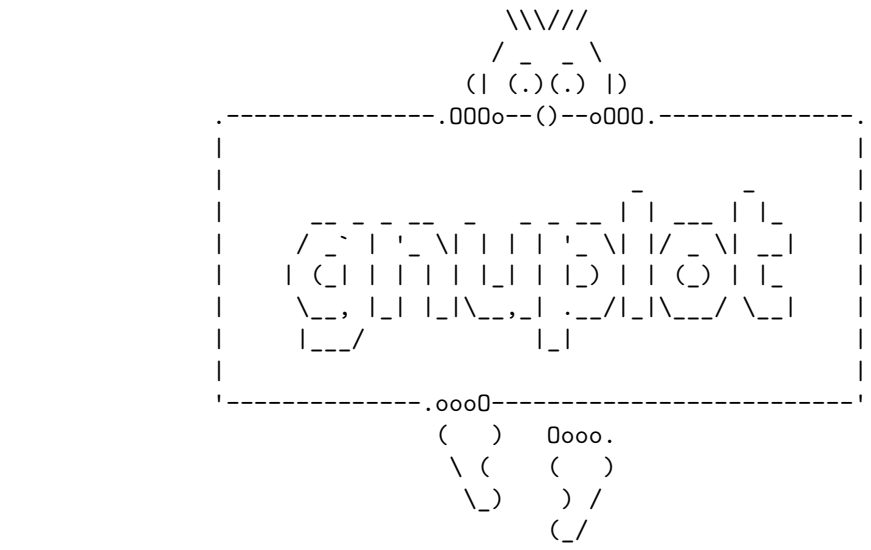


```
Codeblock class: gnuplot

    sudo apt-get install gnuplot
    http://www.gnuplot.info
    notes:
    - graphic data is printed to stdout
    - so 'stdout' in im_out option is silently ignored

    runs:
    > gnuplot {im_opt} <fname>.gnuplot > <fname>.{im_fmt}

    class->cmd
      gnuplot -> gnuplot

Metadata options
    imagine.im_out: img,fcb
    imagine.im_log: 4
    imagine.gnuplot.im_fmt: svg
```

Notes:

- This doc's metadata sets gnuplot's default output format to 'svg'

Local installation

```
Package: gnuplot
Version: 5.2.2+dfsg1-2ubuntu1
Priority: optional
Section: universe/math
Origin: Ubuntu
Maintainer: Ubuntu Developers <ubuntu-devel-discuss@lists.ubuntu.com>
Original-Maintainer: Debian Science Team <debian-science-maintainers@lists.alio
th.debian.org>
Bugs: https://bugs.launchpad.net/ubuntu/+filebug
Installed-Size: 31,7 kB
Provides: gnuplot5
Depends: gnuplot-qt | gnuplot-x11 | gnuplot-nox
Suggests: gnuplot-doc
Breaks: gnuplot5 (<< 5.0.5+dfsg1-4~)
Replaces: gnuplot5 (<< 5.0.5+dfsg1-4~)
Homepage: http://gnuplot.sourceforge.net/
Download-Size: 3816 B
APT-Manual-Installed: yes
APT-Sources: http://archive.ubuntu.com/ubuntu bionic/universe amd64 Packages
Description: Command-line driven interactive plotting program.
 Gnuplot is a portable command-line driven interactive data and function
 plotting utility that supports lots of output formats, including drivers
 for many printers, (La)TeX, (x)fig, Postscript, and so on. The X11-output
 is packaged in gnuplot-x11.
 .
 Data files and self-defined functions can be manipulated by the internal
 C-like language. Can perform smoothing, spline-fitting, or nonlinear fits,
 and can work with complex numbers.
 .
 This metapackage is to install a full-featured gnuplot (-qt, -x11 or -nox).
```

Examples

Line (png)

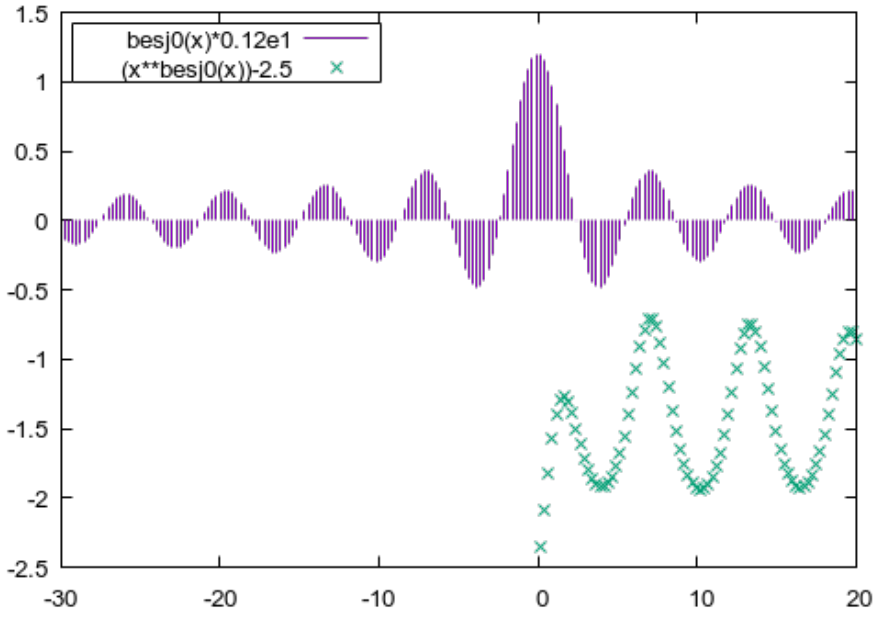

Figure 1: Created by GnuPlot

```
```{.gnuplot im_fmt="png" height="50%" caption="Created by GnuPlot"}
set terminal pngcairo transparent \
    enhanced font "arial,10" fontscale 1.0 size 500, 350
set key inside left top vertical Right \
    noreverse enhanced autotitles box linetype -1 linewidth 1.000
set samples 200, 200
plot [-30:20] besj0(x)*0.12e1 with impulses, \
     (x**besj0(x))-2.5 with points
```
```

Real sine (png)

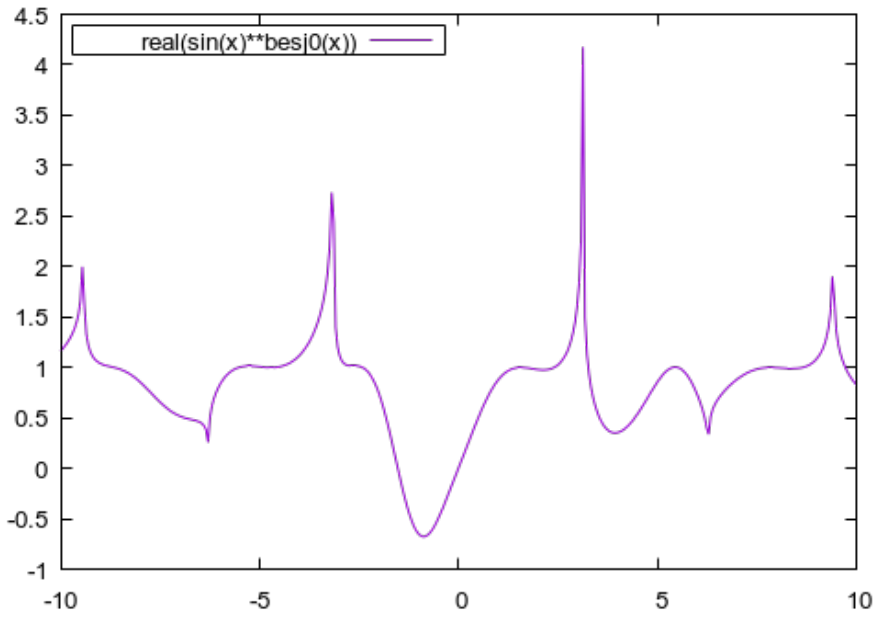

Figure 2: Created by GnuPlot

```
```{.gnuplot im_fmt="png" height="50%" caption="Created by GnuPlot"}
set terminal pngcairo transparent enhanced \
    font "arial,10" fontscale 1.0 size 500, 350
set key inside left top vertical Right \
    noreverse enhanced autotitles box linetype -1 linewidth 1.000
set samples 400, 400
plot [-10:10] real(sin(x)**besj0(x))
```
```

Surface (svg)

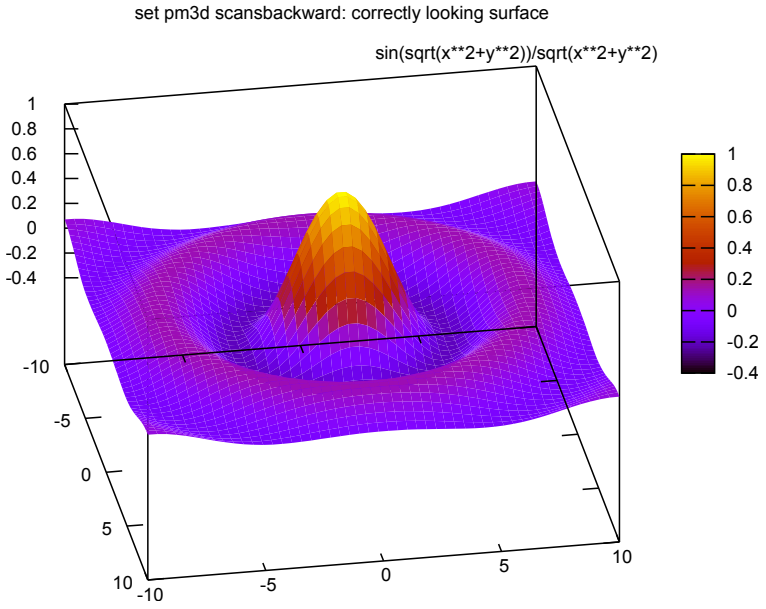

Figure 3: Created by Gnuplot

```
```{.gnuplot caption="Created by Gnuplot"}
set terminal svg
set border 4095 front linetype -1 linewidth 1.000
set view 130, 10, 1, 1
set samples 50, 50
set isosamples 50, 50
unset surface
set title "set pm3d scansbackward: correctly looking surface"
set pm3d implicit at s
set pm3d scansbackward
splot sin(sqrt(x**2+y**2))/sqrt(x**2+y**2)
```
```

Interlocking Tori (svg)

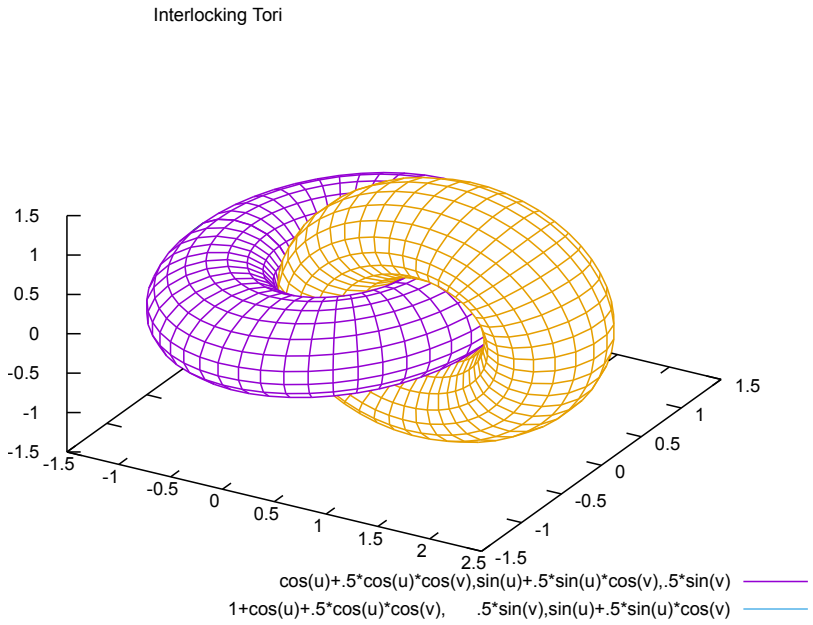

Figure 4: Created by Gnuplot

```{.gnuplot caption="Created by Gnuplot"}
set terminal svg
set dummy u,v
set key bmargin center horizontal Right noreverse enhanced autotitles nobox
set parametric
set view 50, 30, 1, 1
set isosamples 50, 20
set hidden3d back offset 1 trianglepattern 3 undefined 1 altdiagonal bentover
set ticslevel 0
set title "Interlocking Tori"
set urange [ -3.14159 : 3.14159 ] noreverse nowriteback
set vrange [ -3.14159 : 3.14159 ] noreverse nowriteback
splot cos(u)+.5*cos(u)*cos(v),sin(u)+.5*sin(u)*cos(v),.5*sin(v) \
      with lines, 1+cos(u)+.5*cos(u)*cos(v),\
      .5*sin(v),sin(u)+.5*sin(u)*cos(v) with lines
```

Documentation

gnuplot -h

```
Usage: gnuplot [OPTION] ... [FILE]
for X11 options see 'help X11->command-line-options'
  -V, --version
  -h, --help
  -p  --persist
  -d  --default-settings
  -c  scriptfile ARG1 ARG2 ...
  -e  "command1; command2; ..."
gnuplot 5.2 patchlevel 2
```

man page

```
GNUPLOT(1)               General Commands Manual               GNUPLOT(1)

NAME
       gnuplot - an interactive plotting program

SYNOPSIS
       gnuplot [X11 options] [options] [file ...]

DESCRIPTION
       Gnuplot is a command-driven interactive plotting program.

       If  file  names  are  given on the command line, gnuplot loads and
       executes each file in the order specified,  and  exits  after  the
       last  file  is  processed.  If no files are given, gnuplot prompts
       for interactive commands.

       Here are some of its features:

       Plots any number of functions, built up of  C  operators,  C  math
       library  functions, and some things C doesn't have like **, sgn(),
       etc.

       User-defined constants and functions.

       All computations performed in the complex domain.  Just  the  real
       part  is  plotted  by default, but functions like imag() and abs()
       and arg() are available to override this.
```

Many presentation styles for plotting user data from files, including surface-fitting, error bars, boxplots, histograms, heat maps, and simple manipulation of image data. There is an on-line demo collection at
http://gnuplot.info/demo

Nonlinear least-squares fitting.

2D and 3D plots with mouse-controlled zooming, rotation, and hypertext.

Shell escapes and command line substitution.

Load and save capability.

Support for a huge variety of output devices and file formats.

OPTIONS

-p, --persist lets plot windows survive after main gnuplot program exits.

-c scriptname ARG1 ARG2 ..., load script using gnuplot's "call" mechanism and pass it the remainder of the command line as arguments

-d, --default settings. Do not read from gnuplotrc or ~/.gnuplot on entry.

-e "command list" executes the requested commands before loading the next input file.

-h, --help print summary of usage

-V show current version

X11 OPTIONS

For terminal type x11, gnuplot accepts the standard X Toolkit options and resources such as geometry, font, and background. See the X(1) man page for a description of common options. For additional X options specific to gnuplot, type help x11 on the gnuplot command line. These options have no effect on other terminal types.

ENVIRONMENT

A number of shell environment variables are understood by gnuplot. None of these are required.

GNUTERM
The name of the terminal type to be used by default. This can be overridden by the gnuplotrc or .gnuplot start-up files and, of course, by later explicit "set terminal" commands.

GNUHELP
The pathname of the HELP file (gnuplot.gih).

HOME The name of a directory to search for a .gnuplot file.

PAGER An output filter for help messages.

SHELL The program used for the "shell" command.

FIT_SCRIPT
Specifies a gnuplot command to be executed when a fit is interrupted---see "help fit".

FIT_LOG
The name of the logfile maintained by fit.

GNUPLOT_LIB
Additional search directories for data and command files. The variable may contain a single directory name, or a list of directories separated by ':'. The contents of GNUPLOT_LIB are appended to the "loadpath" variable, but not saved with the "save" and "save set" commands.

GDFONTPATH
Several gnuplot terminal drivers access TrueType fonts via the gd library. This variable gives the font search path for these drivers.

GNUPLOT_DEFAULT_GDFONT
The default font for the terminal drivers that access TrueType fonts via the gd library.

GNUPLOT_FONTPATH
The font search path used by the postscript terminal. The format is the same as for GNUPLOT_LIB. The contents of GNUPLOT_FONTPATH are appended to the "fontpath" variable, but not saved with the "save" and "save set" commands.

GNUPLOT_PS_DIR

Used by the postscript driver to locate external prologue files. Depending on the build process, gnuplot contains either a builtin copy of those files or simply a default hardcoded path. Use this variable to test the postscript terminal with custom prologue files. See "help postscript prologue".

FILES

gnuplotrc

When gnuplot is run, it first looks for a system-wide initialization file named gnuplotrc. The standard location of this file expected by the program is reported by the "show loadpath" command.

.gnuplot

After loading the system-wide initialization file, if any, Gnuplot looks for a private initialization file in the HOME directory. It may contain any legal gnuplot commands, but typically they are limited to setting the preferred terminal and line types and defining frequently-used functions or variables.

fit.log

The default name of the logfile output by the "fit" command.

AUTHORS

Original authors: Thomas Williams and Colin Kelley. Starting with gnuplot version 3.8, the project source is cooperatively maintained on SourceForge by a large number of contributors.

BUGS

Please report bugs using the project bug tracker on SourceForge.

SEE ALSO

See the printed manual or the on-line help for details on specific commands. Project web site at http://gnuplot.info