

dfield8 Direction Fields

- The routine `dfield8` is already loaded on all ITaP machines as standard software. To access MATLAB from any ITaP machine:

Start→All Programs→Standard Software→Computational Packages→MATLAB

(If you are using your own copy of MATLAB you may need to download `dfield8` from <http://math.rice.edu/~dfield>)

- You may also access MATLAB through the *Software Remote*:

<http://goremote.ics.purdue.edu>

- To access `dfield8`, at a MATLAB prompt type: `dfield8`
- A popup window will appear (see below).
- Correctly enter your system of differential equations and the range of values of the independent and dependent variables. Hit **Proceed** and a graphics window will appear with the direction field of your system of differential equations. Click the mouse at any point and the corresponding trajectory will be plotted.
- There are several options available in the graphics display window: printing, keyboard input of initial conditions, inserting text, erasing solutions, zoom, etc.
- You may have up to four (4) parameters to quickly vary your differential equation (rather than having to type in several differential equations). For example, if you wanted to see the slope fields for $y' = Ax + By^2$ for the values $A = 0, 1, 2$ and $B = -0.1, 0.0, 0.1$, you only need to type in one equation and simply vary the parameters A and B in the appropriate boxes.

