Details

For gridded contour data, ContourZ returns NaN if x or y falls outside the XY domain of the contour data. If x and y fall on the contour data grid, the corresponding Z value is returned.

For XYZ triplet contour data, ContourZ returns the null value if x or y falls outside the XY domain of the contour data. You can set the null value to v with this command:

```
ModifyContour contourName nullValue=v
```

If x and y match one of the XYZ triplet values, the corresponding Z value from the triplet usually won't be returned because Igor uses the Watson contouring algorithm which perturbs the x and y values by a small random amount. This also means that normally x and y coordinates on the boundary will return a null value about half the time if perturbation is on and *pointFindingTolerance* is greater than 1e-5.

Examples

Because ContourZ can interpolate the Z value of the contour data at any X and Y coordinates, you can use ContourZ to convert XYZ triplet data into gridded data:

```
// Make example XYZ triplet contour data
Make/O/N=50 wx,wy,wz
wx= enoise(2)              // x = -2 to 2
wy= enoise(2)              // y = -2 to 2
wz= exp(-(wx[p]*wx[p] + wy[p]*wy[p]))        // XY gaussian, z= 0 to 1

// ContourZ requires a displayed contour data set
Display; AppendXYZContour wz vs {wx,wy};DelayUpdate
ModifyContour wz autolevels={*,*,0}          // no contour levels are needed
ModifyContour wz xymarkers=1                  // show the X and Y locations

// Set the null (out-of-XY domain) value
ModifyContour wz nullValue=NaN                // default is min(wz) - 1

// Convert to grid: Make matrix that spans X and Y
Make/O/N=(30,30) matrix
SetScale/I x, -2, 2, "", matrix
SetScale/I y, -2, 2, "", matrix
matrix= ContourZ("","wz",0,x,y)               // or = ContourZ("","",0,x,y)
AppendImage matrix
```

See Also

AppendMatrixContour, **AppendXYZContour**, **ModifyContour**, **FindContour**, **zcsr**, **ContourInfo**

References

Watson, David F., *Contouring: A Guide To The Analysis and Display of Spatial Data*, Pergamon, 1992.

ControlBar

ControlBar [*flags*] *barHeight*

The ControlBar operation sets the height and location of the control bar in a graph.

Parameters

barHeight is in points on Macintosh and pixels or points on Windows, depending on the screen resolution. See **Control Panel Resolution on Windows** on page III-456 for details.

Setting *barHeight* to zero removes the control bar.