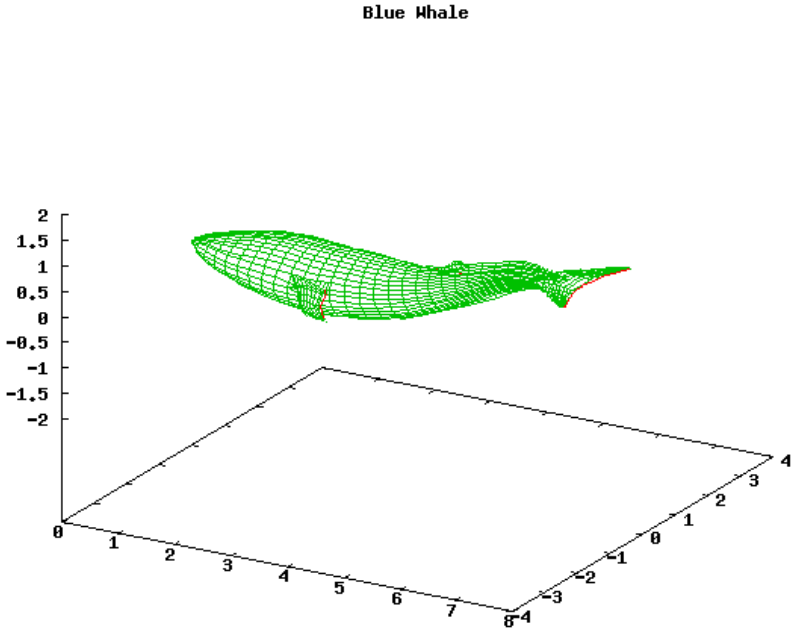
Plugin (InterlockingTori):



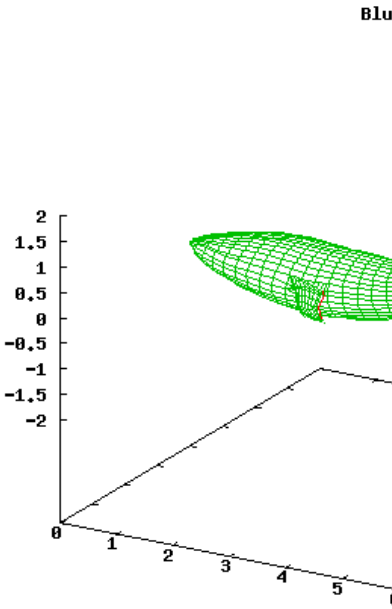
Edit Plot Settings

Blue Whale (3D), datafile based

Pre-rendered sample (BlueWhale):



Plugin (BlueWhale):

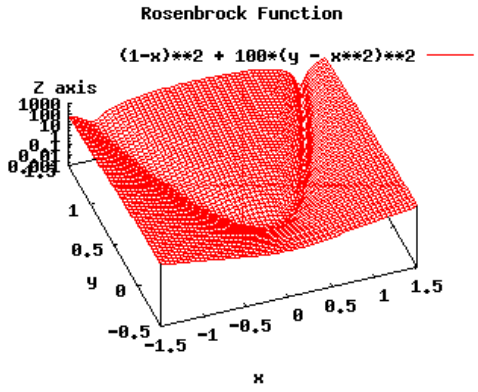


Edit Plot Settings

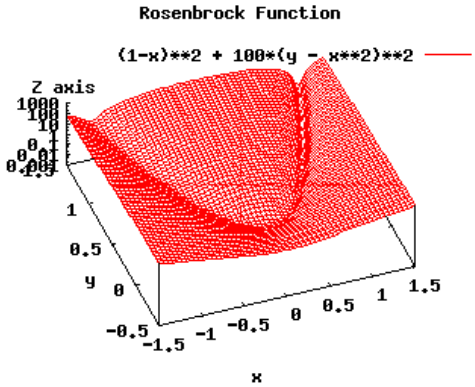
Alternative GnuPlot render sizes, Rosenbrock Function

This one is shown in 350x280. Try blowing it up in size - alter the `set terminal png size 350,280` line into something larger (i.e. `1000,1000`).

Pre-rendered sample (RosenbrockFunction):



Plugin (RosenbrockFunction):



Edit Plot Settings

Verbatim (RosenbrockFun

```
%GNUPLOT{"Rosen

Plot settings:
set logscale z
set view 20, 34
set isosamples
set hidden3d of
set style data
set ticslevel 0
set title "Rose
set xlabel "x"
set xrange [ *
set ylabel "y"
set yrange [ *
set zlabel "Z a
set zrange [ *
set terminal pn
splot [-1.5:1.5
```

Plugin Settings

- One line description, is shown in the TextFormattingRules topic:
  - ♦ Set SHORTDESCRIPTION = Allows users to plot data and functions using GnuPlot

- Debug plugin: (See output in `data/debug.txt`)

- Set DEBUG = 0

Plugin Installation Instructions

Note: You do not need to install anything on the browser to use this plugin. The following instructions are for the administrator who installs the plugin on the TWiki server.

- For an ***automated installation***, run the configure script and follow "Find More Extensions" in the in the ***Extensions*** section.

- Or, follow these ***manual installation*** steps:
  - Download the ZIP file from the Plugins home (see below).
  - Unzip **`GnuPlotPlugin.zip`** in your twiki installation directory. Content:

File:	Description:
`data/TWiki/GnuPlotPlugin.txt`	Plugin topic
`data/TWiki/GnuPlotHelp.txt`	Help topic
`lib/TWiki/Plugins/GnuPlotPlugin.pm`	Plugin Perl module
`lib/TWiki/Plugins/GnuPlotPlugin/Plot.pm`	Perl module responsible for rendering the plot area
`lib/TWiki/Plugins/GnuPlotPlugin/PlotSettings.pm`	Perl module responsible for managing the settings
`pub/TWiki/GnuPlotHelp/gnuplot.html`	HTML file
`pub/TWiki/GnuPlotPlugin/*`	Sample plot data files
`tools/gnuplot.pl`	Helper Perl script

  - Set the ownership of the extracted directories and files to the webserver user.

- Plugin ***configuration and testing***:
  - Run the configure script and enable the plugin in the ***Plugins*** section.
  - In `lib/TWiki/Plugins/GnuPlotPlugin/Plot.pm` look for the following line and update the paths to fit your environment:
    ```
    # Update $gnuplotPath, $gnuplotHelperPath and $execCmd to fit your environment
    ```
  - Test if the installation was successful: See examples above

Planned improvements

- TWiki compatible syntax for using datafiles from any topic.
- Form based editing of plot settings to make it easier for users that are not familiar with GnuPlot

Plugin Info

Plugin Author:	TWiki:Main.AbieSwanepoel
Copyright:	© 2006 TWiki:Main.AbieSwanepoel © 2008-2011 TWiki:TWiki.TWikiContributor
License:	GPL (GNU General Public License)
Plugin Version:	2011-03-12
Change History:	
2011-03-12:	TWikibug:Item6638: Fix code for TWiki-4.0 and up; doc fixes; changing TWIKIWEB to SYSTEMWEB -- TWiki:Main.PeterThoeny

2006-04-30:	Added sandbox security mechanism -- TWiki:Main.SteffenPoulsen
2006-04-19:	Fixed anchors, added 3D examples, added png size option -- TWiki:Main.SteffenPoulsen
2006-04-17:	Doc update, changed working dir to ATTACHURLPATH -- TWiki:Main.SteffenPoulsen
2006-01-27:	Initial version
TWiki Dependency:	$TWiki::Plugins::VERSION 1.1
CPAN Dependencies:	none
Other Dependencies:	GnuPlot (available from http://www.gnuplot.info) with support for a PNG terminal
Perl Version:	5.005
Benchmarks:	GoodStyle 100%, FormattedSearch 100%, GnuPlotPlugin 100%
Plugin Home:	http://TWiki.org/cgi-bin/view/Plugins/GnuPlotPlugin
Feedback:	http://TWiki.org/cgi-bin/view/Plugins/GnuPlotPluginDev
Appraisal:	http://TWiki.org/cgi-bin/view/Plugins/GnuPlotPluginAppraisal

Related Topics: GnuPlotHelp, TWikiPreferences, TWikiPlugins

This topic: TWiki > GnuPlotPlugin
Topic revision: r3 - 2014-10-28 - TerjeAndersen

Note: Please contribute updates to this topic on TWiki.org at TWiki:TWiki.GnuPlotPlugin