

mk_graph Manual

Edition : 2009.02.12

OpenXM.org

1 Function Manual

1.1 Outline

1.2 Notation

1.3 Functions

1.3.1 mtg.plot3d

`mtg.plot3d(formula)`
 :: Draw a graph of *formula*

`mtg.plot3d(formula | options)`
 :: Draw a graph of *formula*. Optional arguments are described below.

return List

formula Expression or quote data. It should be a function in *x*, *y*.

optinal arguments

| | |
|---------------|---|
| <i>domain</i> | List. $[[xmin, xmax], [ymin, ymax]]$ |
| <i>mesh</i> | Natural number. Division number to mesh the region. |
| <i>fit</i> | When it is 1, $(max+min)/2$ is moved to the orgin in <i>z</i> . |

- Details have not been written. See examples.

```
[1210] import("mt_graph.rr");
[1211] mtg.test2();
[1210] import("mt_graph.rr");
[1211] mtg.plot3d(x^2-y^2);
[1210] import("mt_graph.rr");
[1211] mtg.plot3d(x^2-y^2 | domain=[[-1,1],[1,1]]);
[1210] import("mt_graph.rr");
[1211] def myfunc(X,Y) { if (X*Y < 0) return 0; else 1;}
[1212] mtg.plot3d(quote(myfunc(x,y)*x*y));
```

1.3.2 mtp.parametric_plot3d

`mtp.parametric_plot3d(formula)`
 :: Draw a graph of *formula*

`mtp.parametric_plot3d(formula | options)`
 :: Draw a graph of *formula*. Optinal arguments are described below.

return List

formula Expression or quote data. It should be a function in *s*, *t*.

optinal arguments

| | |
|---------------|--------------------------------------|
| <i>domain</i> | List. $[[xmin, xmax], [ymin, ymax]]$ |
|---------------|--------------------------------------|

mesh Natural number. Division number to mesh the region.

fitting If it is set to 0, then automatic fitting to the z-direction is not done.

- Details have not been written. See examples.

```
[1210] import("mt_graph.rr");
[1211] mtp.test5();    /* Klein bottle (8 figure) */
[1210] import("mt_graph.rr");
[1211] mtp.parametric_plot3d([s,t,s^2-t^2]);
[1210] import("mt_graph.rr");
[1211] def myfunc(X,Y) { if (X*Y < 0) return 0; else 1;}
[1212] mtp.parametric_plot3d([s,t,quote(myfunc(s,t)*s*t) | fitting=0];
```

Index

(Index is nonexistent)

(Index is nonexistent)

Short Contents

| | | |
|---|----------------------|---|
| 1 | Function Manual..... | 1 |
| | Index..... | 3 |

Table of Contents

| | | |
|----------|-----------------------------|----------|
| 1 | Function Manual..... | 1 |
| 1.1 | Outline..... | 1 |
| 1.2 | Notation..... | 1 |
| 1.3 | Functions..... | 1 |
| 1.3.1 | mtg.plot3d..... | 1 |
| 1.3.2 | mtp.parametric_plot3d..... | 1 |
| | Index | 3 |