

Gnuplot OX server ㅏ

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OpenXM.org

1 GNUPLOT 醇

GNUPLOT ox 泣若 ox_sm1_gnuplot や渦帥 若拷 違茹 h . 違 < や
'gnuplot.rr' 臂 . gnuplot.rr '\$(OpenXM_HOME)/lib/asir-contrib/' .

```
[255] gnuplot.start();
```

```
0
```

```
[257] gnuplot.gnuplot("plot sin(x**2);");
```

```
0
```

```
gnuplot.heat(dt,step) GNUPLOT や渦帥 若拷 違 . 違 延絨合緒
```

$$\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}, \quad u(t, 0) = u(t, 1) = 1$$

> 散

$$u(0, x) = x, \quad (0 \leq x \leq 0.5), \quad u(1, x) = 1 - x, \quad (0.5 \leq x \leq 1)$$

順綏 羈 $0 \leq t \leq dt * step$ 蚊 . 咲 [0,1] Heat_N 蚊. static 素 Heat_N
gnuplot.set_heat_N 紵. Courant-Friedrichs-Levi $dt * Heat_N * Heat_N$ 0.5 簞ヤ , 順
綏 鴻 若 紵 . CFL 素 , 箏紵紵 苟喝 .

```
gnuplot.set_heat_N(20); gnuplot.heat(0.001,30); (CFL number is 0.4)
```

```
gnuplot.set_heat_N(20); gnuplot.heat(0.003,30); (CFL > 0.5 unstable)
```

Author of GNUPLOT: Thomas Williams, Colin Kelley. <http://www.gnuplot.info>

1.1 醇違苟

1.1.1 gnuplot.start

```
gnuplot.start()
```

```
:: Localhost ox_sm1_gnuplot 莎桁.
```

```
return 價
```

- Localhost ox_sm1_gnuplot 莎桁. 莎桁 ox_sm1_gnuplot ㊄ 激祉.
- Xm_noX =1 , ox_sm1_gnuplot debug window .
- 荔㊄ 激, Gnuplot_proc 主.

```
P = gnuplot.start();
```

```
ox_launch, gnuplot
```

1.1.2 gnuplot

```
gnuplot.gnuplot(s|proc=p)
```

```
:: GNUPLOT 渦渦 s 紵茵 .
```

```
return
```

```
p
```

```
s 紵
```

- 泣若 GNUPLOT 濁濁 s 紘茵. 若翫 GNUPLOT 篋 障, `ox_sm1_gnuplot`
GNUPLOT 鴻帥若.
- GNUPLOT 激紊縹や .
- GNUPLOT \wedge や ., ** 箆帥.

```
[232] P = gnuplot.start();
0
*Plot 3 dimensional graph.
[233] gnuplot.gnuplot("splot x**2-y**2;"|proc=P);
0
*Plot 2 dimensional graph.
[234] gnuplot.gnuplot("plot [-pi:pi] [-2:2] cos(x);");
0
*Output a graph as a postscript figure.
[235] gnuplot.output(|file="hoge.eps");
0
[236] gnuplot.gnuplot("plot sin(x)*cos(x);");
0
[237] gnuplot.gnuplot(|file="x11");
0

*Plot 3 dimensional graph hiding unvisible lines.
[236] gnuplot.gnuplot("set hidden3d");
0
[237] gnuplot.gnuplot("splot (x**2+y**2)*sin(x**2+y**2)");
0
[238] gnuplot.gnuplot("set isosamples 50");
0
[239] gnuplot.gnuplot("splot (x**2+y**2)*sin(x**2+y**2)");
```

`ox_launch, gnuplot.start, rtostr, gnuplot.plot_dots`

拷, 紊 や; 箆帥 GNUPLOT, , ISBN4-924998-11-7

1.1.3 gnuplot.plot_dots

`gnuplot.plot_dots(d,s|proc=p)`

:: 鴻 d 鴻帥や s .

return

P

d 鴻

s 紘 障 0

- 拷 d 鴻帥や s . s 紘: "style color point". style lines, points, linespoints, impulses, dots, steps, errorbars, boxes, boxerrorbars 吾鴻. color 1 (red), 2 (green), 3 (blue), 4, ... , 8 吾鴻. point 1 8 違や. color, point や .
- $d == []$ 鴻 若濁障羔祉.

```

[239] P = gnuplot.start();
0
[240] gnuplot.plot_dots([ ],0);
0
[241] for (I=0; I<10; I++) gnuplot.plot_dots([[I,I^2]], " lines ");
[242] A = [ ];
[]
[243] for (I=0; I<10; I++) A = append(A, [ [I,I^2]]);
[244] A;
[[0,0],[1,1],[2,4],[3,9],[4,16],[5,25],[6,36],[7,49],[8,64],[9,81]]
[245] gnuplot.plot_dots(A, " lines ");
0

gnuplot.start, plot "fileName" with options(GNUPLOT command),
gnuplot.clean, gnuplot

```

1.1.4 gnuplot.heat

```

gnuplot.heat(dt,step)
:: 延絨合綹医よ .

return

dt      羌 絨亥号
step    價
• 延絨合綹  $du/dt = d^2 u/dx^2$ ,  $u(t,0) = u(t,1) = 0$  > 散  $u(0,x) = x$  ( $0 \leq x \leq 0.5$ ),
 $u(0,x) = 1-x$  ( $0.5 \leq x \leq 1.0$ ) .
• Heat_N 劫 < 激ヤ .
• 違 pde_heat_demo 若違篋紘.
[232] gnuplot.set_heat_N(20)$
[233] gnuplot.heat(0.001,30)$

```

1.1.5 gnuplot.output

```

gnuplot.output(|file=s)
:: GNUPLOT < や s 吾鴻鴻 阪 若.

return Void

s      String
• GNUPLOT < や s 吾鴻鴻 阪 若.
• s "x11" 障, 違絨亥< 吟, 篋ㄱ, X11 display graphics 阪.
[273] gnuplot.output(|file="hoge.eps");
Graphic output of GNUPLOT will be written to hoge.eps as a Poscript file.
0
[274] gnuplot.gnuplot("plot tan(x)+sin(x);");
0
[275] gnuplot.output();
Usage of gnuplot.output: gnuplot.output(|file="string")

```

```

                                gnuplot.output(|file="x11")
Output device is set to X11
                                gnuplot

```

1.1.6 gnuplot.plot_function

```

gnuplot.plot_function(f|proc=p)
:: gnuplot 泣若  $f$  違 吾 若.

```

祉

p

f 紊綫障 綫 鴻

- gnuplot 泣若 f 違 吾 若.

```

[290] gnuplot.plot_function((x+sin(x))^2);
0
[291] gnuplot.plot_function([x,x^2,x^3]);
0

```

```

                                gnuplot.to_gnuplot_format

```

1.1.7 gnuplot.stop

```

gnuplot.stop()
:: GNUPLOT 罩 , 篆 fifo <や 羔.

```

return Void

s String

- GNUPLOT 罩 , 箏 c 篆 fifo <や 羔.
- 篆 fifo <や gnuplot 障.

```

[273] gnuplot.stop()
                                gnuplot.start

```

1.1.8 gnuplot.setenv

```

gnuplot.setenv(key,value)
::

```

return Void

key String

value Object

- key "gnuplot.callingMethod" 障 "plot.gnuplotexec".

Use the old method to communicate with gnuplot (version 3).

This method does not use mkfifo, but we need a patched version of gnuplot.

```

[273] gnuplot.setenv("gnuplot.callingMethod",0);

```

```

[274] gnuplot.setenv("plot.gnuplotexec",getenv("OpenXM_HOME")+"/bin/gnuplot4ox");

```

Calling your own gnuplot binary.

```

[274] gnuplot.setenv("plot.gnuplotexec","/cygdrive/c/program files/gnuplot/pgnuplot

```

```
gnuplot.start
```

Index

(Index is nonexistent)

(Index is nonexistent)

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