

mk_graph Manual

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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. $[[x_{min}, x_{max}], [y_{min}, y_{max}]]$
<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 origin 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. $[[x_{min}, x_{max}], [y_{min}, y_{max}]]$
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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];
```

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