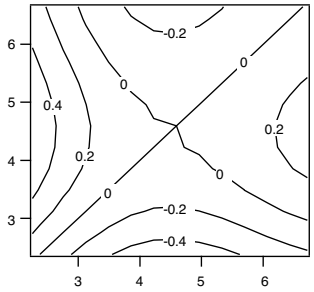
Another solution is to shift the contour level slightly down from a peak or up from a valley. Or you could choose a new set of levels that don't include the level exhibiting the problem. See **Contour Levels** on page II-368.

Crossing Contour Lines

Contour lines corresponding to different levels will not cross each other, but contour lines of the same level may appear to intersect. This typically happens when a contour level is equal to a "saddle point" of the surface. An example of this is a contour level of zero for the function:

```
z= sinc(x) - sinc(y)
```

z= sinc(x) - sinc(y)



You should shift the contour level away from the level of the saddle point. See **Contour Levels** on page II-368.

Flat Areas in the Contour Data

Patches of constant Z values in XYZ triplet data don't contour well at those levels. If the data has flat areas equal to 2.0, for example, a contour level at Z=2.0 may produce ambiguous results. Gridded contour data does not suffer from this problem.

You should shift the contour level above or below the level of the flat area. See **Contour Levels** on page II-368.

Contour Preferences

You can change the default appearance of contour plots by capturing preferences from a prototype graph containing contour plots.

Create a graph containing one or more contour plots having the settings you use most often. Then choose Capture Graph Prefs from the Graph menu. Select the Contour Plots category, and click Capture Prefs.

Preferences are normally in effect only for *manual* operations, not for automatic operations from Igor procedures. This is discussed in more detail in Chapter III-18, **Preferences**.

The Contour Plots category includes both contour appearance settings and axis settings.

Contour Appearance Preferences

The captured contour appearance settings are automatically applied to a contour plot when it is first created, provided preferences are turned on. They are also used to preset the Modify Contour Appearance dialog.

If you capture the contour plot preferences from a graph with more than one contour plot, the first contour plot appended to a graph gets the settings from the contour first appended to the prototype graph. The second contour plot appended to a graph gets the settings from the second contour plot appended to the prototype graph, etc. This is similar to the way XY plot wave styles work.