

Plot3d Version 1.1

Copyright 1992 Steve Ludtke

This program is freeware. You may freely copy and redistribute it. Permission is granted to modify the source for your own purposes, but NOT to redistribute the modifications without permission of the author. If you use this program while doing scientific research, please cite this program in the acknowledgements of any resulting publications.

There is absolutely no warrantee on this program. The author takes no responsibility for any damage caused by this program. The author takes no responsibility for time lost if incorrect or misleading results are produced by this program. If a warrantee is required by law where you intend to use this software, permission to use this software there is revoked.

Now that that's out of the way, suggestions and bug reports would be greatly appreciated!! I can be contacted at any of the following :

steve@ion.rice.edu or ludtke@physics.rice.edu

72335,1537 - compuserve

Steve Ludtke
Physics Dept.
Rice University
Houston, TX 77251-1892

Introduction

There are a variety of programs on the NeXT that will generate nice, publication quality, 3d plots (Mathematica, gnuplot, etc ...) However, there seems to be a lack of programs which allow real time interactive rotation and comparison of 3d data and formulas. Plot3d is an attempt to fill that gap.

The plots generated by plot3d aren't publication quality, and they aren't designed to be. The display algorithm used by plot3d is specifically designed for speed, not quality. While the NeXT is a pretty speedy machine, spinning 3d plots around on the screen in real time approaches the limits of it's capabilities. This program is especially good at doing quick plots to compare data with formulas, and to determine the best viewing angle to use with publication quality, but slower, programs.

For complete instructions, see the help panel.

Changes since 1.0

Source included

Full mesh added (for functions only)

3d view can be resized

Printing works better (still won't print "dots")

Alt and az displayed in 3d window

Zoom In and Freeze added

ln() changed to log() and log10() added

Formula input larger

Formulas can contain '[' and ']' (treated like '(' and ')')

Uppercase ok in functions, eg 'Sin(x)' is ok now

Fixed bug in expressions like : 'x+3.2'

Infinites/undefined results are dealt with gracefully.

Plans for the Future:

Get color to work (should be easy).

Fix density plot so there aren't holes when data is plotted.

Hidden line/dot removal (I know how to do it, it will just take some time ...)

Tic marks and/or a scale on the plot.

Improvements to function parser (since I didn't write it, this can be tricky)

More flexible spinning options.